

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

BASIN NAME : CAGAYAN
 RIVER NAME : TANUDAN

 * SUMMARY TABLE OF OUTPUTS *

RESERVOIR	CASE									
	1	2	3	4	5	6	7	8	9	10
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	176.0	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.	9666.	8297.	10953.	9738.	8124.	11096.	9671.	7869.
C/Y :	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 *

RESERVOIR	CASE									
	1	2	3	4	5	6	7	8	9	10
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	530.3	632.9	527.8	585.4	643.1
POWER										
FIRM DISCHARGE (M ³ /S) :	8.2	7.3	7.3	7.3	6.8	6.8	6.8	5.8	5.8	5.7
PLANT PEAK DIS. (M ³ /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	136.0	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.	55.	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	1	2	3	4	5	6	7	8	9	10
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 M ³) :	50.570	26.901	34.621	50.570	22.308	31.226	50.570	17.457	28.024	50.570

EVALUATION INDICES	1	2	3	4	5	6	7	8	9	10
CH/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	0.5	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	496.0	448.2	459.7	498.0	441.9	456.4	498.0
MIN. OPERATING LEVEL (M) :	425.4	383.9	421.7	459.5	383.3	424.2	464.7	383.5	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	155.6	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	3.3	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.	4034.	7383.	5512.	3906.
C/V :	28.	55.	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*Q.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
 HEAD PONDAGE

 CASE

 1 2 3 4 5

OUTPUT FACTOR : 0.966 0.900 0.800 0.700 0.649
 FULL SUPPLY LEVEL (M) : 846.6 846.8 849.1 849.5 849.6
 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 83.5
 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- 3- 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	788.6
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- 6- 7-24-0-1
 TYPE : RESERVOIR

BASIN NAME : CAGAYAN
 RIVER NAME : PARET

 * SUMMARY TABLE OF OUTPUTS *

RESERVOIR	CASE									
	1	2	3	4	5	6	7	8	9	10
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	41.6	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.	86.
SECONDARY ENERGY (%) :	35.	34.	36.	37.	34.	37.	39.	34.	37.	40.
ANNUAL AVERAGE E-CY (%) :	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. 648. 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 *

CASE

RESERVOIR	1	2	3	4	5	6	7	8	9	10
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	109.0	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	66.9	44.2	55.4	67.9	42.1	54.8	58.9
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.	186.	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	3.255	4.409	2.215	3.083	4.409	1.950	2.900	4.409

EVALUATION INDICES

CH/V :	15388.	20778.	17806.	14954.	21346.	17728.	14407.	22037.	17707.	13862.
C/V :	199.	346.	269.	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	10.5	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- 9- 8-26-0-1
 TYPE : RESERVOIR

BASIN NAME : CAGAYAN
 RIVER NAME : PIN.TUGUEGARAO

 * SUMMARY TABLE OF OUTPUTS *

RESERVOIR	CASE									
	1	2	3	4	5	6	7	8	9	10
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	208.0	222.0	245.0	198.3	215.4	245.0	186.0	208.2	245.0
MIN. OPERATING LEVEL (M) :	178.9	115.9	158.5	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	76.5	104.0
GUARANTEED POWER (MW) :	86.0	32.9	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.	63.	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	156.0	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	8.695	16.723

EVALUATION INDICES

CH/V :	5605.	7844.	6660.	5123.	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	8.5	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-B:	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)	50.8	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 *

CASE

RESERVOIR	1	2	3	4	5	6	7	8	9	10
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. (MB/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.	71.	80.	92.	66.	77.	91.	62.	74.	86.
SECONDARY ENERGY (") :	22.	20.	21.	23.	20.	22.	25.	21.	23.	25.
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

CR/V :	1167.	1377.	1292.	1135.	1383.	1284.	1102.	1364.	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 TUMAUNINI

 * SUMMARY TABLE OF OUTPUTS *

CASE

RESERVOIR	1	2	3	4	5	6	7	8	9	10
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 (M ³ /S) :	10.0	9.7	9.6	9.5	9.3	9.3	9.2	9.0	8.9	8.9
PLANT PEAK DIS. (M ³ /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-CY (") :	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 M ³) :	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(F(RM))/(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 *

RESERVOIR	CASE									
	1	2	3	4	5	6	7	8	9	10
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	108.3	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	4.6	4.9	4.3	4.5	4.3
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.	5082.	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	7.5	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 : SIFU

 * 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.	35.	40.	31.	35.	40.	29.	34.	40.
D A M										
DAM HEIGHT (M) :	105.0	90.4	95.6	105.0	87.6	95.0	105.0	84.8	93.5	105.0
EMBANKMENT VOL. (MIL M3) :	3.658	2.486	2.934	3.650	2.288	2.813	3.658	2.090	2.700	3.658
EVALUATION INDICES										
CH/V :	4032.	4975.	4501.	3918.	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

 * SUMMARY TABLE OF OUTPUTS *

RESERVOIR	CASE									
	1	2	3	4	5	6	7	8	9	10
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	56.5	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

CR/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
EF (RM)/(20VT+VD) :	17.5	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

 * SUMMARY TABLE OF OUTPUTS *

CASE

RESERVOIR	1	2	3	4	5	6	7	8	9	10
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.	860.	732.	1035.	853.	685.
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

 * 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) :	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	230.9	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) :	176.9	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	88.3	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.	475.	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

 * SUMMARY TABLE OF OUTPUTS *

CASE

ITEMS	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	465.0	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	369.4	357.2	378.5	399.8	357.0	362.6	403.1
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	199.1
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.	8943.	8438.	9380.	8930.	8225.
C/V	40.	45.	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 : PINACUAN DE ILAGAN

 * SUMMARY TABLE OF OUTPUTS *

RESERVOIR	CASE									
	1	2	3	4	5	6	7	8	9	10
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) :	405.6	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.	136.	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.	7552.	6943.	8147.	7551.	6693.	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	409.9	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	51.47.5	48.1	48.7
GUARANTEED POWER (MW) :	50.1	46.9	40.0	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.	25.
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+SECR0.3)/(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 *

RESERVOIR ITEMS	CASE									
	1	2	3	4	5	6	7	8	9	10
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	138.6	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.	166.	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.	7978.	6975.	6443.	7270.	6749.	6030.	7195.	6517.	5619.
C/V :	50.	61.	56.	48.	63.	55.	46.	65.	55.	43.
P/(20VT+VD) :	7.5	7.4	7.8	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 *

RESERVOIR	CASE									
	1	2	3	4	5	6	7	8	9	10
RESERVOIR DEVELOP. COEF :	0.88	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	153.6	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.	269.	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.	360.
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.	45.	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- 8-15-40-0-1
 TYPE : RESERVOIR

BASIN NAME : CAGAYAN
 RIVER NAME : CATALANGAN

 * SUMMARY TABLE OF OUTPUTS *

RESERVOIR	CASE									
	1	2	3	4	5	6	7	8	9	10
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-CY (") :	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	5.393	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

 * SUMMARY TABLE OF OUTPUTS *

RESERVOIR	CASE									
	1	2	3	4	5	6	7	8	9	10
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	3.9	1.8	2.8	3.8	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
 EMBANKMENT VOL. (MIL M3) : 2.469

EVALUATION INDICES

CH/V : 5031.
 C/V : 66.
 P/(20VT+VD) : 1.7
 E(FIRM)/(20VT+VD) : 7.6
 E(F+SEC*0.3)/(20VT+VD) : 8.6

84.0 73.7 77.6 84.0 71.0 75.7 84.0 67.9 73.7 84.0
 2.469 1.801 2.037 2.469 1.641 1.918 2.469 1.472 1.800 2.469
 5031. 5709. 5301. 4730. 5627. 5325. 4415. 5560. 4924. 4094.
 66. 86. 76. 62. 89. 75. 58. 92. 75. 54.
 1.7 1.7 1.7 1.7 1.6 1.7 1.6 1.5 1.6 1.5
 7.6 7.3 7.5 7.3 7.0 7.2 7.0 6.8 6.9 6.8
 8.4 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	235.2	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) :	77.9	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.	46.	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

 * 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-CY ("") :	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.	78.	66.	91.	78.	84.
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- S-19-44-0-1
 TYPE : RESERVOIR

BASIN NAME : CAGAYAN
 RIVER NAME : ALIMIT

 * SUMMARY TABLE OF OUTPUTS *

RESERVOIR ----- CASE -----
 ITEMS 1 2 3 4 5 6 7 8 9 10

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. 4804.
 C/V : 38. 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 *

RESERVOIR	CASE									
	1	2	3	4	5	6	7	8	9	10
RESERVOIR DEVELOP. COEF :	0.75	0.70	0.70	0.70	0.65	0.65	0.65	0.60	0.60	0.50
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.	208.	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. (MILL M3) :	16.899	14.650	15.505	16.999	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	0.500	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-8	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)	151.6	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	39.5
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-8	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) / (20VT) (W/M3)	4.1	8.8	14.2	20.4	24.9
P (DEPENDABLE) / (20VT) (W/M3)	4.1	4.1	4.1	4.0	3.9
E (FIRM) / (20VT) (KWH/M3)	21.7	21.6	21.4	21.1	20.7
E (F+0.3*SECONDARY) / (20VT) (")	25.2	34.6	42.6	49.2	52.6

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 *

RESERVOIR	CASE									
	1	2	3	4	5	6	7	8	9	10
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) : 2.5 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

PROJECT NAME : PIKARIPAD
 PROJECT ID : 2- 8-26-50-0-1
 TYPE : RESERVOIR

BASIN NAME : CAGAYAN
 RIVER NAME : ADDALAM

 * SUMMARY TABLE OF OUTPUTS *

CASE

ITEMS	1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.44	0.41	0.41	0.41	0.38	0.38	0.38	0.35	0.35	0.35
FULL SUPPLY LEVEL (M) :	194.0	189.1	191.5	194.0	187.0	190.4	194.0	184.8	189.1	194.0
MIN. OPERATING LEVEL (M) :	156.3	148.4	154.5	160.6	148.2	156.1	164.0	148.0	157.6	167.3
POWER										
FIRM DISCHARGE (M3/S) :	24.8	23.9	23.8	23.8	22.9	22.8	22.8	21.9	21.8	21.7
PLANT PEAK DIS. (M3/S) :	148.7	143.4	143.0	142.6	137.6	137.0	136.5	131.6	130.9	130.2
AVERAGE NET HEAD (M) :	65.6	59.9	63.4	67.0	58.3	63.1	68.1	56.8	62.8	69.2
INSTALLED CAPACITY (MW) :	80.3	70.6	74.6	78.7	66.0	71.2	76.5	61.5	67.7	74.2
GUARANTEED POWER (MW) :	47.2	36.8	43.4	50.0	35.0	43.3	51.5	33.3	42.9	52.5
AVERAGE FIRM POWER (MW) :	13.4	11.8	12.4	13.1	11.0	11.9	12.8	10.3	11.3	12.4
FIRM ENERGY (MIL KWH/Y) :	117.	103.	109.	115.	96.	104.	112.	90.	99.	108.
SECONDARY ENERGY (") :	96.	94.	98.	101.	96.	101.	106.	97.	103.	111.
ANNUAL AVERAGE E-GY (") :	214.	197.	207.	216.	192.	205.	218.	187.	202.	219.

