REPUBLIKA NG PILIPINAS
PAMBANSANG KORPORASYON SA ELEKTRISIDAD
(NATIONAL POWER CORPORATION)

REPORT
FOR
STUDY ON HYDROPOWER POTENTIALS IN LUZON ISLAND

APPENDIX-C

AUGUST 1987

JICA

JAPAN INTERNATIONAL COOPERATION AGENCY

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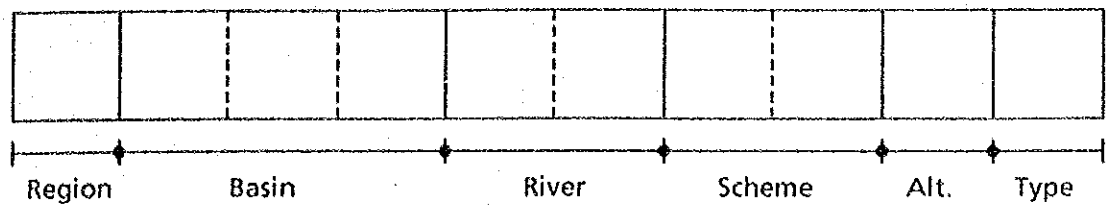
C - 1 SCHEME CODE NUMBERING SYSTEM

SCHEME CODE NUMBERING SYSTEM



Region : *Water resources region number, 1 to 5.*

Basin : *Serial number in each water resources region (clock - wise).*

River : *00 in general. 01 to 99 is allotted to the principal tributaries in a basin.*

Scheme : *Serial number in each basin. Numbering is made from down to upstream along a river.*

Alt. : *0 in general. 1 to 9 is allotted to an alternative plan.*

Type : *Development type : Reservoir - - - 1*
Run - of - river - - - 2

C - 2 LIST OF IDENTIFIED SCHEMES

LIST OF IDENTIFIED SCHEMES

NO.	PROJECT ID #	PROJECT NAME
1	1- 2- 0- 1-0	RIZAL
2	1- 3- 0- 1-0	BAGULIN
3	1- 3- 0- 2-0	NAGUILIAN
4	1- 10- 0- 1-0	LUYA
5	1- 10- 0- 1-1	LUYA (ROR ALT.)
6	1- 10- 0- 2-0	BAKUN
7	1- 10- 1- 3-0	TIBUNEC
8	1- 10- 1- 4-0	AMBURAYAN
9	1- 11- 0- 1-0	USO
10	1- 11- 0- 2-0	CHICO-R
11	1- 22- 0- 1-0	BANAOANG
12	1- 22- 0- 2-0	LANGIDEN
13	1- 22- 0- 3-0	BANDI
14	1- 22- 0- 4-0	ALIP
15	1- 22- 0- 5-0	SUPO
16	1- 22- 0- 6-0	ETEB
17	1- 22- 0- 7-0	BUCNIT
18	1- 22- 0- 8-0	UPPER BUCNIT
19	1- 22- 0- 9-0	DAYAPAN
20	1- 22- 0-10-0	ABRA
21	1- 22- 1-11-0	NAGLIBACAN
22	1- 22- 1-12-0	TINEG-1
23	1- 22- 1-13-0	TINEG-2
24	1- 22- 1-14-0	TINEG-3
25	1- 22- 2-15-0	SINONOAN-R
26	1- 22- 3-16-0	PAGANAO
27	1- 22- 3-17-0	MALANAS (LICUANO)
28	1- 22- 4-18-0	TAPING
29	1- 22- 5-19-0	UPPER MAGUYEPYEP
30	1- 22- 5-20-0	BUCLOC
31	1- 22- 5-21-0	DAGUIOMAN
32	1- 22- 5-22-0	BOYAN
33	1- 22- 5-23-0	IKWIN
34	1- 22- 5-24-0	TOCUENG
35	1- 22- 5-25-0	DANAC
36	1- 22- 6-26-0	AMLUAGAN
37	1- 22- 6-27-0	DAMANIT
38	1- 22- 6-28-0	NAINA
39	1- 22- 6-29-0	UTIP
40	1- 22- 7-30-0	KUMANGA
41	1- 22- 7-31-0	SUYSUYAN
42	1- 37- 0- 1-0	DINGRAS
43	1- 39- 0- 1-0	VINTAR
44	1- 39- 0- 2-0	TAMDAGAN
45	1- 47- 0- 1-0	BULU-1(ILOCOS)
46	1- 47- 0- 2-0	BULU-2(ILOCOS)
47	2- 5- 0- 1-0	LUNA
48	2- 5- 0- 2-0	ZIMIGUI
49	2- 6- 0- 1-0	SISIRITAN
50	2- 6- 0- 2-0	BUBULAYAN
51	2- 6- 0- 3-0	BULU
52	2- 6- 1- 4-0	NABABARAYAN
53	2- 6- 1- 5-0	DIBAGAT
54	2- 6- 1- 6-0	AGBULU
55	2- 6- 1- 7-0	AOAN
56	2- 6- 1- 8-0	APAYAO
57	2- 8- 1- 1-0	ZINUNDUNGAN
58	2- 8- 2- 2-0	CAPISAYAN
59	2- 8- 3- 3-0	BASAO
60	2- 8- 3- 4-0	CHICO-1R
61	2- 8- 3- 5-0	SADANGA
62	2- 8- 3- 6-0	CHICO-2R
63	2- 8- 3- 7-0	CHICO-3R
64	2- 8- 3- 8-0	BONTOC
65	2- 8- 3- 9-0	CHICO-4R
66	2- 8- 4-10-0	MATALAG
67	2- 8- 4-11-0	NABUANGAN
68	2- 8- 5-12-0	PINUKPUK
69	2- 8- 5-13-0	ADAGA
70	2- 8- 5-14-0	SALTAN-4
71	2- 8- 5-15-0	SALTAN
72	2- 8- 5-16-0	SALTAN-5
73	2- 8- 5-17-0	BABACA-R
74	2- 8- 5-18-0	BABACA
75	2- 8- 6-19-0	NANENG
76	2- 8- 6-20-0	MT.BOLONTOC
77	2- 8- 6-21-0	LOWER PASIL
78	2- 8- 6-22-0	PASIL
79	2- 8- 6-23-0	TANUDAN
80	2- 8- 7-24-0	BANTAY
81	2- 8- 8-25-0	DABBA
82	2- 8- 8-26-0	DALAYA
83	2- 8- 8-27-0	TUGUEGARAO
84	2- 8- 9-22-0	SAN PABLO
85	2- 8-11-29-0	TUMAUINI-1
86	2- 8-12-30-0	NATONIN
87	2- 8-12-31-0	PASTOR
88	2- 8-13-32-0	TABUK
89	2- 8-13-33-0	BANATAO
90	2- 8-14-34-0	MALIANG
91	2- 8-14-35-0	ILAGAN-1
92	2- 8-14-36-0	ILAGAN-2
93	2- 8-14-37-0	DINAPIGUI
94	2- 8-15-38-0	BALLASANG
95	2- 8-15-39-0	ABUAN-1
96	2- 8-16-40-0	CATALANGAN
97	2- 8-16-41-0	DISUSUAN
98	2- 8-16-42-0	MARIANO
99	2- 8-19-43-0	ALIMIT-1
100	2- 8-19-44-0	ALIMIT-2
101	2- 8-20-45-0	HUDAB
102	2- 8-20-46-0	IBULAO
103	2- 8-22-47-0	MATUNO-1R
104	2- 8-22-48-0	MATUNO-2R
105	2- 8-22-49-0	ST4.CRUZ
106	2- 8-26-50-0	PINARIPAO
107	2- 8-27-51-0	DIBULUAN
108	2- 8-28-52-0	CABINGATAN
109	2- 8-28-53-0	GANIP
110	2- 8-29-54-0	DAKGAN
111	2- 8-29-55-0	MADDELA
112	2- 8-29-56-0	KAGIPSIPAN
113	2- 8-29-57-0	GADENG
114	2- 8-29-58-0	CASECNAN
115	2- 8-29-59-0	UPPER CASECNAN
116	2- 8-29-60-0	UPPER CASECNAN-2
117	2- 8-29-61-0	UPPER CASECNAN-3
118	2- 32- 0- 1-0	TABOAN
119	2- 39- 0- 1-0	DIKATAYAN
120	2- 47- 0- 1-0	PALANAN
121	3- 13- 0- 1-0	MALUPA
122	3- 23- 0- 1-0	UMIRAY-S
123	3- 23- 0- 2-0	UPPER UMIRAY
124	3- 25- 1- 1-0	CATMON
125	3- 25- 2- 2-0	BALINTINGON
126	3- 25- 2- 3-0	PAPAYA
127	3- 25- 3- 4-0	LUBINGAN
128	3- 27- 0- 1-0	GUMAIN
129	3- 77- 0- 2-0	PILA
130	3- 77- 0- 3-0	SAN NICOLAS
131	3- 77- 0- 4-0	TABU
132	3- 77- 0- 5-0	AGNO-1
133	3- 77- 0- 6-0	AGNO-2
134	3- 77- 0- 7-0	AGNO-3
135	3- 77- 1- 8-0	CAMILING-1
136	3- 77- 1- 9-0	CAMILING-2
137	3- 77- 4-10-0	PAMPANG
138	4- 7- 0- 1-0	KANAN
139	4- 7- 0- 2-0	DARAITAN
140	4- 7- 0- 3-0	UPPER AGOS-1M
141	4- 7- 0- 4-0	UPPER AGOS-1S
142	4- 7- 0- 5-0	UPPER AGOS-2
143	4-115- 1- 1-0	WAWA
144	5- 14- 1- 1-0	BOSIGON
145	5- 20- 0- 1-0	PULANTUNA

C - 3 POWER OUTPUT CALCULATION

PROJECT NAME : RIZAL
PROJECT ID : 1- 2- 0- 1-0-1
TYPE : RESERVOIR

BASIN NAME : ARINGAY
RIVER NAME : GALIANO

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.75	0.62	0.62	0.62	0.52	0.52	0.52	0.42	0.42	0.42
FULL SUPPLY LEVEL (M) :	200.0	179.5	185.8	200.0	172.0	180.9	200.0	163.6	175.0	200.0
MIN. OPERATING LEVEL(M) :	140.7	83.5	119.9	156.3	83.3	124.5	165.7	83.0	128.4	173.8
POWER										
FIRM DISCHARGE (M3/S) :	9.4	8.9	8.9	8.8	8.4	8.4	8.3	7.6	7.5	7.4
PLANT PEAK DIS. (M3/S) :	18.9	17.9	17.8	17.6	16.8	16.7	16.5	15.2	15.1	14.9
AVERAGE NET HEAD (M) :	128.1	95.8	111.9	133.1	90.7	110.0	136.0	84.9	107.2	138.4
INSTALLED CAPACITY (MW) :	19.9	14.1	16.4	19.3	12.6	15.1	18.5	10.6	13.3	16.9
GUARANTEED POWER (MW) :	13.1	4.5	9.5	14.4	4.2	9.5	14.7	3.7	9.0	14.1
AVERAGE FIRM POWER (MW):	10.0	7.0	8.2	9.6	6.3	7.6	9.3	5.3	6.7	8.5
FIRM ENERGY (MIL KWH/Y) :	87.	62.	72.	85.	55.	66.	81.	47.	58.	74.
SECONDARY ENERGY (") :	14.	14.	15.	17.	16.	17.	20.	18.	20.	24.
ANNUAL AVERAGE E-GY (") :	101.	76.	87.	102.	71.	83.	101.	64.	78.	98.
D A M										
DAM HEIGHT (M) :	159.3	138.8	145.1	159.3	131.3	140.2	159.3	122.9	134.3	159.3
EMBANKMENT VOL.(MIL M3) :	13.010	8.667	9.898	13.010	7.383	8.900	13.010	6.100	7.891	13.010
EVALUATION INDICES										
CH/V :	3384.	4156.	3788.	3151.	4329.	3817.	2957.	4395.	3700.	2652.
C/V :	23.	33.	26.	21.	36.	30.	20.	39.	30.	18.
P/(20VT+VD) :	1.3	1.3	1.4	1.3	1.3	1.4	1.2	1.3	1.3	1.1
E(FIRM)/(20VT+VD) :	5.8	5.8	6.0	5.6	5.8	6.1	5.4	5.7	5.9	4.9
E(F+SEC*0.3)/(20VT+VD) :	6.1	6.1	6.4	5.9	6.3	6.5	5.8	6.4	6.5	5.4

PROJECT NAME : BAGULIN
PROJECT ID : 1- 3- 0- 1-0-1
TYPE : RESERVOIR

BASIN NAME : NAGUILIAN
RIVER NAME : NAGUILIAN

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.70	0.57	0.57	0.57	0.52	0.52	0.52	0.47	0.47	0.47
FULL SUPPLY LEVEL (M) :	298.0	266.7	277.4	298.0	261.7	274.1	298.0	256.3	270.9	298.0
MIN. OPERATING LEVEL(M) :	229.8	163.2	205.1	246.9	163.1	207.9	252.8	162.8	210.6	258.4
POWER										
FIRM DISCHARGE (M3/S) :	22.6	21.2	21.1	21.0	20.5	20.5	20.3	19.6	19.5	19.4
PLANT PEAK DIS. (M3/S) :	135.9	127.0	126.5	125.8	123.3	122.7	121.9	117.8	117.2	116.3
AVERAGE NET HEAD (M) :	164.3	121.9	142.6	169.9	118.5	141.4	171.8	114.8	140.1	173.5
INSTALLED CAPACITY (MW) :	183.8	127.4	148.5	175.8	120.2	142.8	172.3	111.3	135.2	166.2
GUARANTEED POWER (MW) :	126.6	52.6	93.6	133.9	50.9	93.5	135.3	48.5	91.8	134.2
AVERAGE FIRM POWER (MW):	30.6	21.2	24.7	29.3	20.0	23.8	28.7	18.6	22.5	27.7
FIRM ENERGY (MIL KWH/Y) :	268.	186.	217.	257.	176.	208.	252.	163.	197.	243.
SECONDARY ENERGY (") :	75.	76.	82.	93.	79.	87.	101.	85.	94.	111.
ANNUAL AVERAGE E-GY (") :	343.	262.	299.	350.	255.	295.	352.	247.	291.	354.
D A M										
DAM HEIGHT (M) :	197.0	165.7	176.4	197.0	160.7	173.1	197.0	155.3	169.9	197.0
EMBANKMENT VOL.(MIL M3) :	22.142	13.425	16.080	22.142	12.312	15.250	22.142	11.114	14.416	22.142
EVALUATION INDICES										
CH/V :	6033.	7774.	6891.	5579.	7964.	6912.	5405.	8131.	6845.	5156.
C/V :	32.	50.	41.	30.	53.	42.	29.	56.	43.	28.
P/(20VT+VD) :	6.8	7.0	7.1	6.5	7.0	7.1	6.4	7.0	7.1	6.2
E(FIRM)/(20VT+VD) :	9.9	10.2	10.4	9.5	10.3	10.4	9.3	10.3	10.3	9.0
E(F+SEC*0.3)/(20VT+VD) :	10.8	11.5	11.6	10.6	11.7	11.7	10.5	11.9	11.8	10.3

PROJECT NAME : NAGUILIAN
PROJECT ID : 1- 3- 0- 2-0-2
TYPE : RUN-OF-RIVER

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6
HEAD PONDAGE						
OUTPUT FACTOR	0.936	0.900	0.800	0.700	0.600	0.508
FULL SUPPLY LEVEL (M)	483.0	483.1	483.4	483.7	484.2	484.9
NORMAL OPERATING LEVEL(M)	482.5	482.6	482.8	483.2	483.7	484.3
MINIMUM OPERATING LEVEL (M)	481.9	482.0	482.3	482.6	483.1	483.7
DIVERSION WEIR HEIGHT INC. 3M F-B	6.0	6.1	6.4	6.7	7.2	7.9
WATER DEPTH AT TRASHRACK (M)	3.0	3.1	3.4	3.7	4.2	4.9
CHANNEL WIDTH AT TRASHRACK (M)	3.6	4.0	5.0	6.4	8.4	11.0
PONDAGE STORAGE VOLUME (1000 M3)	76.0	78.5	84.7	93.1	105.9	121.8
WATERWAY						
NUMBER OF WATERWAY	1	1	1	1	1	1
INSIDE DIAMETER OF HEADRACE (M)	1.8	1.8	1.8	1.9	2.5	3.0
HEADRACE TUNNEL LENGTH (M)	8800.0	8800.0	8800.0	8800.0	8800.0	8800.0
INSIDE DIAMETER OF PENSTOCK (M)	1.3	1.3	1.3	1.4	1.7	2.1
PENSTOCK LENGTH (HORIZONTAL) (M)	1050.0	1050.0	1050.0	1050.0	1050.0	1050.0
EXCAVATION VOLUME (1000 M3)	24.0	24.0	24.0	28.0	44.5	66.2
POWER						
FIRM DISCHARGE (M3/S)	1.0	1.0	1.0	1.0	1.0	1.0
DEPENDABLE DISCHARGE (M3/S)	1.6	1.6	1.6	1.6	1.6	1.6
PLANT PEAK DISCHARGE (M3/S)	1.6	2.0	3.1	5.1	8.8	15.0
TAIL WATER LEVEL (M)	159.0	159.0	159.0	159.0	159.0	159.0
NET HEAD (M)	316.5	314.7	307.1	297.3	299.9	301.1
INSTALLED CAPACITY (MW)	4.3	5.2	7.9	12.4	21.8	37.2
DEPENDABLE PEAK POWER (MW)	4.3	4.3	4.1	4.0	4.1	4.1
FIRM POWER (MW)	2.6	2.6	2.5	2.4	2.4	2.4
GUARANTEED POWER OUTPUT (MW)	2.3	2.3	2.2	2.2	2.2	2.2
FIRM ENERGY/YEAR (10**6 KWH)	22.5	22.3	21.8	21.1	21.3	21.4
SECONDARY ENERGY/YEAR (10**6 KWH)	11.5	17.3	30.6	49.7	84.3	130.2
ANNUAL ENERGY (MIL KWH/YR)	33.9	39.6	52.4	70.8	105.6	151.6
PARAMETERS						
P(INSTALLED)/(20VT) (W/M3)	8.9	10.9	16.5	22.1	24.6	28.1
P(DEPENDABLE)/(20VT) (W/M3)	8.9	8.9	8.7	7.2	4.6	3.1
E(FIRM)/(20VT) (KWH/M3)	46.9	46.6	45.5	37.6	23.9	16.2
E(F+0.3*SECONDARY)/(20VT) (")	54.0	57.4	64.6	64.2	52.4	45.7

PROJECT NAME : LUYA
PROJECT ID : 1- 10- 0- 1-0-1
TYPE : RESERVOIR

BASIN NAME : AMBURAYAN
RIVER NAME : AMBURAYAN

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.70	0.57	0.57	0.57	0.52	0.52	0.52	0.47	0.47	0.47
FULL SUPPLY LEVEL (M) :	310.0	269.7	286.2	310.0	263.5	282.4	310.0	256.7	278.4	310.0
MIN. OPERATING LEVEL(M) :	219.1	139.5	191.6	243.7	139.3	195.3	251.2	139.1	198.9	258.7
POWER										
FIRM DISCHARGE (M3/S) :	43.8	40.9	40.8	40.6	39.7	39.6	39.3	37.9	37.8	37.5
PLANT PEAK DIS. (M3/S) :	262.8	245.5	244.7	243.4	238.2	237.4	236.0	227.6	226.8	225.3
AVERAGE NET HEAD (M) :	190.3	137.7	165.6	198.3	133.5	164.3	200.7	128.9	162.8	203.1
INSTALLED CAPACITY (MW) :	411.7	278.2	333.5	397.3	261.8	321.0	389.9	241.6	303.9	376.7
GUARANTEED POWER (MW) :	267.2	98.0	196.7	294.0	94.8	197.6	298.8	90.2	195.2	298.4
AVERAGE FIRM POWER (MW) :	68.6	46.4	55.6	66.2	43.6	53.5	65.0	40.3	50.6	62.8
FIRM ENERGY (MIL KWH/Y) :	601.	406.	487.	580.	382.	469.	569.	353.	444.	550.
SECONDARY ENERGY (") :	167.	169.	185.	210.	176.	196.	226.	187.	212.	250.
ANNUAL AVERAGE E-GY (") :	768.	575.	672.	790.	558.	665.	796.	540.	656.	800.
D A M										
DAM HEIGHT (M) :	231.0	190.7	207.2	231.0	184.5	203.4	231.0	177.7	199.4	231.0
EMBANKMENT VOL.(MIL M3) :	60.705	38.103	46.506	60.705	35.264	44.521	60.705	32.135	42.395	60.705
EVALUATION INDICES										
CH/V :	5019.	6130.	5450.	4645.	6210.	5417.	4501.	6261.	5321.	4296.
C/V :	23.	34.	28.	21.	36.	28.	20.	37.	28.	20.
P/(20VT+VD) :	6.1	6.2	6.3	5.9	6.3	6.3	5.8	6.3	6.2	5.6
E(FIRM)/(20VT+VD) :	8.9	9.1	9.2	8.6	9.2	9.2	8.5	9.2	9.1	8.2
E(F+SEC*0.3)/(20VT+VD) :	9.7	10.3	10.2	9.6	10.4	10.4	9.5	10.6	10.4	9.3

PROJECT NAME : LUYA (ROR ALT.)
PROJECT ID : 1- 10- 0- 1-1-2
TYPE : RUN-OF-RIVER

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS		CASE 1	2	3	4	5	6
HEAD PONDAGE							
OUTPUT FACTOR	:	0.936	0.900	0.800	0.700	0.600	0.508
FULL SUPPLY LEVEL (M)	:	272.0	272.1	272.2	272.4	272.7	273.0
NORMAL OPERATING LEVEL(M)	:	268.8	268.9	269.1	269.5	270.1	270.8
MINIMUM OPERATING LEVEL (M)	:	265.5	265.6	265.1	266.6	267.4	268.5
DIVERSION WEIR HEIGHT INC. 3M F-B	:	12.0	12.1	12.2	12.4	12.7	13.0
WATER DEPTH AT TRASHRACK (M)	:	9.0	9.1	9.2	9.4	9.7	10.0
CHANNEL WIDTH AT TRASHRACK (M)	:	5.9	6.6	8.2	10.4	13.8	18.0
PONDAGE STORAGE VOLUME (1000 M3)	:	101.0	102.7	106.7	112.3	120.7	131.1
WATERWAY							
NUMBER OF WATERWAY	:	1	1	1	1	1	1
INSIDE DIAMETER OF HEADRACE (M)	:	1.8	2.0	2.4	2.9	3.6	4.3
HEADRACE TUNNEL LENGTH (M)	:	6750.0	6750.0	6750.0	6750.0	6750.0	6750.0
INSIDE DIAMETER OF PENSTOCK (M)	:	1.4	1.5	1.8	2.2	2.7	3.4
PENSTOCK LENGTH (HORIZONTAL) (M)	:	200.0	200.0	200.0	200.0	200.0	200.0
EXCAVATION VOLUME (1000 M3)	:	18.5	21.7	30.1	45.1	68.5	101.9
POWER							
FIRM DISCHARGE (M3/S)	:	2.6	2.6	2.6	2.6	2.6	2.6
DEPENDABLE DISCHARGE (M3/S)	:	4.4	4.4	4.4	4.4	4.4	4.4
PLANT PEAK DISCHARGE (M3/S)	:	4.4	5.4	8.4	13.6	23.8	40.3
TAIL WATER LEVEL (M)	:	140.0	140.0	140.0	140.0	140.0	140.0
NET HEAD (M)	:	115.8	115.9	116.3	117.9	118.6	119.4
INSTALLED CAPACITY (MW)	:	4.2	5.2	8.1	13.2	23.2	39.6
DEPENDABLE PEAK POWER (MW)	:	4.2	4.2	4.2	4.3	4.3	4.3
FIRM POWER (MW)	:	2.5	2.5	2.5	2.6	2.6	2.6
GUARANTEED POWER OUTPUT (MW)	:	2.2	2.2	2.2	2.3	2.3	2.3
FIRM ENERGY/YEAR (10**6 KWH)	:	22.1	22.1	22.2	22.5	22.6	22.8
SECONDARY ENERGY/YEAR (10**6 KWH)	:	11.6	17.5	31.9	54.2	91.3	141.0
ANNUAL ENERGY (MIL KWH/YR)	:	33.6	39.6	54.1	76.7	114.0	163.8
PARAMETERS							
P(INSTALLED)/(20VT) (W/M3)	:	11.4	12.0	13.4	14.7	16.9	19.4
P(DEPENDABLE)/(20VT) (W/M3)	:	11.4	9.7	7.0	4.7	3.1	2.1
E(FIRM)/(20VT) (KWH/M3)	:	59.7	51.0	36.9	24.9	16.5	11.2
E(F+0.3*SECONDARY)/(20VT) (")	:	69.1	63.1	52.7	43.0	36.5	31.9

PROJECT NAME : BAKUM
PROJECT ID : 1- 10- 0- 2-0-2
TYPE : RUN-OF-RIVER

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6
HEAD PONDAGE						
OUTPUT FACTOR :	0.936	0.900	0.800	0.700	0.600	0.508
FULL SUPPLY LEVEL (M) :	687.7	687.8	688.0	688.3	688.7	689.2
NORMAL OPERATING LEVEL(M) :	687.2	687.3	687.5	687.8	688.2	688.7
MINIMUM OPERATING LEVEL (M) :	686.7	686.8	687.0	687.3	687.7	688.2
DIVERSION WEIR HEIGHT INC. 3M F-B:	5.7	5.8	6.0	6.3	6.7	7.2
WATER DEPTH AT TRASHRACK (M) :	2.7	2.8	3.0	3.3	3.7	4.2
CHANNEL WIDTH AT TRASHRACK (M) :	3.0	3.3	4.1	5.2	6.9	9.0
PONDAGE STORAGE VOLUME (1000 M3) :	54.0	55.7	59.7	65.3	73.7	84.1
WATERWAY						
NUMBER OF WATERWAY :	1	1	1	1	1	1
INSIDE DIAMETER OF HEADRACE (M) :	1.8	1.8	1.8	1.8	2.1	2.6
HEADRACE TUNNEL LENGTH (M) :	4650.0	4650.0	4650.0	4650.0	4650.0	4650.0
INSIDE DIAMETER OF PENSTOCK (M) :	1.3	1.3	1.3	1.3	1.5	1.8
PENSTOCK LENGTH (HORIZONTAL) (M) :	350.0	350.0	350.0	350.0	350.0	350.0
EXCAVATION VOLUME (1000 M3) :	12.5	12.5	12.5	12.5	16.6	25.8
POWER						
FIRM DISCHARGE (M3/S) :	0.7	0.7	0.7	0.7	0.7	0.7
DEPENDABLE DISCHARGE (M3/S) :	1.1	1.1	1.1	1.1	1.1	1.1
PLANT PEAK DISCHARGE (M3/S) :	1.1	1.4	2.1	3.4	6.0	10.1
TAIL WATER LEVEL (M) :	267.0	267.0	267.0	267.0	267.0	267.0
NET HEAD (M) :	415.2	414.8	413.3	408.6	405.4	407.0
INSTALLED CAPACITY (MW) :	3.8	4.7	7.2	11.5	19.9	33.9
DEPENDABLE PEAK POWER (MW) :	3.8	3.8	3.8	3.7	3.7	3.7
FIRM POWER (MW) :	2.3	2.3	2.3	2.2	2.2	2.2
GUARANTEED POWER OUTPUT (MW) :	2.0	2.0	2.0	2.0	2.0	2.0
FIRM ENERGY/YEAR (10**6 KWH) :	19.9	19.9	19.8	19.6	19.4	19.5
SECONDARY ENERGY/YEAR (10**6 KWH):	10.1	15.3	27.7	46.1	76.8	118.6
ANNUAL ENERGY (MIL KWH/YR) :	30.0	35.2	47.5	65.6	96.2	138.1
PARAMETERS						
P(INSTALLED)/(20VT) (W/M3) :	15.1	18.6	28.7	45.8	60.0	65.8
P(DEPENDABLE)/(20VT) (W/M3) :	15.1	15.1	15.0	14.8	11.1	7.2
E(FIRM)/(20VT) (KWH/M3) :	79.2	79.2	78.9	78.0	58.5	37.8
E(F+0.3*SECONDARY)/(20VT) (") :	91.4	97.5	112.0	133.1	127.9	106.9

PROJECT NAME : TIBUNEC
PROJECT ID : 1- 10- 1- 3-0-1
TYPE : RESERVOIR

BASIN NAME : AMBURAYAN
RIVER NAME : BAKUM

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.70	0.57	0.57	0.57	0.52	0.52	0.52	0.47	0.47	0.47
FULL SUPPLY LEVEL (M) :	246.0	215.7	226.6	246.0	211.0	223.5	246.0	205.9	220.5	246.0
MIN. OPERATING LEVEL(M) :	179.6	121.5	158.8	196.0	121.3	161.5	201.6	121.1	163.9	206.8
POWER										
FIRM DISCHARGE (M3/S) :	16.1	15.1	15.0	14.9	14.6	14.5	14.5	14.0	13.9	13.8
PLANT PEAK DIS. (M3/S) :	96.6	90.3	89.9	89.5	87.7	87.2	86.7	83.8	83.3	82.8
AVERAGE NET HEAD (M) :	156.7	117.7	137.1	162.1	114.6	136.0	163.9	111.1	134.7	165.6
INSTALLED CAPACITY (MW) :	124.7	87.5	101.5	119.4	82.7	97.7	117.0	76.6	92.4	112.8
GUARANTEED POWER (MW) :	85.2	38.9	64.8	90.3	37.7	64.7	91.3	35.8	63.4	90.5
AVERAGE FIRM POWER (MW):	20.8	14.6	16.9	19.9	13.8	16.3	19.5	12.8	15.4	18.8
FIRM ENERGY (MIL KWH/Y) :	182.	128.	148.	174.	121.	143.	171.	112.	135.	165.
SECONDARY ENERGY (") :	51.	52.	56.	64.	54.	59.	69.	58.	64.	76.
ANNUAL AVERAGE E-GY (") :	233.	180.	204.	238.	175.	202.	239.	169.	199.	240.
D A M										
DAM HEIGHT (M) :	188.0	157.7	168.6	188.0	153.0	165.5	188.0	147.9	162.5	188.0
EMBANKMENT VOL.(MIL M3) :	21.712	13.423	16.098	21.712	12.397	15.282	21.712	11.337	14.547	21.712
EVALUATION INDICES										
CH/V :	4183.	5274.	4690.	3871.	5369.	4701.	3751.	5414.	4625.	3579.
C/V :	23.	35.	29.	22.	37.	30.	21.	39.	30.	20.
P/(20VT+VD) :	5.2	5.5	5.5	5.0	5.6	5.5	4.9	5.6	5.5	4.7
E(FIRM)/(20VT+VD) :	7.5	8.1	8.0	7.2	8.2	8.1	7.1	8.2	8.0	6.8
E(F+SEC*0.3)/(20VT+VD) :	8.2	9.1	8.9	8.0	9.3	9.1	7.9	9.4	9.1	7.8

PROJECT NAME : AMBURAYAN
PROJECT ID : 1- 10- 1- 4-0-2
TYPE : RUN-OF-RIVER

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6
HEAD PONDAGE						
OUTPUT FACTOR	0.936	0.900	0.800	0.700	0.600	0.508
FULL SUPPLY LEVEL (M)	514.6	514.7	515.1	515.6	516.4	517.3
NORMAL OPERATING LEVEL(M)	513.5	513.6	514.0	514.5	515.3	516.3
MINIMUM OPERATING LEVEL (M)	512.4	512.5	512.9	513.4	514.2	515.2
DIVERSION WEIR HEIGHT INC. 3M F-B	7.6	7.7	8.1	8.6	9.4	10.3
WATER DEPTH AT TRASHRACK (M)	4.6	4.7	5.1	5.6	6.4	7.3
CHANNEL WIDTH AT TRASHRACK (M)	5.5	6.1	7.6	9.7	12.8	16.7
PONDAGE STORAGE VOLUME (1000 M3)	136.8	141.4	152.6	168.1	191.5	220.4
WATERWAY						
NUMBER OF WATERWAY	1	1	1	1	1	1
INSIDE DIAMETER OF HEADRACE (M)	1.8	1.9	2.2	2.7	3.4	4.1
HEADRACE TUNNEL LENGTH (M)	12800.0	12800.0	12800.0	12800.0	12800.0	12800.0
INSIDE DIAMETER OF PENSTOCK (M)	1.3	1.4	1.6	2.0	2.5	3.1
PENSTOCK LENGTH (HORIZONTAL) (M)	365.0	365.0	365.0	365.0	365.0	365.0
EXCAVATION VOLUME (1000 M3)	33.2	36.6	50.8	76.2	115.8	172.1
POWER						
FIRM DISCHARGE (M3/S)	2.3	2.3	2.3	2.3	2.3	2.3
DEPENDABLE DISCHARGE (M3/S)	3.8	3.8	3.8	3.8	3.8	3.8
PLANT PEAK DISCHARGE (M3/S)	3.8	4.7	7.2	11.7	20.4	34.7
TAIL WATER LEVEL (M)	280.0	280.0	280.0	280.0	280.0	280.0
NET HEAD (M)	211.6	208.4	209.0	211.9	213.0	214.2
INSTALLED CAPACITY (MW)	6.6	8.0	12.5	20.4	35.8	61.1
DEPENDABLE PEAK POWER (MW)	6.6	6.5	6.5	6.6	6.6	6.7
FIRM POWER (MW)	4.0	3.9	3.9	4.0	4.0	4.0
GUARANTEED POWER OUTPUT (MW)	3.5	3.5	3.5	3.6	3.6	3.6
FIRM ENERGY/YEAR (10**6 KWH)	34.7	34.2	34.3	34.8	34.9	35.1
SECONDARY ENERGY/YEAR (10**6 KWH)	17.8	26.5	48.3	82.2	138.8	214.7
ANNUAL ENERGY (MIL KWH/YR)	52.5	60.7	82.6	116.9	173.7	249.8
PARAMETERS						
P(INSTALLED)/(20VT) (W/M3)	10.0	11.0	12.3	13.4	15.5	17.8
P(DEPENDABLE)/(20VT) (W/M3)	10.0	8.9	6.4	4.3	2.9	1.9
E(FIRM)/(20VT) (KWH/M3)	52.3	46.7	33.7	22.8	15.1	10.2
E(F+0.3*SECONDARY)/(20VT) (")	60.4	57.5	48.0	39.0	33.1	28.9

PROJECT NAME : USO
PROJECT ID : 1- 11- 0- 1-0-1
TYPE : RESERVOIR

BASIN NAME : CHICO
RIVER NAME : CHICO

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.62	0.57	0.57	0.57	0.49	0.49	0.49	0.41	0.41	0.41
FULL SUPPLY LEVEL (M) :	205.0	181.8	191.2	205.0	175.6	187.8	205.0	169.2	184.0	205.0
MIN. OPERATING LEVEL(M) :	161.3	116.0	140.9	165.8	116.0	144.3	172.6	116.0	147.5	179.0
POWER										
FIRM DISCHARGE (M3/S) :	6.4	6.3	6.2	6.2	5.9	5.9	5.9	5.4	5.4	5.3
PLANT PEAK DIS. (M3/S) :	12.8	12.5	12.5	12.4	11.9	11.8	11.7	10.9	10.8	10.7
AVERAGE NET HEAD (M) :	95.7	65.7	80.1	97.3	61.8	79.1	99.7	57.7	77.8	101.9
INSTALLED CAPACITY (MW) :	10.1	6.8	8.2	9.9	6.0	7.7	9.6	5.2	6.9	9.0
GUARANTEED POWER (MW) :	6.7	2.1	4.6	6.9	2.1	4.6	7.2	1.9	4.5	7.1
AVERAGE FIRM POWER (MW) :	5.0	3.4	4.1	5.0	3.0	3.8	4.8	2.6	3.5	4.5
FIRM ENERGY (MIL KWH/Y) :	44.	30.	36.	44.	26.	34.	42.	23.	30.	39.
SECONDARY ENERGY (") :	9.	8.	9.	10.	8.	9.	11.	9.	11.	13.
ANNUAL AVERAGE E-GY (") :	53.	37.	45.	54.	35.	43.	54.	32.	41.	53.
D A M										
DAM HEIGHT (M) :	120.0	96.8	106.2	120.0	90.6	102.8	120.0	84.2	99.0	120.0
EMBANKMENT VOL.(MIL M3) :	14.553	8.649	10.810	14.553	7.394	9.999	14.553	6.202	9.114	14.553
EVALUATION INDICES										
CH/V :	1530.	2003.	1764.	1485.	2071.	1744.	1405.	2083.	1678.	1280.
C/V :	14.	23.	18.	13.	25.	19.	13.	28.	19.	12.
P/(20VT+VD) :	0.6	0.6	0.7	0.6	0.7	0.7	0.6	0.6	0.6	0.5
E(FIRM)/(20VT+VD) :	2.7	2.8	2.9	2.7	2.9	2.9	2.6	2.8	2.8	2.4
E(F+SEC*0.3)/(20VT+VD) :	2.9	3.1	3.1	2.8	3.1	3.1	2.8	3.2	3.1	2.6