D A M

DAM HEIGHT (M) :	86.7	81.8	84.2	86.7	79.7	83.1	86.7	77.5	81.8	86.7
EMBANKMENT VOL. (MIL M3) :	6.852	5.980	6.407	6.852	5.589	6.202	6.852	5.197	5.969	6.852

EVALUATION INDICES

CH/V :	8919.	9251.	8883.	8548.	9216.	8662.	8181.	9188.	8446.	7801.
C/V :	114.	126.	117.	109.	129.	116.	105.	133.	115.	100.
P/(20VT+VD) :	8.6	8.3	8.4	8.4	8.2	8.2	8.2	8.0	8.0	8.0
E(FIRM)/(20VT+VD) :	12.5	12.1	12.2	12.3	11.9	12.0	12.0	11.7	11.7	11.6
E(F-SEC*0.3)/(20VT+VD) :	15.6	15.5	15.5	15.5	15.5	15.4	15.4	15.5	15.4	15.2

PROJECT NAME : DIBULUAN
 PROJECT ID : 2- 8-27-51-0-1
 TYPE : RESERVOIR

BASIN NAME : CAGAYAN
 RIVER NAME : DIBULUAN

 * SUMMARY TABLE OF OUTPUTS *

RESERVOIR	CASE									
	1	2	3	4	5	6	7	8	9	10
RESERVOIR DEVELOP. COEF :	0.68	0.63	0.63	0.63	0.58	0.58	0.58	0.53	0.53	0.53
FULL SUPPLY LEVEL (M) :	321.0	300.5	309.0	321.0	296.5	306.6	321.0	292.5	304.2	321.0
MIN. OPERATING LEVEL (M) :	265.9	221.2	246.5	271.7	221.0	249.0	277.0	220.9	251.5	282.0
POWER										
FIRM DISCHARGE (M3/S) :	9.2	8.9	8.9	8.8	8.6	8.6	8.5	8.3	8.3	8.2
PLANT PEAK DIS. (M3/S) :	54.9	53.5	53.3	53.0	51.7	51.4	51.1	49.8	49.5	49.1
AVERAGE NET HEAD (M) :	111.1	82.9	96.8	113.0	80.2	96.0	114.7	77.5	95.2	116.3
INSTALLED CAPACITY (MW) :	50.2	36.5	42.5	49.3	34.1	40.7	48.2	31.8	38.8	47.0
GUARANTEED POWER (MW) :	32.0	12.6	23.0	33.3	12.1	23.2	34.2	11.6	23.3	34.8
AVERAGE FIRM POWER (MW) :	8.4	6.1	7.1	8.2	5.7	6.8	8.0	5.3	6.5	7.8
FIRM ENERGY (MIL KWH/Y) :	73.	53.	62.	72.	50.	59.	70.	46.	57.	69.
SECONDARY ENERGY (") :	35.	31.	34.	37.	32.	35.	40.	33.	37.	42.
ANNUAL AVERAGE E-GY (") :	108.	84.	96.	109.	82.	95.	110.	79.	93.	111.

D A M

DAM HEIGHT (M) :	136.7	118.2	126.7	138.7	114.2	124.3	136.7	110.2	121.9	136.7
EMBANKMENT VOL. (MIL M3) :	7.057	4.468	5.426	7.057	4.070	5.146	7.057	3.682	4.873	7.057

EVALUATION INDICES

CH/V :	5297.	6887.	6077.	5106.	7033.	6051.	4919.	7207.	6027.	4731.
C/V :	41.	63.	52.	39.	67.	53.	38.	71.	53.	37.
P/(20VT+VD) :	5.8	6.1	6.1	5.7	6.1	6.1	5.6	6.1	6.1	5.5
E(FIRM)/(20VT+VD) :	8.5	8.9	8.9	8.4	8.9	8.9	8.2	8.9	8.8	8.0
E(F+SEC*0.3)/(20VT+VD) :	9.7	10.4	10.3	9.7	10.6	10.4	9.6	10.3	10.5	9.5

PROJECT NAME : GANIP
 PROJECT ID : 2- 8-28-53-0-2
 TYPE : RUN-OF-RIVER

 * SUMMARY TABLE OF OUTPUTS *

 CASE

ITEMS	1	2	3	4	5
HEAD PONDAGE					
OUTPUT FACTOR	0.973	0.900	0.800	0.700	0.656
FULL SUPPLY LEVEL (M)	705.4	705.7	706.0	706.3	706.4
NORMAL OPERATING LEVEL (M)	705.1	705.4	705.7	706.0	706.1
MINIMUM OPERATING LEVEL (M)	704.7	705.0	705.3	705.6	705.7
DIVERSION WEIR HEIGHT INC. 3M F-B	5.4	5.7	6.0	6.3	6.4
WATER DEPTH AT TRASHRACK (M)	2.4	2.7	3.0	3.3	3.4
CHANNEL WIDTH AT TRASHRACK (M)	2.8	4.0	5.3	6.5	7.0
PONDAGE STORAGE VOLUME (1000 M3)	59.9	67.5	75.5	82.8	85.8

 WATERWAY

NUMBER OF WATERWAY	1	1	1	1	1
INSIDE DIAMETER OF HEADRACE (M)	1.8	1.8	1.8	2.0	2.1
HEADRACE TUNNEL LENGTH (M)	3000.0	3000.0	3000.0	3000.0	3000.0
INSIDE DIAMETER OF PENSTOCK (M)	1.3	1.3	1.3	1.5	1.6
PENSTOCK LENGTH (HORIZONTAL) (M)	350.0	350.0	350.0	350.0	350.0
EXCAVATION VOLUME (1000 M3)	8.2	8.2	8.2	9.9	11.1

 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	2.0	3.5	5.3	6.1
TAIL WATER LEVEL (M)	540.0	540.0	540.0	540.0	540.0
NET HEAD (M)	162.9	161.7	158.0	156.8	157.0
INSTALLED CAPACITY (MW)	1.3	2.7	4.6	6.8	7.9
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)	7.0	7.0	6.8	6.7	6.8
SECONDARY ENERGY/YEAR (10**6 KWH)	4.0	13.1	23.0	31.5	34.8
ANNUAL ENERGY (MIL KWH/YR)	11.0	20.1	29.8	38.2	41.5

 PARAMETERS

P (INSTALLED) / (20VT) (W/M3)	8.2	16.6	28.1	34.3	35.6
P (DEPENDABLE) / (20VT) (W/M3)	8.1	8.1	7.9	6.5	5.8
E (FIRM) / (20VT) (KWH/M3)	42.8	42.5	41.5	34.0	30.5
E (F+0.3*SECONDARY) / (20VT) (")	50.1	66.5	83.7	81.7	77.6

PROJECT NAME : DAKGAN
 PROJECT ID : 2- 8-29-54-0-1
 TYPE : RESERVOIR

BASIN NAME : CAGAYAN
 RIVER NAME : CASECNAN

 * SUMMARY TABLE OF OUTPUTS *

RESERVOIR	ITEMS	CASE									
		1	2	3	4	5	6	7	8	9	10
RESERVOIR DEVELOP. COEF :	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) :	433.0	420.4	425.4	433.0	417.0	423.4	433.0	413.5	421.4	433.0
	MIN. OPERATING LEVEL (M) :	379.5	340.4	360.3	380.2	340.2	363.0	385.8	340.0	365.5	391.1
POWER	FIRM DISCHARGE (M3/S) :	28.5	28.0	27.9	27.7	27.1	26.9	26.8	26.1	26.0	25.8
	PLANT PEAK DIS. (M3/S) :	171.1	158.1	167.3	156.5	162.5	161.6	160.6	156.9	155.9	154.8
	AVERAGE NET HEAD (M) :	119.9	100.7	110.6	122.1	98.4	110.2	123.9	96.1	109.7	125.7
	INSTALLED CAPACITY (MW) :	169.0	139.4	152.3	167.3	131.7	146.6	163.9	124.1	140.8	160.2
	GUARANTEED POWER (MW) :	107.7	62.5	88.1	113.4	60.2	88.5	116.4	57.9	88.5	118.7
	AVERAGE FIRM POWER (MW) :	28.2	23.2	25.4	27.9	21.9	24.4	27.3	20.7	23.5	26.7
	FIRM ENERGY (MIL KWH/Y) :	247.	203.	222.	244.	192.	214.	239.	181.	206.	234.
	SECONDARY ENERGY (") :	104.	98.	103.	110.	103.	109.	118.	107.	115.	126.
	ANNUAL AVERAGE E-GY (") :	350.	302.	326.	354.	295.	323.	356.	288.	320.	360.