PROJECT NAME : CHICO-R
PROJECT ID : 1- 11- 0- 2-0-2
TYPE : RUN-OF-RIVER

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6
HEAD PONDAGE						
OUTPUT FACTOR	0.936	0.900	0.800	0.700	0.600	0.508
FULL SUPPLY LEVEL (M)	302.9	303.0	303.2	303.4	303.8	304.3
NORMAL OPERATING LEVEL(M)	302.3	302.4	302.6	302.8	303.2	303.7
MINIMUM OPERATING LEVEL (M)	301.7	301.8	302.0	302.3	302.7	303.2
DIVERSION WEIR HEIGHT INC. 3M F-B	5.9	6.0	6.2	6.4	6.8	7.3
WATER DEPTH AT TRASHRACK (M)	2.9	3.0	3.2	3.4	3.8	4.3
CHANNEL WIDTH AT TRASHRACK (M)	2.9	3.2	4.0	5.0	6.6	8.6
PONDAGE STORAGE VOLUME (1000 M3)	43.3	44.5	47.4	51.5	57.5	65.0
WATERWAY						
NUMBER OF WATERWAY	1	1	1	1	1	1
INSIDE DIAMETER OF HEADRACE (M)	1.8	1.8	1.8	1.8	2.0	2.5
HEADRACE TUNNEL LENGTH (M)	10780.0	10780.0	10780.0	10780.0	10780.0	10780.0
INSIDE DIAMETER OF PENSTOCK (M)	1.3	1.3	1.3	1.3	1.5	1.8
PENSTOCK LENGTH (HORIZONTAL) (M)	685.0	685.0	685.0	685.0	685.0	685.0
EXCAVATION VOLUME (1000 M3)	28.5	28.5	28.5	28.4	35.5	55.1
POWER						
FIRM DISCHARGE (M3/S)	0.6	0.6	0.6	0.6	0.6	0.6
DEPENDABLE DISCHARGE (M3/S)	1.0	1.0	1.0	1.0	1.0	1.0
PLANT PEAK DISCHARGE (M3/S)	1.0	1.3	2.0	3.2	5.5	9.3
TAIL WATER LEVEL (M)	96.0	96.0	96.0	96.0	96.0	96.0
NET HEAD (M)	202.8	202.2	199.4	191.5	183.0	185.8
INSTALLED CAPACITY (MW)	1.7	2.1	3.2	5.0	8.3	14.3
DEPENDABLE PEAK POWER (MW)	1.7	1.7	1.7	1.6	1.5	1.6
FIRM POWER (MW)	1.0	1.0	1.0	1.0	0.9	0.9
GUARANTEED POWER OUTPUT (MW)	0.9	0.9	0.9	0.9	0.8	0.8
FIRM ENERGY/YEAR (10**6 KWH)	9.0	8.9	8.8	8.5	8.1	8.2
SECONDARY ENERGY/YEAR (10**6 KWH)	4.6	6.9	12.4	19.9	32.0	50.0
ANNUAL ENERGY (MIL KWH/YR)	13.5	15.8	21.2	28.4	40.1	58.2
PARAMETERS						
P(INSTALLED)/(20VT) (W/M3)	3.0	3.7	5.6	8.7	11.7	13.0
P(DEPENDABLE)/(20VT) (W/M3)	3.0	3.0	2.9	2.8	2.2	1.4
E(FIRM)/(20VT) (KWH/M3)	15.7	15.7	15.5	14.9	11.4	7.4
E(F+0.3*SECONDARY)/(20VT) (")	18.2	19.3	22.0	25.4	24.9	21.1

PROJECT NAME : BANAOANG
PROJECT ID : 1- 22- 0- 1-0-1
TYPE : RESERVOIR

BASIN NAME : ABRA
RIVER NAME : ABRA

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.70	0.65	0.65	0.65	0.60	0.60	0.60	0.55	0.55	0.55
FULL SUPPLY LEVEL (M) :	77.0	71.0	73.6	77.0	69.3	72.5	77.0	67.3	71.5	77.0
MIN. OPERATING LEVEL(M) :	50.1	37.7	45.2	52.6	37.5	46.3	55.1	37.3	47.5	57.6
POWER										
FIRM DISCHARGE (M3/S) :	183.8	181.3	180.3	179.2	176.2	174.9	173.6	169.9	168.5	166.9
PLANT PEAK DIS. (M3/S) :	551.5	544.1	541.1	537.8	528.5	524.9	520.9	509.8	505.5	500.8
AVERAGE NET HEAD (M) :	58.3	50.2	54.4	59.1	49.0	54.0	59.9	47.7	53.7	60.7
INSTALLED CAPACITY (MW) :	264.5	224.9	242.1	261.5	213.3	233.5	256.7	200.0	223.5	250.1
GUARANTEED POWER (MW) :	174.3	119.7	150.3	180.5	115.5	150.5	184.9	110.5	149.5	187.5
AVERAGE FIRM POWER (MW):	88.1	75.0	80.7	87.1	71.1	77.8	85.6	66.7	74.5	83.4
FIRM ENERGY (MIL KWH/Y) :	772.	657.	707.	763.	623.	682.	750.	584.	653.	730.
SECONDARY ENERGY (") :	153.	147.	156.	168.	157.	170.	186.	170.	186.	207.
ANNUAL AVERAGE E-GY (") :	925.	803.	863.	931.	780.	851.	935.	754.	839.	938.
D A M										
DAM HEIGHT (M) :	75.0	69.0	71.6	75.0	67.3	70.5	75.0	65.3	69.5	75.0
EMBANKMENT VOL.(MIL M3) :	4.293	3.612	3.880	4.293	3.439	3.773	4.293	3.239	3.666	4.293
EVALUATION INDICES										
CH/V :	90758.	97029.	93544.	88463.	96294.	91788.	85652.	95410.	89455.	82304.
C/V :	1350.	1583.	1466.	1317.	1615.	1462.	1275.	1654.	1449.	1226.
P/(20VT+VD) :	14.8	13.1	13.9	14.6	12.6	13.5	14.4	12.0	13.1	14.1
E(FIRM)/(20VT+VD) :	43.1	38.2	40.5	42.7	36.7	39.4	42.1	35.0	38.1	41.2
E(F+SEC*0.3)/(20VT+VD) :	45.6	40.7	43.2	45.5	39.5	42.4	45.2	38.0	41.4	44.7

PROJECT NAME : LANGIDEN
PROJECT ID : 1- 22- 0- 2-0-1
TYPE : RESERVOIR

BASIN NAME : ABRA
RIVER NAME : MALAPAAO

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.84	0.65	0.65	0.60	0.60	0.60	0.60	0.60	0.55	0.55
FULL SUPPLY LEVEL (M) :	202.0	193.8	202.0	191.6	193.5	195.9	198.7	202.0	189.3	202.0
MIN. OPERATING LEVEL(M) :	137.2	137.2	165.3	137.2	145.4	153.7	162.0	170.2	137.2	173.8
POWER										
FIRM DISCHARGE (M3/S) :	2.4	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1
PLANT PEAK DIS. (M3/S) :	4.8	4.5	4.5	4.4	4.4	4.4	4.3	4.3	4.2	4.2
AVERAGE NET HEAD (M) :	72.9	67.6	82.1	66.1	70.1	74.3	78.9	83.8	64.5	84.9
INSTALLED CAPACITY (MW) :	2.9	2.5	3.0	2.4	2.5	2.7	2.8	3.0	2.3	2.9
GUARANTEED POWER (MW) :	1.1	1.1	2.0	1.0	1.3	1.6	1.9	2.1	1.0	2.2
AVERAGE FIRM POWER (MW) :	1.5	1.3	1.5	1.2	1.3	1.3	1.4	1.5	1.1	1.5
FIRM ENERGY (MIL KWH/Y) :	13.	11.	13.	10.	11.	12.	12.	13.	10.	13.
SECONDARY ENERGY (") :	1.	2.	2.	2.	2.	2.	2.	2.	2.	3.
ANNUAL AVERAGE E-GY (") :	14.	13.	15.	12.	13.	14.	15.	15.	12.	15.
D A M										
DAM HEIGHT (M) :	102.4	94.2	102.4	92.0	93.9	96.3	99.1	102.4	89.7	102.4
EMBANKMENT VOL.(MIL M3) :	3.534	2.800	3.534	2.630	2.778	2.982	3.240	3.534	2.450	3.534
EVALUATION INDICES										
CH/V :	2041.	2202.	1882.	2220.	2141.	2040.	1929.	1823.	2236.	1753.
C/V :	22.	25.	20.	26.	25.	23.	21.	19.	27.	19.
P/(20VT+VD) :	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
E(FIRM)/(20VT+VD) :	2.9	3.0	3.0	3.0	3.1	3.1	3.0	3.0	3.0	2.9
E(F+SEC*0.3)/(20VT+VD) :	3.0	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.1

PROJECT NAME : BANDI
PROJECT ID : 1- 22- 0- 3-0-1
TYPE : RESERVOIR

BASIN NAME : ABRA
RIVER NAME : SAQUET-SOOT

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.73	0.65	0.65	0.65	0.60	0.60	0.60	0.55	0.55	0.55
FULL SUPPLY LEVEL (M) :	178.0	168.4	172.4	178.0	166.2	171.2	178.0	164.0	170.0	178.0
MIN. OPERATING LEVEL(M) :	143.6	125.3	137.3	149.3	125.3	138.8	152.2	125.3	140.1	154.9
POWER										
FIRM DISCHARGE (M3/S) :	2.8	2.7	2.7	2.7	2.7	2.7	2.6	2.6	2.6	2.5
PLANT PEAK DIS. (M3/S) :	5.7	5.5	5.5	5.4	5.3	5.3	5.3	5.1	5.1	5.1
AVERAGE NET HEAD (M) :	67.6	55.3	61.9	69.5	53.9	61.6	70.5	52.5	61.2	71.4
INSTALLED CAPACITY (MW) :	3.1	2.5	2.8	3.1	2.4	2.7	3.1	2.2	2.6	3.0
GUARANTEED POWER (MW) :	2.0	1.1	1.7	2.1	1.1	1.7	2.2	1.1	1.7	2.2
AVERAGE FIRM POWER (MW):	1.6	1.3	1.4	1.6	1.2	1.3	1.5	1.1	1.3	1.5
FIRM ENERGY (MIL KWH/Y) :	14.	11.	12.	14.	10.	12.	13.	10.	11.	13.
SECONDARY ENERGY (") :	2.	2.	2.	2.	2.	2.	2.	2.	2.	3.
ANNUAL AVERAGE E-GY (") :	16.	13.	14.	16.	12.	14.	16.	12.	14.	16.
D A M										
DAM HEIGHT (M) :	87.0	77.4	81.4	87.0	75.2	80.2	87.0	73.0	79.0	87.0
EMBANKMENT VOL.(MIL M3) :	12.346	9.729	10.772	12.346	9.179	10.437	12.346	8.629	10.126	12.346
EVALUATION INDICES										
CH/V :	571.	621.	589.	549.	619.	580.	531.	615.	567.	511.
C/V :	7.	9.	8.	7.	9.	8.	7.	9.	8.	6.
P/(20VT+VD) :	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
E(FIRM)/(20VT+VD) :	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
E(F+SEC*0.3)/(20VT+VD) :	1.1	1.1	1.1	1.1	1.1	1.1	1.0	1.1	1.1	1.0

PROJECT NAME : ALIP
PROJECT ID : 1- 22- 0- 4-0-1
TYPE : RESERVOIR

BASIN NAME : ABRA
RIVER NAME : PALSIGUAN

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.95	0.80	0.80	0.75	0.75	0.75	0.75	0.75	0.72	0.72
FULL SUPPLY LEVEL (M) :	293.0	284.8	293.0	281.8	283.8	286.3	289.6	293.0	280.4	293.0
MIN. OPERATING LEVEL(M) :	193.5	193.5	226.2	193.4	203.4	213.4	223.4	233.4	193.4	236.7
POWER										
FIRM DISCHARGE (M3/S) :	9.2	8.9	8.9	8.8	8.8	8.8	8.8	8.7	8.7	8.6
PLANT PEAK DIS. (M3/S) :	18.4	17.8	17.7	17.6	17.6	17.5	17.5	17.5	17.4	17.3
AVERAGE NET HEAD (M) :	105.1	99.7	115.8	97.7	102.3	107.2	112.6	118.1	96.7	119.2
INSTALLED CAPACITY (MW) :	16.0	14.6	16.9	14.2	14.8	15.5	16.2	17.0	13.9	17.0
GUARANTEED POWER (MW) :	5.6	5.4	9.9	5.4	6.7	8.1	9.4	10.7	5.3	11.1
AVERAGE FIRM POWER (MW) :	8.0	7.3	8.5	7.1	7.4	7.7	8.1	8.5	6.9	8.5
FIRM ENERGY (MIL KWH/Y) :	70.	64.	74.	62.	65.	68.	71.	74.	61.	74.
SECONDARY ENERGY (") :	6.	7.	8.	8.	8.	8.	9.	9.	8.	9.
ANNUAL AVERAGE E-GY (") :	76.	72.	82.	70.	73.	76.	80.	83.	69.	84.
D A M										
DAM HEIGHT (M) :	147.7	139.5	147.7	136.5	138.5	141.0	144.3	147.7	135.1	147.7
EMBANKMENT VOL.(MIL M3) :	8.290	7.173	8.290	6.771	7.034	7.381	7.826	8.290	6.591	8.290
EVALUATION INDICES										
CH/V :	4851.	5102.	4658.	5214.	5085.	4929.	4753.	4589.	5235.	4534.
C/V :	35.	39.	34.	41.	39.	37.	35.	33.	42.	33.
P/(20VT+VD) :	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
E(FIRM)/(20VT+VD) :	6.4	6.5	6.7	6.6	6.7	6.7	6.8	6.8	6.5	6.8
E(F+SEC*0.3)/(20VT+VD) :	6.5	6.7	7.0	6.8	6.9	7.0	7.0	7.0	6.8	7.0

PROJECT NAME : SUPO
PROJECT ID : 1- 22- 0- 5-0-1
TYPE : RESERVOIR

BASIN NAME : ABRA
RIVER NAME : ABRA

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* SUMMARY TABLE OF OUTPUTS *
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ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.50	0.43	0.43	0.43	0.43	0.43	0.37	0.37	0.37	0.37
FULL SUPPLY LEVEL (M) :	320.0	316.1	317.0	317.9	318.9	320.0	311.8	313.2	317.3	320.0
MIN. OPERATING LEVEL(M) :	261.5	263.5	267.3	271.1	275.0	278.8	263.1	269.8	283.1	289.8
POWER										
FIRM DISCHARGE (M3/S) :	45.9	43.5	43.4	43.4	43.3	43.3	40.7	40.6	40.4	40.3
PLANT PEAK DIS. (M3/S) :	183.7	174.0	173.7	173.5	173.3	173.0	162.8	162.4	161.5	161.0
AVERAGE NET HEAD (M) :	94.1	92.2	94.0	95.9	97.8	99.8	89.2	92.3	99.4	103.3
INSTALLED CAPACITY (MW) :	142.3	132.1	134.5	136.9	139.5	142.1	119.5	123.4	132.1	137.0
GUARANTEED POWER (MW) :	79.4	77.9	83.0	88.0	93.0	98.1	72.4	80.6	97.0	105.0
AVERAGE FIRM POWER (MW) :	35.6	33.0	33.6	34.2	34.9	35.5	29.9	30.8	33.0	34.2
FIRM ENERGY (MIL KWH/Y) :	312.	289.	294.	300.	306.	311.	262.	270.	289.	300.
SECONDARY ENERGY (") :	111.	122.	123.	124.	126.	127.	133.	135.	141.	146.
ANNUAL AVERAGE E-GY (") :	423.	411.	417.	424.	431.	438.	394.	405.	431.	446.
D A M										
DAM HEIGHT (M) :	122.0	118.1	119.0	119.9	120.9	122.0	113.8	115.2	119.3	122.0
EMBANKMENT VOL.(MIL M3) :	5.685	5.220	5.321	5.430	5.557	5.685	4.728	4.880	5.359	5.685
EVALUATION INDICES										
CH/V :	28943.	28844.	28467.	28078.	27648.	27236.	28604.	28014.	26319.	25329.
C/V :	255.	263.	257.	252.	246.	240.	271.	262.	238.	223.
P/(20VT+VD) :	13.6	13.3	13.4	13.5	13.6	13.7	12.7	12.9	13.2	13.2
E(FIRM)/(20VT+VD) :	29.9	29.1	29.3	29.6	29.7	29.9	27.8	28.3	28.9	29.0
E(F+SEC*0.3)/(20VT+VD) :	33.1	32.8	33.0	33.2	33.4	33.6	32.1	32.5	33.1	33.2

PROJECT NAME : ETE8
PROJECT ID : 1- 22- 0- 6-0-1
TYPE : RESERVOIR

BASIN NAME : ABRA
RIVER NAME : ABRA

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* SUMMARY TABLE OF OUTPUTS *
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ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.65	0.60	0.60	0.60	0.55	0.55	0.55	0.50	0.50	0.50
FULL SUPPLY LEVEL (M) :	371.0	353.3	361.5	371.0	349.9	359.6	371.0	346.2	357.7	371.0
MIN. OPERATING LEVEL(M) :	327.4	304.1	317.7	331.4	303.9	319.5	335.1	303.7	321.3	338.9
POWER										
FIRM DISCHARGE (M3/S) :	40.7	39.6	39.5	39.4	38.2	38.1	38.0	36.7	36.6	36.5
PLANT PEAK DIS. (M3/S) :	162.6	158.3	158.1	157.8	152.6	152.3	152.0	146.9	146.6	146.2
AVERAGE NET HEAD (M) :	81.2	61.9	71.8	82.5	59.5	71.1	83.7	57.1	70.4	84.9
INSTALLED CAPACITY (MW) :	108.7	80.6	93.4	107.1	74.8	89.1	104.7	69.0	84.9	102.2
GUARANTEED POWER (MW) :	66.5	36.1	52.8	69.3	34.6	52.9	71.2	33.0	53.0	72.8
AVERAGE FIRM POWER (MW) :	27.2	20.2	23.3	26.8	18.7	22.3	26.2	17.3	21.2	25.5
FIRM ENERGY (MIL KWH/Y) :	238.	177.	204.	235.	164.	195.	229.	151.	186.	224.
SECONDARY ENERGY (") :	56.	50.	55.	62.	54.	61.	69.	57.	66.	77.
ANNUAL AVERAGE E-GY (") :	294.	227.	260.	298.	217.	256.	299.	208.	252.	301.
D A M										
DAM HEIGHT (M) :	104.0	86.3	94.5	104.0	82.9	92.6	104.0	79.2	90.7	104.0
EMBANKMENT VOL.(MIL M3) :	6.063	3.826	4.774	6.063	3.461	4.550	6.063	3.111	4.320	6.063
EVALUATION INDICES										
CH/V :	20235.	25541.	22536.	19627.	26031.	22294.	18899.	26530.	22081.	18171.
C/V :	211.	326.	261.	205.	348.	264.	198.	372.	267.	190.
P/(20VT+VD) :	9.7	9.0	9.4	9.5	8.7	9.2	9.3	8.4	9.0	9.1
E(FIRM)/(20VT+VD) :	21.1	19.6	20.5	20.9	19.0	20.1	20.4	18.3	19.7	20.0
E(F+SEC*0.3)/(20VT+VD) :	22.6	21.3	22.2	22.5	20.9	22.0	22.3	20.4	21.8	22.0

PROJECT NAME : BUCNIT
PROJECT ID : 1- 22- 0- 7-0-1
TYPE : RESERVOIR

BASIN NAME : ABRA
RIVER NAME : ABRA

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* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.91	0.75	0.75	0.70	0.70	0.65	0.65	0.65	0.65	0.65
FULL SUPPLY LEVEL (M) :	460.0	452.3	460.0	450.0	460.0	447.1	449.5	451.9	455.2	460.0
MIN. OPERATING LEVEL(M) :	377.7	377.6	410.4	377.5	415.8	377.3	388.2	399.1	410.0	420.9
POWER										
FIRM DISCHARGE (M3/S) :	28.8	27.8	27.5	27.1	26.9	26.5	26.5	26.4	26.3	26.2
PLANT PEAK DIS. (M3/S) :	173.1	166.5	165.1	162.9	161.2	159.2	158.8	158.3	157.8	157.3
AVERAGE NET HEAD (M) :	100.3	95.1	110.9	93.5	112.7	91.6	96.7	101.9	107.6	114.4
INSTALLED CAPACITY (MW) :	142.8	130.4	150.8	125.4	149.6	120.1	126.4	132.8	139.8	148.1
GUARANTEED POWER (MW) :	61.6	59.2	100.8	57.7	105.2	56.3	69.6	82.8	95.9	108.9
AVERAGE FIRM POWER (MW) :	23.8	21.7	25.1	20.9	24.9	20.0	21.1	22.1	23.3	24.7
FIRM ENERGY (MIL KWH/Y) :	209.	190.	220.	183.	218.	175.	185.	194.	204.	216.
SECONDARY ENERGY (") :	34.	39.	44.	43.	49.	46.	48.	49.	51.	54.
ANNUAL AVERAGE E-GY (") :	242.	230.	264.	226.	267.	222.	232.	243.	255.	270.
D A M										
DAM HEIGHT (M) :	136.0	128.3	136.0	126.0	136.0	123.1	125.5	127.9	131.2	136.0
EMBANKMENT VOL.(MIL M3) :	16.847	14.412	16.847	13.742	16.847	12.935	13.596	14.300	15.281	16.847
EVALUATION INDICES										
CH/V :	6894.	7290.	6568.	7332.	6409.	7433.	7189.	6954.	6661.	6251.
C/V :	54.	61.	52.	62.	50.	65.	61.	58.	54.	49.
P/(20VT+VD) :	6.8	7.0	7.1	7.0	7.1	7.0	7.1	7.2	7.2	7.0
E(FIRM)/(20VT+VD) :	9.9	10.2	10.4	10.2	10.3	10.2	10.3	10.4	10.4	10.2
E(F+SEC*0.3)/(20VT+VD) :	10.3	10.8	11.0	10.9	11.0	11.0	11.1	11.2	11.2	11.0

PROJECT NAME : UPPER BUCNIT
PROJECT ID : 1- 22- 0- 8-0-1
TYPE : RESERVOIR

BASIN NAME : ABRA
RIVER NAME : ABRA

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* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.92	0.77	0.77	0.75	0.75	0.75	0.75	0.75	0.70	0.70
FULL SUPPLY LEVEL (M) :	473.0	466.6	473.0	465.4	466.7	468.6	470.7	473.0	463.1	473.0
MIN. OPERATING LEVEL(M) :	404.3	404.2	426.5	404.2	410.4	416.7	423.0	429.2	404.1	433.7
POWER										
FIRM DISCHARGE (M3/S) :	28.0	27.1	26.9	26.9	26.8	26.8	26.7	26.6	26.3	26.0
PLANT PEAK DIS. (M3/S) :	167.9	162.3	161.2	161.1	160.9	160.6	160.2	159.8	157.6	156.0
AVERAGE NET HEAD (M) :	87.3	83.0	94.5	82.3	85.1	88.4	91.9	95.4	80.7	96.9
INSTALLED CAPACITY (MW) :	120.7	111.0	125.4	109.1	112.8	116.9	121.2	125.6	104.7	124.4
GUARANTEED POWER (MW) :	54.7	52.8	80.3	52.3	60.1	67.8	75.4	83.0	51.0	86.4
AVERAGE FIRM POWER (MW):	20.1	18.5	20.9	18.2	18.8	19.5	20.2	20.9	17.4	20.7
FIRM ENERGY (MIL KWH/Y) :	176.	162.	183.	159.	165.	171.	177.	183.	153.	182.
SECONDARY ENERGY (") :	28.	33.	36.	33.	34.	35.	36.	37.	36.	41.
ANNUAL AVERAGE E-GY (") :	205.	195.	219.	193.	199.	206.	213.	221.	189.	223.
D A M										
DAM HEIGHT (M) :	119.0	112.6	119.0	111.4	112.7	114.6	116.7	119.0	108.1	119.0
EMBANKMENT VOL.(MIL M3) :	10.903	9.486	10.903	9.231	9.508	9.932	10.403	10.903	8.746	10.903
EVALUATION INDICES										
CH/V :	8920.	9338.	8550.	9420.	9240.	8986.	8727.	8477.	9505.	8271.
C/V :	81.	90.	78.	92.	89.	85.	81.	77.	95.	75.
P/(20VT+VD) :	7.4	7.4	7.7	7.5	7.6	7.6	7.7	7.7	7.4	7.6
E(FIRM)/(20VT+VD) :	10.8	10.9	11.2	10.9	11.0	11.1	11.2	11.2	10.8	11.1
E(F+SEC*0.3)/(20VT+VD) :	11.3	11.5	11.9	11.6	11.7	11.8	11.9	11.9	11.6	11.9

PROJECT NAME : DAYAPAN
PROJECT ID : 1- 22- 0- 9-0-1
TYPE : RESERVOIR

BASIN NAME : ABRA
RIVER NAME : ABRA

****
* SUMMARY TABLE OF OUTPUTS *
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ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.75	0.70	0.70	0.70	0.65	0.65	0.65	0.60	0.60	0.60
FULL SUPPLY LEVEL (M) :	746.0	726.4	734.2	746.0	722.0	731.4	746.0	717.2	728.5	746.0
MIN. OPERATING LEVEL(M) :	662.7	601.6	636.9	672.1	601.6	641.3	681.1	601.5	644.9	688.2
POWER										
FIRM DISCHARGE (M3/S) :	9.4	9.3	9.3	9.2	9.1	9.0	9.0	8.8	8.8	8.7
PLANT PEAK DIS. (M3/S) :	18.9	18.6	18.5	18.5	18.1	18.1	18.0	17.6	17.6	17.5
AVERAGE NET HEAD (M) :	154.7	121.9	138.5	157.7	118.9	138.0	160.6	115.7	137.2	162.8
INSTALLED CAPACITY (MW) :	24.1	18.6	21.1	23.9	17.7	20.6	23.8	16.6	19.9	23.4
GUARANTEED POWER (MW) :	14.7	5.6	10.7	15.7	5.5	11.1	16.6	5.3	11.2	17.0
AVERAGE FIRM POWER (MW):	12.0	9.3	10.6	12.0	8.9	10.3	11.9	8.4	9.9	11.7
FIRM ENERGY (MIL KWH/Y) :	105.	82.	92.	105.	78.	90.	104.	73.	87.	103.
SECONDARY ENERGY (") :	12.	12.	12.	13.	13.	14.	15.	14.	15.	17.
ANNUAL AVERAGE E-GY (") :	117.	93.	105.	118.	90.	104.	119.	87.	102.	119.
D A M										
DAM HEIGHT (M) :	196.0	176.4	184.2	196.0	172.0	181.4	196.0	167.2	178.5	196.0
EMBANKMENT VOL.(MIL M3) :	23.130	17.533	19.627	23.130	16.371	18.815	23.130	15.204	18.075	23.130
EVALUATION INDICES										
CH/V :	2349.	2729.	2543.	2293.	2778.	2549.	2237.	2819.	2531.	2169.
C/V :	13.	17.	15.	13.	17.	15.	12.	18.	15.	12.
P/(20VT+VD) :	0.9	0.9	0.9	0.9	0.9	1.0	0.9	0.9	1.0	0.9
E(FIRM)/(20VT+VD) :	4.1	4.0	4.2	4.1	4.1	4.2	4.1	4.1	4.2	4.0
E(F+SEC*0.3)/(20VT+VD) :	4.2	4.2	4.3	4.2	4.3	4.4	4.2	4.4	4.4	4.2

PROJECT NAME : ABRA
PROJECT ID : 1- 22- 0-10-0-2
TYPE : RUN-OF-RIVER

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6
HEAD PONDAGE						
OUTPUT FACTOR	0.966	0.900	0.800	0.700	0.600	0.571
FULL SUPPLY LEVEL (M)	803.3	803.5	803.7	803.9	804.2	804.3
NORMAL OPERATING LEVEL(M)	802.6	802.8	803.0	803.2	803.5	803.6
MINIMUM OPERATING LEVEL (M)	801.9	802.0	802.2	802.5	802.8	802.9
DIVERSION WEIR HEIGHT INC. 3M F-B	6.3	6.5	6.7	6.9	7.2	7.3
WATER DEPTH AT TRASHRACK (M)	3.3	3.5	3.7	3.9	4.2	4.3
CHANNEL WIDTH AT TRASHRACK (M)	3.5	4.1	4.9	5.8	7.1	7.4
PONDAGE STORAGE VOLUME (1000 M3)	58.5	61.2	64.7	68.9	74.3	75.9
WATERWAY						
NUMBER OF WATERWAY	1	1	1	1	1	1
INSIDE DIAMETER OF HEADRACE (M)	1.8	1.8	1.8	1.8	2.1	2.2
HEADRACE TUNNEL LENGTH (M)	6000.0	6000.0	6000.0	6000.0	6000.0	6000.0
INSIDE DIAMETER OF PENSTOCK (M)	1.3	1.3	1.3	1.3	1.5	1.6
PENSTOCK LENGTH (HORIZONTAL) (M)	360.0	360.0	360.0	360.0	360.0	360.0
EXCAVATION VOLUME (1000 M3)	15.9	15.9	15.9	16.3	21.7	23.4
POWER						
FIRM DISCHARGE (M3/S)	0.9	0.9	0.9	0.9	0.9	0.9
DEPENDABLE DISCHARGE (M3/S)	1.5	1.5	1.5	1.5	1.5	1.5
PLANT PEAK DISCHARGE (M3/S)	1.5	2.1	3.0	4.3	6.2	6.9
TAIL WATER LEVEL (M)	600.0	600.0	600.0	600.0	600.0	600.0
NET HEAD (M)	198.9	197.5	194.3	188.5	189.1	189.2
INSTALLED CAPACITY (MW)	2.4	3.4	4.8	6.6	9.7	10.7
DEPENDABLE PEAK POWER (MW)	2.5	2.4	2.4	2.3	2.3	2.3
FIRM POWER (MW)	1.5	1.5	1.4	1.4	1.4	1.4
GUARANTEED POWER OUTPUT (MW)	1.3	1.3	1.3	1.3	1.3	1.3
FIRM ENERGY/YEAR (10**6 KWH)	12.9	12.8	12.6	12.2	12.3	12.3
SECONDARY ENERGY/YEAR (10**6 KWH)	7.1	12.5	18.7	25.6	34.9	37.5
ANNUAL ENERGY (MIL KWH/YR)	20.0	25.3	31.3	37.8	47.2	49.8
PARAMETERS						
P(INSTALLED)/(20VT) (W/M3)	7.7	10.6	15.0	20.3	22.3	22.9
P(DEPENDABLE)/(20VT) (W/M3)	7.7	7.7	7.6	7.1	5.4	5.0
E(FIRM)/(20VT) (KWH/M3)	40.7	40.4	39.7	37.5	28.3	26.2
E(F+0.3*SECONDARY)/(20VT) (")	47.3	52.2	57.4	61.1	52.4	50.2

PROJECT NAME : NAGLIBACAN
PROJECT ID : 1- 22- 1-11-0-1
TYPE : RESERVOIR

BASIN NAME : ABRA
RIVER NAME : ANAYAN

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.94	0.80	0.80	0.80	0.75	0.75	0.75	0.70	0.70	0.70
FULL SUPPLY LEVEL (M) :	494.0	486.8	489.7	494.0	483.9	487.7	494.0	481.1	485.7	494.0
MIN. OPERATING LEVEL(M) :	398.1	397.0	413.9	430.9	397.0	417.4	437.9	397.0	420.4	443.9
POWER										
FIRM DISCHARGE (M3/S) :	6.3	6.1	6.1	6.1	6.1	6.0	6.0	5.9	5.9	5.9
PLANT PEAK DIS. (M3/S) :	12.7	12.3	12.2	12.2	12.1	12.1	12.0	11.8	11.8	11.7
AVERAGE NET HEAD (M) :	108.8	103.7	111.2	119.6	101.9	111.1	121.9	100.1	110.8	123.9
INSTALLED CAPACITY (MW) :	11.3	10.5	11.2	12.0	10.2	11.0	12.1	9.8	10.8	12.0
GUARANTEED POWER (MW) :	4.5	4.2	5.8	7.4	4.2	6.1	8.0	4.1	6.2	8.3
AVERAGE FIRM POWER (MW) :	5.7	5.2	5.6	6.0	5.1	5.5	6.0	4.9	5.4	6.0
FIRM ENERGY (MIL KWH/Y) :	50.	46.	49.	53.	45.	48.	53.	43.	47.	52.
SECONDARY ENERGY (") :	5.	5.	6.	6.	6.	6.	6.	6.	6.	7.
ANNUAL AVERAGE E-GY (") :	54.	51.	55.	58.	50.	54.	59.	49.	54.	59.
D A M										
DAM HEIGHT (M) :	150.0	142.8	145.7	150.0	139.9	143.7	150.0	137.1	141.7	150.0
EMBANKMENT VOL.(MIL M3) :	8.520	7.398	7.856	8.520	6.958	7.548	8.520	6.579	7.228	8.520
EVALUATION INDICES										
CH/V :	3299.	3497.	3353.	3175.	3593.	3393.	3129.	3639.	3411.	3055.
C/V :	23.	26.	25.	23.	27.	25.	22.	28.	26.	22.
P/(20VT+VD) :	1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
E(FIRM)/(20VT+VD) :	4.8	5.0	5.1	5.1	5.1	5.2	5.2	5.1	5.3	5.1
E(F+SEC*0.3)/(20VT+VD) :	5.0	5.2	5.3	5.3	5.3	5.4	5.3	5.4	5.5	5.3

PROJECT NAME : TINEG-1
PROJECT ID : 1- 22- 1-12-0-1
TYPE : RESERVOIR

BASIN NAME : ABRA
RIVER NAME : TINEG

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.75	0.70	0.70	0.70	0.65	0.65	0.65	0.60	0.60	0.60
FULL SUPPLY LEVEL (M) :	324.0	306.3	313.4	324.0	302.4	310.9	324.0	298.1	308.3	324.0
MIN. OPERATING LEVEL(M) :	249.4	204.7	230.9	257.0	204.6	234.3	264.1	204.4	237.6	270.8
POWER										
FIRM DISCHARGE (M3/S) :	46.7	45.9	45.8	45.7	44.9	44.8	44.6	43.6	43.5	43.2
PLANT PEAK DIS. (M3/S) :	280.5	275.4	274.9	273.9	269.2	268.5	267.4	261.4	260.7	259.4
AVERAGE NET HEAD (M) :	159.4	133.1	146.3	161.8	130.4	145.7	164.1	127.5	145.1	166.3
INSTALLED CAPACITY (MW) :	367.9	301.6	330.9	364.9	289.0	322.1	361.3	274.4	311.3	355.1
GUARANTEED POWER (MW) :	241.1	141.1	196.7	251.6	137.6	199.4	260.3	133.3	200.2	266.0
AVERAGE FIRM POWER (MW) :	61.3	50.3	55.2	60.8	48.2	53.7	60.2	45.7	51.9	59.2
FIRM ENERGY (MIL KWH/Y) :	537.	440.	483.	533.	422.	470.	527.	401.	455.	518.
SECONDARY ENERGY (") :	102.	101.	106.	114.	109.	116.	126.	118.	127.	141.
ANNUAL AVERAGE E-GY (") :	640.	542.	589.	647.	531.	586.	654.	519.	582.	659.
D A M										
DAM HEIGHT (M) :	193.7	176.0	183.1	193.7	172.1	180.6	193.7	167.8	178.0	193.7
EMBANKMENT VOL.(MIL M3) :	30.070	23.372	25.955	30.070	22.074	24.981	30.070	20.632	24.015	30.070
EVALUATION INDICES										
CH/V :	9031.	10338.	9671.	8818.	10449.	9675.	8605.	10571.	9621.	8344.
C/V :	49.	62.	56.	48.	64.	57.	47.	67.	57.	45.
P/(20VT+VD) :	9.5	9.4	9.5	9.4	9.4	9.6	9.3	9.4	9.5	9.2
E(FIRM)/(20VT+VD) :	13.8	13.7	13.9	13.7	13.7	14.0	13.6	13.7	13.9	13.4
E(F+SEC*0.3)/(20VT+VD) :	14.6	14.7	14.8	14.6	14.8	15.0	14.6	14.9	15.1	14.5

PROJECT NAME : TINEG-2
PROJECT ID : 1- 22- 1-13-0-1
TYPE : RESERVOIR

BASIN NAME : ABRA
RIVER NAME : TINEG

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.75	0.65	0.65	0.65	0.60	0.60	0.60	0.55	0.55	0.55
FULL SUPPLY LEVEL (M) :	514.0	489.8	499.6	514.0	484.9	496.1	514.0	480.1	492.5	514.0
MIN. OPERATING LEVEL(M) :	430.1	378.8	412.9	446.9	378.6	416.4	454.1	378.4	419.7	460.9
POWER										
FIRM DISCHARGE (M3/S) :	15.0	14.4	14.3	14.3	14.0	13.9	13.9	13.5	13.4	13.4
PLANT PEAK DIS. (M3/S) :	89.9	86.4	86.1	85.8	83.9	83.6	83.3	80.9	80.6	80.2
AVERAGE NET HEAD (M) :	181.7	149.0	166.6	187.2	145.7	165.4	189.5	142.4	164.2	191.7
INSTALLED CAPACITY (MW) :	134.5	105.9	118.1	132.2	100.6	113.8	129.9	94.9	108.9	126.6
GUARANTEED POWER (MW) :	88.7	50.8	73.4	95.9	49.2	73.6	97.6	47.4	73.0	98.3
AVERAGE FIRM POWER (MW) :	22.4	17.7	19.7	22.0	16.8	19.0	21.7	15.8	18.1	21.1
FIRM ENERGY (MIL KWH/Y) :	196.	155.	172.	193.	147.	166.	190.	139.	159.	185.
SECONDARY ENERGY (") :	37.	40.	42.	46.	43.	46.	51.	47.	51.	57.
ANNUAL AVERAGE E-GY (") :	234.	194.	215.	239.	190.	212.	241.	186.	210.	242.
D A M										
DAM HEIGHT (M) :	220.0	195.8	205.6	220.0	190.9	202.1	220.0	186.1	198.5	220.0
EMBANKMENT VOL.(MIL M3) :	26.308	18.649	21.623	26.308	17.310	20.484	26.308	16.020	19.402	26.308
EVALUATION INDICES										
CH/V :	3768.	4527.	4091.	3593.	4615.	4117.	3485.	4681.	4113.	3356.
C/V :	18.	24.	21.	17.	25.	21.	17.	27.	22.	16.
P/(20VT+VD) :	4.4	4.6	4.5	4.3	4.7	4.6	4.2	4.7	4.6	4.1
E(FIRM)/(20VT+VD) :	6.4	6.7	6.6	6.3	6.8	6.7	6.2	6.8	6.7	6.0
E(F+SEC*0.3)/(20VT+VD) :	6.8	7.2	7.1	6.7	7.4	7.3	6.7	7.5	7.4	6.6