D A M	
DAM HEIGHT (M) :	148.1
EMBANKMENT VOL. (MIL M3) :	14.805

EVALUATION INDICES	
CH/V :	8492.
C/V :	61.
P/(20VT+VD) :	10.3
E(FIRM)/(20VT+VD) :	15.0
E(F+SEC*0.3)/(20VT+VD) :	16.9

PROJECT NAME : MADDELA
 PROJECT ID : 2- 8-28-55-0-1
 TYPE : RESERVOIR

BASIN NAME : CAGAYAN
 RIVER NAME : TABOYONG

 * SUMMARY TABLE OF OUTPUTS *

ITEMS	CASE									
	1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.80	0.69	0.69	0.69	0.64	0.64	0.64	0.59	0.59	0.59
FULL SUPPLY LEVEL (M) :	486.0	471.3	476.8	486.0	468.1	474.7	486.0	464.7	472.6	486.0
MIN. OPERATING LEVEL(M) :	424.7	391.3	414.7	438.1	391.3	417.2	443.1	391.3	419.5	447.7
POWER										
FIRM DISCHARGE (M3/S) :	5.5	5.3	5.2	5.2	5.1	5.0	5.0	4.9	4.9	4.8
PLANT PEAK DIS. (M3/S) :	11.0	10.5	10.4	10.4	10.2	10.1	10.0	9.8	9.7	9.7
AVERAGE NET HEAD (M) :	121.3	100.8	112.2	125.8	98.8	111.7	127.5	96.7	111.1	129.1
INSTALLED CAPACITY (MW) :	11.0	8.7	9.6	10.8	8.3	9.3	10.5	7.8	8.9	10.3
GUARANTEED POWER (MW) :	7.0	3.9	5.3	7.6	3.8	5.8	7.3	3.7	5.8	7.8
AVERAGE FIRM POWER (MW) :	5.5	4.4	4.8	5.4	4.1	4.5	5.3	3.9	4.5	5.1
FIRM ENERGY (MIL KWH/Y) :	48.	38.	42.	47.	36.	41.	46.	34.	39.	45.
SECONDARY ENERGY (%) :	11.	11.	12.	13.	12.	13.	14.	12.	13.	15.
ANNUAL AVERAGE E-GY (") :	59.	50.	54.	60.	48.	53.	60.	46.	52.	60.

D A M

DAM HEIGHT (M) :	152.0	137.3	142.8	152.0	134.1	140.7	152.0	130.7	138.6	152.0
EMBANKMENT VOL.(MIL M3) :	12.629	9.358	10.515	12.629	8.753	10.046	12.629	8.107	9.610	12.629

EVALUATION INDICES

CH/V :	1952.	2255.	2082.	1839.	2276.	2073.	1774.	2310.	2057.	1710.
C/V :	14.	18.	16.	13.	18.	16.	13.	19.	16.	12.
P/(20VT+VD) :	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.7
E(FIRM)/(20VT+VD) :	3.5	3.6	3.6	3.4	3.6	3.6	3.3	3.7	3.6	3.2
E(F+SEC*0.3)/(20VT+VD) :	3.7	3.9	3.9	3.7	4.0	3.9	3.6	4.1	4.0	3.6

PROJECT NAME : KAGIPSIPAN
 PROJECT ID : 2- 8-29-56-0-1
 TYPE : RESERVOIR

BASIN NAME : CAGAYAN
 RIVER NAME : CASECRAN

 * SUMMARY TABLE OF OUTPUTS *

RESERVOIR	CASE									
	1	2	3	4	5	6	7	8	9	10
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) :	525.0	509.9	515.9	525.0	506.2	513.6	525.0	502.4	511.2	525.0
MIN. OPERATING LEVEL (M) :	460.7	418.9	443.2	467.5	418.8	446.2	473.6	418.6	449.0	475.3
POWER										
FIRM DISCHARGE (M3/S) :	22.9	22.5	22.4	22.3	21.7	21.7	21.5	21.0	20.9	20.7
PLANT PEAK DIS. (M3/S) :	137.5	135.0	134.5	133.8	130.5	129.9	129.1	126.0	125.4	124.5
AVERAGE NET HEAD (M) :	139.9	116.2	126.1	142.1	113.7	127.6	144.0	111.1	126.9	145.9
INSTALLED CAPACITY (MW) :	158.4	129.1	141.9	156.5	122.1	136.4	153.1	115.3	131.0	149.5
GUARANTEED POWER (MW) :	104.6	58.8	84.0	108.8	56.7	84.2	111.1	54.6	83.9	112.7
AVERAGE FIRM POWER (MW) :	26.4	21.5	23.6	25.1	20.4	22.7	25.5	19.2	21.8	24.9
FIRM ENERGY (MIL KWH/Y) :	231.	189.	207.	228.	176.	199.	224.	168.	191.	218.
SECONDARY ENERGY (") :	95.	91.	95.	101.	95.	100.	109.	98.	105.	116.
ANNUAL AVERAGE E-GY (") :	327.	279.	302.	330.	273.	299.	333.	267.	297.	335.

D A M

DAM HEIGHT (M) :	171.0	155.9	161.9	171.0	152.2	159.6	171.0	148.4	157.2	171.0
EMBANKMENT VOL. (MIL M3) :	14.691	11.684	12.815	14.691	11.020	12.376	14.691	10.368	11.926	14.691

EVALUATION INDICES

CH/V :	7937.	8698.	8405.	7719.	8889.	8279.	7447.	8884.	8158.	7175.
C/V :	49.	61.	55.	48.	62.	55.	46.	64.	55.	45.
P/(20VT+VD) :	8.6	8.4	8.6	8.5	8.4	8.5	8.4	8.3	8.5	8.2
E(FIRM)/(20VT+VD) :	12.6	12.3	12.6	12.5	12.2	12.5	12.2	12.1	12.3	12.0
E(F+SEC*0.3)/(20VT+VD) :	14.2	14.1	14.3	14.1	14.2	14.4	14.0	14.2	14.4	13.9

PROJECT NAME : GADENG
 PROJECT ID : 2- 8-29-57-0-1
 TYPE : RESERVOIR

BASIN NAME : CAGAYAN
 RIVER NAME : CASECNAN

 * SUMMARY TABLE OF OUTPUTS *

RESERVOIR

 ITEMS 1 2 3 4 5 6 7 8 9 10

 CASE

RESERVOIR	1	2	3	4	5	6	7	8	9	10
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) :	555.0	541.2	546.9	555.0	537.6	544.6	555.0	533.9	542.4	555.0
MIN. OPERATING LEVEL (M) :	490.5	454.0	475.7	497.5	453.8	476.8	503.9	453.6	481.7	509.8
POWER										
FIRM DISCHARGE (M3/S) :	21.7	21.3	21.2	21.1	20.6	20.5	20.3	19.9	19.8	19.6
PLANT PEAK DIS. (M3/S) :	130.0	127.6	127.1	126.5	123.4	122.8	122.1	119.2	118.5	117.7
AVERAGE NET HEAD (M) :	130.7	109.7	120.6	133.0	107.3	120.1	135.1	104.8	119.6	137.0
INSTALLED CAPACITY (MW) :	140.0	115.3	126.2	138.5	109.0	121.4	135.8	102.8	116.6	132.7
GUARANTEED POWER (MW) :	89.4	51.6	72.9	94.0	49.7	73.4	96.7	47.9	73.5	98.6
AVERAGE FIRM POWER (MW) :	23.3	19.2	21.0	23.1	18.2	20.2	22.6	17.1	19.4	22.1
FIRM ENERGY (MIL KWH/Y) :	204.	168.	184.	202.	159.	177.	199.	150.	170.	194.
SECONDARY ENERGY (") :	85.	81.	85.	91.	85.	90.	97.	88.	94.	104.
ANNUAL AVERAGE E-GY (") :	290.	249.	269.	293.	244.	267.	296.	238.	265.	298.

D A M

DAM HEIGHT (M) :	161.4	147.6	153.3	161.4	144.0	151.0	161.4	140.3	148.8	161.4
EMBANKMENT VOL. (MIL M3) :	19.838	15.669	17.313	19.838	14.698	16.628	19.838	13.686	15.008	19.838

EVALUATION INDICES

CH/V :	5246.	5941.	5567.	5101.	5967.	5512.	4921.	6020.	5439.	4742.
C/V :	34.	43.	39.	34.	44.	39.	32.	46.	39.	31.
P/(20VT+VD) :	6.4	6.5	6.5	6.3	6.5	6.5	6.2	6.5	6.4	6.0
E(FIRM)/(20VT+VD) :	9.3	9.5	9.5	9.2	9.5	9.5	9.0	9.5	9.4	8.8
E(F+SEC*0.3)/(20VT+VD) :	10.5	10.8	10.8	10.4	11.0	10.9	10.4	11.2	11.0	10.2

PROJECT NAME : CASECAN
 PROJECT ID : 2- 8-29-58-0-2
 TYPE : RUN-OF-RIVER

 * SUMMARY TABLE OF OUTPUTS *

 CASE

ITEMS	1	2	3	4	5
HEAD PONDAGE					
OUTPUT FACTOR	0.973	0.900	0.800	0.700	0.656
FULL SUPPLY LEVEL (M)	546.5	547.0	547.5	543.0	548.2
NORMAL OPERATING LEVEL (M)	545.8	546.3	546.8	547.3	547.5
MINIMUM OPERATING LEVEL (M)	545.1	545.6	546.1	546.6	546.8
DIVERSION WEIR HEIGHT INC. 3M F-8:	6.5	7.0	7.5	8.0	8.2
WATER DEPTH AT TRASHRACK (M)	3.5	4.0	4.5	5.0	5.2
CHANNEL WIDTH AT TRASHRACK (M)	4.5	6.4	8.4	10.3	11.0
PONDAGE STORAGE VOLUME (1000 M3)	106.4	120.9	136.0	149.8	155.7

WATERWAY

NUMBER OF WATERWAY	1	1	1	1	1
INSIDE DIAMETER OF HEADRACE (M)	1.8	2.0	2.5	2.8	3.0
HEADRACE TUNNEL LENGTH (M)	5650.0	5650.0	5650.0	5650.0	5650.0
INSIDE DIAMETER OF PENSTOCK (M)	1.3	1.5	1.9	2.2	2.3
PENSTOCK LENGTH (HORIZONTAL) (M)	205.0	205.0	205.0	205.0	205.0
EXCAVATION VOLUME (1000 M3)	14.7	17.4	27.4	36.9	41.2

POWER

FIRM DISCHARGE (M3/S)	1.5	1.5	1.5	1.5	1.5
DEPENDABLE DISCHARGE (M3/S)	2.5	2.5	2.5	2.5	2.5
PLANT PEAK DISCHARGE (M3/S)	2.5	5.1	8.9	13.2	15.2
TAIL WATER LEVEL (M)	448.0	448.0	448.0	448.0	448.0
NET HEAD (M)	93.0	87.5	89.1	89.6	89.8
INSTALLED CAPACITY (MW)	1.9	3.7	6.5	9.7	11.2
DEPENDABLE PEAK POWER (MW)	1.9	1.8	1.8	1.8	1.8
FIRM POWER (MW)	1.1	1.1	1.1	1.1	1.1
GUARANTEED POWER OUTPUT (MW)	1.0	1.0	1.0	1.0	1.0
FIRM ENERGY/YEAR (10**6 KWH)	10.0	9.4	9.6	9.6	9.7
SECONDARY ENERGY/YEAR (10**6 KWH)	5.7	17.8	32.8	45.2	50.0
ANNUAL ENERGY (MIL KWH/YR)	15.7	27.2	42.2	54.8	59.6