PROJECT NAME : TINEG-3
PROJECT ID : 1- 22- 1-14-0-1
TYPE : RESERVOIR

BASIN NAME : ABRA
RIVER NAME : TINEG

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.94	0.75	0.75	0.70	0.70	0.65	0.65	0.65	0.65	0.65
FULL SUPPLY LEVEL (M) :	645.0	635.2	645.0	632.5	645.0	629.7	632.4	635.9	640.2	645.0
MIN. OPERATING LEVEL(M) :	551.3	551.2	589.6	551.1	596.1	551.0	563.8	576.5	589.3	602.0
POWER										
FIRM DISCHARGE (M3/S) :	10.0	9.6	9.5	9.4	9.3	9.1	9.1	9.1	9.1	9.0
PLANT PEAK DIS. (M3/S) :	20.0	19.1	19.0	18.7	18.5	18.3	18.3	18.2	18.1	18.1
AVERAGE NET HEAD (M) :	101.8	95.3	114.3	93.5	116.4	91.6	97.5	104.0	111.0	118.3
INSTALLED CAPACITY (MW) :	16.8	15.0	17.9	14.4	17.8	13.8	14.7	15.6	16.6	17.6
GUARANTEED POWER (MW) :	6.2	5.9	11.5	5.7	12.2	5.6	7.4	9.2	11.0	12.7
AVERAGE FIRM POWER (MW) :	8.4	7.5	8.9	7.2	8.9	6.9	7.3	7.8	8.3	8.8
FIRM ENERGY (MIL KWH/Y) :	73.	66.	78.	63.	78.	60.	64.	68.	73.	77.
SECONDARY ENERGY (") :	7.	8.	9.	9.	10.	10.	10.	10.	11.	11.
ANNUAL AVERAGE E-GY (") :	80.	74.	87.	72.	88.	70.	74.	78.	83.	88.
D A M										
DAM HEIGHT (M) :	143.8	134.0	143.8	131.3	143.8	128.5	131.2	134.7	139.0	143.8
EMBANKMENT VOL.(MIL M3) :	13.932	11.493	13.932	10.868	13.932	10.273	10.841	11.647	12.727	13.932
EVALUATION INDICES										
CH/V :	3015.	3236.	2851.	3272.	2782.	3305.	3196.	3050.	2877.	2714.
C/V :	23.	26.	21.	27.	21.	28.	27.	25.	22.	20.
P/(20VT+VD) :	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.1	1.0	1.0
E(FIRM)/(20VT+VD) :	4.3	4.5	4.6	4.5	4.6	4.5	4.6	4.6	4.6	4.5
E(F+SEC*0.3)/(20VT+VD) :	4.4	4.7	4.8	4.7	4.7	4.7	4.8	4.8	4.8	4.7

PROJECT NAME : SINONGAN-R
PROJECT ID : 1- 22- 2-15-0-2
TYPE : RUN-OF-RIVER

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6
HEAD PONDAGE						
OUTPUT FACTOR	0.966	0.900	0.800	0.700	0.600	0.571
FULL SUPPLY LEVEL (M)	521.0	521.2	521.5	521.8	522.3	522.4
NORMAL OPERATING LEVEL(M)	519.6	519.8	520.1	520.5	520.9	521.0
MINIMUM OPERATING LEVEL (M)	518.2	518.5	518.8	519.1	519.5	519.7
DIVERSION WEIR HEIGHT INC. 3M F-B	8.0	8.2	8.5	8.8	9.3	9.4
WATER DEPTH AT TRASHRACK (M)	5.0	5.2	5.5	5.8	6.3	6.4
CHANNEL WIDTH AT TRASHRACK (M)	5.0	5.9	7.0	8.4	10.2	10.7
PONDAGE STORAGE VOLUME (1000 M3)	99.1	103.6	109.3	116.3	125.1	127.8
WATERWAY						
NUMBER OF WATERWAY	1	1	1	1	1	1
INSIDE DIAMETER OF HEADRACE (M)	1.8	1.8	2.1	2.5	2.8	2.9
HEADRACE TUNNEL LENGTH (M)	17500.0	17500.0	17500.0	17500.0	17500.0	17500.0
INSIDE DIAMETER OF PENSTOCK (M)	1.3	1.4	1.6	1.8	2.1	2.2
PENSTOCK LENGTH (HORIZONTAL) (M)	265.0	265.0	265.0	265.0	265.0	265.0
EXCAVATION VOLUME (1000 M3)	44.9	46.8	61.3	84.0	111.6	120.7
POWER						
FIRM DISCHARGE (M3/S)	1.9	1.9	1.9	1.9	1.9	1.9
DEPENDABLE DISCHARGE (M3/S)	3.1	3.1	3.1	3.1	3.1	3.1
PLANT PEAK DISCHARGE (M3/S)	3.1	4.3	6.2	8.9	13.0	14.4
TAIL WATER LEVEL (M)	380.0	380.0	380.0	380.0	380.0	380.0
NET HEAD (M)	121.7	110.3	110.7	114.1	114.6	114.8
INSTALLED CAPACITY (MW)	3.1	3.9	5.7	8.3	12.3	13.6
DEPENDABLE PEAK POWER (MW)	3.1	2.8	2.9	2.9	3.0	3.0
FIRM POWER (MW)	1.9	1.7	1.7	1.8	1.8	1.8
GUARANTEED POWER OUTPUT (MW)	1.7	1.5	1.5	1.6	1.6	1.6
FIRM ENERGY/YEAR (10**6 KWH)	16.5	14.9	15.0	15.5	15.5	15.6
SECONDARY ENERGY/YEAR (10**6 KWH)	9.1	14.7	22.5	32.6	44.5	47.9
ANNUAL ENERGY (MIL KWH/YR)	25.6	29.6	37.5	48.1	60.1	63.5
PARAMETERS						
P(INSTALLED)/(20VT) (W/M3)	3.5	4.2	4.6	5.0	5.5	5.6
P(DEPENDABLE)/(20VT) (W/M3)	3.5	3.0	2.3	1.8	1.3	1.2
E(FIRM)/(20VT) (KWH/M3)	18.3	16.0	12.2	9.2	7.0	6.4
E(F+0.3*SECONDARY)/(20VT) (")	21.4	20.7	17.7	15.0	12.9	12.4

PROJECT NAME : PAGANAO
PROJECT ID : 1- 22- 3-16-0-1
TYPE : RESERVOIR

BASIN NAME : ABRA
RIVER NAME : MALANAS

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.94	0.75	0.75	0.70	0.70	0.65	0.65	0.65	0.65	0.65
FULL SUPPLY LEVEL (M) :	273.0	264.6	273.0	262.3	273.0	260.0	262.0	264.7	268.4	273.0
MIN. OPERATING LEVEL(M) :	197.8	197.8	229.2	197.8	233.7	197.8	207.8	217.9	227.9	238.0
POWER										
FIRM DISCHARGE (M3/S) :	6.5	6.2	6.2	6.1	6.0	6.0	5.9	5.9	5.9	5.9
PLANT PEAK DIS. (M3/S) :	13.0	12.5	12.3	12.2	12.0	11.9	11.9	11.8	11.8	11.7
AVERAGE NET HEAD (M) :	90.2	84.8	100.6	83.3	102.2	81.9	86.5	91.6	97.3	103.6
INSTALLED CAPACITY (MW) :	9.7	8.7	10.2	8.4	10.1	8.0	8.5	8.9	9.4	10.0
GUARANTEED POWER (MW) :	4.1	3.9	6.9	3.9	7.2	3.8	4.7	5.6	6.5	7.4
AVERAGE FIRM POWER (MW):	4.8	4.3	5.1	4.2	5.1	4.0	4.2	4.5	4.7	5.0
FIRM ENERGY (MIL KWH/Y) :	42.	38.	45.	37.	44.	35.	37.	39.	41.	44.
SECONDARY ENERGY (") :	4.	5.	5.	5.	6.	6.	6.	6.	6.	7.
ANNUAL AVERAGE E-GY (") :	46.	43.	50.	42.	50.	41.	43.	45.	48.	51.
D A M										
DAM HEIGHT (M) :	125.4	117.0	125.4	114.7	125.4	112.4	114.4	117.1	120.8	125.4
EMBANKMENT VOL.(MIL M3) :	7.096	5.801	7.096	5.478	7.096	5.181	5.445	5.819	6.344	7.096
EVALUATION INDICES										
CH/V :	3336.	3624.	3156.	3675.	3082.	3718.	3594.	3436.	3245.	3008.
C/V :	29.	34.	27.	35.	27.	36.	34.	32.	29.	26.
P/(20VT+VD) :	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
E(FIRM)/(20VT+VD) :	4.6	4.8	4.8	4.8	4.8	4.8	4.9	4.9	4.9	4.7
E(F+SEC*0.3)/(20VT+VD) :	4.7	5.0	5.0	5.0	5.0	5.0	5.1	5.1	5.1	5.0

PROJECT NAME : MALANAS (LICUANO)
PROJECT ID : 1- 22- 3-17-0-1
TYPE : RESERVOIR

BASIN NAME : ABRA
RIVER NAME : KAWAYAN

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.93	0.75	0.75	0.70	0.70	0.65	0.65	0.65	0.65	0.65
FULL SUPPLY LEVEL (M) :	432.0	424.6	432.0	422.5	432.0	420.4	422.3	424.9	428.2	432.0
MIN. OPERATING LEVEL(M) :	363.5	363.5	389.4	363.5	394.0	363.5	372.2	380.9	389.7	398.4
POWER										
FIRM DISCHARGE (M3/S) :	4.0	3.8	3.8	3.7	3.7	3.7	3.6	3.6	3.6	3.6
PLANT PEAK DIS. (M3/S) :	8.0	7.6	7.6	7.5	7.4	7.3	7.3	7.3	7.2	7.2
AVERAGE NET HEAD (M) :	75.7	70.9	84.3	69.6	85.8	68.2	72.3	76.9	82.0	87.3
INSTALLED CAPACITY (MW) :	5.0	4.5	5.3	4.3	5.2	4.1	4.3	4.6	4.9	5.2
GUARANTEED POWER (MW) :	1.9	1.8	3.3	1.8	3.5	1.7	2.2	2.7	3.2	3.7
AVERAGE FIRM POWER (MW) :	2.5	2.2	2.6	2.1	2.6	2.1	2.2	2.3	2.4	2.6
FIRM ENERGY (MIL KWH/Y) :	22.	20.	23.	19.	23.	18.	19.	20.	21.	23.
SECONDARY ENERGY (") :	2.	3.	3.	3.	3.	3.	3.	3.	3.	4.
ANNUAL AVERAGE E-GY (") :	24.	22.	26.	21.	26.	21.	22.	23.	25.	26.
D A M										
DAM HEIGHT (M) :	107.2	99.8	107.2	97.7	107.2	95.6	97.5	100.1	103.4	107.2
EMBANKMENT VOL.(MIL M3) :	5.681	4.692	5.681	4.440	5.681	4.201	4.416	4.730	5.177	5.681
EVALUATION INDICES										
CH/V :	2184.	2345.	2069.	2368.	2019.	2390.	2317.	2218.	2089.	1969.
C/V :	22.	26.	21.	27.	20.	27.	26.	24.	22.	20.
P/(20VT+VD) :	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
E(FIRM)/(20VT+VD) :	3.1	3.2	3.2	3.2	3.2	3.2	3.2	3.3	3.2	3.2
E(F+SEC*0.3)/(20VT+VD) :	3.1	3.3	3.3	3.3	3.3	3.3	3.4	3.4	3.4	3.3

PROJECT NAME : TAPING
PROJECT ID : 1- 22- 4-18-0-1
TYPE : RESERVOIR

BASIN NAME : ABRA
RIVER NAME : BAAY

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.75	0.65	0.65	0.65	0.60	0.60	0.60	0.55	0.55	0.55
FULL SUPPLY LEVEL (M) :	218.0	204.2	210.0	218.0	201.5	208.1	218.0	198.6	206.3	218.0
MIN. OPERATING LEVEL(M) :	171.3	143.2	161.9	180.5	143.2	163.8	184.3	143.2	165.7	188.1
POWER										
FIRM DISCHARGE (M3/S) :	4.5	4.3	4.3	4.2	4.2	4.1	4.1	4.0	4.0	4.0
PLANT PEAK DIS. (M3/S) :	8.9	8.6	8.5	8.5	8.3	8.3	8.2	8.0	8.0	7.9
AVERAGE NET HEAD (M) :	91.6	73.4	83.3	94.7	71.7	82.8	96.0	69.9	82.2	97.3
INSTALLED CAPACITY (MW) :	6.7	5.2	5.9	6.6	4.9	5.6	6.5	4.6	5.4	6.3
GUARANTEED POWER (MW) :	4.2	2.2	3.4	4.6	2.1	3.5	4.7	2.1	3.5	4.6
AVERAGE FIRM POWER (MW):	3.4	2.6	2.9	3.3	2.5	2.8	3.2	2.3	2.7	3.2
FIRM ENERGY (MIL KWH/Y) :	29.	23.	26.	29.	22.	25.	28.	20.	24.	28.
SECONDARY ENERGY (") :	4.	4.	4.	4.	4.	4.	5.	4.	5.	6.
ANNUAL AVERAGE E-GY (") :	33.	26.	30.	33.	26.	29.	33.	25.	28.	33.
D A M										
DAM HEIGHT (M) :	117.0	103.2	109.0	117.0	100.5	107.1	117.0	97.6	105.3	117.0
EMBANKMENT VOL.(MIL M3) :	13.578	9.494	11.113	13.578	8.867	10.599	13.578	8.195	10.086	13.578
EVALUATION INDICES										
CH/V :	1108.	1335.	1202.	1056.	1350.	1202.	1024.	1365.	1195.	986.
C/V :	10.	14.	12.	10.	15.	12.	10.	15.	12.	9.
P/(20VT+VD) :	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
E(FIRM)/(20VT+VD) :	1.9	1.9	1.9	1.8	1.9	1.9	1.8	1.9	1.9	1.7
E(F+SEC*0.3)/(20VT+VD) :	1.9	2.0	2.0	1.9	2.0	2.0	1.9	2.1	2.0	1.9

PROJECT NAME : UPPER MAGUYEPYEP
PROJECT ID : 1- 22- 5-19-0-1
TYPE : RESERVOIR

BASIN NAME : ABRA
RIVER NAME : BUCLOC

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.93	0.75	0.75	0.70	0.70	0.65	0.65	0.65	0.65	0.65
FULL SUPPLY LEVEL (M) :	336.0	327.6	336.0	325.0	336.0	322.4	324.8	327.9	331.6	336.0
MIN. OPERATING LEVEL(M) :	258.2	258.2	287.8	258.2	292.9	258.2	268.0	277.8	287.7	297.5
POWER										
FIRM DISCHARGE (M3/S) :	6.6	6.3	6.3	6.2	6.1	6.0	6.0	6.0	6.0	6.0
PLANT PEAK DIS. (M3/S) :	13.2	12.6	12.6	12.4	12.3	12.1	12.1	12.0	12.0	12.0
AVERAGE NET HEAD (M) :	88.8	83.5	98.7	81.8	100.4	80.2	85.0	90.3	95.9	102.0
INSTALLED CAPACITY (MW) :	9.7	8.7	10.2	8.3	10.1	8.0	8.4	8.9	9.5	10.0
GUARANTEED POWER (MW) :	3.8	3.7	6.5	3.6	6.9	3.5	4.5	5.4	6.3	7.2
AVERAGE FIRM POWER (MW):	4.8	4.3	5.1	4.2	5.1	4.0	4.2	4.5	4.7	5.0
FIRM ENERGY (MIL KWH/Y) :	42.	38.	45.	37.	44.	35.	37.	39.	42.	44.
SECONDARY ENERGY (") :	4.	5.	5.	5.	6.	6.	6.	6.	6.	7.
ANNUAL AVERAGE E-GY (") :	46.	43.	50.	42.	50.	41.	43.	45.	48.	51.
D A M										
DAM HEIGHT (M) :	125.6	117.2	125.6	114.6	125.6	112.0	114.4	117.5	121.2	125.6
EMBANKMENT VOL.(MIL M3) :	7.499	6.100	7.499	5.695	7.499	5.324	5.659	6.143	6.723	7.499
EVALUATION INDICES										
CH/V :	3185.	3486.	3029.	3566.	2959.	3639.	3492.	3303.	3112.	2889.
C/V :	28.	33.	26.	34.	26.	36.	34.	31.	28.	25.
P/(20VT+VD) :	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
E(FIRM)/(20VT+VD) :	4.4	4.7	4.7	4.7	4.7	4.7	4.8	4.8	4.7	4.6
E(F+SEC*0.3)/(20VT+VD) :	4.6	4.9	4.8	4.9	4.8	5.0	5.0	5.0	4.9	4.8

PROJECT NAME : BUCLOC
PROJECT ID : 1- 22- 5-20-0-1
TYPE : RESERVOIR

BASIN NAME : ABRA
RIVER NAME : SULDEN

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.94	0.75	0.75	0.70	0.70	0.65	0.65	0.65	0.65	0.65
FULL SUPPLY LEVEL (M) :	437.0	429.9	437.0	427.6	437.0	425.3	427.1	429.7	432.8	437.0
MIN. OPERATING LEVEL(M) :	367.1	367.1	396.7	367.1	401.2	367.1	376.6	386.0	395.4	404.8
POWER										
FIRM DISCHARGE (M3/S) :	4.4	4.2	4.1	4.1	4.0	4.0	4.0	4.0	3.9	3.9
PLANT PEAK DIS. (M3/S) :	8.7	8.3	8.3	8.2	8.1	8.0	7.9	7.9	7.9	7.9
AVERAGE NET HEAD (M) :	82.7	78.1	92.5	76.6	94.0	75.1	79.4	84.2	89.3	95.2
INSTALLED CAPACITY (MW) :	5.9	5.4	6.3	5.1	6.2	4.9	5.2	5.5	5.8	6.2
GUARANTEED POWER (MW) :	2.5	2.4	4.2	2.3	4.4	2.3	2.8	3.4	4.0	4.5
AVERAGE FIRM POWER (MW):	3.0	2.7	3.1	2.6	3.1	2.5	2.6	2.7	2.9	3.1
FIRM ENERGY (MIL KWH/Y) :	26.	23.	28.	23.	27.	22.	23.	24.	25.	27.
SECONDARY ENERGY (") :	2.	3.	3.	3.	4.	3.	4.	4.	4.	4.
ANNUAL AVERAGE E-GY (") :	29.	26.	31.	26.	31.	25.	26.	28.	29.	31.
D A M										
DAM HEIGHT (M) :	114.6	107.5	114.6	105.2	114.6	102.9	104.7	107.3	110.4	114.6
EMBANKMENT VOL.(MIL M3) :	8.922	7.519	8.922	7.105	8.922	6.690	7.016	7.482	8.073	8.922
EVALUATION INDICES										
CH/V :	1634.	1732.	1545.	1752.	1508.	1776.	1719.	1649.	1569.	1471.
C/V :	15.	17.	15.	18.	14.	19.	18.	17.	15.	14.
P/(20VT+VD) :	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
E(FIRM)/(20VT+VD) :	2.5	2.6	2.6	2.6	2.6	2.6	2.7	2.7	2.6	2.6
E(F+SEC*0.3)/(20VT+VD) :	2.6	2.7	2.7	2.7	2.7	2.8	2.8	2.8	2.8	2.7

PROJECT NAME : DAGUIOMAN
PROJECT ID : 1- 22- 5-21-0-1
TYPE : RESERVOIR

BASIN NAME : ABRA
RIVER NAME : BUCLOC

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.70	0.65	0.65	0.65	0.60	0.60	0.60	0.55	0.55	0.55
FULL SUPPLY LEVEL (M) :	521.0	511.3	515.1	521.0	509.4	513.9	521.0	507.0	512.8	521.0
MIN. OPERATING LEVEL(M) :	489.1	466.1	479.3	492.4	466.1	480.8	495.5	466.1	482.4	498.6
POWER										
FIRM DISCHARGE (M3/S) :	2.6	2.5	2.5	2.5	2.5	2.5	2.4	2.4	2.4	2.3
PLANT PEAK DIS. (M3/S) :	5.1	5.1	5.1	5.0	4.9	4.9	4.8	4.8	4.7	4.7
AVERAGE NET HEAD (M) :	68.1	54.2	61.0	69.2	53.0	60.8	70.2	51.4	60.6	71.3
INSTALLED CAPACITY (MW) :	2.9	2.3	2.5	2.9	2.1	2.5	2.8	2.0	2.4	2.7
GUARANTEED POWER (MW) :	1.9	1.0	1.5	2.0	0.9	1.5	2.0	0.9	1.5	2.1
AVERAGE FIRM POWER (MW) :	1.4	1.1	1.3	1.4	1.1	1.2	1.4	1.0	1.2	1.4
FIRM ENERGY (MIL KWH/Y) :	13.	10.	11.	12.	9.	11.	12.	9.	10.	12.
SECONDARY ENERGY (") :	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.
ANNUAL AVERAGE E-GY (") :	14.	12.	13.	14.	11.	13.	14.	11.	12.	14.
D A M										
DAM HEIGHT (M) :	87.0	77.3	81.1	87.0	75.4	79.9	87.0	73.0	78.8	87.0
EMBANKMENT VOL.(MIL M3) :	5.033	3.614	4.113	5.033	3.380	3.933	5.033	3.094	3.802	5.033
EVALUATION INDICES										
CH/V :	1267.	1535.	1413.	1235.	1550.	1411.	1196.	1576.	1385.	1149.
C/V :	16.	22.	19.	16.	23.	20.	15.	24.	20.	15.
P/(20VT+VD) :	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
E(FIRM)/(20VT+VD) :	1.9	1.9	1.9	1.8	1.8	1.9	1.8	1.8	1.9	1.8
E(F+SEC*0.3)/(20VT+VD) :	1.9	1.9	2.0	1.9	1.9	2.0	1.9	1.9	2.0	1.9

PROJECT NAME : BOYAN
PROJECT ID : 1- 22- 5-22-0-1
TYPE : RESERVOIR

BASIN NAME : ABRA
RIVER NAME : IKMIN

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.75	0.70	0.70	0.70	0.65	0.65	0.65	0.60	0.60	0.60
FULL SUPPLY LEVEL (M) :	393.0	379.7	385.0	393.0	376.3	383.1	393.0	373.0	381.1	393.0
MIN. OPERATING LEVEL(M) :	334.1	298.7	319.6	340.5	298.7	322.3	345.9	298.7	325.0	351.2
POWER										
FIRM DISCHARGE (M3/S) :	7.5	7.4	7.4	7.3	7.2	7.2	7.1	7.0	7.0	6.9
PLANT PEAK DIS. (M3/S) :	15.0	14.8	14.7	14.7	14.4	14.4	14.3	14.0	14.0	13.9
AVERAGE NET HEAD (M) :	123.4	103.1	113.4	125.5	101.0	113.2	127.4	99.0	112.9	129.3
INSTALLED CAPACITY (MW) :	15.2	12.5	13.7	15.1	12.0	13.4	15.0	11.4	13.0	14.8
GUARANTEED POWER (MW) :	9.9	5.7	8.1	10.4	5.6	8.2	10.8	5.4	8.3	11.0
AVERAGE FIRM POWER (MW) :	7.6	6.3	6.9	7.6	6.0	6.7	7.5	5.7	6.5	7.4
FIRM ENERGY (MIL KWH/Y) :	67.	55.	60.	66.	53.	59.	66.	50.	57.	65.
SECONDARY ENERGY (") :	8.	8.	8.	9.	8.	9.	10.	9.	10.	11.
ANNUAL AVERAGE E-GY (") :	75.	63.	68.	75.	61.	67.	75.	59.	67.	75.
D A M										
DAM HEIGHT (M) :	155.7	142.4	147.7	155.7	139.0	145.8	155.7	135.7	143.8	155.7
EMBANKMENT VOL.(MIL M3) :	21.268	16.410	18.218	21.268	15.291	17.534	21.268	14.219	16.895	21.268
EVALUATION INDICES										
CH/V :	1592.	1845.	1722.	1553.	1888.	1725.	1517.	1923.	1715.	1472.
C/V :	11.	14.	13.	11.	15.	13.	11.	16.	13.	10.
P/(20VT+VD) :	0.6	0.6	0.6	0.6	0.7	0.7	0.6	0.7	0.7	0.6
E(FIRM)/(20VT+VD) :	2.8	2.8	2.8	2.7	2.9	2.9	2.7	2.9	2.9	2.7
E(F+SEC*0.3)/(20VT+VD) :	2.9	3.0	3.0	2.8	3.0	3.0	2.8	3.1	3.0	2.8

PROJECT NAME : IKMIN
PROJECT ID : 1- 22- 5-23-0-2
TYPE : RUN-OF-RIVER

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6
HEAD PONDAGE						
OUTPUT FACTOR	0.966	0.900	0.800	0.700	0.600	0.571
FULL SUPPLY LEVEL (M)	341.5	341.7	341.9	342.1	342.2	342.2
NORMAL OPERATING LEVEL(M)	339.8	339.9	340.2	340.4	340.6	340.7
MINIMUM OPERATING LEVEL (M)	338.0	338.2	338.4	338.7	339.1	339.2
DIVERSION WEIR HEIGHT INC. 3M F-B	8.5	8.7	8.9	9.1	9.2	9.2
WATER DEPTH AT TRASHRACK (M)	5.5	5.7	5.9	6.1	6.2	6.2
CHANNEL WIDTH AT TRASHRACK (M)	4.0	4.7	5.7	6.8	8.2	8.7
PONDAGE STORAGE VOLUME (1000 M3)	55.2	57.0	59.3	62.1	65.7	66.8
WATERWAY						
NUMBER OF WATERWAY	1	1	1	1	1	1
INSIDE DIAMETER OF HEADRACE (M)	1.8	1.8	1.8	2.0	2.4	2.5
HEADRACE TUNNEL LENGTH (M)	10650.0	10650.0	10650.0	10650.0	10650.0	10650.0
INSIDE DIAMETER OF PENSTOCK (M)	1.3	1.3	1.3	1.5	1.8	1.9
PENSTOCK LENGTH (HORIZONTAL) (M)	350.0	350.0	350.0	350.0	350.0	350.0
EXCAVATION VOLUME (1000 M3)	27.6	27.6	27.7	35.8	47.5	53.7
POWER						
FIRM DISCHARGE (M3/S)	1.2	1.2	1.2	1.2	1.2	1.2
DEPENDABLE DISCHARGE (M3/S)	2.0	2.0	2.0	2.0	2.0	2.0
PLANT PEAK DISCHARGE (M3/S)	2.0	2.8	4.0	5.8	8.4	9.4
TAIL WATER LEVEL (M)	190.0	190.0	190.0	190.0	190.0	190.0
NET HEAD (M)	143.6	139.4	130.5	130.3	130.7	132.6
INSTALLED CAPACITY (MW)	2.4	3.2	4.3	6.2	9.1	10.2
DEPENDABLE PEAK POWER (MW)	2.4	2.3	2.2	2.2	2.2	2.2
FIRM POWER (MW)	1.4	1.4	1.3	1.3	1.3	1.3
GUARANTEED POWER OUTPUT (MW)	1.3	1.2	1.2	1.2	1.2	1.2
FIRM ENERGY/YEAR (10**6 KWH)	12.6	12.3	11.5	11.5	11.5	11.7
SECONDARY ENERGY/YEAR (10**6 KWH)	7.0	12.1	17.2	24.2	33.0	35.9
ANNUAL ENERGY (MIL KWH/YR)	19.6	24.3	28.7	35.7	44.5	47.6
PARAMETERS						
P(INSTALLED)/(20VT) (W/M3)	4.3	5.8	7.8	8.7	9.5	9.5
P(DEPENDABLE)/(20VT) (W/M3)	4.3	4.2	3.9	3.0	2.3	2.1
E(FIRM)/(20VT) (KWH/M3)	22.9	22.2	20.8	16.0	12.1	10.9
E(F+0.3*SECONDARY)/(20VT) (")	26.6	28.7	30.1	26.2	22.6	20.9

PROJECT NAME : TOQUENG
PROJECT ID : 1- 22- 5-24-0-1
TYPE : RESERVOIR

BASIN NAME : ABRA
RIVER NAME : IKMIN

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.92	0.75	0.75	0.70	0.70	0.65	0.65	0.65	0.65	0.65
FULL SUPPLY LEVEL (M) :	539.0	530.4	539.0	527.5	539.0	524.5	527.2	530.6	534.3	539.0
MIN. OPERATING LEVEL(M) :	456.9	456.9	485.6	456.9	491.4	456.9	466.7	476.6	486.4	496.3
POWER										
FIRM DISCHARGE (M3/S) :	5.8	5.5	5.5	5.4	5.4	5.3	5.3	5.3	5.3	5.3
PLANT PEAK DIS. (M3/S) :	11.6	11.1	11.0	10.9	10.8	10.6	10.6	10.6	10.5	10.5
AVERAGE NET HEAD (M) :	92.0	86.4	101.5	84.5	103.4	82.7	87.7	93.1	98.8	105.1
INSTALLED CAPACITY (MW) :	8.7	7.9	9.2	7.6	9.2	7.2	7.6	8.1	8.6	9.1
GUARANTEED POWER (MW) :	3.4	3.3	5.7	3.2	6.1	3.1	3.9	4.7	5.5	6.3
AVERAGE FIRM POWER (MW) :	4.4	3.9	4.6	3.8	4.6	3.6	3.8	4.0	4.3	4.5
FIRM ENERGY (MIL KWH/Y) :	38.	35.	40.	33.	40.	32.	33.	35.	38.	40.
SECONDARY ENERGY (") :	4.	4.	5.	5.	5.	5.	5.	5.	6.	6.
ANNUAL AVERAGE E-GY (") :	42.	39.	45.	38.	46.	37.	39.	41.	43.	46.
D A M										
DAM HEIGHT (M) :	129.6	121.0	129.6	118.1	129.6	115.1	117.8	121.2	124.9	129.6
EMBANKMENT VOL.(MIL M3) :	12.352	10.307	12.352	9.678	12.352	9.033	9.611	10.346	11.225	12.352
EVALUATION INDICES										
CH/V :	1760.	1883.	1679.	1911.	1640.	1948.	1872.	1788.	1699.	1601.
C/V :	15.	17.	14.	18.	14.	19.	17.	16.	15.	13.
P/(20VT+VD) :	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.6	0.6
E(FIRM)/(20VT+VD) :	2.7	2.8	2.8	2.8	2.8	2.9	2.9	2.9	2.8	2.8
E(F+SEC*0.3)/(20VT+VD) :	2.7	2.9	2.9	2.9	2.9	3.0	3.0	3.0	3.0	2.9

PROJECT NAME : DANAC
PROJECT ID : 1- 22- 5-25-0-1
TYPE : RESERVOIR

BASIN NAME : ABRA
RIVER NAME : IKMIN

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.93	0.75	0.75	0.70	0.70	0.65	0.65	0.65	0.65	0.65
FULL SUPPLY LEVEL (M) :	641.0	632.7	641.0	630.4	641.0	627.7	630.0	632.8	636.5	641.0
MIN. OPERATING LEVEL(M) :	565.2	565.2	593.6	565.2	598.8	565.2	574.7	584.2	593.7	603.2
POWER										
FIRM DISCHARGE (M3/S) :	3.7	3.5	3.5	3.4	3.4	3.4	3.4	3.3	3.3	3.3
PLANT PEAK DIS. (M3/S) :	7.3	7.0	7.0	6.9	6.8	6.7	6.7	6.7	6.7	6.6
AVERAGE NET HEAD (M) :	92.8	87.4	102.1	85.9	103.9	84.1	88.7	93.7	99.3	105.3
INSTALLED CAPACITY (MW) :	5.6	5.1	5.9	4.9	5.8	4.7	4.9	5.2	5.4	5.8
GUARANTEED POWER (MW) :	2.4	2.3	3.9	2.3	4.0	2.2	2.7	3.2	3.7	4.2
AVERAGE FIRM POWER (MW):	2.8	2.5	2.9	2.4	2.9	2.3	2.4	2.6	2.7	2.9
FIRM ENERGY (MIL KWH/Y) :	25.	22.	26.	21.	26.	20.	21.	23.	24.	25.
SECONDARY ENERGY (") :	2.	3.	3.	3.	3.	3.	3.	3.	4.	4.
ANNUAL AVERAGE E-GY (") :	27.	25.	29.	24.	29.	24.	25.	26.	27.	29.
D A M										
DAM HEIGHT (M) :	127.0	118.7	127.0	116.4	127.0	113.7	116.0	118.8	122.5	127.0
EMBANKMENT VOL.(MIL M3) :	5.237	4.332	5.237	4.105	5.237	3.847	4.064	4.336	4.733	5.237
EVALUATION INDICES										
CH/V :	2605.	2813.	2478.	2841.	2419.	2890.	2787.	2673.	2522.	2360.
C/V :	22.	26.	21.	26.	21.	28.	26.	24.	22.	20.
P/(20VT+VD) :	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
E(FIRM)/(20VT+VD) :	3.6	3.8	3.8	3.8	3.8	3.8	3.9	3.9	3.8	3.8
E(F+SEC*0.3)/(20VT+VD) :	3.7	3.9	4.0	4.0	3.9	4.0	4.0	4.1	4.0	3.9

PROJECT NAME : AMLUAGAN
PROJECT ID : 1- 22- 6-26-0-1
TYPE : RESERVOIR

BASIN NAME : ABRA
RIVER NAME : DAMANIT

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.70	0.60	0.60	0.60	0.55	0.55	0.55	0.50	0.50	0.50
FULL SUPPLY LEVEL (M) :	311.0	292.0	299.6	311.0	288.6	297.5	311.0	285.1	295.4	311.0
MIN. OPERATING LEVEL(M) :	261.7	227.2	249.3	271.4	227.2	251.4	275.6	227.2	253.5	279.7
POWER										
FIRM DISCHARGE (M3/S) :	4.4	4.2	4.2	4.2	4.1	4.0	4.0	3.9	3.9	3.9
PLANT PEAK DIS. (M3/S) :	8.8	8.4	8.4	8.3	8.1	8.1	8.0	7.8	7.8	7.7
AVERAGE NET HEAD (M) :	99.4	75.7	88.0	102.6	73.6	87.3	104.0	71.3	86.7	105.4
INSTALLED CAPACITY (MW) :	7.2	5.2	6.1	7.0	4.9	5.8	6.9	4.6	5.5	6.7
GUARANTEED POWER (MW) :	4.6	2.2	3.6	5.0	2.1	3.6	5.1	2.0	3.6	5.1
AVERAGE FIRM POWER (MW) :	3.6	2.6	3.0	3.5	2.5	2.9	3.4	2.3	2.8	3.3
FIRM ENERGY (MIL KWH/Y) :	32.	23.	27.	31.	22.	25.	30.	20.	24.	29.
SECONDARY ENERGY (") :	4.	4.	5.	5.	5.	5.	6.	5.	6.	7.
ANNUAL AVERAGE E-GY (") :	36.	27.	31.	36.	26.	31.	36.	25.	30.	36.
D A M										
DAM HEIGHT (M) :	126.0	107.0	114.6	126.0	103.6	112.5	126.0	100.1	110.4	126.0
EMBANKMENT VOL.(MIL M3) :	14.038	9.260	11.023	14.038	8.582	10.512	14.038	7.846	10.018	14.038
EVALUATION INDICES										
CH/V :	1145.	1394.	1255.	1084.	1403.	1243.	1044.	1423.	1231.	1004.
C/V :	10.	14.	12.	9.	15.	12.	9.	16.	12.	9.
P/(20VT+VD) :	0.4	0.5	0.5	0.4	0.5	0.5	0.4	0.5	0.5	0.4
E(FIRM)/(20VT+VD) :	1.9	2.0	2.0	1.9	2.0	2.0	1.9	2.0	2.0	1.8
E(F+SEC*0.3)/(20VT+VD) :	2.0	2.1	2.1	2.0	2.1	2.1	2.0	2.2	2.1	1.9

PROJECT NAME : DAMANIT
PROJECT ID : 1- 22- 6-27-0-2
TYPE : RUN-OF-RIVER

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6
HEAD PONDAGE						
OUTPUT FACTOR	0.966	0.900	0.800	0.700	0.600	0.571
FULL SUPPLY LEVEL (M)	706.1	706.2	706.3	706.5	706.6	706.7
NORMAL OPERATING LEVEL(M)	705.8	705.9	706.0	706.1	706.3	706.4
MINIMUM OPERATING LEVEL (M)	705.5	705.6	705.7	705.8	706.0	706.0
DIVERSION WEIR HEIGHT INC. 3M F-B	5.1	5.2	5.3	5.5	5.6	5.7
WATER DEPTH AT TRASHRACK (M)	2.1	2.2	2.3	2.5	2.6	2.7
CHANNEL WIDTH AT TRASHRACK (M)	1.9	2.3	2.7	3.3	4.0	4.2
PONDAGE STORAGE VOLUME (1000 M3)	26.8	27.9	29.3	31.0	33.1	33.8
WATERWAY						
NUMBER OF WATERWAY	1	1	1	1	1	1
INSIDE DIAMETER OF HEADRACE (M)	1.8	1.8	1.8	1.8	1.8	1.8
HEADRACE TUNNEL LENGTH (M)	4250.0	4250.0	4250.0	4250.0	4250.0	4250.0
INSIDE DIAMETER OF PENSTOCK (M)	1.3	1.3	1.3	1.3	1.3	1.3
PENSTOCK LENGTH (HORIZONTAL) (M)	790.0	790.0	790.0	790.0	790.0	790.0
EXCAVATION VOLUME (1000 M3)	12.1	12.1	12.1	12.1	12.1	12.1
POWER						
FIRM DISCHARGE (M3/S)	0.3	0.3	0.3	0.3	0.3	0.3
DEPENDABLE DISCHARGE (M3/S)	0.5	0.5	0.5	0.5	0.5	0.5
PLANT PEAK DISCHARGE (M3/S)	0.5	0.7	0.9	1.3	2.0	2.2
TAIL WATER LEVEL (M)	346.0	346.0	346.0	346.0	346.0	346.0
NET HEAD (M)	356.0	355.9	355.7	355.0	353.4	352.7
INSTALLED CAPACITY (MW)	1.4	1.9	2.8	3.9	5.7	6.3
DEPENDABLE PEAK POWER (MW)	1.4	1.4	1.4	1.4	1.4	1.4
FIRM POWER (MW)	0.8	0.8	0.8	0.8	0.8	0.8
GUARANTEED POWER OUTPUT (MW)	0.8	0.8	0.7	0.7	0.7	0.7
FIRM ENERGY/YEAR (10**6 KWH)	7.3	7.3	7.3	7.3	7.3	7.2
SECONDARY ENERGY/YEAR (10**6 KWH)	4.0	7.1	10.8	15.2	20.6	22.1
ANNUAL ENERGY (MIL KWH/YR)	11.3	14.4	18.1	22.5	27.9	29.3
PARAMETERS						
P(INSTALLED)/(20VT) (W/M3)	5.7	8.0	11.4	16.3	23.7	26.3
P(DEPENDABLE)/(20VT) (W/M3)	5.6	5.8	5.8	5.7	5.7	5.7
E(FIRM)/(20VT) (KWH/M3)	30.3	30.3	30.2	30.2	30.0	30.0
E(F+0.3*SECONDARY)/(20VT) (")	35.2	39.1	43.7	49.1	55.6	57.4