PARAMETERS

P (INSTALLED) / (20VT) (W/M3)	6.5	10.6	11.6	13.1	13.7
P (DEPENDABLE) / (20VT) (W/M3)	6.5	5.2	3.3	2.5	2.2
E (FIRM) / (20VT) (KWH/M3)	34.0	27.1	17.4	13.0	11.7
E (F+0.3*SECONDARY) / (20VT) (")	39.8	42.5	35.3	31.4	29.9

PROJECT NAME : UPPER CASECNAN
 PROJECT ID : 2- 8-29-59-0-2
 TYPE : RUN-OF-RIVER

 * SUMMARY TABLE OF OUTPUTS *

 CASE

ITEMS	1	2	3	4	5
HEAD PONDAGE					
OUTPUT FACTOR	0.973	0.900	0.800	0.700	0.656
FULL SUPPLY LEVEL (M)	673.5	674.0	674.4	674.9	675.0
NORMAL OPERATING LEVEL (M)	672.8	673.2	673.7	674.1	674.3
MINIMUM OPERATING LEVEL (M)	672.0	672.5	673.0	673.4	673.6
DIVERSION WEIR HEIGHT INC. 3M F-B	6.5	7.0	7.4	7.9	8.0
WATER DEPTH AT TRASHRACK (M)	3.5	4.0	4.4	4.9	5.0
CHANNEL WIDTH AT TRASHRACK (M)	4.1	5.9	7.8	9.5	10.2
PONDAGE STORAGE VOLUME (1000 M3)	88.0	99.1	110.9	121.5	126.1

 WATERWAY

NUMBER OF WATERWAY	1	1	1	1	1
INSIDE DIAMETER OF HEADRACE (M)	1.8	1.8	2.3	2.7	2.8
HEADRACE TUNNEL LENGTH (M)	6800.0	6800.0	6800.0	6800.0	6800.0
INSIDE DIAMETER OF PENSTOCK (M)	1.3	1.4	1.7	2.0	2.2
PENSTOCK LENGTH (HORIZONTAL) (M)	200.0	200.0	200.0	200.0	200.0
EXCAVATION VOLUME (1000 M3)	17.6	18.6	28.1	39.6	44.2

 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)	2.2	4.4	7.6	11.3	13.1
TAIL WATER LEVEL (M)	550.0	550.0	550.0	550.0	550.0
NET HEAD (M)	118.2	110.3	110.9	112.5	112.7
INSTALLED CAPACITY (MW)	2.1	4.0	7.0	10.5	12.2
DEPENDABLE PEAK POWER (MW)	2.1	1.9	2.0	2.0	2.0
FIRM POWER (MW)	1.3	1.2	1.2	1.2	1.2
GUARANTEED POWER OUTPUT (MW)	1.1	1.0	1.0	1.1	1.1
FIRM ENERGY/YEAR (10**6 KWH)	11.0	10.2	10.3	10.4	10.4
SECONDARY ENERGY/YEAR (10**6 KWH)	6.3	19.3	35.0	48.9	54.0
ANNUAL ENERGY (MIL KWH/YR)	17.2	29.5	45.2	59.3	64.5

 PARAMETERS

P (INSTALLED)/(20VT) (W/M3)	5.9	10.7	12.4	13.3	13.8
P (DEPENDABLE)/(20VT) (W/M3)	5.9	5.2	3.5	2.5	2.2
E (FIRM)/(20VT) (KWH/M3)	31.1	27.4	18.3	13.2	11.8
E (F+0.3*SECONDARY)/(20VT) (")	36.4	43.0	36.9	31.7	30.2

PROJECT NAME : UPPER CASECNAN-2
 PROJECT ID : 2- 8-29-60-0-1
 TYPE : RESERVOIR

BASIN NAME : CAGAYAN
 RIVER NAME : CASIGNAN

 * SUMMARY TABLE OF OUTPUTS *

CASE

ITEMS 1 2 3 4 5 6 7 8 9 10

RESERVOIR

RESERVOIR DEVELOP. COEF : 0.95 0.88 0.88 0.88 0.85 0.85 0.85 0.80 0.80 0.80
 FULL SUPPLY LEVEL (M) : 795.0 793.3 794.0 795.0 792.5 793.5 795.0 791.3 792.6 795.0
 MIN. OPERATING LEVEL (M) : 731.9 731.7 739.7 747.7 731.7 742.1 752.6 731.6 745.2 756.7

POWER

FIRM DISCHARGE (M3/S) : 9.9 9.7 9.6 9.6 9.5 9.5 9.4 9.3 9.2 9.2
 PLANT PEAK DIS. (M3/S) : 39.8 38.7 38.5 38.4 37.9 37.9 37.2 37.2 37.0 36.7
 AVERAGE NET HEAD (M) : 195.2 193.8 196.8 200.1 193.1 197.1 201.5 192.0 197.3 203.2
 INSTALLED CAPACITY (MW) : 64.0 61.7 62.4 63.2 60.6 61.5 62.5 58.8 60.0 61.4
 GUARANTEED POWER (MW) : 47.8 46.3 48.5 50.7 45.6 46.4 51.2 44.4 48.0 51.5
 AVERAGE FIRM POWER (MW) : 16.0 15.4 15.6 15.8 15.1 15.4 15.6 14.7 15.0 15.3
 FIRM ENERGY (MIL KWH/Y) : 140. 135. 137. 138. 133. 135. 137. 129. 131. 134.
 SECONDARY ENERGY (") : 35. 38. 38. 39. 39. 40. 41. 42. 42. 44.
 ANNUAL AVERAGE E-GY (") : 175. 173. 175. 177. 172. 175. 178. 170. 174. 178.

D A M

DAM HEIGHT (M) : 121.0 119.3 120.0 121.0 118.5 119.5 121.0 117.3 116.6 121.0
 EMBANKMENT VOL. (MIL M3) : 6.753 6.521 6.604 6.753 6.414 6.536 6.753 6.250 6.425 6.753

EVALUATION INDICES

CH/V : 10049. 10019. 9881. 9665. 9922. 9792. 9488. 9951. 9668. 9225.
 C/V : 45. 47. 46. 45. 47. 45. 44. 47. 45. 43.
 P/(20VT+VD) : 6.5 6.5 6.5 6.5 6.4 6.5 6.4 6.4 6.4 6.4
 E(FIRM)/(20VT+VD) : 14.3 14.2 14.2 14.2 14.1 14.2 14.1 14.0 14.1 13.9
 E(F+SEC*0.3)/(20VT+VD) : 15.3 15.4 15.4 15.4 15.4 15.4 15.4 15.4 15.4 15.3

PROJECT NAME : UPPER CASECMAN-3
 PROJECT ID : 2-8-29-61-0-1
 TYPE : RESERVOIR

BASIN NAME : CAGAYAN
 RIVER NAME : CASIGNAN

 * SUMMARY TABLE OF OUTPUTS *

RESERVOIR	CASE									
	1	2	3	4	5	6	7	8	9	10
RESERVOIR DEVELOP. COEF :	0.91	0.85	0.85	0.85	0.85	0.85	0.80	0.80	0.80	0.80
FULL SUPPLY LEVEL (M) :	796.0	794.7	794.9	795.1	795.6	796.0	793.6	794.0	795.3	796.0
MIN. OPERATING LEVEL (M) :	756.6	756.5	758.3	760.0	761.8	763.6	756.4	759.3	765.1	767.9
POWER										
FIRM DISCHARGE (M3/S) :	6.4	6.7	6.7	6.6	6.6	6.6	6.5	6.5	6.5	6.4
PLANT PEAK DIS. (M3/S) :	27.4	26.6	26.6	26.6	26.5	26.5	26.0	26.0	25.9	25.7
AVERAGE NET HEAD (M) :	310.2	308.7	309.5	310.2	311.0	311.8	307.5	308.7	311.3	312.7
INSTALLED CAPACITY (MW) :	70.0	67.7	67.8	67.9	68.0	68.1	65.9	66.0	66.3	66.3
GUARANTEED POWER (MW) :	61.0	59.2	59.5	59.8	60.0	60.3	57.7	58.2	59.0	59.3
AVERAGE FIRM POWER (MW) :	17.5	16.9	16.9	17.0	17.0	17.0	16.5	16.5	16.6	16.6
FIRM ENERGY (MIL KWH/Y) :	153.	148.	148.	149.	149.	149.	144.	145.	145.	145.
SECONDARY ENERGY (%) :	40.	43.	44.	44.	44.	44.	46.	46.	47.	47.
ANNUAL AVERAGE E-GY (%) :	194.	192.	192.	192.	193.	193.	190.	191.	192.	192.

D A M	1	2	3	4	5	6	7	8	9	10
DAM HEIGHT (M) :	85.0	83.7	83.9	84.1	84.6	85.0	82.6	83.0	84.3	85.0
EMBANKMENT VOL. (MIL M3) :	4.094	3.942	3.968	3.995	4.045	4.094	3.824	3.862	4.014	4.094

EVALUATION INDICES	1	2	3	4	5	6	7	8	9	10
CH/V :	17057.	17127.	17004.	16861.	16674.	16472.	17166.	16982.	16331.	15967.
C/V :	53.	53.	53.	52.	52.	51.	54.	53.	51.	50.
P/(20VT+VD) :	9.5	9.5	9.5	9.5	9.4	9.4	9.5	9.5	9.3	9.2
E(FIRM)/(20VT+VD) :	20.9	20.9	20.8	20.8	20.7	20.6	20.8	20.8	20.4	20.2
E(F+SEC*0.3)/(20VT+VD) :	22.6	22.7	22.7	22.6	22.5	22.4	22.8	22.7	22.4	22.2

PROJECT NAME : TABOAN
 PROJECT ID : 2-32-0-1-0-1
 TYPE : RESERVOIR

BASIN NAME : TABOAN
 RIVER NAME : TABOAN

 * SUMMARY TABLE OF OUTPUTS *

RESERVOIR ITEMS	CASE									
	1	2	3	4	5	6	7	8	9	10
RESERVOIR DEVELOP. COEF :	0.92	0.67	0.67	0.67	0.62	0.62	0.62	0.57	0.57	0.57
FULL SUPPLY LEVEL (M) :	103.0	91.7	96.2	103.0	89.3	94.6	103.0	86.7	92.9	103.0
MIN. OPERATING LEVEL (M) :	36.6	36.2	51.9	67.7	36.1	53.8	71.5	35.9	55.3	74.7
POWER										
FIRM DISCHARGE (M3/S) :	20.7	19.3	19.1	19.0	19.0	18.8	18.7	18.5	18.3	18.2
PLANT PEAK DIS. (M3/S) :	82.9	77.1	76.6	76.0	76.0	75.4	74.7	74.1	73.3	72.6
AVERAGE NET HEAD (M) :	70.2	62.6	70.7	80.4	61.0	70.3	81.6	59.2	69.6	82.6
INSTALLED CAPACITY (MW) :	47.9	39.7	44.6	50.3	38.2	43.6	50.2	36.1	42.0	49.4
GUARANTEED POWER (MW) :	16.9	15.5	24.7	33.9	15.2	25.4	35.5	14.7	25.6	36.3
AVERAGE FIRM POWER (MW) :	12.0	9.9	11.1	12.6	9.5	10.9	12.5	9.0	10.5	12.3
FIRM ENERGY (MIL KWH/Y) :	105.	87.	98.	110.	84.	95.	110.	79.	92.	108.
SECONDARY ENERGY (") :	34.	36.	39.	42.	36.	39.	44.	37.	41.	47.
ANNUAL AVERAGE E-GY (") :	139.	123.	136.	153.	120.	135.	154.	116.	133.	155.

D A M

DAM HEIGHT (M) :	99.9	88.6	93.1	99.9	86.2	91.5	99.9	83.6	89.8	99.9
EMBANKMENT VOL. (MIL M3) :	5.428	4.063	4.576	5.428	3.811	4.381	5.428	3.531	4.191	5.428

EVALUATION INDICES

CH/V :	11116.	12139.	11270.	10171.	12381.	11374.	9998.	12564.	11335.	9713.
C/V :	120.	150.	132.	110.	157.	136.	109.	165.	138.	106.
P/(20VT+VD) :	7.4	7.8	8.0	7.8	7.9	8.1	7.8	8.0	8.1	7.7
E(FIRM)/(20VT+VD) :	16.2	17.1	17.5	17.1	17.3	17.7	17.1	17.4	17.7	16.8
E(F-SEC*0.3)/(20VT+VD) :	17.8	19.3	19.5	19.1	19.6	19.9	19.1	19.9	20.1	19.0

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

BASIN NAME : DIKATAYAN
 RIVER NAME : DIKATAYAN

 * SUMMARY TABLE OF OUTPUTS *

CASE

RESERVOIR	1	2	3	4	5	6	7	8	9	10
RESERVOIR DEVELOP. COEF :	0.70	0.59	0.59	0.59	0.49	0.49	0.49	0.39	0.39	0.39
FULL SUPPLY LEVEL (M) :	166.0	140.8	149.3	166.0	132.4	143.4	166.0	123.8	138.4	166.0
MIN. OPERATING LEVEL (M) :	108.9	50.0	85.6	121.2	49.6	90.2	130.7	53.0	96.1	139.2
POWER										
FIRM DISCHARGE (M3/S) :	18.5	18.0	17.9	17.8	16.8	16.7	16.5	15.6	15.4	15.3
PLANT PEAK DIS. (M3/S) :	110.9	108.0	107.3	106.6	100.7	100.0	99.0	93.4	92.6	91.5
AVERAGE NET HEAD (M) :	128.6	92.8	110.0	132.7	87.1	108.0	136.2	82.9	106.6	138.9
INSTALLED CAPACITY (MW) :	117.5	82.5	97.2	116.4	72.2	88.9	111.0	63.7	81.2	104.6
GUARANTEED POWER (MW) :	78.8	27.3	56.8	85.9	25.2	56.9	87.5	26.1	56.9	86.2
AVERAGE FIRM POWER (MW) :	19.6	13.7	16.2	19.4	12.0	14.8	18.5	10.6	13.5	17.4
FIRM ENERGY (MIL KWH/Y) :	172.	120.	142.	170.	105.	130.	162.	93.	119.	153.
SECONDARY ENERGY (%) :	68.	61.	65.	75.	65.	72.	86.	68.	78.	97.
ANNUAL AVERAGE E-GY (%) :	240.	181.	207.	245.	170.	202.	248.	161.	197.	250.

D A M

DAM HEIGHT (M) :	157.0	131.8	140.3	157.0	123.4	134.4	157.0	114.8	129.4	157.0
EMBANKMENT VOL. (MIL M3) :	14.166	9.101	10.628	14.166	7.732	9.530	14.166	6.478	8.690	14.166

EVALUATION INDICES

CH/V :	5079.	7673.	6968.	5836.	7848.	6933.	5435.	8065.	6752.	5019.
C/V :	41.	62.	53.	40.	68.	55.	37.	76.	56.	34.
P/(20VT+VD) :	7.4	7.7	8.0	7.4	7.8	8.0	7.1	8.0	8.0	6.7
E(FIRM)/(20VT+VD) :	10.9	11.3	11.6	10.8	11.3	11.7	10.3	11.6	11.6	9.7
E(F+SEC*0.3)/(20VT+VD) :	12.2	13.0	13.2	12.2	13.4	13.7	12.0	14.2	13.9	11.6

PROJECT NAME : PALANAN
 PROJECT ID : 2-47-0-1-0-1
 TYPE : RESERVOIR

BASIN NAME : PALANAN
 RIVER NAME : PINACANAUAN

 * SUMMARY TABLE OF OUTPUTS *

RESERVOIR	CASE									
	1	2	3	4	5	6	7	8	9	10
RESERVOIR DEVELOP. COEF :	0.18	0.14	0.14	0.14	0.12	0.12	0.12	0.09	0.09	0.09
FULL SUPPLY LEVEL (M) :	94.0	90.4	92.2	94.0	88.0	91.1	94.0	84.1	89.0	94.0
MIN. OPERATING LEVEL (M) :	72.6	72.0	75.5	79.0	71.6	76.6	81.5	70.9	77.9	85.0
POWER										
FIRM DISCHARGE (M ³ /S) :	9.4	8.2	8.2	8.2	7.6	7.5	7.5	6.4	6.3	6.3
PLANT PEAK DIS. (M ³ /S) :	56.4	49.2	49.1	49.0	45.3	45.2	45.0	38.2	38.0	37.7
AVERAGE NET HEAD (M) :	50.3	47.7	50.0	52.3	45.9	49.6	53.1	43.0	48.5	54.2
INSTALLED CAPACITY (MW) :	23.4	19.3	20.2	21.1	17.1	18.4	19.7	13.5	15.2	16.8
GUARANTEED POWER (MW) :	15.9	13.6	15.0	16.3	12.4	14.1	15.8	10.2	12.3	14.2
AVERAGE FIRM POWER (MW) :	3.9	3.2	3.4	3.5	2.9	3.1	3.3	2.3	2.5	2.8
FIRM ENERGY (MIL KWH/Y) :	34.	28.	29.	31.	25.	27.	29.	20.	22.	25.
SECONDARY ENERGY (%) :	31.	33.	34.	35.	34.	36.	38.	34.	38.	42.
ANNUAL AVERAGE E-GY (%) :	65.	61.	64.	66.	59.	63.	66.	54.	60.	66.

D A M

DAM HEIGHT (M) :	65.0	61.4	63.2	65.0	59.0	62.1	65.0	55.1	60.0	65.0
ENSANKMENT VOL. (MIL M3) :	1.040	0.900	0.970	1.040	0.810	0.928	1.040	0.675	0.947	1.040

EVALUATION INDICES

CH/V	16376.	15439.	14772.	14193.	15113.	13919.	13032.	14100.	12310.	10903.
C/V	285.	287.	266.	243.	294.	255.	227.	298.	236.	191.
P/(20VT+VD)	11.1	9.9	10.1	10.2	9.3	9.4	9.5	8.1	9.2	8.3
E(FIRM)/(20VT+VD)	16.2	14.5	14.7	14.6	13.6	13.8	13.9	11.8	12.0	12.1
E(F+SEC*0.3)/(20VT+VD)	20.6	19.6	19.8	19.9	19.1	19.3	19.4	17.9	18.2	18.2

PROJECT NAME : MALUPA
 PROJECT ID : 3-13-0-1-0-1
 TYPE : RESERVOIR

BASIN NAME : CABATANGAN
 RIVER NAME : MALUPA

 * SUMMARY TABLE OF OUTPUTS *

RESERVOIR	CASE										
	1	2	3	4	5	6	7	8	9	10	
RESERVOIR DEVELOP. COEF :	0.95	0.66	0.66	0.61	0.61	0.61	0.61	0.61	0.61	0.56	0.56
FULL SUPPLY LEVEL (M) :	224.0	209.3	224.0	206.1	208.8	212.6	217.5	224.0	202.9	224.0	224.0
MIN. OPERATING LEVEL (M) :	125.0	124.8	180.7	124.8	140.0	155.2	170.4	185.6	124.7	190.4	190.4
POWER											
FIRM DISCHARGE (M3/S) :	9.4	8.5	8.4	8.3	8.3	8.3	8.2	8.2	8.1	7.9	7.9
PLANT PEAK DIS. (M3/S) :	18.7	17.0	16.7	16.7	16.6	16.6	16.5	16.4	16.2	15.8	15.8
AVERAGE NET HEAD (M) :	92.2	82.3	110.2	80.2	86.9	94.4	102.6	111.8	78.0	113.3	113.3
INSTALLED CAPACITY (MW) :	14.2	11.5	15.2	11.0	11.9	12.9	13.9	15.1	10.4	14.8	14.8
GUARANTEED POWER (MW) :	3.9	3.5	10.7	3.4	5.4	7.3	9.2	11.1	3.3	11.3	11.3
AVERAGE FIRM POWER (MW) :	7.1	5.8	7.6	5.5	6.0	6.4	7.0	7.5	5.2	7.4	7.4
FIRM ENERGY (MIL KWH/Y) :	62.	51.	67.	48.	52.	56.	61.	66.	46.	65.	65.
SECONDARY ENERGY (%) :	22.	23.	25.	23.	23.	24.	25.	27.	23.	28.	28.
ANNUAL AVERAGE E-GY (%) :	84.	73.	93.	71.	75.	81.	86.	93.	68.	93.	93.