PROJECT NAME : NAINA
PROJECT ID : 1- 22- 6-28-0-1
TYPE : RESERVOIR

BASIN NAME : ABRA
RIVER NAME : UTIP

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.65	0.50	0.50	0.50	0.45	0.45	0.45	0.40	0.40	0.40
FULL SUPPLY LEVEL (M) :	433.0	399.1	412.2	433.0	394.3	409.4	433.0	389.3	406.2	433.0
MIN. OPERATING LEVEL(M) :	378.4	318.2	356.5	394.8	318.1	358.9	399.7	318.0	361.0	404.0
POWER										
FIRM DISCHARGE (M3/S) :	9.7	8.8	8.8	8.7	8.5	8.4	8.4	8.1	8.0	7.9
PLANT PEAK DIS. (M3/S) :	19.4	17.6	17.5	17.4	16.9	16.9	16.7	16.1	16.0	15.9
AVERAGE NET HEAD (M) :	133.2	91.0	112.1	138.2	87.6	110.9	139.7	84.2	109.3	140.9
INSTALLED CAPACITY (MW) :	21.2	13.2	16.2	19.8	12.2	15.4	19.2	11.2	14.4	18.4
GUARANTEED POWER (MW) :	14.7	5.1	10.3	15.4	4.9	10.2	15.4	4.6	10.0	15.1
AVERAGE FIRM POWER (MW) :	10.6	6.6	8.1	9.9	6.1	7.7	9.6	5.6	7.2	9.2
FIRM ENERGY (MIL KWH/Y) :	93.	58.	71.	87.	54.	67.	84.	49.	63.	81.
SECONDARY ENERGY (") :	14.	14.	16.	19.	15.	17.	21.	16.	19.	23.
ANNUAL AVERAGE E-GY (") :	107.	72.	87.	106.	69.	85.	105.	65.	82.	104.
D A M										
DAM HEIGHT (M) :	164.0	130.1	143.2	164.0	125.3	140.4	164.0	120.3	137.2	164.0
EMBANKMENT VOL.(MIL M3) :	25.938	13.871	17.940	25.938	12.511	16.978	25.938	11.295	15.989	25.938
EVALUATION INDICES										
CH/V :	1781.	2362.	2013.	1596.	2413.	1999.	1531.	2430.	1967.	1453.
C/V :	12.	20.	15.	11.	21.	16.	10.	23.	16.	10.
P/(20VT+VD) :	0.7	0.8	0.8	0.7	0.8	0.8	0.7	0.8	0.8	0.6
E(FIRM)/(20VT+VD) :	3.3	3.5	3.5	3.0	3.6	3.5	3.0	3.5	3.4	2.8
E(F+SEC*0.3)/(20VT+VD) :	3.4	3.8	3.7	3.2	3.9	3.7	3.2	3.9	3.7	3.1

PROJECT NAME : UTIP
PROJECT ID : 1- 22- 6-29-0-2
TYPE : RUN-OF-RIVER

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6
HEAD PONDAGE						
OUTPUT FACTOR	0.966	0.900	0.800	0.700	0.600	0.571
FULL SUPPLY LEVEL (M)	557.5	557.6	557.9	558.1	558.4	558.5
NORMAL OPERATING LEVEL(M)	556.7	556.9	557.1	557.3	557.7	557.8
MINIMUM OPERATING LEVEL (M)	555.9	556.1	556.3	556.6	556.9	557.0
DIVERSION WEIR HEIGHT INC. 3M F-B	6.5	6.6	6.9	7.1	7.4	7.5
WATER DEPTH AT TRASHRACK (M)	3.5	3.6	3.9	4.1	4.4	4.5
CHANNEL WIDTH AT TRASHRACK (M)	3.8	4.4	5.3	6.3	7.7	8.1
PONDAGE STORAGE VOLUME (1000 M3)	69.3	72.7	77.1	82.3	88.9	90.9
WATERWAY						
NUMBER OF WATERWAY	1	1	1	1	1	1
INSIDE DIAMETER OF HEADRACE (M)	1.8	1.8	1.8	1.9	2.2	2.3
HEADRACE TUNNEL LENGTH (M)	7330.0	7330.0	7330.0	7330.0	7330.0	7330.0
INSIDE DIAMETER OF PENSTOCK (M)	1.3	1.3	1.3	1.4	1.7	1.7
PENSTOCK LENGTH (HORIZONTAL) (M)	540.0	540.0	540.0	540.0	540.0	540.0
EXCAVATION VOLUME (1000 M3)	19.5	19.5	19.5	22.7	30.2	32.6
POWER						
FIRM DISCHARGE (M3/S)	1.1	1.1	1.1	1.1	1.1	1.1
DEPENDABLE DISCHARGE (M3/S)	1.8	1.8	1.8	1.8	1.8	1.8
PLANT PEAK DISCHARGE (M3/S)	1.8	2.4	3.5	5.0	7.3	8.1
TAIL WATER LEVEL (M)	370.0	370.0	370.0	370.0	370.0	370.0
NET HEAD (M)	181.9	179.3	172.5	169.8	170.4	170.6
INSTALLED CAPACITY (MW)	2.6	3.6	5.0	7.0	10.3	11.4
DEPENDABLE PEAK POWER (MW)	2.6	2.6	2.5	2.5	2.5	2.5
FIRM POWER (MW)	1.6	1.6	1.5	1.5	1.5	1.5
GUARANTEED POWER OUTPUT (MW)	1.4	1.4	1.4	1.3	1.3	1.3
FIRM ENERGY/YEAR (10**6 KWH)	13.9	13.7	13.3	13.0	13.1	13.1
SECONDARY ENERGY/YEAR (10**6 KWH)	7.6	13.4	19.7	27.2	37.2	39.9
ANNUAL ENERGY (MIL KWH/YR)	21.5	27.1	33.0	40.2	50.2	53.0
PARAMETERS						
P(INSTALLED)/(20VT) (W/M3)	6.8	9.3	12.9	15.5	17.1	17.5
P(DEPENDABLE)/(20VT) (W/M3)	6.8	6.7	6.5	5.5	4.1	3.8
E(FIRM)/(20VT) (KWH/M3)	35.8	35.3	34.1	28.7	21.6	20.0
E(F+0.3*SECONDARY)/(20VT) (")	41.6	45.6	49.3	46.6	40.1	38.4

PROJECT NAME : KUMANGA
PROJECT ID : 1- 22- 7-30-0-1
TYPE : RESERVOIR

BASIN NAME : ABRA
RIVER NAME : DITONG

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.75	0.65	0.65	0.65	0.60	0.60	0.60	0.55	0.55	0.55
FULL SUPPLY LEVEL (M) :	450.0	421.8	438.8	450.0	428.5	436.7	450.0	425.0	434.5	450.0
MIN. OPERATING LEVEL(M) :	397.5	366.5	386.6	406.6	366.5	388.7	410.9	366.5	390.6	414.8
POWER										
FIRM DISCHARGE (M3/S) :	3.9	3.8	3.8	3.8	3.7	3.7	3.6	3.5	3.5	3.5
PLANT PEAK DIS. (M3/S) :	7.9	7.6	7.5	7.5	7.3	7.3	7.3	7.1	7.1	7.0
AVERAGE NET HEAD (M) :	104.3	82.2	93.4	107.3	80.1	92.7	108.7	77.8	92.0	110.0
INSTALLED CAPACITY (MW) :	6.8	5.1	5.8	6.5	4.8	5.6	6.5	4.5	5.3	6.4
GUARANTEED POWER (MW) :	4.3	2.3	3.5	4.6	2.2	3.5	4.7	2.2	3.5	4.8
AVERAGE FIRM POWER (MW) :	3.4	2.6	2.9	3.3	2.4	2.8	3.3	2.3	2.7	3.2
FIRM ENERGY (MIL KWH/Y) :	30.	22.	25.	29.	21.	24.	29.	20.	23.	28.
SECONDARY ENERGY (") :	4.	4.	4.	4.	4.	4.	5.	4.	5.	5.
ANNUAL AVERAGE E-GY (") :	33.	26.	29.	33.	25.	29.	33.	24.	28.	33.
D A M										
DAM HEIGHT (M) :	130.7	112.5	119.5	130.7	109.2	117.4	130.7	105.7	115.2	130.7
EMBANKMENT VOL.(MIL M3) :	9.380	6.260	7.378	9.380	5.790	7.021	9.380	5.294	6.664	9.380
EVALUATION INDICES										
CH/V :	1612.	1981.	1785.	1537.	2016.	1786.	1491.	2055.	1779.	1436.
C/V :	13.	19.	16.	13.	20.	16.	12.	21.	17.	12.
P/(20VT+VD) :	0.6	0.6	0.6	0.6	0.7	0.6	0.6	0.7	0.6	0.6
E(FIRM)/(20VT+VD) :	2.7	2.8	2.8	2.6	2.9	2.8	2.6	2.9	2.8	2.5
E(F+SEC*0.3)/(20VT+VD) :	2.8	3.0	2.9	2.8	3.0	3.0	2.7	3.1	3.0	2.7

PROJECT NAME : SUYSUYAN
PROJECT ID : 1- 22- 7-31-0-1
TYPE : RESERVOIR

BASIN NAME : ABRA
RIVER NAME : BALASEAN

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.70	0.65	0.65	0.65	0.60	0.60	0.60	0.55	0.55	0.55
FULL SUPPLY LEVEL (M) :	505.0	489.1	495.1	505.0	485.8	493.1	505.0	482.5	491.1	505.0
MIN. OPERATING LEVEL(M) :	456.4	417.8	439.7	461.5	417.8	441.9	466.0	417.8	444.1	470.4
POWER										
FIRM DISCHARGE (M3/S) :	6.2	6.1	6.1	6.0	5.9	5.9	5.8	5.7	5.7	5.6
PLANT PEAK DIS. (M3/S) :	12.3	12.2	12.1	12.0	11.8	11.8	11.7	11.4	11.3	11.2
AVERAGE NET HEAD (M) :	98.9	75.8	87.0	100.7	73.8	86.5	102.2	71.7	86.0	103.7
INSTALLED CAPACITY (MW) :	10.0	7.6	8.7	10.0	7.2	8.4	9.8	6.7	8.0	9.6
GUARANTEED POWER (MW) :	5.4	2.7	4.7	6.8	2.6	4.8	7.0	2.6	4.9	7.1
AVERAGE FIRM POWER (MW):	5.0	3.8	4.3	5.0	3.6	4.2	4.9	3.4	4.0	4.8
FIRM ENERGY (MIL KWH/Y) :	44.	33.	38.	44.	31.	37.	43.	29.	35.	42.
SECONDARY ENERGY (") :	6.	6.	6.	7.	6.	7.	7.	6.	7.	8.
ANNUAL AVERAGE E-GY (") :	50.	39.	44.	50.	37.	43.	50.	36.	42.	50.
D A M										
DAM HEIGHT (M) :	125.0	109.1	115.1	125.0	105.8	113.1	125.0	102.5	111.1	125.0
EMBANKMENT VOL.(MIL M3) :	10.768	7.531	8.650	10.768	6.948	8.254	10.768	6.365	7.899	10.768
EVALUATION INDICES										
CH/V :	2080.	2536.	2328.	2030.	2586.	2325.	1970.	2634.	2298.	1898.
C/V :	18.	25.	22.	18.	27.	22.	17.	28.	23.	16.
P/(20VT+VD) :	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
E(FIRM)/(20VT+VD) :	3.5	3.6	3.6	3.5	3.6	3.7	3.4	3.6	3.6	3.4
E(F+SEC*0.3)/(20VT+VD) :	3.6	3.7	3.8	3.6	3.8	3.8	3.6	3.9	3.8	3.5

PROJECT NAME : DINGRAS
PROJECT ID : 1- 37- 0- 1-0-1
TYPE : RESERVOIR

BASIN NAME : LAOAG
RIVER NAME : MADONGAN

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.66	0.51	0.51	0.51	0.46	0.46	0.46	0.41	0.41	0.41
FULL SUPPLY LEVEL (M) :	234.0	207.1	218.5	234.0	203.3	216.3	234.0	199.6	214.1	234.0
MIN. OPERATING LEVEL(M) :	189.3	151.6	176.8	201.9	151.6	178.6	205.7	151.6	180.5	209.4
POWER										
FIRM DISCHARGE (M3/S) :	4.5	4.3	4.3	4.2	4.2	4.2	4.1	4.1	4.0	4.0
PLANT PEAK DIS. (M3/S) :	9.1	8.6	8.5	8.4	8.4	8.3	8.2	8.1	8.1	8.0
AVERAGE NET HEAD (M) :	90.3	60.3	76.1	94.5	57.9	75.3	95.7	55.5	74.5	97.0
INSTALLED CAPACITY (MW) :	6.8	4.3	5.3	6.6	4.0	5.1	6.5	3.7	4.9	6.3
GUARANTEED POWER (MW) :	4.3	1.6	3.2	4.8	1.5	3.3	5.0	1.5	3.3	5.0
AVERAGE FIRM POWER (MW) :	3.4	2.1	2.7	3.3	2.0	2.6	3.2	1.9	2.5	3.2
FIRM ENERGY (MIL KWH/Y) :	30.	19.	23.	29.	17.	23.	28.	16.	22.	28.
SECONDARY ENERGY (") :	15.	12.	13.	16.	11.	13.	16.	11.	13.	17.
ANNUAL AVERAGE E-GY (") :	44.	30.	37.	45.	29.	36.	45.	27.	35.	45.
D A M										
DAM HEIGHT (M) :	114.4	87.5	98.9	114.4	83.7	96.7	114.4	80.0	94.5	114.4
EMBANKMENT VOL.(MIL M3) :	9.088	4.471	6.198	9.088	3.969	5.824	9.088	3.540	5.459	9.088
EVALUATION INDICES										
CH/V :	1659.	2385.	1951.	1539.	2500.	1975.	1499.	2586.	1993.	1451.
C/V :	16.	30.	22.	15.	33.	22.	14.	36.	23.	14.
P/(20VT+VD) :	0.6	0.7	0.7	0.6	0.7	0.7	0.6	0.7	0.7	0.6
E(FIRM)/(20VT+VD) :	2.7	3.0	2.9	2.6	3.0	3.0	2.6	3.1	3.0	2.6
E(F+SEC*0.3)/(20VT+VD) :	3.1	3.5	3.4	3.1	3.6	3.5	3.1	3.7	3.5	3.0

PROJECT NAME : VINTAR
PROJECT ID : 1- 39- 0- 1-0-1
TYPE : RESERVOIR

BASIN NAME : VINTAR
RIVER NAME : VINTAR

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.65	0.55	0.55	0.55	0.50	0.50	0.50	0.45	0.45	0.45
FULL SUPPLY LEVEL (M) :	116.0	107.2	111.2	116.0	105.6	110.4	116.0	104.0	109.5	116.0
MIN. OPERATING LEVEL(M) :	96.9	82.3	91.7	101.0	82.3	92.4	102.6	82.3	93.2	104.2
POWER										
FIRM DISCHARGE (M3/S) :	4.0	3.9	3.9	3.8	3.9	3.8	3.7	3.8	3.7	3.6
PLANT PEAK DIS. (M3/S) :	8.0	7.9	7.8	7.6	7.7	7.6	7.4	7.5	7.4	7.2
AVERAGE NET HEAD (M) :	37.7	27.1	32.8	39.1	26.0	32.6	39.6	25.0	32.3	40.1
INSTALLED CAPACITY (MW) :	2.5	1.8	2.1	2.4	1.7	2.0	2.4	1.6	2.0	2.4
GUARANTEED POWER (MW) :	1.0	0.6	1.2	1.7	0.6	1.2	1.8	0.6	1.2	1.8
AVERAGE FIRM POWER (MW) :	1.2	0.9	1.1	1.2	0.8	1.0	1.2	0.8	1.0	1.2
FIRM ENERGY (MIL KWH/Y) :	11.	8.	9.	11.	7.	9.	11.	7.	9.	10.
SECONDARY ENERGY (") :	6.	5.	6.	6.	5.	6.	7.	5.	6.	7.
ANNUAL AVERAGE E-GY (") :	17.	13.	15.	17.	12.	14.	17.	11.	14.	17.
D A M										
DAM HEIGHT (M) :	51.8	43.0	47.0	51.8	41.4	46.2	51.8	39.8	45.3	51.8
EMBANKMENT VOL.(MIL M3) :	1.913	1.256	1.538	1.913	1.145	1.486	1.913	1.035	1.424	1.913
EVALUATION INDICES										
CH/V :	2922.	3506.	3134.	2761.	3591.	3104.	2683.	3703.	3084.	2605.
C/V :	66.	99.	80.	63.	106.	80.	61.	115.	82.	59.
P/(20VT+VD) :	0.8	0.7	0.8	0.8	0.7	0.7	0.8	0.7	0.7	0.8
E(FIRM)/(20VT+VD) :	3.5	3.1	3.3	3.4	3.0	3.3	3.3	3.0	3.2	3.3
E(F+SEC*0.3)/(20VT+VD) :	4.0	3.7	3.9	4.0	3.6	3.9	4.0	3.6	3.8	3.9

PROJECT NAME : TAMDAGAN
PROJECT ID : 1- 39- 0- 2-0-1
TYPE : RESERVOIR

BASIN NAME : VINTAR
RIVER NAME : TAMDAGAN

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.70	0.56	0.56	0.56	0.46	0.46	0.46	0.36	0.36	0.36
FULL SUPPLY LEVEL (M) :	224.0	198.7	209.1	224.0	190.4	204.0	224.0	180.9	198.4	224.0
MIN. OPERATING LEVEL(M) :	168.8	122.4	153.2	183.9	122.3	157.6	193.0	122.0	161.5	201.0
POWER										
FIRM DISCHARGE (M3/S) :	9.9	9.4	9.4	9.3	9.0	8.9	8.8	8.2	8.1	7.9
PLANT PEAK DIS. (M3/S) :	19.9	18.9	18.7	18.5	18.0	17.8	17.6	16.3	16.1	15.9
AVERAGE NET HEAD (M) :	106.3	74.4	91.3	111.1	68.8	89.3	114.0	62.3	86.7	116.5
INSTALLED CAPACITY (MW) :	17.4	11.5	14.1	17.0	10.2	13.1	16.5	8.4	11.5	15.2
GUARANTEED POWER (MW) :	10.8	3.5	7.9	12.3	3.3	8.2	12.9	2.9	7.9	12.6
AVERAGE FIRM POWER (MW):	8.7	5.8	7.0	8.5	5.1	6.5	8.3	4.2	5.8	7.6
FIRM ENERGY (MIL KWH/Y) :	76.	51.	62.	74.	45.	57.	72.	37.	50.	67.
SECONDARY ENERGY (") :	36.	30.	34.	39.	29.	34.	41.	29.	35.	45.
ANNUAL AVERAGE E-GY (") :	112.	81.	95.	113.	74.	91.	113.	65.	86.	111.
D A M										
DAM HEIGHT (M) :	135.0	109.7	120.1	135.0	101.4	115.0	135.0	91.9	109.4	135.0
EMBANKMENT VOL.(MIL M3) :	12.863	7.905	9.772	12.863	6.610	8.785	12.863	5.299	7.872	12.863
EVALUATION INDICES										
CH/V :	3037.	3754.	3321.	2830.	3926.	3350.	2683.	3972.	3199.	2412.
C/V :	24.	38.	30.	23.	43.	32.	22.	49.	32.	19.
P/(20VT+VD) :	1.2	1.1	1.2	1.1	1.2	1.2	1.1	1.1	1.1	1.0
E(FIRM)/(20VT+VD) :	5.0	5.0	5.1	4.9	5.1	5.2	4.8	4.9	5.0	4.4
E(F+SEC*0.3)/(20VT+VD) :	5.8	5.9	6.0	5.7	6.0	6.1	5.6	6.0	6.0	5.3

PROJECT NAME : BULU-1(ILOCOS)
PROJECT ID : 1- 47- 0- 1-0-1
TYPE : RESERVOIR

BASIN NAME : BULU
RIVER NAME : BULU

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.75	0.51	0.51	0.51	0.41	0.41	0.41	0.31	0.31	0.31
FULL SUPPLY LEVEL (M) :	233.0	199.5	210.8	233.0	189.2	203.7	233.0	176.8	196.3	233.0
MIN. OPERATING LEVEL(M) :	162.9	95.5	144.8	194.1	95.4	149.6	203.8	95.4	153.9	212.4
POWER										
FIRM DISCHARGE (M3/S) :	8.2	7.4	7.4	7.3	7.1	7.0	6.9	6.1	6.1	5.9
PLANT PEAK DIS. (M3/S) :	16.4	14.9	14.8	14.6	14.1	14.0	13.8	12.3	12.1	11.9
AVERAGE NET HEAD (M) :	153.4	109.2	132.7	163.4	102.6	129.9	166.8	95.1	127.0	170.2
INSTALLED CAPACITY (MW) :	20.7	13.4	16.1	19.6	11.9	14.9	18.9	9.6	12.7	16.6
GUARANTEED POWER (MW) :	13.7	4.6	10.3	15.7	4.4	10.3	15.9	3.9	9.4	14.6
AVERAGE FIRM POWER (MW):	10.4	6.7	8.1	9.8	6.0	7.5	9.5	4.8	6.3	8.3
FIRM ENERGY (MIL KWH/Y) :	91.	59.	71.	86.	52.	65.	83.	42.	55.	73.
SECONDARY ENERGY (") :	39.	36.	39.	45.	35.	39.	48.	36.	42.	54.
ANNUAL AVERAGE E-GY (") :	130.	95.	110.	131.	88.	105.	130.	78.	98.	127.
D A M										
DAM HEIGHT (M) :	189.0	155.5	166.8	189.0	145.2	159.7	189.0	132.8	152.3	189.0
EMBANKMENT VOL.(MIL M3) :	17.196	9.921	12.068	17.196	8.230	10.690	17.196	6.456	9.359	17.196
EVALUATION INDICES										
CH/V :	2658.	3404.	2987.	2360.	3619.	3051.	2230.	3658.	2880.	1926.
C/V :	15.	24.	19.	13.	27.	21.	13.	30.	20.	11.
P/(20VT+VD) :	1.1	1.1	1.1	1.0	1.1	1.1	1.0	1.1	1.1	0.8
E(FIRM)/(20VT+VD) :	4.6	4.8	4.9	4.4	4.9	5.0	4.2	4.8	4.7	3.7
E(F+SEC*0.3)/(20VT+VD) :	5.2	5.6	5.7	5.1	5.9	5.9	5.0	6.0	5.8	4.5

PROJECT NAME : BULU-2(ILOCOS)
PROJECT ID : 1- 47- 0- 2-0-2
TYPE : RUN-OF-RIVER

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6
HEAD PONDAGE						
OUTPUT FACTOR	0.985	0.900	0.800	0.700	0.600	0.512
FULL SUPPLY LEVEL (M)	185.8	186.1	186.3	186.7	187.1	187.6
NORMAL OPERATING LEVEL(M)	185.7	186.0	186.3	186.6	187.0	187.5
MINIMUM OPERATING LEVEL (M)	185.6	186.0	186.2	186.5	187.0	187.5
DIVERSION WEIR HEIGHT INC. 3M F-B	4.8	5.1	5.3	5.7	6.1	6.6
WATER DEPTH AT TRASHRACK (M)	1.8	2.1	2.3	2.7	3.1	3.6
CHANNEL WIDTH AT TRASHRACK (M)	2.5	3.8	4.8	6.1	7.9	9.9
PONDAGE STORAGE VOLUME (1000 M3)	176.7	209.7	234.3	265.8	311.0	361.6
WATERWAY						
NUMBER OF WATERWAY	1	1	1	1	1	1
INSIDE DIAMETER OF HEADRACE (M)	1.8	1.8	1.8	1.9	2.3	2.8
HEADRACE TUNNEL LENGTH (M)	4900.0	4900.0	4900.0	4900.0	4900.0	4900.0
INSIDE DIAMETER OF PENSTOCK (M)	1.3	1.3	1.3	1.4	1.8	2.1
PENSTOCK LENGTH (HORIZONTAL) (M)	220.0	220.0	220.0	220.0	220.0	220.0
EXCAVATION VOLUME (1000 M3)	12.8	12.8	12.8	14.0	20.8	30.6
POWER						
FIRM DISCHARGE (M3/S)	0.5	0.5	0.5	0.5	0.5	0.5
DEPENDABLE DISCHARGE (M3/S)	0.8	0.8	0.8	0.8	0.8	0.8
PLANT PEAK DISCHARGE (M3/S)	0.8	1.8	2.9	4.6	7.8	12.3
TAIL WATER LEVEL (M)	60.0	60.0	60.0	60.0	60.0	60.0
NET HEAD (M)	124.1	122.9	120.2	116.3	116.9	118.3
INSTALLED CAPACITY (MW)	0.8	1.9	2.9	4.4	7.5	11.9
DEPENDABLE PEAK POWER (MW)	0.8	0.8	0.8	0.8	0.8	0.8
FIRM POWER (MW)	0.5	0.5	0.5	0.5	0.5	0.5
GUARANTEED POWER OUTPUT (MW)	0.4	0.4	0.4	0.4	0.4	0.4
FIRM ENERGY/YEAR (10**6 KWH)	4.3	4.3	4.2	4.1	4.1	4.1
SECONDARY ENERGY/YEAR (10**6 KWH)	2.4	9.3	14.3	20.7	31.6	44.5
ANNUAL ENERGY (MIL KWH/YR)	6.7	13.6	18.5	24.8	35.7	48.6
PARAMETERS						
P(INSTALLED)/(20VT) (W/M3)	3.1	7.2	11.2	15.7	18.0	19.5
P(DEPENDABLE)/(20VT) (W/M3)	3.2	3.2	3.1	2.8	1.9	1.3
E(FIRM)/(20VT) (KWH/M3)	16.9	16.7	16.4	14.5	9.8	6.8
E(F+0.3*SECONDARY)/(20VT) (")	19.7	27.6	33.1	36.6	32.7	28.6

PROJECT NAME : LUNA
PROJECT ID : 2- 5- 0- 1-0-1
TYPE : RESERVOIR

BASIN NAME : GATTU
RIVER NAME : ZIUANAN

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.53	0.48	0.48	0.48	0.43	0.43	0.43	0.38	0.38	0.38
FULL SUPPLY LEVEL (M) :	100.0	87.3	92.3	100.0	84.1	90.5	100.0	80.8	88.3	100.0
MIN. OPERATING LEVEL(M) :	65.4	37.4	53.8	70.3	37.1	55.6	74.2	36.5	57.4	78.1
POWER										
FIRM DISCHARGE (M3/S) :	20.6	19.9	19.7	19.6	18.9	18.8	18.6	17.5	17.4	17.2
PLANT PEAK DIS. (M3/S) :	82.5	79.4	79.0	78.5	75.6	75.1	74.5	70.1	69.6	68.8
AVERAGE NET HEAD (M) :	76.2	58.6	67.3	77.7	56.3	66.6	79.0	54.0	65.7	80.2
INSTALLED CAPACITY (MW) :	51.7	38.3	43.8	50.2	35.0	41.2	48.4	31.2	37.6	45.4
GUARANTEED POWER (MW) :	34.3	15.7	25.8	35.6	14.8	25.6	36.1	13.5	24.6	35.4
AVERAGE FIRM POWER (MW) :	12.9	9.6	10.9	12.6	8.8	10.3	12.1	7.8	9.4	11.4
FIRM ENERGY (MIL KWH/Y) :	113.	84.	96.	110.	77.	90.	106.	68.	82.	100.
SECONDARY ENERGY (") :	32.	31.	33.	37.	33.	37.	42.	37.	41.	48.
ANNUAL AVERAGE E-GY (") :	145.	115.	129.	147.	110.	127.	148.	105.	124.	148.
D A M										
DAM HEIGHT (M) :	96.0	83.3	88.3	96.0	80.1	86.5	96.0	76.8	84.3	96.0
EMBANKMENT VOL.(MIL M3) :	7.337	5.139	5.953	7.337	4.680	5.657	7.337	4.232	5.307	7.337
EVALUATION INDICES										
CH/V :	7772.	9158.	8384.	7389.	9166.	8191.	7008.	8977.	7859.	6472.
C/V :	89.	122.	105.	84.	127.	105.	80.	131.	103.	74.
P/(20VT+VD) :	5.9	5.8	5.9	5.7	5.7	5.8	5.5	5.5	5.6	5.2
E(FIRM)/(20VT+VD) :	12.8	12.7	12.9	12.5	12.5	12.7	12.1	12.1	12.2	11.4
E(F+SEC*0.3)/(20VT+VD) :	13.9	14.1	14.2	13.7	14.1	14.2	13.5	14.0	14.1	13.0

PROJECT NAME : ZIMIGUI
PROJECT ID : 2- S- 0- 2-0-1
TYPE : RESERVOIR

BASIN NAME : GATTU
RIVER NAME : ZIMUGUI

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.57	0.52	0.52	0.52	0.47	0.47	0.47	0.42	0.42	0.42
FULL SUPPLY LEVEL (M) :	74.0	55.8	64.6	74.0	52.9	63.1	74.0	49.9	61.6	74.0
MIN. OPERATING LEVEL(M) :	44.9	21.5	34.7	47.9	21.2	36.0	50.8	20.9	37.3	53.6
POWER										
FIRM DISCHARGE (M3/S) :	34.9	33.4	33.3	33.2	31.9	31.7	31.6	30.2	30.0	29.9
PLANT PEAK DIS. (M3/S) :	139.5	133.7	133.3	133.0	127.4	127.0	126.5	120.6	120.1	119.4
AVERAGE NET HEAD (M) :	56.3	36.7	46.7	57.3	34.6	46.2	58.2	32.5	45.6	59.1
INSTALLED CAPACITY (MW) :	64.7	40.3	51.3	62.7	36.3	48.3	60.6	32.3	45.0	58.1
GUARANTEED POWER (MW) :	40.4	14.4	28.0	41.6	13.5	28.0	42.4	12.5	27.6	42.6
AVERAGE FIRM POWER (MW) :	16.2	10.1	12.8	15.7	9.1	12.1	15.1	8.1	11.3	14.5
FIRM ENERGY (MIL KWH/Y) :	142.	88.	112.	137.	79.	106.	133.	71.	99.	127.
SECONDARY ENERGY (") :	36.	30.	36.	42.	32.	39.	47.	34.	43.	54.
ANNUAL AVERAGE E-GY (") :	178.	118.	148.	179.	111.	145.	180.	104.	142.	181.
D A M										
DAM HEIGHT (M) :	74.0	55.8	64.6	74.0	52.9	63.1	74.0	49.9	61.6	74.0
EMBANKMENT VOL.(MIL M3) :	5.603	2.998	4.124	5.603	2.654	3.920	5.603	2.358	3.725	5.603
EVALUATION INDICES										
CH/V :	12958.	16915.	14458.	12348.	17089.	14100.	11734.	17001.	13634.	11073.
C/V :	196.	352.	255.	187.	378.	255.	178.	403.	254.	168.
P/(20VT+VD) :	8.7	8.4	8.6	8.4	8.2	8.4	8.2	7.8	8.2	7.9
E(FIRM)/(20VT+VD) :	19.0	18.3	18.9	18.5	17.8	18.5	17.9	17.1	17.9	17.3
E(F+SEC*0.3)/(20VT+VD) :	20.4	20.2	20.7	20.2	20.0	20.5	19.8	19.6	20.3	19.4

PROJECT NAME : SISIRITAN
PROJECT ID : 2- 6- 0- 1-0-1
TYPE : RESERVOIR

BASIN NAME : ABULOG
RIVER NAME : ABULOG

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.35	0.30	0.30	0.30	0.25	0.25	0.25	0.20	0.20	0.20
FULL SUPPLY LEVEL (M) :	100.0	81.4	90.2	100.0	74.8	86.7	100.0	68.4	83.4	100.0
MIN. OPERATING LEVEL(M) :	58.0	35.4	50.3	65.2	34.7	53.4	72.1	34.9	56.7	78.5
POWER										
FIRM DISCHARGE (M3/S) :	122.4	111.9	111.7	111.4	100.7	100.4	100.0	87.8	87.4	86.9
PLANT PEAK DIS. (M3/S) :	734.3	671.4	670.1	668.6	604.3	602.5	600.3	526.5	524.3	521.5
AVERAGE NET HEAD (M) :	73.6	54.0	64.7	76.0	49.4	63.3	78.2	45.2	62.2	80.3
INSTALLED CAPACITY (MW) :	444.8	298.5	356.6	418.3	245.8	314.2	386.3	195.9	268.6	344.7
GUARANTEED POWER (MW) :	262.4	122.7	200.1	276.9	107.4	194.3	280.3	94.3	182.5	269.6
AVERAGE FIRM POWER (MW) :	74.1	49.8	59.4	69.7	41.0	52.4	64.4	32.6	44.8	57.4
FIRM ENERGY (MIL KWH/Y) :	649.	436.	521.	611.	359.	459.	564.	286.	392.	503.
SECONDARY ENERGY (") :	413.	371.	418.	471.	378.	450.	530.	383.	485.	599.
ANNUAL AVERAGE E-GY (") :	1063.	807.	939.	1082.	737.	908.	1094.	669.	877.	1102.
D A M										
DAM HEIGHT (M) :	96.0	77.4	86.2	96.0	70.8	82.7	96.0	64.4	79.4	96.0
EMBANKMENT VOL.(MIL M3) :	11.449	7.021	8.941	11.449	5.747	8.147	11.449	4.687	7.397	11.449
EVALUATION INDICES										
CH/V :	29529.	34864.	30703.	26882.	34695.	28943.	24111.	33276.	26499.	20938.
C/V :	337.	503.	394.	307.	553.	389.	276.	590.	373.	239.
P/(20VT+VD) :	24.7	22.6	23.5	23.7	21.1	22.4	22.3	19.3	20.8	20.4
E(FIRM)/(20VT+VD) :	36.1	32.9	34.4	34.6	30.9	32.7	32.5	28.1	30.4	29.7
E(F+SEC*0.3)/(20VT+VD) :	43.0	41.3	42.6	42.6	40.6	42.3	41.7	39.4	41.7	40.3

PROJECT NAME : BUBULAYAN
PROJECT ID : 2- 6- 0- 2-0-1
TYPE : RESERVOIR

BASIN NAME : ABULOG
RIVER NAME : ABULOG

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.80	0.75	0.75	0.75	0.70	0.70	0.70	0.65	0.65	0.65
FULL SUPPLY LEVEL (M) :	206.0	192.6	198.0	206.0	189.1	195.5	206.0	185.6	193.0	206.0
MIN. OPERATING LEVEL(M) :	134.8	93.2	117.9	142.7	93.1	121.4	149.6	93.0	124.2	155.5
POWER										
FIRM DISCHARGE (M3/S) :	150.1	148.2	147.7	147.2	145.5	144.9	144.3	142.0	141.4	140.7
PLANT PEAK DIS. (M3/S) :	450.2	444.6	443.1	441.5	436.4	434.7	432.8	426.2	424.3	422.1
AVERAGE NET HEAD (M) :	155.7	133.3	144.9	158.3	130.9	144.4	160.5	128.5	143.6	162.4
INSTALLED CAPACITY (MW) :	577.1	487.9	528.5	575.2	470.4	516.7	571.9	451.0	501.7	564.4
GUARANTEED POWER (MW) :	382.1	233.7	318.1	401.7	229.0	323.6	417.2	223.2	325.3	426.0
AVERAGE FIRM POWER (MW) :	192.4	162.6	176.2	191.7	156.8	172.2	190.6	150.3	167.2	188.1
FIRM ENERGY (MIL KWH/Y) :	1685.	1424.	1543.	1679.	1373.	1509.	1670.	1317.	1465.	1648.
SECONDARY ENERGY (") :	185.	186.	196.	210.	204.	216.	235.	225.	241.	265.
ANNUAL AVERAGE E-GY (") :	1870.	1611.	1739.	1889.	1577.	1725.	1904.	1542.	1705.	1913.
D A M										
DAM HEIGHT (M) :	190.0	176.6	182.0	190.0	173.1	179.5	190.0	169.6	177.0	190.0
EMBANKMENT VOL.(MIL M3) :	27.407	22.494	24.410	27.407	21.353	23.493	27.407	20.211	22.604	27.407
EVALUATION INDICES										
CH/V :	30985.	34578.	32735.	30373.	35002.	32887.	29764.	35335.	32865.	29021.
C/V :	173.	208.	191.	169.	215.	194.	166.	222.	197.	162.
P/(20VT+VD) :	16.6	16.4	16.7	16.6	16.5	16.8	16.5	16.5	16.9	16.3
E(FIRM)/(20VT+VD) :	48.5	47.8	48.7	48.4	48.1	49.1	48.2	48.1	49.2	47.7
E(F+SEC*0.3)/(20VT+VD) :	50.1	49.7	50.5	50.2	50.2	51.2	50.2	50.6	51.6	50.0

PROJECT NAME : BULU
PROJECT ID : 2- 6- 0- 3-0-1
TYPE : RESERVOIR

BASIN NAME : ABULOG
RIVER NAME : ABULOG

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.70	0.65	0.65	0.65	0.60	0.60	0.60	0.55	0.55	0.55
FULL SUPPLY LEVEL (M) :	218.0	198.7	206.1	218.0	194.9	203.8	218.0	191.4	201.7	218.0
MIN. OPERATING LEVEL(M) :	161.5	113.5	140.4	167.3	113.3	143.0	172.8	114.5	146.1	177.8
POWER										
FIRM DISCHARGE (M3/S) :	139.8	137.5	137.0	136.4	133.7	133.2	132.4	129.1	128.5	127.7
PLANT PEAK DIS. (M3/S) :	419.5	412.6	411.1	409.1	401.3	399.6	397.4	387.4	385.6	383.1
AVERAGE NET HEAD (M) :	118.1	89.7	103.4	120.0	87.1	102.8	121.9	85.3	102.4	123.6
INSTALLED CAPACITY (MW) :	408.0	304.6	349.9	404.3	287.7	338.3	398.8	271.9	325.1	389.7
GUARANTEED POWER (MW) :	264.7	106.3	192.0	276.7	102.9	195.2	285.9	103.2	197.7	290.7
AVERAGE FIRM POWER (MW):	136.0	101.5	116.6	134.8	95.9	112.7	132.9	90.6	108.4	129.9
FIRM ENERGY (MIL KWH/Y) :	1191.	889.	1022.	1180.	840.	988.	1165.	794.	949.	1138.
SECONDARY ENERGY (") :	174.	163.	176.	197.	179.	195.	223.	198.	219.	254.
ANNUAL AVERAGE E-GY (") :	1365.	1053.	1198.	1377.	1019.	1183.	1387.	992.	1169.	1392.
D A M										
DAM HEIGHT (M) :	145.7	126.4	133.8	145.7	122.6	131.5	145.7	119.1	129.4	145.7
EMBANKMENT VOL.(MIL M3) :	15.908	11.286	12.929	15.908	10.462	12.374	15.908	9.769	11.916	15.908
EVALUATION INDICES										
CH/V :	37967.	45385.	41875.	37015.	46083.	41783.	35972.	46221.	41134.	34668.
C/V :	277.	384.	334.	270.	403.	339.	263.	417.	340.	253.
P/(20VT+VD) :	19.5	18.7	19.5	19.3	18.7	19.5	19.1	18.6	19.4	18.7
E(FIRM)/(20VT+VD) :	56.8	54.6	56.9	56.4	54.5	57.0	55.8	54.2	56.5	54.7
E(F+SEC*0.3)/(20VT+VD) :	59.3	57.6	59.9	59.2	58.0	60.4	59.0	58.3	60.4	58.4

PROJECT NAME : NABABARAYAN
PROJECT ID : 2- 6- 1- 4-0-1
TYPE : RESERVOIR

BASIN NAME : ABULOG
RIVER NAME : APAYAO

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* SUMMARY TABLE OF OUTPUTS *
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ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.45	0.40	0.40	0.40	0.35	0.35	0.35	0.30	0.30	0.30
FULL SUPPLY LEVEL (M) :	240.0	220.6	228.2	240.0	214.8	224.5	240.0	208.8	220.7	240.0
MIN. OPERATING LEVEL(M) :	186.8	144.1	169.7	195.3	143.6	173.1	202.7	143.0	176.2	209.3
POWER										
FIRM DISCHARGE (M3/S) :	77.9	73.5	73.2	72.9	67.9	67.6	67.2	62.0	61.6	61.2
PLANT PEAK DIS. (M3/S) :	311.4	293.9	292.7	291.5	271.7	270.3	268.8	247.9	246.4	244.7
AVERAGE NET HEAD (M) :	118.6	91.9	105.3	121.5	87.9	104.0	123.8	83.7	102.4	125.9
INSTALLED CAPACITY (MW) :	304.0	222.4	253.7	291.5	196.6	231.3	274.1	170.7	207.7	253.7
GUARANTEED POWER (MW) :	202.9	94.2	152.2	209.6	86.0	147.7	208.6	77.4	140.4	202.4
AVERAGE FIRM POWER (MW) :	76.0	55.6	63.4	72.9	49.1	57.8	68.5	42.7	51.9	63.4
FIRM ENERGY (MIL KWH/Y) :	666.	487.	556.	638.	430.	507.	600.	374.	455.	556.
SECONDARY ENERGY (") :	242.	236.	253.	279.	258.	282.	320.	278.	311.	364.
ANNUAL AVERAGE E-GY (") :	907.	723.	809.	917.	688.	789.	920.	652.	766.	920.
D A M										
DAM HEIGHT (M) :	145.0	125.6	133.2	145.0	119.8	129.5	145.0	113.8	125.7	145.0
EMBANKMENT VOL.(MIL M3) :	16.819	11.796	13.622	16.819	10.494	12.687	16.819	9.282	11.813	16.819
EVALUATION INDICES										
CH/V :	19895.	23068.	21143.	18634.	22787.	20341.	17175.	22234.	19281.	15623.
C/V :	145.	196.	169.	137.	204.	168.	126.	211.	164.	115.
P/(20VT+VD) :	14.6	14.2	14.5	14.1	13.9	14.1	13.4	13.3	13.5	12.4
E(FIRM)/(20VT+VD) :	32.1	31.2	31.9	30.9	30.3	30.9	29.2	29.1	29.6	27.3
E(F+SEC*0.3)/(20VT+VD) :	35.6	35.7	36.2	35.0	35.8	36.1	33.9	35.6	35.6	32.6

PROJECT NAME : DIBAGAT
PROJECT ID : 2- 6- 1- 5-0-1
TYPE : RESERVOIR

BASIN NAME : ABULOG
RIVER NAME : APAYAO

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.90	0.80	0.80	0.80	0.75	0.75	0.75	0.70	0.70	0.70
FULL SUPPLY LEVEL (M) :	341.0	327.9	332.7	341.0	324.2	330.1	341.0	320.4	327.5	341.0
MIN. OPERATING LEVEL(M) :	240.3	210.7	236.3	261.8	210.6	240.4	270.3	210.5	244.0	277.4
POWER										
FIRM DISCHARGE (M3/S) :	80.7	78.6	78.4	78.1	77.1	76.9	76.6	75.7	75.4	75.1
PLANT PEAK DIS. (M3/S) :	242.2	235.7	235.1	234.4	231.4	230.7	229.9	227.1	226.3	225.4
AVERAGE NET HEAD (M) :	149.3	131.0	142.5	156.4	128.5	142.2	159.1	126.0	141.6	161.4
INSTALLED CAPACITY (MW) :	297.7	254.1	275.9	301.7	244.7	270.0	301.1	235.5	263.8	299.5
GUARANTEED POWER (MW) :	156.0	97.7	144.2	190.3	95.7	149.0	201.8	93.8	152.4	210.4
AVERAGE FIRM POWER (MW):	99.2	84.7	91.9	100.6	81.6	90.0	100.4	78.5	87.9	99.8
FIRM ENERGY (MIL KWH/Y) :	869.	742.	805.	881.	715.	788.	879.	688.	770.	875.
SECONDARY ENERGY (") :	74.	87.	91.	97.	96.	101.	110.	105.	112.	123.
ANNUAL AVERAGE E-GY (") :	943.	829.	896.	978.	811.	890.	989.	793.	882.	998.
D A M										
DAM HEIGHT (M) :	192.0	178.9	183.7	192.0	175.2	181.1	192.0	171.4	178.5	192.0
EMBANKMENT VOL.(MIL M3) :	18,602	15,280	16,407	18,602	14,413	15,793	18,602	13,632	15,181	18,602
EVALUATION INDICES										
CH/V :	25027.	27567.	26311.	24206.	28069.	26417.	23731.	28479.	26548.	23261.
C/V :	137.	162.	151.	132.	169.	154.	130.	175.	157.	127.
P/(20VT+VD) :	13.6	13.7	14.0	13.8	13.9	14.2	13.8	14.0	14.3	13.7
E(FIRM)/(20VT+VD) :	39.6	40.0	40.9	40.2	40.4	41.4	40.2	40.8	41.8	40.0
E(F+SEC*0.3)/(20VT+VD) :	40.7	41.4	42.3	41.6	42.1	43.0	41.7	42.7	43.6	41.7

PROJECT NAME : AGBULU
PROJECT ID : 2- 6- 1- 6-0-1
TYPE : RESERVOIR

BASIN NAME : ABULOG
RIVER NAME : APAYAO

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.75	0.70	0.70	0.70	0.65	0.65	0.65	0.60	0.60	0.60
FULL SUPPLY LEVEL (M) :	346.0	327.7	334.0	346.0	323.8	331.3	346.0	319.5	328.7	346.0
MIN. OPERATING LEVEL(M) :	278.1	227.8	256.3	284.8	227.6	259.3	291.0	227.4	262.2	296.9
POWER										
FIRM DISCHARGE (M3/S) :	64.6	63.8	63.6	63.4	62.3	62.1	61.8	60.6	60.4	60.0
PLANT PEAK DIS. (M3/S) :	193.9	191.5	190.8	190.1	187.0	186.3	185.5	181.9	181.1	180.2
AVERAGE NET HEAD (M) :	135.6	107.0	120.5	137.7	104.4	119.7	139.8	101.5	118.8	141.6
INSTALLED CAPACITY (MW) :	216.4	168.6	189.2	215.5	160.6	183.5	213.4	151.9	177.2	210.1
GUARANTEED POWER (MW) :	137.3	60.6	102.7	144.4	59.0	104.7	149.9	57.1	105.8	153.8
AVERAGE FIRM POWER (MW) :	72.1	56.2	63.1	71.8	53.5	61.2	71.1	50.6	59.1	70.0
FIRM ENERGY (MIL KWH/Y) :	632.	492.	553.	629.	469.	536.	623.	443.	517.	613.
SECONDARY ENERGY (") :	81.	77.	82.	90.	85.	91.	102.	93.	101.	115.
ANNUAL AVERAGE E-GY (") :	713.	569.	634.	720.	554.	627.	725.	536.	618.	729.
D A M										
DAM HEIGHT (M) :	167.0	148.7	155.0	167.0	144.8	152.3	167.0	140.5	149.7	167.0
EMBANKMENT VOL.(MIL M3) :	10.090	7.429	8.278	10.090	6.940	7.884	10.090	6.397	7.553	10.090
EVALUATION INDICES										
CH/V :	31953.	37996.	35466.	31319.	38630.	35674.	30541.	39490.	35539.	29661.
C/V :	202.	271.	242.	198.	283.	248.	193.	299.	252.	188.
P/(20VT+VD) :	16.3	15.9	16.5	16.2	15.9	16.6	16.1	15.9	16.6	15.9
E(FIRM)/(20VT+VD) :	47.5	46.4	48.2	47.4	46.4	48.5	47.0	46.5	48.4	46.4
E(F+SEC*0.3)/(20VT+VD) :	49.3	48.5	50.3	49.4	48.9	50.9	49.3	49.5	51.2	49.0

PROJECT NAME : AOAN
PROJECT ID : 2- 6- 1- 7-0-1
TYPE : RESERVOIR

BASIN NAME : ABULOG
RIVER NAME : APAYAO

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.90	0.80	0.80	0.80	0.70	0.70	0.70	0.60	0.60	0.60
FULL SUPPLY LEVEL (M) :	520.0	510.2	513.9	520.0	504.3	509.7	520.0	497.6	505.1	520.0
MIN. OPERATING LEVEL(M) :	414.3	384.2	413.4	442.5	384.0	423.0	462.0	383.7	429.8	475.9
POWER										
FIRM DISCHARGE (M3/S) :	24.4	23.7	23.7	23.6	22.9	22.8	22.6	21.7	21.6	21.4
PLANT PEAK DIS. (M3/S) :	146.3	142.3	142.0	141.4	137.1	136.7	135.6	130.2	129.7	128.3
AVERAGE NET HEAD (M) :	160.8	144.5	156.4	170.0	140.5	156.8	176.3	135.9	155.9	180.8
INSTALLED CAPACITY (MW) :	193.7	169.3	182.9	197.9	158.6	176.4	196.8	145.7	166.5	190.9
GUARANTEED POWER (MW) :	103.6	67.5	99.6	131.2	64.8	106.1	146.3	61.3	107.5	152.2
AVERAGE FIRM POWER (MW):	32.3	28.2	30.5	33.0	26.4	29.4	32.8	24.3	27.7	31.8
FIRM ENERGY (MIL KWH/Y) :	283.	247.	267.	289.	231.	258.	287.	213.	243.	279.
SECONDARY ENERGY (") :	29.	35.	36.	39.	43.	45.	50.	54.	57.	64.
ANNUAL AVERAGE E-GY (") :	312.	282.	303.	328.	275.	303.	337.	267.	300.	343.
D A M										
DAM HEIGHT (M) :	206.0	196.2	199.9	206.0	190.3	195.7	206.0	183.6	191.1	206.0
EMBANKMENT VOL.(MIL M3) :	27.572	24.195	25.470	27.572	22.356	23.998	27.572	20.347	22.588	27.572
EVALUATION INDICES										
CH/V :	5468.	5766.	5568.	5278.	5821.	5558.	5058.	5849.	5463.	4781.
C/V :	28.	31.	29.	27.	32.	30.	26.	34.	30.	24.
P/(20VT+VD) :	6.4	6.3	6.5	6.5	6.3	6.6	6.5	6.3	6.6	6.3
E(FIRM)/(20VT+VD) :	9.3	9.2	9.5	9.5	9.2	9.6	9.5	9.2	9.6	9.2
E(F+SEC*0.3)/(20VT+VD) :	9.6	9.6	9.8	9.9	9.7	10.1	10.0	9.9	10.3	9.8

PROJECT NAME : APAYAO
PROJECT ID : 2- 6- 1- 8-0-2
TYPE : RUN-OF-RIVER

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS		CASE 1	2	3	4	5
HEAD PONDAGE						
OUTPUT FACTOR	:	0.975	0.900	0.800	0.700	0.676
FULL SUPPLY LEVEL (M)	:	453.4	454.0	454.5	455.0	455.1
NORMAL OPERATING LEVEL(M)	:	452.7	453.3	453.8	454.3	454.4
MINIMUM OPERATING LEVEL (M)	:	452.0	452.6	453.1	453.5	453.6
DIVERSION WEIR HEIGHT INC. 3M F-B	:	6.4	7.0	7.5	8.0	8.1
WATER DEPTH AT TRASHRACK (M)	:	3.4	4.0	4.5	5.0	5.1
CHANNEL WIDTH AT TRASHRACK (M)	:	4.0	6.3	8.3	10.2	10.6
PONDAGE STORAGE VOLUME (1000 M3)	:	85.8	99.9	112.7	124.3	126.9
WATERWAY						
NUMBER OF WATERWAY	:	1	1	1	1	1
INSIDE DIAMETER OF HEADRACE (M)	:	1.8	1.9	2.4	2.8	2.9
HEADRACE TUNNEL LENGTH (M)	:	8120.0	8120.0	8120.0	8120.0	8120.0
INSIDE DIAMETER OF PENSTOCK (M)	:	1.3	1.4	1.8	2.1	2.2
PENSTOCK LENGTH (HORIZONTAL) (M)	:	175.0	175.0	175.0	175.0	175.0
EXCAVATION VOLUME (1000 M3)	:	21.0	24.1	38.4	52.0	55.2
POWER						
FIRM DISCHARGE (M3/S)	:	1.2	1.2	1.2	1.2	1.2
DEPENDABLE DISCHARGE (M3/S)	:	2.1	2.1	2.1	2.1	2.1
PLANT PEAK DISCHARGE (M3/S)	:	2.0	4.9	8.6	12.9	14.0
TAIL WATER LEVEL (M)	:	305.0	305.0	305.0	305.0	305.0
NET HEAD (M)	:	142.8	133.1	135.1	135.7	135.8
INSTALLED CAPACITY (MW)	:	2.4	5.4	9.6	14.5	15.7
DEPENDABLE PEAK POWER (MW)	:	2.4	2.3	2.3	2.3	2.3
FIRM POWER (MW)	:	1.5	1.4	1.4	1.4	1.4
GUARANTEED POWER OUTPUT (MW)	:	1.3	1.2	1.2	1.2	1.2
FIRM ENERGY/YEAR (10**6 KWH)	:	12.8	11.9	12.1	12.1	12.1
SECONDARY ENERGY/YEAR (10**6 KWH)	:	7.0	27.9	50.1	69.4	73.1
ANNUAL ENERGY (MIL KWH/YR)	:	19.7	39.8	62.2	81.5	85.3
PARAMETERS						
P(INSTALLED)/(20VT) (W/M3)	:	5.7	11.2	12.5	13.9	14.2
P(DEPENDABLE)/(20VT) (W/M3)	:	5.8	4.7	3.0	2.2	2.1
E(FIRM)/(20VT) (KWH/M3)	:	30.4	24.7	15.7	11.7	11.0
E(F+0.3*SECONDARY)/(20VT) (")	:	35.4	42.1	35.3	31.7	30.9

PROJECT NAME : ZINUNDUNGAN
PROJECT ID : 2- 8- 1- 1-0-1
TYPE : RESERVOIR

BASIN NAME : CAGAYAN
RIVER NAME : ZINUNDUNGAN

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.67	0.65	0.65	0.65	0.55	0.55	0.55	0.45	0.45	0.45
FULL SUPPLY LEVEL (M) :	89.0	83.1	85.3	89.0	80.2	83.6	89.0	76.5	81.8	89.0
MIN. OPERATING LEVEL(M) :	65.9	53.0	60.0	67.0	52.8	62.2	71.6	52.7	64.0	75.2
POWER										
FIRM DISCHARGE (M3/S) :	8.0	8.0	7.9	7.9	7.5	7.4	7.4	6.8	6.7	6.6
PLANT PEAK DIS. (M3/S) :	16.0	16.0	15.9	15.8	15.0	14.9	14.7	13.7	13.5	13.3
AVERAGE NET HEAD (M) :	42.8	34.7	38.4	43.1	32.6	37.9	44.5	30.4	37.6	46.1
INSTALLED CAPACITY (MW) :	5.6	4.6	5.0	5.6	4.0	4.6	5.4	3.4	4.2	5.0
GUARANTEED POWER (MW) :	3.4	1.8	2.7	3.5	1.7	2.8	3.8	1.6	2.7	3.8
AVERAGE FIRM POWER (MW) :	2.8	2.3	2.5	2.8	2.0	2.3	2.7	1.7	2.1	2.5
FIRM ENERGY (MIL KWH/Y) :	25.	20.	22.	25.	18.	20.	24.	15.	18.	22.
SECONDARY ENERGY (") :	3.	3.	3.	4.	4.	4.	5.	4.	5.	6.
ANNUAL AVERAGE E-GY (") :	28.	23.	25.	28.	21.	24.	28.	19.	23.	28.
D A M										
DAM HEIGHT (M) :	60.0	54.1	56.3	60.0	51.2	54.6	60.0	47.5	52.8	60.0
EMBANKMENT VOL.(MIL M3) :	1.144	0.881	0.972	1.144	0.784	0.900	1.144	0.659	0.837	1.144
EVALUATION INDICES										
CH/V :	11125.	12799.	12086.	10985.	12619.	11759.	10224.	12536.	11069.	9291.
C/V :	220.	286.	258.	218.	302.	261.	203.	327.	254.	183.
P/(20VT+VD) :	2.6	2.3	2.5	2.5	2.2	2.4	2.5	2.0	2.2	2.3
E(FIRM)/(20VT+VD) :	11.2	10.3	10.8	11.1	9.6	10.4	10.7	8.7	9.7	10.0
E(F+SEC*0.3)/(20VT+VD) :	11.6	10.8	11.3	11.6	10.2	11.0	11.4	9.5	10.4	10.9

PROJECT NAME : CAPISAYAN
PROJECT ID : 2- 8- 2- 2-0-1
TYPE : RESERVOIR

BASIN NAME : CAGAYAN
RIVER NAME : DUMMON

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.47	0.45	0.45	0.45	0.45	0.45	0.40	0.40	0.40	0.40
FULL SUPPLY LEVEL (M) :	100.0	99.4	99.5	99.6	99.8	100.0	97.8	98.1	99.4	100.0
MIN. OPERATING LEVEL(M) :	78.9	78.9	79.4	79.9	80.3	80.8	78.9	80.2	82.8	84.1
POWER										
FIRM DISCHARGE (M3/S) :	5.4	5.4	5.4	5.4	5.3	5.3	5.2	5.2	5.1	5.1
PLANT PEAK DIS. (M3/S) :	10.9	10.7	10.7	10.7	10.7	10.7	10.3	10.3	10.2	10.2
AVERAGE NET HEAD (M) :	37.0	36.7	36.9	37.1	37.4	37.7	35.7	36.3	38.0	38.8
INSTALLED CAPACITY (MW) :	3.3	3.2	3.3	3.3	3.3	3.3	3.0	3.1	3.2	3.3
GUARANTEED POWER (MW) :	2.0	1.9	2.0	2.0	2.0	2.1	1.9	2.0	2.2	2.3
AVERAGE FIRM POWER (MW) :	1.7	1.6	1.6	1.6	1.6	1.7	1.5	1.5	1.6	1.6
FIRM ENERGY (MIL KWH/Y) :	15.	14.	14.	14.	14.	15.	13.	13.	14.	14.
SECONDARY ENERGY (") :	6.	6.	6.	6.	6.	6.	6.	6.	6.	6.
ANNUAL AVERAGE E-GY (") :	20.	20.	20.	20.	20.	20.	19.	19.	20.	20.
D A M										
DAM HEIGHT (M) :	52.0	51.4	51.5	51.6	51.8	52.0	49.8	50.1	51.4	52.0
EMBANKMENT VOL.(MIL M3) :	2.063	2.006	2.014	2.022	2.040	2.063	1.847	1.876	2.001	2.063
EVALUATION INDICES										
CH/V :	3651.	3670.	3658.	3647.	3625.	3600.	3703.	3660.	3510.	3441.
C/V :	83.	84.	84.	84.	83.	82.	88.	87.	81.	78.
P/(20VT+VD) :	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
E(FIRM)/(20VT+VD) :	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
E(F+SEC*0.3)/(20VT+VD) :	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5

PROJECT NAME : BASAO
PROJECT ID : 2- 6- 3- 3-0-1
TYPE : RESERVOIR

BASIN NAME : CAGAYAN
RIVER NAME : CHICO

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.65	0.75	0.75	0.75	0.70	0.70	0.70	0.65	0.65	0.65
FULL SUPPLY LEVEL (M) :	768.0	749.9	757.2	768.0	745.1	753.7	768.0	740.3	750.3	768.0
MIN. OPERATING LEVEL(M) :	644.9	596.4	635.2	674.1	596.3	640.7	685.2	596.2	645.5	694.8
POWER										
FIRM DISCHARGE (M3/S) :	48.6	47.9	47.8	47.6	47.5	47.4	47.2	46.8	46.7	46.5
PLANT PEAK DIS. (M3/S) :	291.5	287.4	286.7	285.9	284.9	284.1	283.2	280.8	280.0	278.9
AVERAGE NET HEAD (M) :	211.0	183.3	200.7	220.5	180.1	200.2	224.1	176.9	199.5	227.2
INSTALLED CAPACITY (MW) :	506.2	433.5	473.8	518.9	422.3	468.3	522.4	408.9	459.9	521.7
GUARANTEED POWER (MW) :	294.5	182.2	268.4	353.8	180.6	278.3	375.0	177.9	284.7	390.1
AVERAGE FIRM POWER (MW) :	84.4	72.3	79.0	86.5	70.4	78.1	87.1	68.2	76.6	86.9
FIRM ENERGY (MIL KWH/Y) :	739.	633.	692.	758.	617.	684.	763.	597.	671.	762.
SECONDARY ENERGY (") :	111.	113.	118.	125.	116.	122.	132.	123.	130.	143.
ANNUAL AVERAGE E-GY (") :	850.	746.	810.	883.	733.	806.	895.	720.	802.	904.
D A M										
DAM HEIGHT (M) :	264.0	245.9	253.2	264.0	241.1	249.7	264.0	236.3	246.3	264.0
EMBANKMENT VOL.(MIL M3) :	57.804	47.067	51.381	57.804	44.215	49.293	57.804	41.690	47.260	57.804
EVALUATION INDICES										
CH/V :	6679.	7524.	7080.	6545.	7779.	7207.	6481.	7963.	7300.	6381.
C/V :	27.	32.	29.	26.	34.	30.	26.	35.	31.	25.
P/(20VT+VD) :	7.9	8.1	8.2	8.1	8.3	8.4	8.1	8.5	8.5	8.1
E(FIRM)/(20VT+VD) :	11.5	11.8	11.9	11.8	12.1	12.2	11.8	12.4	12.5	11.8
E(F+SEC*0.3)/(20VT+VD) :	12.0	12.4	12.5	12.3	12.8	12.9	12.5	13.1	13.2	12.5

PROJECT NAME : CHICO-1R
PROJECT ID : 2- 8- 3- 4-0-2
TYPE : RUN-OF-RIVER

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS		CASE 1	2	3	4	5
HEAD PONDAGE						
OUTPUT FACTOR	:	0.966	0.900	0.800	0.700	0.649
FULL SUPPLY LEVEL (M)	:	623.1	623.3	623.6	623.9	624.2
NORMAL OPERATING LEVEL(M)	:	621.7	622.1	622.7	623.2	623.6
MINIMUM OPERATING LEVEL (M)	:	620.3	620.9	621.7	622.6	623.0
DIVERSION WEIR HEIGHT INC. 3M F-B	:	9.1	9.3	9.6	9.9	10.2
WATER DEPTH AT TRASHRACK (M)	:	6.1	6.3	6.6	6.9	7.2
CHANNEL WIDTH AT TRASHRACK (M)	:	9.1	11.5	14.9	18.3	20.2
PONDAGE STORAGE VOLUME (1000 M3)	:	341.5	372.7	414.3	457.2	510.2
WATERWAY						
NUMBER OF WATERWAY	:	1	1	1	1	1
INSIDE DIAMETER OF HEADRACE (M)	:	2.6	3.1	3.8	4.4	4.7
HEADRACE TUNNEL LENGTH (M)	:	2950.0	2950.0	2950.0	2950.0	2950.0
INSIDE DIAMETER OF PENSTOCK (M)	:	2.0	2.5	3.0	3.6	3.8
PENSTOCK LENGTH (HORIZONTAL) (M)	:	135.0	135.0	135.0	135.0	135.0
EXCAVATION VOLUME (1000 M3)	:	16.1	23.2	33.9	46.4	53.7
POWER						
FIRM DISCHARGE (M3/S)	:	6.2	6.2	6.2	6.2	6.2
DEPENDABLE DISCHARGE (M3/S)	:	10.3	10.3	10.3	10.3	10.3
PLANT PEAK DISCHARGE (M3/S)	:	10.2	16.7	27.6	41.9	50.9
TAIL WATER LEVEL (M)	:	555.0	555.0	555.0	555.0	555.0
NET HEAD (M)	:	61.3	61.8	62.4	63.0	63.4
INSTALLED CAPACITY (MW)	:	5.2	8.5	14.2	21.7	26.6
DEPENDABLE PEAK POWER (MW)	:	5.2	5.3	5.3	5.4	5.4
FIRM POWER (MW)	:	3.1	3.2	3.2	3.2	3.2
GUARANTEED POWER OUTPUT (MW)	:	2.7	2.8	2.8	2.9	2.9
FIRM ENERGY/YEAR (10**6 KWH)	:	27.4	27.6	27.9	28.1	28.3
SECONDARY ENERGY/YEAR (10**6 KWH)	:	15.3	36.2	65.6	95.6	111.9
ANNUAL ENERGY (MIL KWH/YR)	:	42.7	63.8	93.4	123.8	140.2
PARAMETERS						
P(INSTALLED)/(20VT) (W/M3)	:	16.1	18.3	20.9	23.4	24.8
P(DEPENDABLE)/(20VT) (W/M3)	:	16.2	11.3	7.8	5.8	5.0
E(FIRM)/(20VT) (KWH/M3)	:	85.1	59.5	41.1	30.3	26.4
E(F+0.3*SECONDARY)/(20VT) (")	:	99.4	82.9	70.0	61.3	57.6

PROJECT NAME : SADANGA
PROJECT ID : 2- 8- 3- 5-0-1
TYPE : RESERVOIR

BASIN NAME : CAGAYAN
RIVER NAME : CHICO

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.80	0.70	0.70	0.70	0.65	0.65	0.65	0.60	0.60	0.60
FULL SUPPLY LEVEL (M) :	890.0	867.7	875.3	890.0	863.0	871.8	890.0	857.9	868.3	890.0
MIN. OPERATING LEVEL(M) :	792.6	738.5	775.0	811.6	738.4	779.3	820.2	738.3	782.7	827.1
POWER										
FIRM DISCHARGE (M3/S) :	40.2	39.7	39.6	39.5	39.1	39.0	38.9	38.3	38.2	38.1
PLANT PEAK DIS. (M3/S) :	160.8	158.6	158.3	157.8	156.3	155.9	155.5	153.4	152.9	152.4
AVERAGE NET HEAD (M) :	177.1	144.7	161.7	183.3	141.6	160.8	186.1	138.2	159.6	188.4
INSTALLED CAPACITY (MW) :	234.6	189.0	210.7	238.2	182.2	206.5	238.2	174.5	200.9	236.3
GUARANTEED POWER (MW) :	141.5	72.9	117.7	162.2	71.8	121.2	170.2	70.3	122.9	175.0
AVERAGE FIRM POWER (MW):	58.6	47.2	52.7	59.5	45.6	51.6	59.6	43.6	50.2	59.1
FIRM ENERGY (MIL KWH/Y) :	514.	414.	461.	522.	399.	452.	522.	382.	440.	517.
SECONDARY ENERGY (") :	74.	72.	76.	83.	76.	81.	90.	81.	87.	98.
ANNUAL AVERAGE E-GY (") :	588.	486.	537.	605.	475.	533.	611.	463.	527.	616.
D A M										
DAM HEIGHT (M) :	220.0	197.7	205.3	220.0	193.0	201.8	220.0	187.9	198.3	220.0
EMBANKMENT VOL.(MIL M3) :	23.099	17.029	18.966	23.099	15.940	18.066	23.099	14.774	17.163	23.099
EVALUATION INDICES										
CH/V :	11507.	13793.	12836.	11284.	14159.	13044.	11111.	14572.	13215.	10888.
C/V :	55.	73.	66.	54.	77.	68.	53.	82.	70.	52.
P/(20VT+VD) :	8.5	8.8	9.0	8.6	8.9	9.2	8.6	9.1	9.3	8.6
E(FIRM)/(20VT+VD) :	18.6	19.2	19.7	18.9	19.5	20.1	18.9	19.9	20.3	18.8
E(F+SEC*0.3)/(20VT+VD) :	19.4	20.2	20.6	19.8	20.7	21.1	19.9	21.1	21.6	19.8

PROJECT NAME : CHICO-2R
PROJECT ID : 2- 8- 3- 6-0-2
TYPE : RUN-OF-RIVER

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5
HEAD PONDAGE					
OUTPUT FACTOR	0.966	0.900	0.800	0.700	0.649
FULL SUPPLY LEVEL (M)	779.6	779.8	780.0	780.2	780.4
NORMAL OPERATING LEVEL(M)	778.1	778.4	778.9	779.4	779.6
MINIMUM OPERATING LEVEL (M)	776.5	777.1	777.8	778.5	778.9
DIVERSION WEIR HEIGHT INC. 3M F-B	9.0	9.2	9.4	9.6	9.8
WATER DEPTH AT TRASHRACK (M)	6.0	6.2	6.4	6.6	6.8
CHANNEL WIDTH AT TRASHRACK (M)	7.7	9.9	12.7	15.6	17.2
PONDAGE STORAGE VOLUME (1000 M3)	218.2	234.2	255.4	277.5	289.5
WATERWAY					
NUMBER OF WATERWAY	1	1	1	1	1
INSIDE DIAMETER OF HEADRACE (M)	2.3	2.8	3.3	3.9	4.2
HEADRACE TUNNEL LENGTH (M)	5950.0	5950.0	5950.0	5950.0	5950.0
INSIDE DIAMETER OF PENSTOCK (M)	1.7	2.1	2.6	3.1	3.3
PENSTOCK LENGTH (HORIZONTAL) (M)	275.0	275.0	275.0	275.0	275.0
EXCAVATION VOLUME (1000 M3)	24.5	36.9	53.9	73.7	85.4
POWER					
FIRM DISCHARGE (M3/S)	4.5	4.5	4.5	4.5	4.5
DEPENDABLE DISCHARGE (M3/S)	7.5	7.5	7.5	7.5	7.5
PLANT PEAK DISCHARGE (M3/S)	7.5	12.2	20.2	30.6	37.2
TAIL WATER LEVEL (M)	660.0	660.0	660.0	660.0	660.0
NET HEAD (M)	106.1	107.6	108.2	108.8	109.1
INSTALLED CAPACITY (MW)	6.5	10.8	18.0	27.4	33.4
DEPENDABLE PEAK POWER (MW)	6.6	6.7	6.7	6.7	6.8
FIRM POWER (MW)	3.9	4.0	4.0	4.0	4.1
GUARANTEED POWER OUTPUT (MW)	3.5	3.6	3.6	3.6	3.6
FIRM ENERGY/YEAR (10**6 KWH)	34.6	35.1	35.3	35.5	35.6
SECONDARY ENERGY/YEAR (10**6 KWH)	19.2	45.7	82.6	120.2	140.0
ANNUAL ENERGY (MIL KWH/YR)	53.7	80.8	117.8	155.6	175.6
PARAMETERS					
P(INSTALLED)/(20VT) (W/M3)	13.3	14.6	16.7	18.6	19.5
P(DEPENDABLE)/(20VT) (W/M3)	13.4	9.0	6.2	4.6	4.0
E(FIRM)/(20VT) (KWH/M3)	70.6	47.5	32.7	24.0	20.8
E(F+0.3*SECONDARY)/(20VT) (")	82.4	66.1	55.7	48.5	45.4

PROJECT NAME : CHICO-3R
PROJECT ID : 2- 8- 3- 7-0-2
TYPE : RUN-OF-RIVER

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5
HEAD PONDAGE					
OUTPUT FACTOR	0.966	0.900	0.800	0.700	0.649
FULL SUPPLY LEVEL (M)	866.6	867.0	867.6	868.3	868.6
NORMAL OPERATING LEVEL(M)	866.4	866.8	867.4	868.0	868.4
MINIMUM OPERATING LEVEL (M)	866.1	866.6	867.2	867.8	868.1
DIVERSION WEIR HEIGHT INC. 3M F-B	6.1	6.5	7.1	7.8	8.1
WATER DEPTH AT TRASHRACK (M)	3.1	3.5	4.1	4.8	5.1
CHANNEL WIDTH AT TRASHRACK (M)	6.5	8.3	10.7	13.2	14.6
PONDAGE STORAGE VOLUME (1000 M3)	619.1	709.1	828.9	952.8	1020.4
WATERWAY					
NUMBER OF WATERWAY	1	1	1	1	1
INSIDE DIAMETER OF HEADRACE (M)	2.0	2.4	2.9	3.4	3.7
HEADRACE TUNNEL LENGTH (M)	3850.0	3850.0	3850.0	3850.0	3850.0
INSIDE DIAMETER OF PENSTOCK (M)	1.5	1.9	2.3	2.7	2.9
PENSTOCK LENGTH (HORIZONTAL) (M)	175.0	175.0	175.0	175.0	175.0
EXCAVATION VOLUME (1000 M3)	12.3	18.5	27.1	37.0	42.9
POWER					
FIRM DISCHARGE (M3/S)	3.2	3.2	3.2	3.2	3.2
DEPENDABLE DISCHARGE (M3/S)	5.4	5.4	5.4	5.4	5.4
PLANT PEAK DISCHARGE (M3/S)	5.3	8.7	14.4	21.8	26.5
TAIL WATER LEVEL (M)	780.0	780.0	780.0	780.0	780.0
NET HEAD (M)	78.6	79.8	80.4	81.1	81.5
INSTALLED CAPACITY (MW)	3.4	5.7	9.5	14.5	17.8
DEPENDABLE PEAK POWER (MW)	3.5	3.5	3.6	3.6	3.6
FIRM POWER (MW)	2.1	2.1	2.1	2.2	2.2
GUARANTEED POWER OUTPUT (MW)	1.9	1.9	1.9	1.9	1.9
FIRM ENERGY/YEAR (10**6 KWH)	18.3	18.5	18.7	18.8	18.9
SECONDARY ENERGY/YEAR (10**6 KWH)	10.0	23.9	43.4	63.5	74.2
ANNUAL ENERGY (MIL KWH/YR)	28.2	42.4	62.1	82.3	93.1
PARAMETERS					
P(INSTALLED)/(20VT) (W/M3)	14.0	15.4	17.6	19.6	20.7
P(DEPENDABLE)/(20VT) (W/M3)	14.1	9.5	6.6	4.8	4.2
E(FIRM)/(20VT) (KWH/M3)	74.2	50.0	34.5	25.4	22.1
E(F+0.3*SECONDARY)/(20VT) (")	86.4	69.4	58.5	51.2	43.0

PROJECT NAME : BONTOC
PROJECT ID : 2- 8- 3- 8-0-1
TYPE : RESERVOIR

BASIN NAME : CAGAYAN
RIVER NAME : CHICO

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.70	0.43	0.43	0.43	0.33	0.33	0.33	0.23	0.23	0.23
FULL SUPPLY LEVEL (M) :	1089.0	1049.5	1063.4	1089.0	1038.4	1056.6	1089.0	1025.0	1048.7	1089.0
MIN. OPERATING LEVEL(M) :	1027.8	966.5	1012.2	1058.0	966.1	1016.3	1066.6	965.3	1019.7	1074.1
POWER										
FIRM DISCHARGE (M3/S) :	13.6	12.1	12.1	12.0	11.3	11.2	11.1	9.6	9.6	9.4
PLANT PEAK DIS. (M3/S) :	81.9	72.7	72.3	71.8	67.8	67.4	66.7	57.9	57.4	56.6
AVERAGE NET HEAD (M) :	157.4	111.2	135.4	167.2	103.7	132.2	169.9	94.5	127.9	172.3
INSTALLED CAPACITY (MW) :	106.1	66.6	80.6	98.8	57.9	73.3	93.3	45.0	60.5	80.3
GUARANTEED POWER (MW) :	74.8	31.8	57.4	82.4	29.5	55.7	81.1	24.8	48.9	72.1
AVERAGE FIRM POWER (MW) :	17.7	11.1	13.4	16.5	9.6	12.2	15.6	7.5	10.1	13.4
FIRM ENERGY (MIL KWH/Y) :	155.	97.	118.	144.	85.	107.	136.	66.	88.	117.
SECONDARY ENERGY (") :	27.	34.	38.	45.	38.	44.	54.	45.	55.	72.
ANNUAL AVERAGE E-GY (") :	182.	131.	156.	190.	122.	151.	191.	111.	143.	189.
D A M										
DAM HEIGHT (M) :	187.0	147.5	161.4	187.0	136.4	154.6	187.0	123.0	146.7	187.0
EMBANKMENT VOL.(MIL M3) :	21.388	11.076	14.199	21.388	8.924	12.550	21.388	6.733	10.895	21.388
EVALUATION INDICES										
CH/V :	3576.	4792.	4081.	3130.	5104.	4110.	2909.	5168.	3812.	2466.
C/V :	20.	34.	27.	18.	40.	28.	16.	45.	28.	14.
P/(20VT+VD) :	4.6	5.2	5.1	4.3	5.5	5.2	4.0	5.4	4.8	3.5
E(FIRM)/(20VT+VD) :	6.7	7.6	7.4	6.2	8.0	7.5	5.9	7.9	7.0	5.1
E(F+SEC*0.3)/(20VT+VD) :	7.0	8.4	8.1	6.8	9.0	8.4	6.6	9.5	8.4	6.0