D A M	1	2	3	4	5	6	7	8	9	10	
DAM HEIGHT (M) :	136.0	121.3	136.0	116.1	120.8	124.6	129.5	136.0	114.9	136.0	136.0
EMBANKMENT VOL. (MIL M3) :	35.566	27.522	35.566	25.912	27.255	29.196	31.860	35.566	24.360	35.566	35.566

EVALUATION INDICES	1	2	3	4	5	6	7	8	9	10	
CH/V	1041.	1077.	925.	1090.	1058.	1016.	965.	904.	1090.	873.	873.
C/V	8.	10.	7.	10.	10.	9.	8.	7.	10.	7.	7.
P/(20VT+VD)	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
E(FIRM)/(20VT+VD)	1.7	1.7	1.8	1.7	1.8	1.8	1.8	1.8	1.7	1.7	1.7
E(F+SEC*0.3)/(20VT+VD)	1.6	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.0	2.0	2.0

PROJECT NAME : UMIRAY-3
 PROJECT ID : 3-23-0-1-0-1
 TYPE : RESERVOIR

BASIN NAME : UMIRAY
 RIVER NAME : UMIRAY

 * SUMMARY TABLE OF OUTPUTS *

RESERVOIR	CASE									
	1	2	3	4	5	6	7	8	9	10
RESERVOIR DEVELOP. COEF :	0.62	0.42	0.42	0.42	0.32	0.32	0.32	0.22	0.22	0.22
FULL SUPPLY LEVEL (M) :	201.0	155.2	175.4	201.0	143.2	169.1	201.0	129.4	161.7	201.0
MIN. OPERATING LEVEL (M) :	145.4	87.2	127.3	167.5	86.7	131.7	176.6	85.8	135.4	184.9
POWER										
FIRM DISCHARGE (M3/S) :	39.7	35.5	35.3	35.1	32.6	32.4	32.1	27.5	27.3	27.0
PLANT PEAK DIS. (M3/S) :	158.6	141.8	141.3	140.3	130.3	128.6	128.5	109.9	109.2	107.9
AVERAGE NET HEAD (M) :	117.7	88.5	94.9	124.8	60.3	92.0	127.7	50.8	88.2	130.2
INSTALLED CAPACITY (MW) :	153.7	80.0	110.4	144.2	64.7	96.2	135.1	46.0	79.3	115.6
GUARANTEED POWER (MW) :	100.3	25.7	69.6	112.7	23.2	68.2	112.3	18.8	60.5	101.0
AVERAGE FIRM POWER (MW) :	36.4	20.0	27.6	36.0	16.2	24.6	33.8	11.5	19.8	28.9
FIRM ENERGY (MIL KWH/Y) :	337.	175.	242.	316.	142.	215.	296.	101.	174.	253.
SECONDARY ENERGY (%) :	56.	58.	72.	90.	63.	84.	111.	70.	105.	149.
ANNUAL AVERAGE E-GY (%) :	393.	233.	313.	405.	205.	299.	407.	171.	278.	402.

D A M

DAM HEIGHT (M) :	147.0	101.2	121.4	147.0	89.2	115.1	147.0	75.4	107.7	147.0
EMBANKMENT VOL. (MIL M3) :	25.907	9.734	15.572	25.907	7.084	13.568	25.907	4.731	11.425	25.907

EVALUATION INDICES

CH/V :	6578.	10473.	7934.	5808.	11478.	7873.	5312.	11967.	7306.	4448.
C/V :	48.	115.	72.	43.	145.	75.	39.	183.	75.	33.
P/(20VT+VD) :	5.2	6.2	5.9	5.0	6.4	5.9	4.7	6.0	5.5	4.0
E(FIRM)/(20VT+VD) :	11.5	13.5	12.9	10.8	13.9	12.9	10.2	13.2	12.1	9.8
E(F+SEC*0.3)/(20VT+VD) :	12.1	14.9	14.0	11.8	15.8	14.4	11.4	15.9	14.3	10.3

PROJECT NAME : UPPER UMIRAY
 PROJECT ID : 3-23-0-2-0-1
 TYPE : RESERVOIR

BASIN NAME : UMIRAY
 RIVER NAME : UMIRAY

 * 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) :	322.0	308.2	312.9	322.0	305.0	310.6	322.0	301.9	308.1	322.0
MIN. OPERATING LEVEL (M) :	248.2	187.7	222.5	257.2	187.6	226.3	264.9	187.5	229.6	271.7
POWER										
FIRM DISCHARGE (M3/S) :	27.8	27.6	27.5	27.3	27.1	27.0	26.9	26.7	26.6	26.4
PLANT PEAK DIS. (MS/S) :	166.5	165.4	164.9	164.1	162.9	162.3	161.3	160.3	159.6	158.6
AVERAGE NET HEAD (M) :	157.1	128.2	142.7	160.0	126.0	142.3	162.5	123.9	141.8	164.8
INSTALLED CAPACITY (MW) :	215.3	174.5	193.7	216.1	169.0	190.1	215.8	163.5	186.4	215.1
GUARANTEED POWER (MW) :	140.9	62.0	106.4	150.3	61.0	109.6	157.4	59.9	112.0	163.2
AVERAGE FIRM POWER (MW) :	35.9	29.1	32.3	36.0	28.2	31.7	36.0	27.2	31.1	35.8
FIRM ENERGY (MIL KWH/Y) :	314.	255.	283.	316.	247.	278.	315.	239.	272.	314.
SECONDARY ENERGY (") :	38.	37.	39.	43.	41.	43.	48.	44.	47.	53.
ANNUAL AVERAGE E-CY (") :	352.	292.	322.	358.	287.	321.	363.	283.	319.	366.

D A M

DAM HEIGHT (M) : 191.0
 EMBANKMENT VOL. (MIL M3) : 20.499
 177.2 181.9 179.6 170.9 177.1 191.0
 17.208 18.286 17.747 20.499 15.800 17.187 20.499

EVALUATION INDICES

CH/V : 7758.
 C/V : 43.
 P/(20VT+VD) : 9.5
 E(FIRM)/(20VT+VD) : 13.9
 E(F*SEC*0.3)/(20VT+VD) : 14.4

8505. 8191. 8191. 7639. 8576. 8191. 7509. 8639. 8201. 7380.
 51. 47. 48. 42. 52. 48. 41. 53. 49. 41.
 9.0 9.5 9.5 9.5 9.1 9.5 9.5 9.1 9.6 9.5
 13.1 13.8 13.8 13.9 13.2 13.9 13.9 13.3 14.1 13.9
 13.7 14.4 14.4 14.5 13.9 14.6 14.5 14.0 14.8 14.5

PROJECT NAME : CATMON
 PROJECT ID : 3-25-1-1-0-1
 TYPE : RESERVOIR

BASIN NAME : PAMPANGA
 RIVER NAME : ANGAT

 * 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) :	300.0	296.3	298.0	300.0	292.7	295.8	300.0	288.8	292.3	300.0
MIN. OPERATING LEVEL (M) :	246.4	246.1	252.3	258.5	246.1	256.5	266.9	246.1	259.9	273.7
POWER										
FIRM DISCHARGE (M3/S) :	4.3	4.1	4.1	4.1	3.9	3.9	3.8	3.7	3.7	3.6
PLANT PEAK D/S. (M3/S) :	8.6	8.2	8.2	8.1	7.8	7.8	7.7	7.4	7.3	7.2
AVERAGE NET HEAD (M) :	65.2	62.7	65.9	69.2	60.4	65.8	72.0	57.9	65.3	74.3
INSTALLED CAPACITY (MW) :	4.6	4.2	4.4	4.6	3.9	4.2	4.6	3.5	3.9	4.4
GUARANTEED POWER (MW) :	2.0	1.9	2.3	2.6	1.8	2.4	3.0	1.7	2.5	3.2
AVERAGE FIRM POWER (MW) :	2.3	2.1	2.2	2.3	1.9	2.1	2.3	1.8	2.0	2.2
FIRM ENERGY (MIL KWH/Y) :	20.	19.	19.	20.	17.	18.	20.	15.	17.	19.
SECONDARY ENERGY (%) :	12.	12.	12.	12.	12.	12.	13.	12.	12.	14.
ANNUAL AVERAGE E-GY (%) :	32.	30.	31.	33.	29.	31.	33.	27.	30.	33.

D A M

DAM HEIGHT (M) :	91.0	87.3	89.0	91.0	83.7	86.8	91.0	79.8	84.3	91.0
EMBANKMENT VOL. (MIL M3) :	2.561	2.309	2.424	2.561	2.075	2.272	2.561	1.847	2.107	2.561

EVALUATION INDICES

CH/V :	4395.	4456.	4314.	4162.	4514.	4252.	3930.	4548.	4178.	3676.
C/V :	53.	56.	53.	50.	59.	54.	47.	63.	55.	44.
P/(20VT+VD) :	1.3	1.3	1.3	1.4	1.3	1.3	1.3	1.3	1.3	1.3
E(FIRM)/(20VT+VD) :	5.9	5.3	5.9	5.9	5.8	5.9	5.8	5.7	5.8	5.8
E(F+SEC*0.3)/(20VT+VD) :	6.9	6.9	7.0	7.0	7.0	7.0	7.0	7.0	7.0	6.8

PROJECT NAME : BALINTINGSON
 PROJECT ID : 3-25-2-2-0-1
 TYPE : RESERVOIR

BASIN NAME : PAMPANGA
 RIVER NAME : SUMACBAO

 * SUMMARY TABLE OF OUTPUTS *

RESERVOIR	CASE									
	1	2	3	4	5	6	7	8	9	10
RESERVOIR DEVELOP. COEF :	0.75	0.66	0.66	0.66	0.61	0.61	0.61	0.56	0.56	0.56
FULL SUPPLY LEVEL (M) :	160.0	148.8	153.7	160.0	146.2	152.6	160.0	143.6	151.4	160.0
MIN. OPERATING LEVEL (M) :	118.5	97.3	111.5	125.7	97.3	113.5	129.6	97.3	115.2	133.0
POWER										
FIRM DISCHARGE (M3/S) :	6.4	6.2	6.2	6.1	6.1	6.0	6.0	5.9	5.9	5.8
PLANT PEAK DIS. (M3/S) :	12.7	12.4	12.3	12.2	12.1	12.1	12.0	11.9	11.8	11.7
AVERAGE NET HEAD (M) :	69.1	54.9	62.8	71.6	53.2	62.8	72.9	51.6	62.6	74.1
INSTALLED CAPACITY (MW) :	7.3	5.6	6.4	7.2	5.3	6.2	7.2	5.0	6.1	7.1
GUARANTEED POWER (MW) :	4.1	2.0	3.4	4.7	2.0	3.5	4.9	1.9	3.6	5.1
AVERAGE FIRM POWER (MW) :	3.6	2.3	3.2	3.6	2.7	3.1	3.6	2.5	3.0	3.6
FIRM ENERGY (MIL KWH/Y) :	32.	24.	28.	32.	23.	27.	31.	22.	27.	31.
SECONDARY ENERGY (") :	11.	10.	11.	12.	10.	11.	12.	10.	11.	13.
ANNUAL AVERAGE E-GY (") :	43.	35.	39.	43.	33.	38.	44.	32.	38.	44.