PROJECT NAME : CHICO-4R
PROJECT ID : 2- 8- 3- 9-0-2
TYPE : RUN-OF-RIVER

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5
HEAD PONDAGE					
OUTPUT FACTOR	0.966	0.900	0.800	0.700	0.649
FULL SUPPLY LEVEL (M)	993.0	993.3	993.8	994.2	994.4
NORMAL OPERATING LEVEL(M)	992.6	992.9	993.3	993.7	994.0
MINIMUM OPERATING LEVEL (M)	992.1	992.4	992.9	993.3	993.5
DIVERSION WEIR HEIGHT INC. 3M F-B	6.0	6.3	6.8	7.2	7.4
WATER DEPTH AT TRASHRACK (M)	3.0	3.3	3.8	4.2	4.4
CHANNEL WIDTH AT TRASHRACK (M)	4.5	5.8	7.4	9.2	10.1
PONDAGE STORAGE VOLUME (1000 M3)	151.3	166.9	187.7	209.2	220.9
WATERWAY					
NUMBER OF WATERWAY	1	1	1	1	1
INSIDE DIAMETER OF HEADRACE (M)	1.8	1.8	2.2	2.6	2.8
HEADRACE TUNNEL LENGTH (M)	6620.0	6620.0	6620.0	6620.0	6620.0
INSIDE DIAMETER OF PENSTOCK (M)	1.3	1.4	1.7	2.0	2.1
PENSTOCK LENGTH (HORIZONTAL) (M)	220.0	220.0	220.0	220.0	220.0
EXCAVATION VOLUME (1000 M3)	17.2	17.5	25.5	36.4	42.2
POWER					
FIRM DISCHARGE (M3/S)	1.6	1.6	1.6	1.6	1.6
DEPENDABLE DISCHARGE (M3/S)	2.6	2.6	2.6	2.6	2.6
PLANT PEAK DISCHARGE (M3/S)	2.6	4.2	6.9	10.5	12.7
TAIL WATER LEVEL (M)	870.0	870.0	870.0	870.0	870.0
NET HEAD (M)	116.6	110.1	110.6	112.2	112.5
INSTALLED CAPACITY (MW)	2.5	3.8	6.3	9.7	11.8
DEPENDABLE PEAK POWER (MW)	2.5	2.3	2.4	2.4	2.4
FIRM POWER (MW)	1.5	1.4	1.4	1.4	1.4
GUARANTEED POWER OUTPUT (MW)	1.3	1.3	1.3	1.3	1.3
FIRM ENERGY/YEAR (10**6 KWH)	13.0	12.3	12.4	12.6	12.6
SECONDARY ENERGY/YEAR (10**6 KWH)	7.1	15.9	28.8	42.4	49.4
ANNUAL ENERGY (MIL KWH/YR)	20.2	28.2	41.1	54.9	62.0
PARAMETERS					
P(INSTALLED)/(20VT) (W/M3)	7.2	10.8	12.3	13.3	14.0
P(DEPENDABLE)/(20VT) (W/M3)	7.2	6.7	4.6	3.3	2.8
E(FIRM)/(20VT) (KWH/M3)	37.9	35.3	24.2	17.2	14.9
E(F+0.3*SECONDARY)/(20VT) (")	44.1	48.9	41.2	34.7	32.5

PROJECT NAME : MATALAG
PROJECT ID : 2- 8- 4-10-0-1
TYPE : RESERVOIR

BASIN NAME : CAGAYAN
RIVER NAME : MATALAG

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.80	0.70	0.70	0.67	0.67	0.67	0.67	0.67	0.65	0.65
FULL SUPPLY LEVEL (M) :	81.0	78.4	81.0	77.7	78.6	79.5	80.3	81.0	76.9	81.0
MIN. OPERATING LEVEL(M) :	51.9	51.8	57.2	51.8	53.5	55.2	56.9	58.6	51.7	60.0
POWER										
FIRM DISCHARGE (M3/S) :	22.0	21.7	21.5	21.6	21.5	21.5	21.4	21.4	21.4	21.2
PLANT PEAK DIS. (M3/S) :	66.0	65.0	64.6	64.7	64.6	64.4	64.3	64.2	64.1	63.5
AVERAGE NET HEAD (M) :	42.1	40.3	43.8	39.8	41.0	42.1	43.2	44.2	39.3	44.7
INSTALLED CAPACITY (MW) :	22.9	21.6	23.3	21.2	21.8	22.3	22.9	23.4	20.7	23.4
GUARANTEED POWER (MW) :	11.7	11.5	14.1	11.4	12.3	13.1	13.9	14.7	11.3	15.3
AVERAGE FIRM POWER (MW) :	7.6	7.2	7.8	7.1	7.3	7.4	7.6	7.8	6.9	7.8
FIRM ENERGY (MIL KWH/Y) :	67.	63.	68.	62.	64.	65.	67.	68.	61.	68.
SECONDARY ENERGY (") :	11.	11.	12.	11.	12.	12.	12.	12.	12.	13.
ANNUAL AVERAGE E-GY (") :	78.	74.	80.	73.	75.	77.	79.	81.	72.	81.
D A M										
DAM HEIGHT (M) :	59.3	56.7	59.3	56.0	56.9	57.8	58.6	59.3	55.2	59.3
EMBANKMENT VOL.(MIL M3) :	1.637	1.473	1.637	1.426	1.483	1.540	1.592	1.637	1.378	1.637
EVALUATION INDICES										
CH/V :	21938.	22799.	21462.	23088.	22569.	22086.	21670.	21326.	23297.	21089.
C/V :	424.	464.	415.	477.	458.	440.	425.	413.	488.	408.
P/(20VT+VD) :	7.5	7.5	7.6	7.4	7.5	7.6	7.6	7.7	7.4	7.7
E(FIRM)/(20VT+VD) :	21.8	21.8	22.2	21.7	21.9	22.0	22.2	22.4	21.6	22.3
E(F+SEC*0.3)/(20VT+VD) :	22.9	22.9	23.4	22.9	23.1	23.3	23.4	23.6	22.9	23.6

PROJECT NAME : NABUANGAN
PROJECT ID : 2- 8- 4-11-0-2
TYPE : RUN-OF-RIVER

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5
HEAD PONDAGE					
OUTPUT FACTOR	0.966	0.900	0.800	0.700	0.649
FULL SUPPLY LEVEL (M)	353.1	353.3	353.5	353.8	354.0
NORMAL OPERATING LEVEL(M)	352.4	352.6	352.9	353.1	353.3
MINIMUM OPERATING LEVEL (M)	351.7	351.9	352.2	352.4	352.6
DIVERSION WEIR HEIGHT INC. 3M F-B	6.1	6.3	6.5	6.8	7.0
WATER DEPTH AT TRASHRACK (M)	3.1	3.3	3.5	3.8	4.0
CHANNEL WIDTH AT TRASHRACK (M)	2.8	3.6	4.6	5.7	6.3
PONDAGE STORAGE VOLUME (1000 M3)	38.6	41.1	44.3	47.6	49.5
WATERWAY					
NUMBER OF WATERWAY	1	1	1	1	1
INSIDE DIAMETER OF HEADRACE (M)	1.8	1.8	1.8	1.8	1.9
HEADRACE TUNNEL LENGTH (M)	5850.0	5850.0	5850.0	5850.0	5850.0
INSIDE DIAMETER OF PENSTOCK (M)	1.3	1.3	1.3	1.4	1.5
PENSTOCK LENGTH (HORIZONTAL) (M)	415.0	415.0	415.0	415.0	415.0
EXCAVATION VOLUME (1000 M3)	15.5	15.5	15.5	15.6	17.9
POWER					
FIRM DISCHARGE (M3/S)	0.6	0.6	0.6	0.6	0.6
DEPENDABLE DISCHARGE (M3/S)	1.0	1.0	1.0	1.0	1.0
PLANT PEAK DISCHARGE (M3/S)	1.0	1.6	2.7	4.1	4.9
TAIL WATER LEVEL (M)	245.0	245.0	245.0	245.0	245.0
NET HEAD (M)	105.6	104.6	101.4	95.7	95.7
INSTALLED CAPACITY (MW)	0.9	1.4	2.2	3.2	3.9
DEPENDABLE PEAK POWER (MW)	0.9	0.9	0.8	0.8	0.8
FIRM POWER (MW)	0.5	0.5	0.5	0.5	0.5
GUARANTEED POWER OUTPUT (MW)	0.5	0.5	0.4	0.4	0.4
FIRM ENERGY/YEAR (10**6 KWH)	4.6	4.5	4.4	4.1	4.1
SECONDARY ENERGY/YEAR (10**6 KWH)	2.5	5.9	10.3	14.0	16.3
ANNUAL ENERGY (MIL KWH/YR)	7.1	10.4	14.6	18.2	20.5
PARAMETERS					
P(INSTALLED)/(20VT) (W/M3)	2.8	4.5	7.2	10.3	10.9
P(DEPENDABLE)/(20VT) (W/M3)	2.8	2.8	2.7	2.5	2.2
E(FIRM)/(20VT) (KWH/M3)	14.8	14.6	14.2	13.3	11.6
E(F+0.3*SECONDARY)/(20VT) (")	17.2	20.3	24.1	26.9	25.3

PROJECT NAME : PINUKPUK
PROJECT ID : 2- 8- 5-12-0-1
TYPE : RESERVOIR

BASIN NAME : CAGAYAN
RIVER NAME : SALTAN

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.86	0.73	0.73	0.73	0.63	0.63	0.63	0.53	0.53	0.53
FULL SUPPLY LEVEL (M) :	158.0	153.0	155.4	158.0	148.8	153.0	158.0	144.1	150.7	158.0
MIN. OPERATING LEVEL(M) :	111.8	111.7	116.8	121.8	111.5	120.0	128.4	111.4	122.7	134.1
POWER										
FIRM DISCHARGE (M3/S) :	20.4	20.0	20.0	19.9	19.5	19.4	19.3	18.7	18.6	18.5
PLANT PEAK DIS. (M3/S) :	40.9	40.0	39.9	39.9	38.9	38.8	38.7	37.4	37.3	37.1
AVERAGE NET HEAD (M) :	53.0	49.6	52.9	56.3	46.8	52.3	58.4	43.7	51.7	60.2
INSTALLED CAPACITY (MW) :	17.8	16.3	17.4	18.5	15.0	16.7	18.6	13.5	15.9	18.4
GUARANTEED POWER (MW) :	7.1	6.9	8.5	10.1	6.7	9.2	11.7	6.4	9.7	12.9
AVERAGE FIRM POWER (MW) :	8.9	8.2	8.7	9.2	7.5	8.4	9.3	6.7	7.9	9.2
FIRM ENERGY (MIL KWH/Y) :	78.	72.	76.	81.	66.	73.	81.	59.	69.	80.
SECONDARY ENERGY (") :	9.	9.	9.	10.	10.	10.	11.	10.	12.	13.
ANNUAL AVERAGE E-GY (") :	87.	81.	86.	91.	75.	84.	93.	89.	81.	94.
D A M										
DAM HEIGHT (M) :	77.0	72.0	74.4	77.0	67.8	72.0	77.0	63.1	69.7	77.0
EMBANKMENT VOL.(MIL M3) :	17.243	15.001	16.039	17.243	13.335	14.997	17.243	11.564	14.090	17.243
EVALUATION INDICES										
CH/V :	2557.	2666.	2581.	2491.	2728.	2584.	2414.	2786.	2545.	2312.
C/V :	37.	42.	39.	36.	46.	41.	35.	51.	42.	34.
P/(20VT+VD) :	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
E(FIRM)/(20VT+VD) :	3.9	4.0	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0
E(F+SEC*0.3)/(20VT+VD) :	4.0	4.2	4.2	4.2	4.3	4.3	4.3	4.3	4.3	4.2

PROJECT NAME : ADAGA
PROJECT ID : 2- 8- 5-13-0-1
TYPE : RESERVOIR

BASIN NAME : CAGAYAN
RIVER NAME : SALTAN

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.68	0.58	0.58	0.58	0.53	0.53	0.53	0.48	0.48	0.48
FULL SUPPLY LEVEL (M) :	411.0	385.9	397.2	411.0	381.2	394.5	411.0	376.2	391.7	411.0
MIN. OPERATING LEVEL(M) :	346.5	309.2	334.0	358.8	309.1	336.7	364.4	308.9	339.4	369.8
POWER										
FIRM DISCHARGE (M3/S) :	10.5	10.1	10.1	10.1	9.9	9.9	9.9	9.6	9.6	9.6
PLANT PEAK DIS. (M3/S) :	63.0	60.9	60.7	60.6	59.7	59.5	59.3	57.9	57.7	57.5
AVERAGE NET HEAD (M) :	138.3	109.6	125.1	142.3	106.4	124.2	144.1	103.0	123.2	145.8
INSTALLED CAPACITY (MW) :	71.8	54.9	62.5	71.0	52.3	60.8	70.4	49.1	58.5	69.0
GUARANTEED POWER (MW) :	47.1	27.9	39.5	51.0	27.3	40.0	52.6	26.4	40.0	53.4
AVERAGE FIRM POWER (MW):	12.0	9.2	10.4	11.8	8.7	10.1	11.7	8.2	9.8	11.5
FIRM ENERGY (MIL KWH/Y) :	105.	80.	91.	104.	76.	89.	103.	72.	85.	101.
SECONDARY ENERGY (") :	20.	19.	21.	23.	20.	23.	25.	22.	25.	28.
ANNUAL AVERAGE E-GY (") :	124.	100.	113.	127.	97.	111.	128.	94.	110.	129.
D A M										
DAM HEIGHT (M) :	170.0	144.9	156.2	170.0	140.2	153.5	170.0	135.2	150.7	170.0
EMBANKMENT VOL.(MIL M3) :	7.947	5.282	6.378	7.947	4.843	6.094	7.947	4.434	5.831	7.947
EVALUATION INDICES										
CH/V :	6663.	8186.	7313.	6398.	8451.	7362.	6264.	8610.	7318.	6067.
C/V :	42.	61.	50.	40.	65.	51.	39.	69.	52.	38.
P/(20VT+VD) :	7.1	7.4	7.4	7.1	7.5	7.4	7.0	7.5	7.4	6.9
E(FIRM)/(20VT+VD) :	10.4	10.9	10.8	10.3	11.0	10.9	10.2	11.0	10.8	10.1
E(F+SEC*0.3)/(20VT+VD) :	11.0	11.7	11.5	11.0	11.9	11.7	11.0	12.0	11.7	10.9

PROJECT NAME : SALTAN-4
PROJECT ID : 2- 8- 5-14-0-1
TYPE : RESERVOIR

BASIN NAME : CAGAYAN
RIVER NAME : SALTAN

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.65	0.43	0.43	0.43	0.33	0.33	0.33	0.23	0.23	0.23
FULL SUPPLY LEVEL (M) :	716.0	675.3	689.1	716.0	663.6	682.2	716.0	648.6	673.8	716.0
MIN. OPERATING LEVEL(M) :	656.8	583.2	632.9	682.6	583.2	637.3	691.3	583.2	641.6	700.0
POWER										
FIRM DISCHARGE (M3/S) :	5.8	5.2	5.2	5.2	4.9	4.8	4.8	4.2	4.1	4.1
PLANT PEAK DIS. (M3/S) :	11.6	10.4	10.4	10.3	9.7	9.7	9.6	8.3	8.2	8.1
AVERAGE NET HEAD (M) :	180.1	129.7	154.9	188.8	122.2	152.0	191.7	112.6	148.2	194.7
INSTALLED CAPACITY (MW) :	17.1	11.1	13.2	16.0	9.8	12.1	15.1	7.7	10.1	13.0
GUARANTEED POWER (MW) :	12.7	5.6	9.6	13.4	5.2	9.3	13.2	4.5	8.2	11.7
AVERAGE FIRM POWER (MW) :	8.6	5.6	6.6	8.0	4.9	6.1	7.6	3.9	5.0	6.5
FIRM ENERGY (MIL KWH/Y) :	75.	49.	58.	70.	43.	53.	66.	34.	44.	57.
SECONDARY ENERGY (") :	9.	10.	11.	13.	11.	13.	16.	14.	16.	21.
ANNUAL AVERAGE E-GY (") :	84.	59.	69.	83.	54.	66.	82.	47.	60.	78.
D A M										
DAM HEIGHT (M) :	212.0	171.3	185.1	212.0	159.6	178.2	212.0	144.6	169.8	212.0
EMBANKMENT VOL.(MIL M3) :	26.212	14.402	17.886	26.212	11.814	16.028	26.212	8.979	14.047	26.212
EVALUATION INDICES										
CH/V :	1389.	1833.	1590.	1239.	1936.	1590.	1153.	1961.	1471.	980.
C/V :	7.	11.	9.	6.	13.	10.	6.	15.	9.	5.
P/(20VT+VD) :	0.6	0.7	0.7	0.6	0.7	0.7	0.5	0.7	0.6	0.5
E(FIRM)/(20VT+VD) :	2.7	3.1	3.0	2.5	3.2	3.0	2.4	3.2	2.8	2.1
E(F+SEC*0.3)/(20VT+VD) :	2.8	3.2	3.1	2.7	3.5	3.2	2.6	3.6	3.1	2.3

PROJECT NAME : SALTAN
PROJECT ID : 2- 8- 5-15-0-2
TYPE : RUN-OF-RIVER

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5
HEAD PONDAGE					
OUTPUT FACTOR	0.966	0.900	0.800	0.700	0.649
FULL SUPPLY LEVEL (M)	678.6	678.8	679.1	679.4	679.6
NORMAL OPERATING LEVEL(M)	677.7	677.9	678.3	678.6	678.8
MINIMUM OPERATING LEVEL (M)	676.9	677.1	677.4	677.7	677.9
DIVERSION WEIR HEIGHT INC. 3M F-B	6.6	6.8	7.1	7.4	7.6
WATER DEPTH AT TRASHRACK (M)	3.6	3.8	4.1	4.4	4.6
CHANNEL WIDTH AT TRASHRACK (M)	3.4	4.4	5.6	6.9	7.6
PONDAGE STORAGE VOLUME (1000 M3)	53.5	57.0	61.7	66.6	69.3
WATERWAY					
NUMBER OF WATERWAY	1	1	1	1	1
INSIDE DIAMETER OF HEADRACE (M)	1.8	1.8	1.8	2.1	2.2
HEADRACE TUNNEL LENGTH (M)	8590.0	8590.0	8590.0	8590.0	8590.0
INSIDE DIAMETER OF PENSTOCK (M)	1.3	1.3	1.3	1.5	1.6
PENSTOCK LENGTH (HORIZONTAL) (M)	890.0	890.0	890.0	890.0	890.0
EXCAVATION VOLUME (1000 M3)	23.2	23.2	23.2	30.9	35.8
POWER					
FIRM DISCHARGE (M3/S)	0.9	0.9	0.9	0.9	0.9
DEPENDABLE DISCHARGE (M3/S)	1.5	1.5	1.5	1.5	1.5
PLANT PEAK DISCHARGE (M3/S)	1.5	2.4	4.0	6.0	7.3
TAIL WATER LEVEL (M)	454.4	454.4	454.4	454.4	454.4
NET HEAD (M)	218.4	214.2	202.0	201.3	201.7
INSTALLED CAPACITY (MW)	2.6	4.2	6.6	10.0	12.1
DEPENDABLE PEAK POWER (MW)	2.7	2.6	2.5	2.5	2.5
FIRM POWER (MW)	1.6	1.6	1.5	1.5	1.5
GUARANTEED POWER OUTPUT (MW)	1.4	1.4	1.3	1.3	1.3
FIRM ENERGY/YEAR (10**6 KWH)	14.0	13.7	12.9	12.9	12.9
SECONDARY ENERGY/YEAR (10**6 KWH)	7.7	17.7	30.1	43.6	50.8
ANNUAL ENERGY (MIL KWH/YR)	21.7	31.5	43.1	56.5	63.7
PARAMETERS					
P(INSTALLED)/(20VT) (W/M3)	5.7	9.1	14.2	16.1	17.0
P(DEPENDABLE)/(20VT) (W/M3)	5.7	5.6	5.3	4.0	3.4
E(FIRM)/(20VT) (KWH/M3)	30.2	29.6	27.9	20.9	18.1
E(F+0.3*SECONDARY)/(20VT) (")	35.2	41.1	47.5	42.1	39.4

PROJECT NAME : SALTAN-5
PROJECT ID : 2- 8- 5-16-0-1
TYPE : RESERVOIR

BASIN NAME : CAGAYAN
RIVER NAME : SALTAN

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.53	0.38	0.38	0.38	0.33	0.33	0.33	0.28	0.28	0.28
FULL SUPPLY LEVEL (M) :	876.0	848.6	860.9	876.0	843.4	858.1	876.0	837.9	855.1	876.0
MIN. OPERATING LEVEL(M) :	827.0	793.5	819.0	844.4	793.5	821.6	849.7	793.5	824.0	854.4
POWER										
FIRM DISCHARGE (M3/S) :	3.8	3.5	3.5	3.5	3.4	3.3	3.3	3.1	3.1	3.1
PLANT PEAK DIS. (M3/S) :	7.7	7.0	6.9	6.9	6.7	6.7	6.7	6.2	6.2	6.2
AVERAGE NET HEAD (M) :	119.9	91.2	107.5	125.7	87.8	106.6	127.4	84.3	105.4	129.0
INSTALLED CAPACITY (MW) :	7.5	5.2	6.1	7.2	4.9	5.9	7.0	4.3	5.4	6.6
GUARANTEED POWER (MW) :	5.2	3.0	4.3	5.7	2.9	4.3	5.7	2.7	4.1	5.5
AVERAGE FIRM POWER (MW) :	3.8	2.5	3.1	3.6	2.4	2.9	3.5	2.2	2.7	3.3
FIRM ENERGY (MIL KWH/Y) :	33.	23.	27.	31.	21.	26.	31.	19.	24.	29.
SECONDARY ENERGY (") :	5.	5.	6.	7.	6.	6.	7.	6.	7.	9.
ANNUAL AVERAGE E-GY (") :	38.	28.	33.	38.	27.	32.	38.	25.	31.	37.
D A M										
DAM HEIGHT (M) :	147.0	119.6	131.9	147.0	114.4	129.1	147.0	108.9	126.1	147.0
EMBANKMENT VOL.(MIL M3) :	7.806	4.402	5.772	7.806	3.872	5.423	7.806	3.409	5.074	7.806
EVALUATION INDICES										
CH/V :	2106.	2732.	2305.	1904.	2857.	2313.	1834.	2859.	2235.	1698.
C/V :	15.	25.	19.	14.	27.	19.	13.	29.	19.	12.
P/(20VT+VD) :	0.8	0.9	0.9	0.8	1.0	0.9	0.8	1.0	0.9	0.7
E(FIRM)/(20VT+VD) :	3.7	4.1	3.9	3.5	4.2	3.9	3.4	4.2	3.8	3.2
E(F+SEC*0.3)/(20VT+VD) :	3.9	4.4	4.2	3.7	4.6	4.2	3.7	4.6	4.1	3.5

PROJECT NAME : BABACA-R
PROJECT ID : 2- 8- 5-17-0-1
TYPE : RESERVOIR

BASIN NAME : CAGAYAN
RIVER NAME : BABACA

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.70	0.58	0.58	0.58	0.53	0.53	0.53	0.48	0.48	0.48
FULL SUPPLY LEVEL (M) :	219.0	204.2	211.0	219.0	201.6	209.6	219.0	198.9	207.9	219.0
MIN. OPERATING LEVEL(M) :	181.2	161.6	175.6	189.7	161.6	177.1	192.7	161.6	178.6	195.7
POWER										
FIRM DISCHARGE (M3/S) :	6.4	6.2	6.1	6.1	6.0	6.0	6.0	5.9	5.8	5.8
PLANT PEAK DIS. (M3/S) :	12.8	12.3	12.3	12.2	12.1	12.0	11.9	11.7	11.6	11.6
AVERAGE NET HEAD (M) :	76.9	60.6	70.0	79.6	59.2	69.6	80.9	57.5	69.0	81.9
INSTALLED CAPACITY (MW) :	8.1	6.2	7.1	8.0	5.9	6.9	7.9	5.5	6.6	7.8
GUARANTEED POWER (MW) :	5.2	3.1	4.5	5.8	3.1	4.5	5.9	3.0	4.5	6.0
AVERAGE FIRM POWER (MW) :	4.0	3.1	3.5	4.0	2.9	3.4	4.0	2.8	3.3	3.9
FIRM ENERGY (MIL KWH/Y) :	35.	27.	31.	35.	26.	30.	35.	24.	29.	34.
SECONDARY ENERGY (") :	4.	4.	5.	5.	4.	5.	6.	5.	5.	6.
ANNUAL AVERAGE E-GY (") :	40.	31.	36.	40.	30.	35.	40.	29.	34.	40.
D A M										
DAM HEIGHT (M) :	98.0	83.2	90.0	98.0	80.6	88.6	98.0	77.9	86.9	98.0
EMBANKMENT VOL.(MIL M3) :	3.539	2.411	2.905	3.539	2.256	2.801	3.539	2.093	2.682	3.539
EVALUATION INDICES										
CH/V :	5094.	6046.	5444.	4870.	6125.	5437.	4768.	6173.	5394.	4818.
C/V :	57.	81.	67.	54.	84.	68.	53.	88.	68.	52.
P/(20VT+VD) :	1.9	2.0	2.0	1.9	2.0	2.0	1.9	2.0	2.0	1.9
E(FIRM)/(20VT+VD) :	8.5	8.8	8.7	8.4	8.9	8.7	8.3	8.9	8.7	8.2
E(F+SEC*0.3)/(20VT+VD) :	8.8	9.2	9.1	8.8	9.3	9.2	8.7	9.4	9.2	8.6

PROJECT NAME : BABACA
PROJECT ID : 2- 8- 5-18-0-2
TYPE : RUN-OF-RIVER

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5
HEAD PONDAGE					
OUTPUT FACTOR	0.966	0.900	0.800	0.700	0.649
FULL SUPPLY LEVEL (M)	400.0	400.1	400.4	400.6	400.8
NORMAL OPERATING LEVEL(M)	399.3	399.5	399.8	400.0	400.1
MINIMUM OPERATING LEVEL (M)	398.7	398.9	399.1	399.4	399.5
DIVERSION WEIR HEIGHT INC. 3M F-B	6.0	6.1	6.4	6.6	6.8
WATER DEPTH AT TRASHRACK (M)	3.0	3.1	3.4	3.6	3.8
CHANNEL WIDTH AT TRASHRACK (M)	2.7	3.5	4.4	5.5	6.0
PONDAGE STORAGE VOLUME (1000 M3)	36.9	39.3	42.4	45.6	47.3
WATERWAY					
NUMBER OF WATERWAY	1	1	1	1	1
INSIDE DIAMETER OF HEADRACE (M)	1.8	1.8	1.8	1.8	1.9
HEADRACE TUNNEL LENGTH (M)	4150.0	4150.0	4150.0	4150.0	4150.0
INSIDE DIAMETER OF PENSTOCK (M)	1.3	1.3	1.3	1.3	1.4
PENSTOCK LENGTH (HORIZONTAL) (M)	620.0	620.0	620.0	620.0	620.0
EXCAVATION VOLUME (1000 M3)	11.5	11.5	11.5	11.5	12.5
POWER					
FIRM DISCHARGE (M3/S)	0.6	0.6	0.6	0.6	0.6
DEPENDABLE DISCHARGE (M3/S)	0.9	0.9	0.9	0.9	0.9
PLANT PEAK DISCHARGE (M3/S)	0.9	1.5	2.5	3.8	4.6
TAIL WATER LEVEL (M)	220.0	220.0	220.0	220.0	220.0
NET HEAD (M)	176.9	176.1	173.6	168.2	166.8
INSTALLED CAPACITY (MW)	1.3	2.2	3.5	5.2	6.3
DEPENDABLE PEAK POWER (MW)	1.3	1.3	1.3	1.3	1.3
FIRM POWER (MW)	0.8	0.8	0.8	0.8	0.8
GUARANTEED POWER OUTPUT (MW)	0.7	0.7	0.7	0.7	0.7
FIRM ENERGY/YEAR (10**6 KWH)	7.1	7.0	6.9	6.7	6.7
SECONDARY ENERGY/YEAR (10**6 KWH)	3.9	9.1	16.1	22.7	26.2
ANNUAL ENERGY (MIL KWH/YR)	11.0	16.1	23.1	29.4	32.9
PARAMETERS					
P(INSTALLED)/(20VT) (W/M3)	5.8	9.4	15.4	22.6	25.1
P(DEPENDABLE)/(20VT) (W/M3)	5.9	5.8	5.8	5.6	5.1
E(FIRM)/(20VT) (KWH/M3)	30.8	30.7	30.2	29.3	26.8
E(F+0.3*SECONDARY)/(20VT) (")	35.9	42.5	51.3	58.9	58.3

PROJECT NAME : NANENG
PROJECT ID : 2- 8- 6-19-0-1
TYPE : RESERVOIR

BASIN NAME : CAGAYAN
RIVER NAME : TANUDAN

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.70	0.58	0.58	0.58	0.53	0.53	0.53	0.48	0.48	0.48
FULL SUPPLY LEVEL (M) :	474.0	449.4	458.7	474.0	445.4	456.2	474.0	441.2	453.6	474.0
MIN. OPERATING LEVEL(M) :	418.6	375.8	403.4	430.9	375.7	405.6	435.4	375.6	407.8	439.9
POWER										
FIRM DISCHARGE (M3/S) :	16.7	16.2	16.1	16.0	15.8	15.8	15.7	15.4	15.3	15.2
PLANT PEAK DIS. (M3/S) :	67.0	64.6	64.4	64.1	63.4	63.1	62.8	61.5	61.2	60.9
AVERAGE NET HEAD (M) :	149.1	119.0	134.1	153.1	116.2	133.1	154.6	113.4	132.1	156.0
INSTALLED CAPACITY (MW) :	82.2	63.3	71.1	80.8	60.6	69.1	79.9	57.4	66.5	78.2
GUARANTEED POWER (MW) :	58.9	35.4	49.1	62.5	34.7	49.2	63.4	33.6	48.7	63.6
AVERAGE FIRM POWER (MW) :	20.6	15.8	17.8	20.2	15.2	17.3	20.0	14.4	16.6	19.5
FIRM ENERGY (MIL KWH/Y) :	180.	139.	156.	177.	133.	151.	175.	126.	146.	171.
SECONDARY ENERGY (") :	29.	30.	32.	36.	31.	34.	39.	34.	37.	43.
ANNUAL AVERAGE E-GY (") :	210.	168.	188.	213.	164.	186.	214.	160.	183.	214.
D A M										
DAM HEIGHT (M) :	178.0	153.4	162.7	178.0	149.4	160.2	178.0	145.2	157.6	178.0
EMBANKMENT VOL.(MIL M3) :	10.204	6.854	8.009	10.204	6.361	7.660	10.204	5.913	7.348	10.204
EVALUATION INDICES										
CH/V :	8674.	10670.	9668.	8297.	10953.	9738.	8124.	11096.	9671.	7869.
C/V :	52.	74.	63.	50.	79.	65.	49.	82.	66.	47.
P/(20VT+VD) :	6.6	7.0	7.0	6.5	7.1	7.0	6.4	7.1	7.0	6.3
E(FIRM)/(20VT+VD) :	14.5	15.3	15.2	14.3	15.5	15.4	14.1	15.5	15.3	13.8
E(F+SEC*0.3)/(20VT+VD) :	15.2	16.3	16.2	15.1	16.6	16.4	15.0	16.8	16.5	14.9

PROJECT NAME : MT.BOLONTOC
PROJECT ID : 2- 8- 6-20-0-1
TYPE : RESERVOIR

BASIN NAME : CAGAYAN
RIVER NAME : PASIL

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.68	0.43	0.43	0.43	0.33	0.33	0.33	0.23	0.23	0.23
FULL SUPPLY LEVEL (M) :	663.0	614.3	632.8	663.0	601.7	625.0	663.0	586.5	617.3	663.0
MIN. OPERATING LEVEL(M) :	588.7	527.8	574.9	622.1	527.8	580.3	632.9	527.8	585.4	643.1
POWER										
FIRM DISCHARGE (M3/S) :	8.2	7.3	7.3	7.3	6.8	6.8	6.8	5.8	5.8	5.7
PLANT PEAK DIS. (M3/S) :	16.4	14.6	14.6	14.5	13.6	13.6	13.5	11.6	11.6	11.5
AVERAGE NET HEAD (M) :	187.0	135.0	162.5	197.7	127.2	159.6	201.6	117.9	156.9	205.6
INSTALLED CAPACITY (MW) :	25.3	16.3	19.5	23.6	14.3	17.8	22.4	11.3	14.9	19.4
GUARANTEED POWER (MW) :	17.7	8.9	14.2	19.4	8.3	13.8	19.2	7.2	12.3	17.3
AVERAGE FIRM POWER (MW) :	12.7	8.1	9.7	11.8	7.1	8.9	11.2	5.7	7.5	9.7
FIRM ENERGY (MIL KWH/Y) :	111.	71.	85.	103.	63.	78.	98.	50.	65.	85.
SECONDARY ENERGY (") :	12.	15.	16.	19.	16.	19.	23.	20.	24.	31.
ANNUAL AVERAGE E-GY (") :	123.	86.	102.	123.	79.	97.	121.	69.	90.	116.
D A M										
DAM HEIGHT (M) :	226.0	177.3	195.8	226.0	164.7	188.0	226.0	149.5	180.3	226.0
EMBANKMENT VOL.(MIL M3) :	50.570	26.901	34.621	50.570	22.308	31.226	50.570	17.457	28.024	50.570
EVALUATION INDICES										
CR/V :	1086.	1405.	1206.	956.	1464.	1196.	891.	1446.	1090.	759.
C/V :	5.	9.	7.	5.	10.	7.	4.	11.	7.	4.
P/(20VT+VD) :	0.5	0.6	0.5	0.4	0.6	0.5	0.4	0.6	0.5	0.4
E(FIRM)/(20VT+VD) :	2.1	2.4	2.3	2.0	2.5	2.3	1.9	2.5	2.2	1.6
E(F+SEC*0.3)/(20VT+VD) :	2.2	2.6	2.4	2.1	2.7	2.5	2.0	2.8	2.4	1.8

PROJECT NAME : LOWER PASIL
PROJECT ID : 2- 8- 6-21-0-1
TYPE : RESERVOIR

BASIN NAME : CAGAYAN
RIVER NAME : PASIL

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.70	0.43	0.43	0.43	0.38	0.38	0.38	0.33	0.33	0.33
FULL SUPPLY LEVEL (M) :	498.0	453.9	473.0	498.0	448.2	469.7	498.0	441.9	466.4	498.0
MIN. OPERATING LEVEL(M) :	425.4	383.9	421.7	459.5	383.8	424.2	464.7	383.8	426.5	469.5
POWER										
FIRM DISCHARGE (M3/S) :	11.1	9.8	9.8	9.7	9.5	9.5	9.4	9.2	9.1	9.1
PLANT PEAK DIS. (M3/S) :	66.6	59.0	58.8	58.5	57.0	56.8	56.4	55.0	54.8	54.4
AVERAGE NET HEAD (M) :	144.8	102.1	127.0	155.8	98.2	125.7	157.5	94.0	124.2	159.1
INSTALLED CAPACITY (MW) :	79.4	49.6	61.4	75.0	46.1	58.7	73.2	42.6	56.0	71.3
GUARANTEED POWER (MW) :	50.3	25.6	42.8	59.7	24.7	42.4	59.9	23.8	41.9	59.8
AVERAGE FIRM POWER (MW) :	13.2	8.3	10.2	12.5	7.7	9.8	12.2	7.1	9.3	11.9
FIRM ENERGY (MIL KWH/Y) :	116.	72.	90.	110.	67.	86.	107.	62.	82.	104.
SECONDARY ENERGY (") :	21.	25.	29.	35.	27.	32.	38.	27.	34.	42.
ANNUAL AVERAGE E-GY (") :	137.	98.	119.	145.	94.	117.	145.	90.	115.	146.
D A M										
DAM HEIGHT (M) :	178.0	133.9	153.0	178.0	128.2	149.7	178.0	121.9	146.4	178.0
EMBANKMENT VOL.(MIL M3) :	12.343	5.665	8.102	12.343	5.062	7.617	12.343	4.442	7.177	12.343
EVALUATION INDICES										
CH/V :	4792.	6863.	5494.	4201.	7082.	5516.	4054.	7383.	5512.	3906.
C/V :	28.	56.	38.	25.	59.	39.	24.	65.	40.	23.
P/(20VT+VD) :	5.7	6.9	6.4	5.4	7.0	6.4	5.3	7.2	6.5	5.2
E(FIRM)/(20VT+VD) :	8.3	10.1	9.3	7.9	10.3	9.4	7.7	10.5	9.4	7.5
E(F+SEC*0.3)/(20VT+VD) :	8.8	11.2	10.3	8.7	11.5	10.4	8.6	11.9	10.6	8.4

PROJECT NAME : PASIL
PROJECT ID : 2- 8- 6-22-0-2
TYPE : RUN-OF-RIVER

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS		CASE 1	2	3	4	5
HEAD PONDAGE						
OUTPUT FACTOR	:	0.966	0.900	0.800	0.700	0.649
FULL SUPPLY LEVEL (M)	:	848.6	848.8	849.1	849.5	849.6
NORMAL OPERATING LEVEL(M)	:	847.7	848.0	848.3	848.6	848.8
MINIMUM OPERATING LEVEL (M)	:	846.9	847.1	847.4	847.7	847.9
DIVERSION WEIR HEIGHT INC. 3M F-B	:	6.6	6.8	7.1	7.5	7.6
WATER DEPTH AT TRASHRACK (M)	:	3.6	3.8	4.1	4.5	4.6
CHANNEL WIDTH AT TRASHRACK (M)	:	3.4	4.4	5.7	7.0	7.7
PONDAGE STORAGE VOLUME (1000 M3)	:	53.8	57.4	62.1	67.0	69.7
WATERWAY						
NUMBER OF WATERWAY	:	1	1	1	1	1
INSIDE DIAMETER OF HEADRACE (M)	:	1.8	1.8	1.8	2.1	2.2
HEADRACE TUNNEL LENGTH (M)	:	9330.0	9330.0	9330.0	9330.0	9330.0
INSIDE DIAMETER OF PENSTOCK (M)	:	1.3	1.3	1.3	1.5	1.6
PENSTOCK LENGTH (HORIZONTAL) (M)	:	700.0	700.0	700.0	700.0	700.0
EXCAVATION VOLUME (1000 M3)	:	24.9	24.9	24.9	33.4	38.6
POWER						
FIRM DISCHARGE (M3/S)	:	0.9	0.9	0.9	0.9	0.9
DEPENDABLE DISCHARGE (M3/S)	:	1.5	1.5	1.5	1.5	1.5
PLANT PEAK DISCHARGE (M3/S)	:	1.5	2.4	4.0	6.1	7.4
TAIL WATER LEVEL (M)	:	495.0	495.0	495.0	495.0	495.0
NET HEAD (M)	:	346.4	342.1	329.6	328.8	329.1
INSTALLED CAPACITY (MW)	:	4.2	6.8	10.9	16.5	20.0
DEPENDABLE PEAK POWER (MW)	:	4.3	4.2	4.1	4.1	4.1
FIRM POWER (MW)	:	2.6	2.5	2.4	2.4	2.4
GUARANTEED POWER OUTPUT (MW)	:	2.3	2.3	2.2	2.2	2.2
FIRM ENERGY/YEAR (10**6 KWH)	:	22.5	22.2	21.4	21.3	21.3
SECONDARY ENERGY/YEAR (10**6 KWH)	:	12.3	28.6	49.6	71.9	83.6
ANNUAL ENERGY (MIL KWH/YR)	:	34.7	50.8	71.0	93.2	105.0
PARAMETERS						
P(INSTALLED)/(20VT) (W/M3)	:	8.5	13.7	21.9	24.7	25.9
P(DEPENDABLE)/(20VT) (W/M3)	:	8.6	8.5	8.2	6.1	5.3
E(FIRM)/(20VT) (KWH/M3)	:	45.1	44.6	43.0	31.9	27.6
E(F+0.3*SECONDARY)/(20VT) (")	:	52.5	61.8	72.9	64.2	60.1