D A M

DAM HEIGHT (M) :	92.0	90.8	85.7	92.0	70.2	84.6	92.0	75.6	83.4	92.0
EMBANKMENT VOL. (MIL M3) :	4.479	3.264	3.745	4.479	3.010	3.637	4.479	2.763	3.521	4.479

EVALUATION INDICES

CH/V :	3723.	4307.	3989.	3578.	4418.	3968.	3496.	4545.	3953.	3415.
C/V :	45.	60.	52.	43.	64.	52.	42.	68.	53.	41.
P/(20VT+VD) :	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
E(FIRM)/(20VT+VD) :	5.7	5.6	5.8	5.7	5.7	5.8	5.6	5.7	5.8	5.6
E(F+SEC*0.3)/(20VT+VD) :	6.3	6.3	6.4	6.3	6.4	6.5	6.3	6.5	6.5	6.3

PROJECT NAME : PAPAYA
 PROJECT ID : 3-25-2-3-0-1
 TYPE : RESERVOIR

BASIN NAME : PAMPANGA
 RIVER NAME : CHICO

 * SUMMARY TABLE OF OUTPUTS *

ITEMS	CASE									
	1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.90	0.77	0.77	0.77	0.70	0.70	0.70	0.60	0.60	0.60
FULL SUPPLY LEVEL (M) :	161.0	158.0	159.4	161.0	156.3	158.2	161.0	153.8	156.2	161.0
MIN. OPERATING LEVEL(M) :	117.2	117.2	125.3	133.3	117.2	127.9	138.5	117.2	130.3	143.4
POWER										
FIRM DISCHARGE (M3/S) :	2.7	2.6	2.6	2.5	2.5	2.5	2.4	2.4	2.4	2.3
PLANT PEAK DIS. (M3/S) :	5.5	5.2	5.1	5.1	5.1	5.0	4.9	4.9	4.8	4.7
AVERAGE NET HEAD (M) :	52.5	50.6	54.1	57.8	49.5	54.2	59.5	47.8	53.7	61.1
INSTALLED CAPACITY (MW) :	2.4	2.2	2.3	2.4	2.1	2.2	2.4	1.9	2.1	2.3
GUARANTEED POWER (MW) :	1.0	1.0	1.3	1.6	0.9	1.3	1.7	0.9	1.4	1.8
AVERAGE FIRM POWER (MW) :	1.2	1.1	1.1	1.2	1.0	1.1	1.2	1.0	1.1	1.2
FIRM ENERGY (MIL KWH/Y) :	10.	9.	10.	11.	9.	10.	11.	8.	9.	10.
SECONDARY ENERGY (") :	3.	3.	4.	4.	3.	4.	4.	4.	4.	4.
ANNUAL AVERAGE E-GY (") :	14.	13.	14.	14.	12.	13.	14.	12.	13.	14.

D A M

DAM HEIGHT (M) :	75.0	72.0	73.4	75.0	70.3	72.2	75.0	67.8	70.2	75.0
EMBANKMENT VOL.(MIL M3) :	2.334	2.105	2.211	2.334	1.973	2.119	2.334	1.780	1.962	2.334

EVALUATION INDICES

CH/V :	2478.	2501.	2405.	2297.	2532.	2394.	2216.	2589.	2401.	2105.
C/V :	37.	39.	37.	34.	41.	37.	33.	43.	39.	31.
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	3.5	3.6	3.6	3.5	3.6	3.6	3.5	3.6	3.5
E(F+SEC*0.3)/(20VT+VD) :	3.8	3.9	3.9	4.0	3.9	4.0	4.0	4.0	4.0	3.9

PROJECT NAME : LUBINGAN
 PROJECT ID : 3-25-3-4-0-1
 TYPE : RESERVOIR

BASIN NAME : PAMPANGA
 RIVER NAME : LUBINGAN

 * SUMMARY TABLE OF OUTPUTS *

ITEMS	CASE									
	1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.75	0.26	0.26	0.26	0.16	0.16	0.16	0.06	0.06	0.06
FULL SUPPLY LEVEL (M) :	386.0	305.0	336.3	386.0	288.3	327.2	386.0	283.7	317.8	386.0
MIN. OPERATING LEVEL (M) :	298.1	236.8	299.5	362.1	236.8	304.3	371.9	236.8	309.0	381.3
POWER										
FIRM DISCHARGE (M3/S) :	6.7	4.9	4.8	4.8	4.3	4.2	4.2	2.7	2.6	2.5
PLANT PEAK DIS. (M3/S) :	13.4	9.8	9.7	9.6	8.6	8.5	8.3	5.3	5.2	5.1
AVERAGE NET HEAD (M) :	181.5	109.7	150.2	203.3	98.3	146.0	206.7	82.6	141.8	210.1
INSTALLED CAPACITY (MW) :	20.1	8.8	11.9	16.0	6.9	10.2	14.2	3.6	6.1	8.8
GUARANTEED POWER (MW) :	13.0	4.9	9.5	14.0	4.3	8.7	12.9	2.7	5.6	8.2
AVERAGE FIRM POWER (MW) :	10.0	4.4	6.0	8.0	3.5	5.1	7.1	1.8	3.0	4.4
FIRM ENERGY (MIL KWH/Y) :	88.	33.	52.	70.	30.	45.	62.	16.	27.	38.
SECONDARY ENERGY (%) :	32.	29.	35.	46.	27.	37.	51.	16.	27.	38.
ANNUAL AVERAGE E-GY (%) :	120.	67.	88.	116.	58.	81.	113.	32.	53.	77.

D A M										
DAM HEIGHT (M) :	222.0	142.0	172.3	222.0	124.3	163.2	222.0	99.7	153.8	222.0
EMBANKMENT VOL. (MIL M3) :	32.490	9.735	16.413	32.490	6.850	14.186	32.490	3.838	12.073	32.490

EVALUATION INDICES										
CH/V :	1375.	2098.	1507.	980.	2277.	1444.	855.	2011.	986.	521.
C/V :	7.	16.	9.	5.	20.	9.	4.	22.	7.	2.
P/(20VT+VD) :	0.6	0.8	0.7	0.5	0.8	0.7	0.4	0.7	0.5	0.3
E(FIRM)/(20VT+VD) :	2.6	3.5	2.9	2.1	3.7	2.9	1.8	3.1	2.0	1.1
E(F+SEC*0.3)/(20VT+VD) :	2.9	4.3	3.5	2.5	4.7	3.6	2.3	4.0	2.6	1.5

PROJECT NAME : GUMAIN
 PROJECT ID : 3-27-0-1-0-1
 TYPE : RESERVOIR

BASIN NAME : COLO
 RIVER NAME : GUMAIN

 * SUMMARY TABLE OF OUTPUTS *

RESERVOIR	CASE									
	1	2	3	4	5	6	7	8	9	10
RESERVOIR DEVELOP. COEF :	0.87	0.71	0.71	0.71	0.61	0.61	0.61	0.51	0.51	0.51
FULL SUPPLY LEVEL (M) :	133.0	126.5	129.7	133.0	122.4	127.1	133.0	118.0	124.7	133.0
MIN. OPERATING LEVEL (M) :	90.9	90.6	96.0	-101.4	90.6	98.6	106.5	90.6	101.0	111.4
FIRM DISCHARGE (M3/S) :	2.0	1.9	1.9	1.9	1.8	1.8	1.8	1.7	1.7	1.7
PLANT PEAK DIS. (M3/S) :	4.0	3.7	3.7	3.7	3.6	3.6	3.5	3.4	3.4	3.4
AVERAGE NET HEAD (M) :	66.2	61.9	65.8	69.7	59.2	64.9	71.3	56.3	64.2	73.0
INSTALLED CAPACITY (MW) :	2.2	1.9	2.0	2.1	1.7	1.9	2.1	1.6	1.8	2.0
GUARANTEED POWER (MW) :	1.2	1.1	1.3	1.4	1.1	1.3	1.5	1.0	1.3	1.5
AVERAGE FIRM POWER (MW) :	1.1	0.9	1.0	1.1	0.9	1.0	1.0	0.8	0.9	1.0
FIRM ENERGY (MIL KWH/Y) :	9.	8.	9.	9.	8.	8.	9.	7.	8.	9.
SECONDARY ENERGY (") :	3.	3.	3.	3.	3.	3.	4.	3.	3.	4.
ANNUAL AVERAGE E-GY (") :	12.	11.	12.	13.	11.	12.	13.	10.	11.	13.