PROJECT NAME : TANUDAN
PROJECT ID : 2- 8- 6-23-0-2
TYPE : RUN-OF-RIVER

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS		CASE 1	2	3	4	5
HEAD PONDAGE						
OUTPUT FACTOR	:	0.966	0.900	0.800	0.700	0.649
FULL SUPPLY LEVEL (M)	:	788.9	789.2	789.6	790.0	790.2
NORMAL OPERATING LEVEL(M)	:	787.5	787.8	788.2	788.6	788.8
MINIMUM OPERATING LEVEL (M)	:	786.1	786.4	786.8	787.2	787.4
DIVERSION WEIR HEIGHT INC. 3M F-B	:	7.9	8.2	8.6	9.0	9.2
WATER DEPTH AT TRASHRACK (M)	:	4.9	5.2	5.6	6.0	6.2
CHANNEL WIDTH AT TRASHRACK (M)	:	4.4	5.6	7.2	8.9	9.8
PONDAGE STORAGE VOLUME (1000 M3)	:	73.2	77.7	83.8	90.0	93.4
WATERWAY						
NUMBER OF WATERWAY	:	1	1	1	1	1
INSIDE DIAMETER OF HEADRACE (M)	:	1.8	1.8	2.1	2.6	2.7
HEADRACE TUNNEL LENGTH (M)	:	8100.0	8100.0	8100.0	8100.0	8100.0
INSIDE DIAMETER OF PENSTOCK (M)	:	1.3	1.3	1.5	1.8	2.0
PENSTOCK LENGTH (HORIZONTAL) (M)	:	610.0	610.0	610.0	610.0	610.0
EXCAVATION VOLUME (1000 M3)	:	21.6	21.6	30.4	43.3	50.2
POWER						
FIRM DISCHARGE (M3/S)	:	1.5	1.5	1.5	1.5	1.5
DEPENDABLE DISCHARGE (M3/S)	:	2.4	2.4	2.4	2.4	2.4
PLANT PEAK DISCHARGE (M3/S)	:	2.4	3.9	6.5	9.8	11.9
TAIL WATER LEVEL (M)	:	520.0	520.0	520.0	520.0	520.0
NET HEAD (M)	:	258.6	248.7	247.4	249.5	249.9
INSTALLED CAPACITY (MW)	:	5.1	8.0	13.2	20.2	24.5
DEPENDABLE PEAK POWER (MW)	:	5.1	4.9	4.9	5.0	5.0
FIRM POWER (MW)	:	3.1	3.0	3.0	3.0	3.0
GUARANTEED POWER OUTPUT (MW)	:	2.8	2.7	2.6	2.7	2.7
FIRM ENERGY/YEAR (10**6 KWH)	:	27.0	26.0	25.9	26.1	26.1
SECONDARY ENERGY/YEAR (10**6 KWH)	:	14.8	33.7	60.3	88.2	102.8
ANNUAL ENERGY (MIL KWH/YR)	:	41.9	59.7	86.2	114.3	128.9
PARAMETERS						
P(INSTALLED)/(20VT) (W/M3)	:	11.8	18.5	21.7	23.3	24.4
P(DEPENDABLE)/(20VT) (W/M3)	:	11.9	11.5	8.1	5.7	5.0
E(FIRM)/(20VT) (KWH/M3)	:	62.7	60.3	42.6	30.1	26.0
E(F+0.3*SECONDARY)/(20VT) (")	:	73.0	83.7	72.4	60.7	56.8

PROJECT NAME : BANTAY
PROJECT ID : 2- 8- 7-24-0-1
TYPE : RESERVOIR

BASIN NAME : CAGAYAN
RIVER NAME : PARET

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.80	0.75	0.75	0.75	0.70	0.70	0.70	0.65	0.65	0.65
FULL SUPPLY LEVEL (M) :	62.0	60.3	61.1	62.0	59.4	60.8	62.0	58.4	60.4	62.0
MIN. OPERATING LEVEL(M) :	44.5	41.8	44.0	46.5	41.5	45.0	48.5	41.4	45.8	50.2
POWER										
FIRM DISCHARGE (M3/S) :	34.6	34.5	34.2	33.9	34.0	33.6	33.2	33.5	33.0	32.5
PLANT PEAK DIS. (M3/S) :	136.5	137.9	136.7	135.6	136.0	134.3	132.7	134.2	132.0	129.9
AVERAGE NET HEAD (M) :	34.9	32.8	34.2	35.6	32.2	34.3	36.2	31.5	34.3	36.8
INSTALLED CAPACITY (MW) :	39.8	37.3	38.5	39.7	36.1	37.9	39.6	34.8	37.2	39.3
GUARANTEED POWER (MW) :	25.3	22.0	24.5	26.8	21.7	25.0	28.3	21.3	25.4	29.5
AVERAGE FIRM POWER (MW) :	10.0	9.3	9.6	9.9	9.0	9.5	9.9	8.7	9.3	9.8
FIRM ENERGY (MIL KWH/Y) :	87.	82.	84.	87.	79.	83.	87.	76.	82.	85.
SECONDARY ENERGY (") :	35.	34.	36.	37.	34.	37.	39.	34.	37.	40.
ANNUAL AVERAGE E-GY (") :	123.	116.	120.	124.	113.	120.	125.	111.	119.	126.
D A M										
DAM HEIGHT (M) :	48.0	46.3	47.1	48.0	45.4	46.8	48.0	44.4	46.4	48.0
EMBANKMENT VOL.(MIL M3) :	1.386	1.281	1.334	1.386	1.227	1.311	1.386	1.167	1.287	1.386
EVALUATION INDICES										
CH/V :	32124.	33138.	32261.	31439.	33350.	31923.	30754.	33693.	31626.	30089.
C/V :	788.	848.	808.	771.	874.	808.	755.	907.	809.	739.
P/(20VT+VD) :	14.7	14.3	14.5	14.7	14.2	14.5	14.7	14.1	14.4	14.7
E(FIRM)/(20VT+VD) :	32.2	31.4	31.9	32.2	31.1	31.7	32.2	30.8	31.5	32.1
E(F+SEC*0.3)/(20VT+VD) :	36.2	35.4	35.9	36.4	35.2	35.9	36.5	35.0	35.9	36.6

PROJECT NAME : DABBA
PROJECT ID : 2- 8- 8-25-0-1
TYPE : RESERVOIR

BASIN NAME : CAGAYAN
RIVER NAME : PIN.TUGUEGARAO

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.62	0.57	0.57	0.57	0.52	0.52	0.52	0.47	0.47	0.47
FULL SUPPLY LEVEL (M) :	117.0	99.4	107.3	117.0	96.4	105.8	117.0	93.4	104.1	117.0
MIN. OPERATING LEVEL(M) :	82.5	58.2	72.0	85.8	58.0	73.5	89.0	57.8	74.9	92.0
POWER										
FIRM DISCHARGE (M3/S) :	27.8	27.3	27.2	27.0	26.3	26.2	26.1	25.4	25.2	25.1
PLANT PEAK DIS. (M3/S) :	111.3	108.0	108.6	108.2	105.2	104.8	104.3	101.5	100.9	100.4
AVERAGE NET HEAD (M) :	65.8	46.2	56.0	56.9	44.2	55.4	67.9	42.1	54.8	66.9
INSTALLED CAPACITY (MW) :	60.3	41.5	50.0	59.6	38.3	47.8	58.3	35.2	45.5	56.9
GUARANTEED POWER (MW) :	37.4	16.0	27.6	39.1	15.3	27.9	40.3	14.7	28.0	41.1
AVERAGE FIRM POWER (MW) :	15.1	10.4	12.5	14.9	9.6	12.0	14.6	8.8	11.4	14.2
FIRM ENERGY (MIL KWH/Y) :	132.	91.	110.	130.	84.	105.	128.	77.	100.	125.
SECONDARY ENERGY (") :	54.	44.	50.	58.	45.	52.	62.	45.	54.	66.
ANNUAL AVERAGE E-GY (") :	186.	135.	160.	188.	129.	157.	189.	122.	154.	190.
D A M										
DAM HEIGHT (M) :	85.0	67.4	75.3	85.0	64.4	73.8	85.0	61.4	72.1	85.0
EMBANKMENT VOL.(MIL M3) :	4.409	2.481	3.259	4.409	2.215	3.083	4.409	1.960	2.900	4.409
EVALUATION INDICES										
CH/V :	15388.	20778.	17806.	14954.	21346.	17728.	14407.	22037.	17707.	13862.
C/V :	199.	346.	263.	193.	375.	268.	186.	408.	274.	180.
P/(20VT+VD) :	10.3	10.7	10.7	10.2	10.6	10.7	10.0	10.5	10.6	9.8
E(FIRM)/(20VT+VD) :	22.7	23.4	23.5	22.4	23.2	23.4	22.0	23.1	23.3	21.5
E(F+SEC*0.3)/(20VT+VD) :	25.5	26.8	26.7	25.4	26.9	26.9	25.2	27.1	27.1	24.9

PROJECT NAME : DALAYA
PROJECT ID : 2- 8- 8-26-0-1
TYPE : RESERVOIR

BASIN NAME : CAGAYAN
RIVER NAME : PIN.TUGUEGARAO

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.70	0.52	0.52	0.52	0.42	0.42	0.42	0.32	0.32	0.32
FULL SUPPLY LEVEL (M) :	245.0	208.8	222.0	245.0	198.3	215.4	245.0	186.0	208.2	245.0
MIN. OPERATING LEVEL(M) :	178.9	115.9	158.6	201.2	115.4	163.4	211.3	114.7	167.5	220.4
POWER										
FIRM DISCHARGE (M3/S) :	17.3	16.0	15.9	15.8	14.9	14.8	14.7	13.2	13.0	12.9
PLANT PEAK DIS. (M3/S) :	103.9	96.2	95.7	95.0	89.4	88.8	88.0	78.9	78.3	77.3
AVERAGE NET HEAD (M) :	149.5	105.4	128.1	157.2	98.3	125.3	160.5	89.9	121.9	163.4
INSTALLED CAPACITY (MW) :	128.0	83.5	100.9	122.9	72.3	91.6	116.2	58.4	78.5	104.0
GUARANTEED POWER (MW) :	86.0	32.8	64.4	95.3	30.2	63.1	95.2	26.2	58.2	89.1
AVERAGE FIRM POWER (MW) :	21.3	13.9	16.8	20.5	12.1	15.3	19.4	9.7	13.1	17.3
FIRM ENERGY (MIL KWH/Y) :	187.	122.	147.	179.	106.	134.	170.	85.	115.	152.
SECONDARY ENERGY (") :	74.	69.	76.	89.	72.	83.	101.	77.	93.	119.
ANNUAL AVERAGE E-GY (") :	260.	191.	224.	269.	178.	217.	271.	163.	208.	271.
D A M										
DAM HEIGHT (M) :	181.0	144.8	158.0	181.0	134.3	151.4	181.0	122.0	144.2	181.0
EMBANKMENT VOL.(MIL M3) :	16.723	8.790	11.268	16.723	7.126	9.979	16.723	5.480	8.696	16.723
EVALUATION INDICES										
CH/V :	5505.	7544.	6660.	5128.	8300.	6671.	4747.	8605.	6408.	4170.
C/V :	33.	58.	45.	30.	66.	47.	28.	76.	47.	24.
P/(20VT+VD) :	7.1	8.3	8.0	6.8	8.6	8.1	6.4	8.7	7.9	5.8
E(FIRM)/(20VT+VD) :	10.3	12.0	11.7	9.9	12.5	11.9	9.4	12.7	11.5	8.4
E(F+SEC*0.3)/(20VT+VD) :	11.5	14.1	13.5	11.4	15.1	14.1	11.1	16.1	14.3	10.4

PROJECT NAME : TUGUEGARAO
PROJECT ID : 2- 8- 8-27-0-2
TYPE : RUN-OF-RIVER

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5
HEAD PONDAGE					
OUTPUT FACTOR	0.965	0.900	0.800	0.700	0.621
FULL SUPPLY LEVEL (M)	305.1	305.4	305.8	306.2	306.5
NORMAL OPERATING LEVEL(M)	304.1	304.4	304.8	305.1	305.4
MINIMUM OPERATING LEVEL (M)	303.0	303.3	303.7	304.1	304.4
DIVERSION WEIR HEIGHT INC. 3M F-8:	7.1	7.4	7.8	8.2	8.5
WATER DEPTH AT TRASHRACK (M)	4.1	4.4	4.8	5.2	5.5
CHANNEL WIDTH AT TRASHRACK (M)	4.1	5.4	6.8	8.2	9.6
PONDAGE STORAGE VOLUME (1000 M3)	72.1	77.7	84.0	90.2	95.9
WATERWAY					
NUMBER OF WATERWAY	1	1	1	1	1
INSIDE DIAMETER OF HEADRACE (M)	1.8	1.8	2.1	2.4	2.7
HEADRACE TUNNEL LENGTH (M)	3430.0	3430.0	3430.0	3430.0	3430.0
INSIDE DIAMETER OF PENSTOCK (M)	1.3	1.3	1.6	1.8	2.1
PENSTOCK LENGTH (HORIZONTAL) (M)	250.0	250.0	250.0	250.0	250.0
EXCAVATION VOLUME (1000 M3)	9.1	9.1	11.9	15.8	20.6
POWER					
FIRM DISCHARGE (M3/S)	1.3	1.3	1.3	1.3	1.3
DEPENDABLE DISCHARGE (M3/S)	2.1	2.1	2.1	2.1	2.1
PLANT PEAK DISCHARGE (M3/S)	2.1	3.6	5.8	8.5	11.4
TAIL WATER LEVEL (M)	200.0	200.0	200.0	200.0	200.0
NET HEAD (M)	101.0	97.5	96.9	97.3	98.3
INSTALLED CAPACITY (MW)	1.8	2.9	4.6	6.8	9.2
DEPENDABLE PEAK POWER (MW)	1.8	1.7	1.7	1.7	1.7
FIRM POWER (MW)	1.1	1.0	1.0	1.0	1.0
GUARANTEED POWER OUTPUT (MW)	0.9	0.9	0.9	0.9	0.9
FIRM ENERGY/YEAR (10**6 KWH)	9.3	8.9	8.9	8.9	9.0
SECONDARY ENERGY/YEAR (10**6 KWH):	5.1	12.8	21.5	29.9	37.6
ANNUAL ENERGY (MIL KWH/YR)	14.4	21.7	30.4	38.8	46.6
PARAMETERS					
P(INSTALLED)/(20VT) (W/M3)	9.6	16.0	19.5	21.5	22.4
P(DEPENDABLE)/(20VT) (W/M3)	9.7	9.3	7.1	5.4	4.2
E(FIRM)/(20VT) (KWH/M3)	50.6	49.0	37.3	28.2	21.8
E(F+0.3*SECONDARY)/(20VT) (")	59.2	70.0	64.4	56.5	49.1

PROJECT NAME : SAN PABLO
PROJECT ID : 2- 8- 9-28-0-1
TYPE : RESERVOIR

BASIN NAME : CAGAYAN
RIVER NAME : PINACANAUAN

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.70	0.62	0.62	0.62	0.57	0.57	0.57	0.52	0.52	0.52
FULL SUPPLY LEVEL (M) :	272.0	251.0	257.8	272.0	247.4	255.3	272.0	243.6	252.8	272.0
MIN. OPERATING LEVEL(M) :	219.7	148.1	188.8	229.4	148.1	191.1	234.2	148.0	193.4	238.8
POWER										
FIRM DISCHARGE (M3/S) :	8.6	8.5	8.4	8.3	8.2	8.2	8.1	8.0	7.9	7.8
PLANT PEAK DIS. (M3/S) :	17.1	16.9	16.9	16.6	16.5	16.4	16.2	15.9	15.8	15.6
AVERAGE NET HEAD (M) :	150.9	113.7	131.5	154.0	111.2	130.5	155.5	108.7	129.6	157.0
INSTALLED CAPACITY (MW) :	21.3	15.9	18.2	21.1	15.1	17.6	20.7	14.3	16.9	20.1
GUARANTEED POWER (MW) :	15.6	6.0	11.3	16.4	5.8	11.3	16.5	5.6	11.2	16.5
AVERAGE FIRM POWER (MW):	10.6	7.9	9.1	10.6	7.6	8.8	10.4	7.1	8.4	10.1
FIRM ENERGY (MIL KWH/Y) :	93.	69.	80.	92.	66.	77.	91.	62.	74.	88.
SECONDARY ENERGY (") :	22.	20.	21.	23.	20.	22.	25.	21.	23.	26.
ANNUAL AVERAGE E-GY (") :	115.	89.	101.	116.	86.	99.	115.	84.	97.	115.
D A M										
DAM HEIGHT (M) :	180.0	159.0	165.8	180.0	155.4	163.3	180.0	151.6	160.8	180.0
EMBANKMENT VOL.(MIL M3) :	38.927	28.717	31.798	38.927	27.143	30.614	38.927	25.510	29.523	38.927
EVALUATION INDICES										
CH/V :	1167.	1377.	1292.	1135.	1383.	1284.	1102.	1384.	1264.	1061.
C/V :	7.	9.	8.	7.	10.	8.	7.	10.	8.	6.
P/(20VT+VD) :	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
E(FIRM)/(20VT+VD) :	2.3	2.3	2.4	2.3	2.3	2.4	2.2	2.3	2.4	2.2
E(F+SEC*0.3)/(20VT+VD) :	2.5	2.5	2.6	2.5	2.5	2.6	2.4	2.6	2.6	2.4

PROJECT NAME : TUMAUINI-1
PROJECT ID : 2- 8-11-29-0-1
TYPE : RESERVOIR

BASIN NAME : CAGAYAN
RIVER NAME : PINACANAUAN DE TUMAUINI

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.67	0.57	0.57	0.57	0.52	0.52	0.52	0.47	0.47	0.47
FULL SUPPLY LEVEL (M) :	289.0	263.3	273.3	289.0	259.1	270.8	289.0	254.5	267.8	289.0
MIN. OPERATING LEVEL(M) :	234.3	176.6	211.3	245.9	176.5	213.8	251.1	176.3	216.0	255.7
POWER										
FIRM DISCHARGE (M3/S) :	10.0	9.7	9.6	9.5	9.3	9.3	9.2	9.0	8.9	8.9
PLANT PEAK DIS. (M3/S) :	59.9	57.9	57.7	57.3	56.0	55.7	55.2	54.0	53.6	53.2
AVERAGE NET HEAD (M) :	139.4	103.6	121.5	143.1	100.7	120.6	144.8	97.5	119.4	146.3
INSTALLED CAPACITY (MW) :	68.7	49.4	57.7	67.5	46.4	55.2	65.8	43.3	52.7	64.0
GUARANTEED POWER (MW) :	48.3	20.8	36.2	51.3	20.0	36.0	51.7	19.2	35.7	51.7
AVERAGE FIRM POWER (MW) :	11.4	8.2	9.6	11.2	7.7	9.2	11.0	7.2	8.8	10.7
FIRM ENERGY (MIL KWH/Y) :	100.	72.	84.	98.	68.	81.	96.	63.	77.	93.
SECONDARY ENERGY (") :	40.	37.	40.	45.	38.	42.	48.	39.	44.	51.
ANNUAL AVERAGE E-GY (") :	141.	109.	124.	143.	106.	122.	144.	102.	121.	144.
D A M										
DAM HEIGHT (M) :	167.0	141.3	151.3	167.0	137.1	148.8	167.0	132.5	145.8	167.0
EMBANKMENT VOL.(MIL M3) :	14.481	8.955	10.894	14.481	8.201	10.349	14.481	7.424	9.766	14.481
EVALUATION INDICES										
CH/V :	3425.	4505.	3956.	3273.	4600.	3946.	3155.	4724.	3945.	3036.
C/V :	22.	34.	28.	21.	36.	28.	20.	38.	29.	19.
P/(20VT+VD) :	4.2	4.6	4.6	4.2	4.7	4.6	4.1	4.7	4.6	4.0
E(FIRM)/(20VT+VD) :	6.2	6.7	6.7	6.1	6.8	6.7	5.9	6.9	6.7	5.8
E(F+SEC*0.3)/(20VT+VD) :	6.9	7.8	7.6	6.9	8.0	7.7	6.8	8.2	7.8	6.7

PROJECT NAME : NATONIN
PROJECT ID : 2- 8-12-30-0-1
TYPE : RESERVOIR

BASIN NAME : CAGAYAN
RIVER NAME : SIFFU

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.88	0.85	0.85	0.85	0.75	0.75	0.75	0.65	0.65	0.65
FULL SUPPLY LEVEL (M) :	134.0	133.4	133.6	134.0	131.7	132.7	134.0	129.9	131.9	134.0
MIN. OPERATING LEVEL(M) :	109.1	108.9	109.9	110.8	108.9	111.9	114.9	108.9	114.0	119.0
POWER										
FIRM DISCHARGE (M3/S) :	7.0	7.0	7.0	6.9	6.6	6.6	6.5	6.3	6.2	6.1
PLANT PEAK DIS. (M3/S) :	14.0	13.9	13.9	13.9	13.3	13.2	13.1	12.6	12.5	12.3
AVERAGE NET HEAD (M) :	43.6	43.2	43.6	44.2	42.1	43.8	45.6	41.0	44.0	47.1
INSTALLED CAPACITY (MW) :	5.0	5.0	5.0	5.0	4.6	4.8	4.9	4.3	4.5	4.8
GUARANTEED POWER (MW) :	3.0	2.9	3.0	3.1	2.8	3.1	3.4	2.7	3.1	3.6
AVERAGE FIRM POWER (MW):	2.5	2.5	2.5	2.5	2.3	2.4	2.5	2.1	2.3	2.4
FIRM ENERGY (MIL KWH/Y) :	22.	22.	22.	22.	20.	21.	22.	19.	20.	21.
SECONDARY ENERGY (") :	7.	7.	7.	7.	7.	7.	8.	7.	8.	8.
ANNUAL AVERAGE E-GY (") :	29.	28.	29.	29.	27.	28.	29.	26.	28.	29.
D A M										
DAM HEIGHT (M) :	60.0	59.4	59.6	60.0	57.7	58.7	60.0	55.9	57.9	60.0
EMBANKMENT VOL.(MIL M3) :	2.185	2.144	2.158	2.185	2.016	2.092	2.185	1.887	2.028	2.185
EVALUATION INDICES										
CH/V :	5252.	5261.	5235.	5195.	5164.	5042.	4908.	5062.	4834.	4612.
C/V :	101.	102.	102.	100.	104.	99.	94.	105.	97.	89.
P/(20VT+VD) :	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.5
E(FIRM)/(20VT+VD) :	7.1	7.1	7.1	7.1	6.9	6.9	6.9	6.6	6.7	6.7
E(F+SEC*0.3)/(20VT+VD) :	7.7	7.7	7.8	7.8	7.6	7.6	7.7	7.4	7.5	7.5

PROJECT NAME : PASTOR
PROJECT ID : 2- 8-12-31-0-1
TYPE : RESERVOIR

BASIN NAME : CAGAYAN
RIVER NAME : SIFFU

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* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.65	0.60	0.60	0.60	0.55	0.55	0.55	0.50	0.50	0.50
FULL SUPPLY LEVEL (M) :	303.0	288.4	294.6	303.0	285.6	293.0	303.0	282.8	291.5	303.0
MIN. OPERATING LEVEL(M) :	267.1	239.1	255.0	270.9	239.1	256.7	274.2	239.1	258.4	277.6
POWER										
FIRM DISCHARGE (M3/S) :	4.9	4.8	4.8	4.7	4.7	4.6	4.6	4.4	4.4	4.3
PLANT PEAK DIS. (M3/S) :	9.7	9.6	9.5	9.5	9.3	9.3	9.2	8.9	8.8	8.7
AVERAGE NET HEAD (M) :	84.0	65.3	74.6	85.3	63.5	74.2	86.5	61.8	73.8	87.7
INSTALLED CAPACITY (MW) :	6.7	5.2	5.9	6.6	4.9	5.7	6.5	4.5	5.3	6.3
GUARANTEED POWER (MW) :	4.6	2.4	3.6	4.7	2.4	3.6	4.8	2.3	3.6	4.8
AVERAGE FIRM POWER (MW) :	3.4	2.6	2.9	3.3	2.4	2.8	3.3	2.3	2.7	3.1
FIRM ENERGY (MIL KWH/Y) :	30.	23.	26.	29.	21.	25.	29.	20.	23.	27.
SECONDARY ENERGY (") :	11.	9.	10.	11.	9.	10.	12.	10.	11.	13.
ANNUAL AVERAGE E-GY (") :	40.	32.	36.	40.	31.	35.	40.	29.	34.	40.
D A M										
DAM HEIGHT (M) :	105.0	90.4	96.6	105.0	87.6	95.0	105.0	84.8	93.5	105.0
EMBANKMENT VOL.(MIL M3) :	3.658	2.466	2.934	3.658	2.288	2.813	3.658	2.090	2.700	3.658
EVALUATION INDICES										
CH/V :	4032.	4075.	4501.	3916.	5084.	4484.	3804.	5099.	4348.	3600.
C/V :	42.	61.	51.	41.	64.	52.	40.	67.	51.	37.
P/(20VT+VD) :	1.3	1.3	1.4	1.3	1.3	1.4	1.3	1.3	1.3	1.2
E(FIRM)/(20VT+VD) :	5.9	5.9	6.0	5.8	5.9	5.9	5.7	5.7	5.7	5.5
E(F+SEC*0.3)/(20VT+VD) :	6.5	6.6	6.7	6.5	6.6	6.7	6.4	6.6	6.6	6.2

PROJECT NAME : TABUK
PROJECT ID : 2- 8-13-32-0-1
TYPE : RESERVOIR

BASIN NAME : CAGAYAN
RIVER NAME : MALIG

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* SUMMARY TABLE OF OUTPUTS *
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ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.80	0.75	0.75	0.75	0.70	0.70	0.70	0.65	0.65	0.65
FULL SUPPLY LEVEL (M) :	146.0	143.3	144.5	146.0	142.1	143.7	146.0	140.9	142.9	146.0
MIN. OPERATING LEVEL(M) :	117.4	111.6	116.3	121.0	111.4	117.5	123.5	111.3	118.7	126.0
POWER										
FIRM DISCHARGE (M3/S) :	12.0	11.8	11.7	11.6	11.5	11.4	11.3	11.2	11.1	10.9
PLANT PEAK DIS. (M3/S) :	71.8	70.6	70.2	69.7	68.9	68.3	67.6	67.2	66.4	65.6
AVERAGE NET HEAD (M) :	62.0	58.2	60.6	63.1	57.4	60.5	63.9	56.6	60.3	64.8
INSTALLED CAPACITY (MW) :	36.6	33.9	35.0	36.2	32.6	34.0	35.6	31.3	33.0	35.0
GUARANTEED POWER (MW) :	24.2	20.6	23.0	25.4	20.0	23.0	26.0	19.4	23.0	26.5
AVERAGE FIRM POWER (MW) :	6.1	5.6	5.8	6.0	5.4	5.7	5.9	5.2	5.5	5.8
FIRM ENERGY (MIL KWH/Y) :	53.	49.	51.	53.	48.	50.	52.	46.	48.	51.
SECONDARY ENERGY (") :	28.	27.	28.	29.	28.	29.	31.	29.	30.	32.
ANNUAL AVERAGE E-GY (") :	81.	77.	79.	82.	76.	79.	83.	74.	78.	83.
D A M										
DAM HEIGHT (M) :	79.0	76.3	77.5	79.0	75.1	76.7	79.0	73.9	75.9	79.0
EMBANKMENT VOL.(MIL M3) :	1.827	1.686	1.752	1.827	1.624	1.709	1.827	1.563	1.665	1.827
EVALUATION INDICES										
CH/V :	14769.	15154.	14748.	14324.	15074.	14537.	13897.	15002.	14326.	13470.
C/V :	207.	220.	211.	200.	223.	210.	195.	226.	210.	189.
P/(20VT+VD) :	12.0	11.7	11.8	11.9	11.5	11.7	11.7	11.3	11.5	11.6
E(FIRM)/(20VT+VD) :	17.6	17.1	17.3	17.4	16.8	17.0	17.1	16.5	16.8	16.9
E(F+SEC*0.3)/(20VT+VD) :	20.3	19.9	20.1	20.3	19.8	20.0	20.2	19.6	19.9	20.1

PROJECT NAME : BANATAO
PROJECT ID : 2- 8-13-33-0-1
TYPE : RESERVOIR

BASIN NAME : CAGAYAN
RIVER NAME : MALIG

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* SUMMARY TABLE OF OUTPUTS *
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ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.65	0.60	0.60	0.60	0.55	0.55	0.55	0.50	0.50	0.50
FULL SUPPLY LEVEL (M) :	155.0	151.1	152.9	155.0	150.1	152.2	155.0	148.6	151.5	155.0
MIN. OPERATING LEVEL(M) :	139.7	133.6	137.4	141.1	133.5	137.9	142.4	133.3	138.5	143.7
POWER										
FIRM DISCHARGE (M3/S) :	9.4	9.2	9.2	9.1	9.0	8.9	8.8	8.5	8.4	8.3
PLANT PEAK DIS. (M3/S) :	56.2	55.4	54.9	54.4	53.8	53.3	52.7	51.0	50.3	49.6
AVERAGE NET HEAD (M) :	32.9	28.4	30.8	33.4	27.6	30.5	33.8	26.6	30.2	34.2
INSTALLED CAPACITY (MW) :	15.2	12.9	13.9	15.0	12.2	13.4	14.7	11.2	12.5	14.0
GUARANTEED POWER (MW) :	10.0	7.3	8.8	10.3	7.0	8.8	10.5	6.5	8.5	10.4
AVERAGE FIRM POWER (MW):	2.5	2.2	2.3	2.5	2.0	2.2	2.4	1.9	2.1	2.3
FIRM ENERGY (MIL KWH/Y) :	22.	19.	20.	22.	18.	20.	21.	16.	18.	20.
SECONDARY ENERGY (") :	15.	14.	15.	16.	14.	15.	17.	14.	16.	18.
ANNUAL AVERAGE E-GY (") :	38.	33.	35.	38.	32.	35.	38.	31.	34.	38.
D A M										
DAM HEIGHT (M) :	45.0	41.1	42.9	45.0	40.1	42.2	45.0	38.6	41.5	45.0
EMBANKMENT VOL.(MIL M3) :	0.378	0.303	0.335	0.378	0.285	0.323	0.378	0.259	0.310	0.378
EVALUATION INDICES										
CH/V :	29663.	32840.	30980.	28734.	32972.	30605.	27810.	32837.	29472.	26171.
C/V :	780.	960.	861.	756.	994.	868.	732.	1035.	853.	689.
P/(20VT+VD) :	13.7	12.5	13.1	13.5	12.1	12.7	13.3	11.4	12.1	12.7
E(FIRM)/(20VT+VD) :	20.0	18.3	19.1	19.7	17.7	18.6	19.4	16.6	17.7	18.6
E(F+SEC*0.3)/(20VT+VD) :	24.1	22.3	23.3	24.0	21.9	23.0	23.9	21.0	22.3	23.4

PROJECT NAME : MALIANO
PROJECT ID : 2- 8-14-34-0-1
TYPE : RESERVOIR

BASIN NAME : CAGAYAN
RIVER NAME : PIN.DE ILAGAN

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* SUMMARY TABLE OF OUTPUTS *
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ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.75	0.70	0.70	0.70	0.65	0.65	0.65	0.60	0.60	0.60
FULL SUPPLY LEVEL (M) :	292.0	275.9	282.5	292.0	272.1	280.4	292.0	268.1	277.9	292.0
MIN. OPERATING LEVEL(M) :	225.9	186.7	209.7	232.7	186.5	212.7	238.9	186.3	215.4	244.5
POWER										
FIRM DISCHARGE (M3/S) :	44.2	43.3	43.1	43.0	41.9	41.7	41.5	40.4	40.2	40.0
PLANT PEAK DIS. (M3/S) :	176.6	173.2	172.6	171.9	167.4	166.8	165.9	161.7	160.9	160.0
AVERAGE NET HEAD (M) :	121.7	98.2	110.1	123.9	95.7	109.7	125.9	93.0	108.9	127.7
INSTALLED CAPACITY (MW) :	175.9	140.0	156.5	175.3	131.8	150.6	172.0	123.7	144.3	168.2
GUARANTEED POWER (MW) :	107.5	52.7	83.3	113.7	50.7	84.4	117.8	48.7	84.8	120.5
AVERAGE FIRM POWER (MW) :	44.2	35.0	39.1	43.8	33.0	37.6	43.0	30.9	36.1	42.0
FIRM ENERGY (MIL KWH/Y) :	388.	307.	343.	384.	289.	330.	377.	271.	316.	368.
SECONDARY ENERGY (") :	147.	137.	145.	156.	143.	153.	168.	148.	160.	179.
ANNUAL AVERAGE E-GY (") :	535.	444.	488.	540.	431.	483.	545.	418.	476.	548.
D A M										
DAM HEIGHT (M) :	153.0	136.9	143.5	153.0	133.1	141.4	153.0	129.1	138.9	153.0
EMBANKMENT VOL.(MIL M3) :	18.168	13.814	15.510	18.168	12.900	14.966	18.168	11.992	14.324	18.168
EVALUATION INDICES										
CH/V :	11017.	12646.	11792.	10716.	12707.	11618.	10340.	12779.	11491.	9966.
C/V :	77.	99.	88.	75.	102.	88.	72.	106.	89.	69.
P/(20VT+VD) :	8.3	8.3	8.4	8.2	8.2	8.3	8.1	8.2	8.3	7.9
E(FIRM)/(20VT+VD) :	18.2	18.1	18.4	18.0	18.1	18.3	17.7	18.0	18.2	17.4
E(F+SEC*0.3)/(20VT+VD) :	20.3	20.6	20.7	20.2	20.7	20.8	20.1	20.9	20.9	19.9

PROJECT NAME : ILAGAN-1
PROJECT ID : 2- 8-14-35-0-1
TYPE : RESERVOIR

BASIN NAME : CAGAYAN
RIVER NAME : PINACAUAN DE ILAGAN

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* SUMMARY TABLE OF OUTPUTS *
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ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.90	0.85	0.85	0.85	0.80	0.80	0.80	0.75	0.75	0.75
FULL SUPPLY LEVEL (M) :	474.0	468.0	470.4	474.0	464.9	468.3	474.0	461.8	466.1	474.0
MIN. OPERATING LEVEL(M) :	375.9	357.3	373.4	389.4	357.2	378.5	399.8	357.0	382.6	408.1
POWER										
FIRM DISCHARGE (M3/S) :	22.5	22.0	22.0	22.0	21.5	21.5	21.4	21.0	21.0	20.9
PLANT PEAK DIS. (M3/S) :	135.0	132.3	132.0	131.7	129.3	128.9	128.5	126.2	125.8	125.3
AVERAGE NET HEAD (M) :	187.6	177.5	184.4	192.0	175.4	184.6	195.4	173.3	184.5	198.1
INSTALLED CAPACITY (MW) :	208.4	193.3	200.4	208.2	186.7	195.9	206.6	180.1	191.1	204.2
GUARANTEED POWER (MW) :	129.3	107.6	123.9	140.0	105.0	126.1	146.9	102.4	127.0	151.3
AVERAGE FIRM POWER (MW) :	34.7	32.2	33.4	34.7	31.1	32.6	34.4	30.0	31.8	34.0
FIRM ENERGY (MIL KWH/Y) :	304.	282.	293.	304.	273.	286.	302.	263.	279.	298.
SECONDARY ENERGY (") :	97.	100.	102.	104.	105.	108.	111.	110.	113.	118.
ANNUAL AVERAGE E-GY (") :	401.	382.	394.	408.	378.	394.	413.	373.	392.	416.
D A M										
DAM HEIGHT (M) :	186.0	180.0	182.4	186.0	176.9	180.3	186.0	173.8	178.1	186.0
EMBANKMENT VOL.(MIL M3) :	17.612	16.172	16.754	17.612	15.425	16.245	17.612	14.728	15.722	17.612
EVALUATION INDICES										
CH/V :	8874.	9219.	8975.	8654.	9307.	8948.	8438.	9380.	8930.	8225.
C/V :	40.	43.	41.	39.	44.	42.	38.	45.	42.	37.
P/(20VT+VD) :	10.3	10.3	10.3	10.3	10.3	10.4	10.2	10.4	10.4	10.1
E(FIRM)/(20VT+VD) :	15.0	15.0	15.1	15.0	15.1	15.1	14.9	15.2	15.2	14.7
E(F+SEC*0.3)/(20VT+VD) :	16.4	16.6	16.6	16.5	16.8	16.8	16.5	17.1	17.0	16.5

PROJECT NAME : ILAGAN-2
PROJECT ID : 2- 8-14-36-0-1
TYPE : RESERVOIR

BASIN NAME : CAGAYAN
RIVER NAME : PINACANAN DE ILAGAN

****
* SUMMARY TABLE OF OUTPUTS *
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ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.75	0.70	0.70	0.70	0.65	0.65	0.65	0.60	0.60	0.60
FULL SUPPLY LEVEL (M) :	544.0	530.3	535.3	544.0	526.9	533.2	544.0	523.5	531.0	544.0
MIN. OPERATING LEVEL(M) :	485.6	447.4	469.7	492.0	447.1	472.3	497.4	446.9	474.7	502.4
POWER										
FIRM DISCHARGE (M3/S) :	16.5	16.2	16.1	16.0	15.7	15.6	15.5	15.1	15.0	14.9
PLANT PEAK DIS. (M3/S) :	98.8	97.1	96.7	96.1	93.9	93.4	92.8	90.7	90.1	89.4
AVERAGE NET HEAD (M) :	118.3	96.8	107.4	120.4	94.4	106.8	122.2	92.1	106.2	123.8
INSTALLED CAPACITY (MW) :	96.3	77.4	85.5	95.3	73.0	82.1	93.3	68.8	78.8	91.1
GUARANTEED POWER (MW) :	61.5	31.6	48.2	64.6	30.4	48.5	66.3	29.2	48.5	67.3
AVERAGE FIRM POWER (MW):	16.0	12.9	14.2	15.9	12.2	13.7	15.6	11.5	13.1	15.2
FIRM ENERGY (MIL KWH/Y) :	141.	113.	125.	139.	107.	120.	135.	100.	115.	133.
SECONDARY ENERGY (") :	59.	56.	58.	63.	58.	61.	67.	60.	65.	72.
ANNUAL AVERAGE E-GY (") :	200.	168.	183.	202.	164.	181.	204.	160.	180.	205.
D A M										
DAM HEIGHT (M) :	147.0	133.3	138.3	147.0	129.9	136.2	147.0	126.5	134.0	147.0
EMBANKMENT VOL.(MIL M3) :	10.025	7.825	8.584	10.025	7.332	8.254	10.025	6.843	7.936	10.025
EVALUATION INDICES										
CH/V :	7140.	8114.	7652.	6943.	8147.	7561.	6698.	8194.	7458.	6454.
C/V :	52.	65.	59.	50.	67.	59.	49.	70.	60.	47.
P/(20VT+VD) :	8.1	8.0	8.2	8.1	8.0	8.2	7.9	8.0	8.1	7.7
E(FIRM)/(20VT+VD) :	11.9	11.7	12.0	11.8	11.7	12.0	11.5	11.7	11.9	11.3
E(F+SEC*0.3)/(20VT+VD) :	13.4	13.5	13.7	13.4	13.6	13.8	13.3	13.8	13.9	13.1

PROJECT NAME : DINAPIQUI
PROJECT ID : 2- 8-14-37-0-1
TYPE : RESERVOIR

BASIN NAME : CAGAYAN
RIVER NAME : DINAPIQUI

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.94	0.80	0.80	0.80	0.70	0.70	0.70	0.60	0.60	0.60
FULL SUPPLY LEVEL (M) :	546.0	541.6	543.3	546.0	538.0	540.9	546.0	534.0	538.4	546.0
MIN. OPERATING LEVEL(M) :	485.8	485.6	496.0	506.4	485.5	500.2	514.9	485.3	503.5	521.6
POWER										
FIRM DISCHARGE (M3/S) :	4.3	4.1	4.1	4.0	3.9	3.9	3.8	3.6	3.6	3.5
PLANT PEAK DIS. (M3/S) :	17.4	16.3	16.2	16.1	15.5	15.4	15.2	14.5	14.4	14.1
AVERAGE NET HEAD (M) :	408.1	403.9	408.4	413.4	400.6	407.1	415.0	397.8	407.2	419.0
INSTALLED CAPACITY (MW) :	58.3	54.3	54.6	54.9	51.2	51.7	52.1	47.5	48.1	48.7
GUARANTEED POWER (MW) :	50.1	46.9	48.0	48.9	44.5	45.9	47.1	41.5	43.2	44.6
AVERAGE FIRM POWER (MW) :	14.6	13.6	13.6	13.7	12.8	12.9	13.0	11.9	12.0	12.2
FIRM ENERGY (MIL KWH/Y) :	128.	119.	120.	120.	112.	113.	114.	104.	105.	107.
SECONDARY ENERGY (") :	32.	37.	38.	39.	41.	42.	44.	47.	48.	50.
ANNUAL AVERAGE E-GY (") :	159.	156.	157.	159.	153.	155.	158.	151.	153.	157.
D A M										
DAM HEIGHT (M) :	102.0	97.6	99.3	102.0	94.0	96.9	102.0	90.0	94.4	102.0
EMBANKMENT VOL.(MIL M3) :	4.350	3.910	4.078	4.350	3.563	3.843	4.350	3.212	3.599	4.350
EVALUATION INDICES										
CH/V :	13477.	13903.	13315.	12465.	14366.	13307.	11746.	14736.	13173.	10930.
C/V :	31.	33.	31.	29.	34.	32.	28.	36.	31.	26.
P/(20VT+VD) :	9.9	10.1	9.8	9.4	10.3	9.8	9.0	10.3	9.7	8.5
E(FIRM)/(20VT+VD) :	21.7	22.0	21.5	20.7	22.5	21.5	19.8	22.6	21.2	18.6
E(F+SEC*0.3)/(20VT+VD) :	23.3	24.1	23.6	22.6	24.9	23.9	22.1	25.7	24.1	21.2

PROJECT NAME : BALLASANG
PROJECT ID : 2- 8-15-38-0-1
TYPE : RESERVOIR

BASIN NAME : CAGAYAN
RIVER NAME : ABUAN

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.52	0.49	0.49	0.49	0.44	0.44	0.44	0.39	0.39	0.39
FULL SUPPLY LEVEL (M) :	194.0	181.9	186.5	194.0	177.2	183.7	194.0	172.3	180.8	194.0
MIN. OPERATING LEVEL(M) :	133.1	101.5	120.1	138.8	101.2	124.1	147.1	100.8	127.7	154.6
POWER										
FIRM DISCHARGE (M3/S) :	25.5	25.0	24.9	24.9	23.5	23.4	23.3	22.0	21.9	21.7
PLANT PEAK DIS. (M3/S) :	153.0	150.0	149.7	149.1	140.9	140.5	139.7	131.8	131.3	130.2
AVERAGE NET HEAD (M) :	111.6	93.2	102.4	113.4	90.0	101.8	116.1	86.6	101.0	118.5
INSTALLED CAPACITY (MW) :	140.5	115.1	126.1	139.2	104.4	117.8	133.5	93.9	109.2	127.0
GUARANTEED POWER (MW) :	85.2	46.6	68.2	89.5	43.4	68.4	92.9	40.2	67.5	94.2
AVERAGE FIRM POWER (MW):	23.4	19.2	21.0	23.2	17.4	19.6	22.2	15.6	18.2	21.2
FIRM ENERGY (MIL KWH/Y) :	205.	168.	184.	203.	152.	172.	195.	137.	159.	185.
SECONDARY ENERGY (") :	133.	125.	130.	138.	131.	138.	151.	135.	146.	163.
ANNUAL AVERAGE E-GY (") :	338.	293.	314.	342.	283.	310.	346.	272.	305.	349.
D A M										
DAM HEIGHT (M) :	141.0	128.9	133.5	141.0	124.2	130.7	141.0	119.3	127.8	141.0
EMBANKMENT VOL.(MIL M3) :	16.036	12.825	14.041	16.036	11.747	13.315	16.036	10.624	12.573	16.036
EVALUATION INDICES										
CH/V :	6612.	7378.	6975.	6443.	7270.	6749.	6030.	7195.	6517.	5619.
C/V :	50.	61.	56.	49.	63.	55.	46.	65.	55.	43.
P/(20VT+VD) :	7.5	7.4	7.6	7.4	7.3	7.4	7.2	7.1	7.2	6.8
E(FIRM)/(20VT+VD) :	11.0	10.9	11.0	10.9	10.6	10.8	10.5	10.4	10.5	10.0
E(F+SEC*0.3)/(20VT+VD) :	13.1	13.3	13.4	13.1	13.4	13.4	12.9	13.5	13.4	12.6

PROJECT NAME : ABUAN-1
PROJECT ID : 2- 8-15-39-0-1
TYPE : RESERVOIR

BASIN NAME : CAGAYAN
RIVER NAME : ABUAN

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.85	0.80	0.80	0.80	0.75	0.75	0.75	0.70	0.70	0.70
FULL SUPPLY LEVEL (M) :	284.0	274.4	278.1	284.0	271.5	276.2	284.0	268.3	274.2	284.0
MIN. OPERATING LEVEL(M) :	202.7	174.1	195.4	216.7	174.0	199.0	224.1	173.9	202.4	230.9
POWER										
FIRM DISCHARGE (M3/S) :	25.5	24.6	24.6	24.4	24.0	24.0	23.8	23.4	23.3	23.2
PLANT PEAK DIS. (M3/S) :	152.7	147.7	147.4	146.6	144.2	143.8	142.9	140.5	140.1	138.9
AVERAGE NET HEAD (M) :	149.3	133.6	142.9	153.8	131.5	142.8	156.2	129.4	142.6	158.4
INSTALLED CAPACITY (MW) :	187.6	162.4	173.4	185.6	156.2	169.1	183.7	149.7	164.4	181.1
GUARANTEED POWER (MW) :	113.8	77.2	101.5	125.2	75.3	103.1	130.2	73.2	104.0	133.9
AVERAGE FIRM POWER (MW):	31.3	27.1	28.9	30.9	26.0	28.2	30.6	24.9	27.4	30.2
FIRM ENERGY (MIL KWH/Y) :	274.	237.	253.	271.	228.	247.	268.	219.	240.	264.
SECONDARY ENERGY (") :	92.	95.	98.	102.	99.	102.	109.	103.	108.	116.
ANNUAL AVERAGE E-GY (") :	366.	332.	351.	373.	327.	349.	377.	322.	348.	380.
D A M										
DAM HEIGHT (M) :	173.0	163.4	167.1	173.0	160.5	165.2	173.0	157.3	163.2	173.0
EMBANKMENT VOL.(MIL M3) :	18.453	15.912	16.844	18.453	15.198	16.326	18.453	14.435	15.847	18.453
EVALUATION INDICES										
CH/V :	7671.	8149.	7840.	7360.	8182.	7804.	7168.	8230.	7737.	6967.
C/V :	43.	49.	46.	42.	50.	46.	41.	51.	46.	40.
P/(20VT+VD) :	8.7	8.6	8.7	8.7	8.6	8.8	8.6	8.6	8.8	8.5
E(FIRM)/(20VT+VD) :	12.8	12.6	12.8	12.6	12.6	12.8	12.5	12.6	12.8	12.4
E(F+SEC*0.3)/(20VT+VD) :	14.0	14.1	14.3	14.1	14.2	14.4	14.1	14.4	14.5	14.0

PROJECT NAME : CATALANGAN
PROJECT ID : 2- 8-16-40-0-1
TYPE : RESERVOIR

BASIN NAME : CAGAYAN
RIVER NAME : CATALANGAN

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* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.49	0.44	0.44	0.44	0.39	0.39	0.39	0.34	0.34	0.34
FULL SUPPLY LEVEL (M) :	154.0	150.1	151.7	154.0	146.6	150.1	154.0	143.1	147.9	154.0
MIN. OPERATING LEVEL(M) :	108.6	103.8	110.4	117.0	103.5	113.5	123.6	103.1	116.2	129.4
POWER										
FIRM DISCHARGE (M3/S) :	12.9	12.2	12.1	12.1	11.4	11.3	11.3	10.5	10.5	10.4
PLANT PEAK DIS. (M3/S) :	77.6	73.0	72.8	72.6	68.3	67.9	67.6	63.2	62.8	62.3
AVERAGE NET HEAD (M) :	77.8	73.6	76.9	80.5	71.2	76.8	82.6	68.7	76.1	84.5
INSTALLED CAPACITY (MW) :	49.7	44.2	46.0	48.1	40.0	42.9	46.0	35.7	39.4	43.3
GUARANTEED POWER (MW) :	28.9	24.5	28.1	31.8	22.7	27.9	33.1	20.8	27.1	33.3
AVERAGE FIRM POWER (MW) :	8.3	7.4	7.7	8.0	6.7	7.2	7.7	6.0	6.6	7.2
FIRM ENERGY (MIL KWH/Y) :	73.	65.	67.	70.	58.	63.	67.	52.	57.	63.
SECONDARY ENERGY (") :	51.	53.	54.	56.	55.	58.	60.	57.	61.	65.
ANNUAL AVERAGE E-GY (") :	124.	118.	122.	126.	114.	120.	128.	109.	118.	129.
D A M										
DAM HEIGHT (M) :	101.0	97.1	98.7	101.0	93.6	97.1	101.0	90.1	94.9	101.0
EMBANKMENT VOL.(MIL M3) :	5.872	5.333	5.561	5.872	4.852	5.332	5.872	4.424	5.025	5.872
EVALUATION INDICES										
CH/V :	6450.	6403.	6234.	6029.	6325.	5955.	5612.	6160.	5693.	5169.
C/V :	69.	72.	69.	65.	74.	67.	61.	75.	66.	56.
P/(20VT+VD) :	6.8	6.5	6.6	6.6	6.4	6.3	6.3	6.1	6.1	5.9
E(FIRM)/(20VT+VD) :	9.9	9.5	9.6	9.6	9.3	9.2	9.2	8.9	8.9	8.7
E(F+SEC*0.3)/(20VT+VD) :	12.0	11.8	11.9	11.9	11.9	11.8	11.7	11.8	11.7	11.4

PROJECT NAME : DISUSUAN
PROJECT ID : 2- 8-16-41-0-1
TYPE : RESERVOIR

BASIN NAME : CAGAYAN
RIVER NAME : DISABUNGAN

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* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.50	0.45	0.45	0.45	0.40	0.40	0.40	0.35	0.35	0.35
FULL SUPPLY LEVEL (M) :	154.0	143.7	147.6	154.0	141.0	145.7	154.0	137.9	143.7	154.0
MIN. OPERATING LEVEL(M) :	122.8	102.2	114.7	127.1	102.2	116.6	131.0	102.2	118.3	134.3
POWER										
FIRM DISCHARGE (M3/S) :	5.2	4.9	4.9	4.9	4.6	4.6	4.5	4.3	4.3	4.2
PLANT PEAK DIS. (M3/S) :	10.4	9.9	9.8	9.7	9.2	9.2	9.1	8.6	8.5	8.4
AVERAGE NET HEAD (M) :	65.6	52.2	58.8	67.1	50.4	58.3	68.5	48.5	57.6	69.6
INSTALLED CAPACITY (MW) :	5.6	4.2	4.8	5.4	3.8	4.4	5.1	3.4	4.0	4.8
GUARANTEED POWER (MW) :	3.6	1.9	2.8	3.6	1.8	2.8	3.6	1.7	2.7	3.7
AVERAGE FIRM POWER (MW) :	2.8	2.1	2.4	2.7	1.9	2.2	2.6	1.7	2.0	2.4
FIRM ENERGY (MIL KWH/Y) :	25.	19.	21.	24.	17.	19.	22.	15.	18.	21.
SECONDARY ENERGY (") :	10.	9.	10.	11.	10.	11.	12.	10.	11.	13.
ANNUAL AVERAGE E-GY (") :	35.	28.	31.	35.	27.	30.	34.	25.	29.	34.
D A M										
DAM HEIGHT (M) :	84.0	73.7	77.6	84.0	71.0	75.7	84.0	67.9	73.7	84.0
EMBANKMENT VOL.(MIL M3) :	2.469	1.801	2.037	2.469	1.641	1.918	2.469	1.472	1.800	2.469
EVALUATION INDICES										
CH/V :	5031.	5709.	5301.	4730.	5627.	5125.	4415.	5560.	4924.	4094.
C/V :	66.	86.	76.	62.	89.	75.	58.	92.	75.	54.
P/(20VT+VD) :	1.7	1.7	1.7	1.7	1.5	1.7	1.6	1.5	1.6	1.5
E(FIRM)/(20VT+VD) :	7.6	7.3	7.5	7.3	7.0	7.2	7.0	6.8	6.9	6.6
E(F+SEC*0.3)/(20VT+VD) :	8.6	8.4	8.6	8.4	8.3	8.4	8.1	8.1	8.2	7.8

PROJECT NAME : MARIANO
PROJECT ID : 2- 8-16-42-0-1
TYPE : RESERVOIR

BASIN NAME : CAGAYAN
RIVER NAME : DISABUNGAN

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.96	0.77	0.77	0.72	0.72	0.72	0.72	0.72	0.69	0.69
FULL SUPPLY LEVEL (M) :	245.0	236.1	245.0	233.6	235.5	238.2	241.4	245.0	232.3	245.0
MIN. OPERATING LEVEL(M) :	162.2	162.0	194.2	162.0	171.5	181.1	190.6	200.1	162.0	202.4
POWER										
FIRM DISCHARGE (M3/S) :	8.0	7.3	7.2	7.1	7.1	7.1	7.1	7.0	7.0	6.9
PLANT PEAK DIS. (M3/S) :	15.9	14.6	14.5	14.3	14.2	14.2	14.2	14.1	14.1	13.9
AVERAGE NET HEAD (M) :	77.8	71.8	88.2	70.2	74.7	79.6	84.8	90.3	69.4	91.1
INSTALLED CAPACITY (MW) :	10.2	8.7	10.5	8.3	8.8	9.3	9.9	10.5	8.0	10.4
GUARANTEED POWER (MW) :	2.8	2.6	6.2	2.5	3.6	4.6	5.6	6.7	2.5	6.8
AVERAGE FIRM POWER (MW) :	5.1	4.3	5.3	4.1	4.4	4.6	4.9	5.2	4.0	5.2
FIRM ENERGY (MIL KWH/Y) :	45.	38.	46.	36.	38.	41.	43.	46.	35.	46.
SECONDARY ENERGY (") :	9.	10.	12.	11.	11.	11.	12.	12.	11.	13.
ANNUAL AVERAGE E-GY (") :	54.	48.	58.	47.	49.	52.	55.	58.	46.	58.
D A M										
DAM HEIGHT (M) :	115.0	106.1	115.0	103.6	105.5	108.2	111.4	115.0	102.3	115.0
EMBANKMENT VOL.(MIL M3) :	5.270	4.269	5.270	4.005	4.210	4.489	4.851	5.270	3.873	5.270
EVALUATION INDICES										
CH/V :	5027.	5217.	4556.	5292.	5123.	4919.	4679.	4440.	5323.	4372.
C/V :	48.	54.	43.	56.	53.	50.	46.	42.	57.	42.
P/(20VT+VD) :	1.6	1.6	1.7	1.6	1.7	1.7	1.7	1.7	1.6	1.7
E(FIRM)/(20VT+VD) :	7.1	7.2	7.3	7.2	7.3	7.4	7.4	7.3	7.2	7.2
E(F+SEC*0.3)/(20VT+VD) :	7.5	7.8	7.9	7.8	8.0	8.0	8.0	7.9	7.9	7.9

PROJECT NAME : ALIMIT-1
PROJECT ID : 2- 8-19-43-0-1
TYPE : RESERVOIR

BASIN NAME : CAGAYAN
RIVER NAME : ALIMIT

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* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.75	0.70	0.70	0.70	0.65	0.65	0.65	0.60	0.60	0.60
FULL SUPPLY LEVEL (M) :	299.0	290.9	294.5	299.0	288.5	293.0	299.0	285.9	291.6	299.0
MIN. OPERATING LEVEL(M) :	253.4	236.4	247.4	258.5	236.2	249.5	262.8	236.1	251.4	266.8
POWER										
FIRM DISCHARGE (M3/S) :	14.4	14.1	14.1	14.0	13.8	13.7	13.6	13.4	13.3	13.2
PLANT PEAK DIS. (M3/S) :	86.4	84.9	84.4	84.0	82.7	82.2	81.6	80.5	79.9	79.3
AVERAGE NET HEAD (M) :	89.6	78.7	84.7	91.3	77.1	84.4	92.7	75.3	84.0	94.0
INSTALLED CAPACITY (MW) :	63.7	55.0	58.8	63.1	52.5	57.1	62.3	49.9	55.3	61.3
GUARANTEED POWER (MW) :	40.1	28.2	35.3	42.3	27.4	35.7	43.8	26.6	35.9	45.0
AVERAGE FIRM POWER (MW) :	10.6	9.2	9.8	10.5	8.7	9.5	10.4	8.3	9.2	10.2
FIRM ENERGY (MIL KWH/Y) :	93.	80.	86.	92.	77.	83.	91.	73.	81.	90.
SECONDARY ENERGY (") :	49.	47.	49.	52.	48.	51.	54.	49.	52.	57.
ANNUAL AVERAGE E-GY (") :	142.	127.	135.	144.	125.	134.	145.	121.	133.	146.
D A M										
DAM HEIGHT (M) :	113.4	105.3	108.9	113.4	102.9	107.4	113.4	100.3	106.0	113.4
EMBANKMENT VOL.(MIL M3) :	6.467	5.301	5.776	6.467	4.974	5.572	6.467	4.646	5.385	6.467
EVALUATION INDICES										
CH/V :	7359.	8155.	7710.	7153.	8255.	7664.	6949.	8370.	7601.	6746.
C/V :	70.	84.	77.	68.	87.	76.	66.	91.	78.	64.
P/(20VT+VD) :	7.7	7.7	7.7	7.6	7.7	7.7	7.5	7.7	7.7	7.4
E(FIRM)/(20VT+VD) :	11.2	11.3	11.3	11.1	11.3	11.3	11.0	11.3	11.2	10.8
E(F+SEC*0.3)/(20VT+VD) :	13.0	13.2	13.2	13.0	13.4	13.3	12.9	13.5	13.4	12.9

PROJECT NAME : ALIMIT-2
PROJECT ID : 2- 8-19-44-0-1
TYPE : RESERVOIR

BASIN NAME : CAGAYAN
RIVER NAME : ALIMIT

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.75	0.70	0.70	0.70	0.65	0.65	0.65	0.60	0.60	0.60
FULL SUPPLY LEVEL (M) :	415.0	403.3	408.3	415.0	400.3	406.4	415.0	396.9	404.3	415.0
MIN. OPERATING LEVEL(M) :	357.7	327.8	345.9	364.1	327.6	348.8	370.0	327.5	351.1	374.7
POWER										
FIRM DISCHARGE (M3/S) :	12.3	12.1	12.1	12.0	11.8	11.7	11.7	11.5	11.4	11.3
PLANT PEAK DIS. (M3/S) :	74.0	72.7	72.3	72.0	70.9	70.4	70.0	69.0	68.5	68.0
AVERAGE NET HEAD (M) :	121.5	104.0	113.2	123.6	101.9	112.9	125.5	99.7	112.2	127.0
INSTALLED CAPACITY (MW) :	74.0	62.2	67.4	73.2	59.5	65.4	72.3	56.6	63.3	71.1
GUARANTEED POWER (MW) :	48.3	30.6	40.6	50.6	29.7	41.1	52.4	28.9	41.2	53.4
AVERAGE FIRM POWER (MW) :	12.3	10.4	11.2	12.2	9.9	10.9	12.0	9.4	10.6	11.9
FIRM ENERGY (MIL KWH/Y) :	108.	91.	98.	107.	87.	96.	106.	83.	92.	104.
SECONDARY ENERGY (") :	56.	53.	55.	58.	54.	57.	61.	55.	58.	64.
ANNUAL AVERAGE E-GY (") :	164.	144.	154.	165.	141.	152.	167.	137.	151.	168.
D A M										
DAM HEIGHT (M) :	149.6	137.9	142.9	149.6	134.9	141.0	149.6	131.5	138.9	149.6
EMBANKMENT VOL.(MIL M3) :	11.664	9.418	10.371	11.664	8.919	9.996	11.664	8.352	9.596	11.664
EVALUATION INDICES										
CH/V :	4687.	5240.	4915.	4558.	5268.	4891.	4430.	5334.	4878.	4304.
C/V :	33.	41.	37.	32.	42.	37.	32.	43.	38.	31.
P/(20VT+VD) :	5.4	5.4	5.4	5.4	5.4	5.5	5.3	5.5	5.5	5.2
E(FIRM)/(20VT+VD) :	7.9	8.0	8.0	7.8	8.0	8.0	7.7	8.0	8.0	7.6
E(F+SEC*0.3)/(20VT+VD) :	9.1	9.3	9.3	9.1	9.4	9.4	9.1	9.6	9.5	9.0

PROJECT NAME : HUOAB
PROJECT ID : 2- 8-20-45-0-1
TYPE : RESERVOIR

BASIN NAME : CAGAYAN
RIVER NAME : IBULAO

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.75	0.70	0.70	0.70	0.65	0.65	0.65	0.60	0.60	0.60
FULL SUPPLY LEVEL (M) :	460.0	451.9	455.2	460.0	449.0	453.5	460.0	445.7	451.6	460.0
MIN. OPERATING LEVEL(M) :	396.6	376.5	390.3	404.1	376.3	393.6	410.9	376.1	396.4	416.6
POWER										
FIRM DISCHARGE (M3/S) :	16.6	16.3	16.3	16.2	15.9	15.8	15.7	15.5	15.4	15.3
PLANT PEAK DIS. (M3/S) :	99.8	97.8	97.5	97.1	95.3	94.9	94.4	92.8	92.3	91.7
AVERAGE NET HEAD (M) :	120.3	108.4	115.1	122.8	106.4	115.0	125.0	104.2	114.7	126.8
INSTALLED CAPACITY (MW) :	98.9	87.3	92.4	98.1	83.5	89.9	97.1	79.6	87.2	95.7
GUARANTEED POWER (MW) :	61.1	44.5	54.9	65.1	43.3	55.9	68.2	42.0	56.4	70.4
AVERAGE FIRM POWER (MW) :	16.5	14.5	15.4	16.4	13.9	15.0	16.2	13.3	14.5	16.0
FIRM ENERGY (MIL KWH/Y) :	144.	127.	135.	143.	122.	131.	142.	116.	127.	140.
SECONDARY ENERGY (") :	75.	73.	75.	79.	75.	78.	82.	76.	80.	86.
ANNUAL AVERAGE E-GY (") :	219.	201.	210.	222.	197.	209.	224.	192.	206.	226.
D A M										
DAM HEIGHT (M) :	150.3	142.2	145.5	150.3	139.3	143.8	150.3	136.0	141.9	150.3
EMBANKMENT VOL.(MIL M3) :	16.899	14.650	15.505	16.899	13.910	15.030	16.899	13.093	14.561	16.899
EVALUATION INDICES										
CH/V :	4391.	4687.	4519.	4269.	4703.	4480.	4148.	4744.	4436.	4028.
C/V :	31.	35.	33.	30.	36.	33.	29.	37.	33.	29.
P/(20VT+VD) :	5.1	5.1	5.2	5.1	5.1	5.2	5.0	5.1	5.1	5.0
E(FIRM)/(20VT+VD) :	7.5	7.5	7.5	7.4	7.5	7.5	7.3	7.5	7.5	7.3
E(F+SEC*0.3)/(20VT+VD) :	8.6	8.8	8.8	8.6	8.9	8.9	8.6	9.0	8.9	8.6

PROJECT NAME : IBULAO
PROJECT ID : 2- 8-20-46-0-2
TYPE : RUN-OF-RIVER

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5
HEAD PONDAGE					
OUTPUT FACTOR	0.969	0.900	0.800	0.700	0.641
FULL SUPPLY LEVEL (M)	812.5	812.9	813.2	813.5	813.7
NORMAL OPERATING LEVEL(M)	812.1	812.5	812.8	813.1	813.3
MINIMUM OPERATING LEVEL (M)	811.8	812.2	812.5	812.8	813.0
DIVERSION WEIR HEIGHT INC. 3M F-B	5.5	5.9	6.2	6.5	6.7
WATER DEPTH AT TRASHRACK (M)	2.5	2.9	3.2	3.5	3.7
CHANNEL WIDTH AT TRASHRACK (M)	3.1	4.6	5.9	7.1	7.9
PONDAGE STORAGE VOLUME (1000 M3)	74.7	85.8	95.3	104.5	110.6
WATERWAY					
NUMBER OF WATERWAY	1	1	1	1	1
INSIDE DIAMETER OF HEADRACE (M)	1.8	1.8	1.8	2.1	2.3
HEADRACE TUNNEL LENGTH (M)	8060.0	8060.0	8060.0	8060.0	8060.0
INSIDE DIAMETER OF PENSTOCK (M)	1.3	1.3	1.3	1.5	1.7
PENSTOCK LENGTH (HORIZONTAL) (M)	440.0	440.0	440.0	440.0	440.0
EXCAVATION VOLUME (1000 M3)	21.2	21.2	22.0	29.2	34.4
POWER					
FIRM DISCHARGE (M3/S)	0.7	0.7	0.7	0.7	0.7
DEPENDABLE DISCHARGE (M3/S)	1.2	1.2	1.2	1.2	1.2
PLANT PEAK DISCHARGE (M3/S)	1.2	2.6	4.3	6.3	7.8
TAIL WATER LEVEL (M)	540.0	540.0	540.0	540.0	540.0
NET HEAD (M)	268.0	262.8	253.2	253.7	254.1
INSTALLED CAPACITY (MW)	2.7	5.7	9.0	13.1	16.3
DEPENDABLE PEAK POWER (MW)	2.7	2.7	2.6	2.6	2.6
FIRM POWER (MW)	1.6	1.6	1.5	1.5	1.5
GUARANTEED POWER OUTPUT (MW)	1.5	1.4	1.4	1.4	1.4
FIRM ENERGY/YEAR (10**6 KWH)	14.3	14.0	13.5	13.5	13.6
SECONDARY ENERGY/YEAR (10**6 KWH)	7.7	28.2	44.6	60.4	70.3
ANNUAL ENERGY (MIL KWH/YR)	22.0	42.2	58.1	74.0	83.9
PARAMETERS					
P(INSTALLED)/(20VT) (W/M3)	6.3	13.5	20.4	22.4	23.7
P(DEPENDABLE)/(20VT) (W/M3)	6.4	6.3	5.8	4.4	3.8
E(FIRM)/(20VT) (KWH/M3)	33.7	33.0	30.7	23.2	19.7
E(F+0.3*SECONDARY)/(20VT) (")	39.1	52.9	61.1	54.2	50.4

PROJECT NAME : MATUNO-1R
PROJECT ID : 2- 8-22-47-0-2
TYPE : RUN-OF-RIVER

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5
HEAD PONDAGE					
OUTPUT FACTOR	0.969	0.900	0.800	0.700	0.641
FULL SUPPLY LEVEL (M)	755.2	755.6	755.9	756.2	756.4
NORMAL OPERATING LEVEL(M)	754.7	755.1	755.4	755.7	755.9
MINIMUM OPERATING LEVEL (M)	754.3	754.7	755.0	755.3	755.5
DIVERSION WEIR HEIGHT INC. 3M F-B	5.7	6.1	6.4	6.7	6.9
WATER DEPTH AT TRASHRACK (M)	2.7	3.1	3.4	3.7	3.9
CHANNEL WIDTH AT TRASHRACK (M)	3.2	4.7	6.0	7.2	8.0
PONDAGE STORAGE VOLUME (1000 M3)	66.8	76.3	84.3	92.0	97.2
WATERWAY					
NUMBER OF WATERWAY	1	1	1	1	1
INSIDE DIAMETER OF HEADRACE (M)	1.8	1.8	1.9	2.1	2.3
HEADRACE TUNNEL LENGTH (M)	9050.0	9050.0	9050.0	9050.0	9050.0
INSIDE DIAMETER OF PENSTOCK (M)	1.3	1.3	1.4	1.6	1.8
PENSTOCK LENGTH (HORIZONTAL) (M)	335.0	335.0	335.0	335.0	335.0
EXCAVATION VOLUME (1000 M3)	23.6	23.6	25.0	33.3	39.1
POWER					
FIRM DISCHARGE (M3/S)	0.8	0.8	0.8	0.8	0.8
DEPENDABLE DISCHARGE (M3/S)	1.3	1.3	1.3	1.3	1.3
PLANT PEAK DISCHARGE (M3/S)	1.3	2.7	4.4	6.5	8.1
TAIL WATER LEVEL (M)	600.0	600.0	600.0	600.0	600.0
NET HEAD (M)	151.8	146.1	137.6	138.1	138.4
INSTALLED CAPACITY (MW)	1.6	3.3	5.0	7.4	9.2
DEPENDABLE PEAK POWER (MW)	1.6	1.5	1.4	1.4	1.5
FIRM POWER (MW)	1.0	0.9	0.9	0.9	0.9
GUARANTEED POWER OUTPUT (MW)	0.9	0.8	0.8	0.8	0.8
FIRM ENERGY/YEAR (10**6 KWH)	8.4	8.1	7.6	7.6	7.6
SECONDARY ENERGY/YEAR (10**6 KWH)	4.5	16.2	25.1	34.0	39.6
ANNUAL ENERGY (MIL KWH/YR)	12.9	24.2	32.6	41.6	47.2
PARAMETERS					
P(INSTALLED)/(20VT) (W/M3)	3.3	7.0	10.1	11.1	11.7
P(DEPENDABLE)/(20VT) (W/M3)	3.4	3.3	2.9	2.2	1.9
E(FIRM)/(20VT) (KWH/M3)	17.7	17.1	15.2	11.4	9.7
E(F+0.3*SECONDARY)/(20VT) (")	20.6	27.4	30.2	26.8	24.9

PROJECT NAME : MATUNO-2R
PROJECT ID : 2- 8-22-48-0-2
TYPE : RUN-OF-RIVER

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5
HEAD PONDAGE					
OUTPUT FACTOR	0.969	0.900	0.800	0.700	0.641
FULL SUPPLY LEVEL (M)	802.4	802.7	802.9	803.1	803.3
NORMAL OPERATING LEVEL(M)	802.0	802.3	802.5	802.7	802.8
MINIMUM OPERATING LEVEL (M)	801.6	801.8	802.0	802.3	802.4
DIVERSION WEIR HEIGHT INC. 3M F-B	5.4	5.7	5.9	6.1	6.3
WATER DEPTH AT TRASHRACK (M)	2.4	2.7	2.9	3.1	3.3
CHANNEL WIDTH AT TRASHRACK (M)	2.2	3.3	4.2	5.1	5.6
PONDAGE STORAGE VOLUME (1000 M3)	30.3	33.6	36.4	39.1	41.0
WATERWAY					
NUMBER OF WATERWAY	1	1	1	1	1
INSIDE DIAMETER OF HEADRACE (M)	1.8	1.8	1.8	1.8	1.8
HEADRACE TUNNEL LENGTH (M)	6500.0	6500.0	6500.0	6500.0	6500.0
INSIDE DIAMETER OF PENSTOCK (M)	1.3	1.3	1.3	1.3	1.3
PENSTOCK LENGTH (HORIZONTAL) (M)	560.0	560.0	560.0	560.0	560.0
EXCAVATION VOLUME (1000 M3)	17.4	17.4	17.4	17.4	17.4
POWER					
FIRM DISCHARGE (M3/S)	0.4	0.4	0.4	0.4	0.4
DEPENDABLE DISCHARGE (M3/S)	0.6	0.6	0.6	0.6	0.6
PLANT PEAK DISCHARGE (M3/S)	0.6	1.3	2.2	3.2	4.0
TAIL WATER LEVEL (M)	520.0	520.0	520.0	520.0	520.0
NET HEAD (M)	278.8	277.8	275.3	270.5	265.6
INSTALLED CAPACITY (MW)	1.4	3.1	5.0	7.1	8.7
DEPENDABLE PEAK POWER (MW)	1.4	1.4	1.4	1.4	1.4
FIRM POWER (MW)	0.9	0.9	0.9	0.8	0.8
GUARANTEED POWER OUTPUT (MW)	0.8	0.8	0.8	0.8	0.7
FIRM ENERGY/YEAR (10**6 KWH)	7.6	7.5	7.5	7.3	7.2
SECONDARY ENERGY/YEAR (10**6 KWH)	4.1	15.1	24.6	32.8	37.4
ANNUAL ENERGY (MIL KWH/YR)	11.7	22.7	32.1	40.1	44.6
PARAMETERS					
P(INSTALLED)/(2DVT) (W/M3)	4.1	8.8	14.2	20.4	24.9
P(DEPENDABLE)/(2DVT) (W/M3)	4.1	4.1	4.1	4.0	3.9
E(FIRM)/(2DVT) (KWH/M3)	21.7	21.6	21.4	21.1	20.7
E(F+0.3*SECONDARY)/(2DVT) (")	25.2	34.6	42.6	49.2	52.8

PROJECT NAME : STA.CRUZ
PROJECT ID : 2- 8-22-49-0-1
TYPE : RESERVOIR

BASIN NAME : CAGAYAN
RIVER NAME : STA.CRUZ

****
* SUMMARY TABLE OF OUTPUTS *
****

ITEMS	CASE 1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.33	0.30	0.30	0.30	0.30	0.30	0.28	0.28	0.28	0.28
FULL SUPPLY LEVEL (M) :	434.0	432.9	433.2	433.5	433.7	434.0	431.8	432.4	433.5	434.0
MIN. OPERATING LEVEL(M) :	413.5	413.6	414.1	414.7	415.3	415.9	413.6	414.7	417.1	418.3
POWER										
FIRM DISCHARGE (M3/S) :	3.9	3.8	3.8	3.8	3.8	3.8	3.6	3.6	3.6	3.6
PLANT PEAK DIS. (M3/S) :	7.9	7.5	7.5	7.5	7.5	7.5	7.2	7.2	7.2	7.2
AVERAGE NET HEAD (M) :	38.6	37.9	38.3	38.7	39.0	39.4	37.2	38.0	39.5	40.2
INSTALLED CAPACITY (MW) :	2.5	2.4	2.4	2.4	2.4	2.4	2.2	2.2	2.3	2.4
GUARANTEED POWER (MW) :	1.5	1.5	1.5	1.5	1.6	1.6	1.4	1.5	1.6	1.7
AVERAGE FIRM POWER (MW) :	1.3	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.2	1.2
FIRM ENERGY (MIL KWH/Y) :	11.	10.	10.	11.	11.	11.	10.	10.	10.	10.
SECONDARY ENERGY (") :	9.	9.	9.	9.	9.	9.	9.	9.	9.	9.
ANNUAL AVERAGE E-GY (") :	19.	19.	19.	19.	19.	20.	18.	19.	19.	20.
D A M										
DAM HEIGHT (M) :	52.9	51.8	52.1	52.4	52.6	52.9	50.7	51.3	52.4	52.9
EMBANKMENT VOL.(MIL M3) :	3.263	3.138	3.169	3.201	3.232	3.263	3.012	3.075	3.201	3.263
EVALUATION INDICES										
CH/V :	1732.	1683.	1675.	1667.	1659.	1652.	1635.	1618.	1587.	1572.
C/V :	38.	38.	38.	37.	37.	36.	38.	37.	35.	35.
P/(20VT+VD) :	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.6	0.6
E(FIRM)/(20VT+VD) :	2.6	2.5	2.5	2.5	2.5	2.5	2.4	2.4	2.4	2.4
E(F+SEC*0.3)/(20VT+VD) :	3.2	3.1	3.1	3.1	3.1	3.1	3.0	3.0	3.1	3.1