D A M

DAM HEIGHT (M) :	88.0	81.5	84.7	88.0	77.4	82.1	86.0	79.0	79.7	88.0
EMBANKMENT VOL. (MIL MS) :	3.849	3.202	3.524	3.849	2.819	3.267	3.849	2.462	3.026	3.849

EVALUATION INDICES

CH/V :	1300.	1352.	1279.	1217.	1394.	1279.	1166.	1424.	1269.	1106.
C/V :	16.	18.	17.	15.	20.	17.	15.	22.	18.	14.
P/(20VT+VD) :	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4
E(FIRM)/(20VT+VD) :	2.1	2.1	2.1	2.1	2.2	2.1	2.0	2.2	2.1	2.0
E(F+SEC*0.3)/(20VT+VD) :	2.3	2.4	2.3	2.3	2.4	2.4	2.3	2.5	2.4	2.2

PROJECT NAME : PILA
 PROJECT ID : 3-77-0-2-0-1
 TYPE : RESERVOIR

BASIN NAME : AGNO
 RIVER NAME : PILA

 * 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) :	193.0	182.6	186.9	193.0	180.3	185.3	193.0	177.5	183.7	193.0
MIN. OPERATING LEVEL (M) :	147.5	118.6	135.5	152.5	118.6	137.7	156.9	118.6	139.8	161.0
POWER										
FIRM DISCHARGE (M ³ /S) :	4.0	3.9	3.9	3.9	3.8	3.8	3.7	3.6	3.6	3.5
PLANT PEAK DIS. (M ³ /S) :	8.0	7.9	7.8	7.8	7.5	7.5	7.4	7.2	7.2	7.1
AVERAGE NET HEAD (M) :	88.8	72.5	80.9	90.4	71.0	80.6	91.9	69.2	80.2	93.3
INSTALLED CAPACITY (MW) :	5.8	4.7	5.2	5.8	4.4	5.0	5.6	4.1	4.7	5.4
GUARANTEED POWER (MW) :	3.7	1.8	2.9	3.9	1.8	2.9	4.0	1.7	2.9	4.0
AVERAGE FIRM POWER (MW) :	2.9	2.3	2.6	2.9	2.2	2.5	2.8	2.1	2.4	2.7
FIRM ENERGY (MIL KWH/Y) :	26.	21.	23.	25.	19.	22.	25.	18.	21.	24.
SECONDARY ENERGY (%) :	6.	6.	6.	7.	6.	7.	7.	7.	7.	8.
ANNUAL AVERAGE E-GY (") :	32.	26.	29.	32.	26.	29.	32.	25.	28.	32.

D A M

DAM HEIGHT (M) :	113.0	102.6	106.9	113.0	100.3	105.3	113.0	97.5	103.7	113.0
EMBANKMENT VOL. (MIL M ³) :	17.353	13.864	15.291	17.353	13.181	14.741	17.353	12.355	14.192	17.353

EVALUATION INDICES

CH/V :	756.	838.	790.	733.	827.	774.	702.	818.	755.	670.
C/V :	7.	9.	8.	7.	9.	8.	7.	9.	8.	6.
P/(20VT+VD) :	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
E(FIRM)/(20VT+VD) :	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3
E(F+SEC*0.3)/(20VT+VD) :	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4

PROJECT NAME : SAN NICOLAS
 PROJECT ID : 3-77-0-3-0-1
 TYPE : RESERVOIR

BASIN NAME : AGNO
 RIVER NAME : AMBAYOAN

 * 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) :	260.0	230.9	242.7	260.0	226.3	240.1	260.0	221.7	237.2	260.0
MIN. OPERATING LEVEL (M) :	205.2	155.0	135.5	216.1	154.8	138.0	221.1	154.7	190.2	225.7
POWER										
FIRM DISCHARGE (MG/S) :	10.9	10.3	10.2	10.2	9.8	9.8	9.7	9.4	9.3	9.3
PLANT PEAK DIS. (M3/S) :	21.8	20.5	20.4	20.3	19.6	19.5	19.4	18.8	18.6	18.5
AVERAGE NET HEAD (M) :	120.6	84.9	102.7	124.0	81.8	101.7	125.6	78.6	100.4	127.0
INSTALLED CAPACITY (MW) :	21.7	14.4	17.3	20.8	13.2	15.4	20.1	12.1	15.4	19.3
GUARANTEED POWER (MW) :	14.4	5.5	10.3	15.1	5.3	10.3	15.2	5.0	10.1	15.1
AVERAGE FIRM POWER (MW) :	10.8	7.2	8.6	10.4	6.6	8.2	10.0	6.1	7.7	9.7
FIRM ENERGY (MIL KWH/Y) :	95.	63.	78.	91.	58.	72.	88.	53.	68.	85.
SECONDARY ENERGY (%) :	24.	22.	24.	28.	22.	25.	30.	23.	27.	32.
ANNUAL AVERAGE E-GY (%) :	119.	84.	100.	119.	80.	97.	118.	76.	94.	117.

D A M

DAM HEIGHT (M) :	150.0	120.9	132.7	150.0	116.3	130.1	150.0	111.7	127.2	150.0
EMBANKMENT VOL. (MIL M3) :	22.869	13.339	16.788	22.869	12.152	16.004	22.869	10.941	15.103	22.869

EVALUATION INDICES

CH/V :	2031.	2677.	2338.	1945.	2694.	2293.	1856.	2729.	2259.	1766.
C/V :	15.	24.	19.	14.	25.	19.	13.	27.	19.	13.
P/(20VT+VD) :	0.9	1.0	0.9	0.8	1.0	0.9	0.8	1.0	0.9	0.8
E(FIRM)/(20VT+VD) :	3.9	4.2	4.1	3.7	4.2	4.0	3.6	4.2	4.0	3.4
E(F+SEC*0.3)/(20VT+VD) :	4.2	4.6	4.5	4.0	4.7	4.5	3.9	4.8	4.5	3.8

PROJECT NAME : TABU
 PROJECT ID : 3- 77- 0- 4-0-1
 TYPE : RESERVOIR

BASIN NAME : AGNO
 RIVER NAME : AGNO

 * SUMMARY TABLE OF OUTPUTS *

RESERVOIR	CASE					
	1	2	3	4	5	6
RESERVOIR DEVELOP. COEF :	0.06	0.01	0.01	0.01	0.01	0.01
FULL SUPPLY LEVEL (M) :	414.0	394.9	399.7	404.2	409.2	414.0
MIN. OPERATING LEVEL(M) :	385.1	387.5	392.9	398.2	403.6	408.9
POWER						
FIRM DISCHARGE (M3/S) :	12.5	7.5	7.8	7.8	7.7	7.7
PLANT PEAK DIS. (M3/S) :	75.1	46.6	46.6	48.5	46.4	46.3
AVERAGE NET HEAD (M) :	109.0	96.0	100.8	105.5	110.6	115.5
INSTALLED CAPACITY (MW) :	67.4	36.9	38.7	40.4	42.3	44.1
GUARANTEED POWER (MW) :	52.8	33.4	35.2	37.0	38.9	40.7
AVERAGE FIRM POWER (MW) :	11.2	6.2	6.5	6.7	7.0	7.3
FIRM ENERGY (MIL KWH/Y) :	98.	54.	57.	59.	62.	64.
SECONDARY ENERGY (") :	362.	179.	188.	195.	205.	213.
ANNUAL AVERAGE E-GY (") :	460.	239.	244.	254.	266.	277.

D A M

DAM HEIGHT (M) : 108.0
 EMBANKMENT VOL.(MIL M3) : 3.063

88.9 93.7 98.2 103.2 108.0
 1.895 2.155 2.426 2.753 3.083

EVALUATION INDICES

CH/V : 15184. 12764. 11727. 10837. 9972. 9257.
 C/V : 126. 130. 114. 101. 89. 79.
 P/(20VT+VD) : 9.7 7.2 7.1 7.1 7.0 6.9
 E(FIRM)/(20VT+VD) : 14.2 10.4 10.4 10.4 10.3 10.1
 E(F+SEC*0.3)/(20VT+VD) : 29.8 20.9 20.8 20.7 20.5 20.2

PROJECT NAME : AGNO-1
 PROJECT ID : 3-77-0-5-0-2
 TYPE : RUN-OF-RIVER

 * SUMMARY TABLE OF OUTPUTS *

ITEMS	CASE					
	1	2	3	4	5	6
HEAD PONDAGE						
OUTPUT FACTOR	0.982	0.900	0.800	0.700	0.600	0.555
FULL SUPPLY LEVEL (M)	822.8	823.4	823.8	824.3	824.9	825.2
NORMAL OPERATING LEVEL (M)	822.4	822.9	823.4	823.8	824.4	824.8
MINIMUM OPERATING LEVEL (M)	821.9	822.5	822.9	823.4	824.0	824.3
DIVERSION WEIR HEIGHT INC. 3M F-B:	5.8	6.4	6.8	7.3	7.9	8.2
WATER DEPTH AT TRASHRACK (M)	2.8	3.4	3.8	4.3	4.9	5.2
CHANNEL WIDTH AT TRASHRACK (M)	3.6	5.9	7.6	9.5	11.9	13.1
PONDAGE STORAGE VOLUME (1000 M3)	85.2	102.4	114.7	129.3	147.5	156.5
WATERWAY						
NUMBER OF WATERWAY	1	1	1	1	1	1
INSIDE DIAMETER OF HEADRACE (M)	1.8	1.8	2.2	2.7	3.2	3.4
HEADRACE TUNNEL LENGTH (M)	2300.0	2300.0	2300.0	2300.0	2300.0	2300.0
INSIDE DIAMETER OF PENSTOCK (M)	1.3	1.4	1.8	2.1	2.5	2.7
PENSTOCK LENGTH (HORIZONTAL) (M)	165.0	165.0	165.0	165.0	165.0	165.0
EXCAVATION VOLUME (1000 M3)	6.1	6.4	9.3	13.7	19.3	22.3
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	4.4	7.2	11.3	17.8	21.6
TAIL WATER LEVEL (M)	770.0	770.0	770.0	770.0	770.0	770.0
NET HEAD (M)	51.0	48.0	48.5	49.4	50.1	50.4
INSTALLED CAPACITY (MW)	0.7	1.7	2.9	4.6	7.3	8.9
DEPENDABLE PEAK POWER (MW)	0.7	0.6	0.6	0.7	0.7	0.7
FIRM POWER (MW)	0.4	0.4	0.4	0.4	0.4	0.4
GUARANTEED POWER OUTPUT (MW)	0.4	0.3	0.3	0.4	0.4	0.4
FIRM ENERGY/YEAR (10**6 KWH)	3.6	3.4	3.4	3.5	3.5	3.5
SECONDARY ENERGY/YEAR (10**6 KWH)	2.2	9.4	15.1	22.4	31.8	36.4
ANNUAL ENERGY (MIL KWH/YR)	5.8	12.7	18.5	25.9	35.3	39.9
PARAMETERS						
P (INSTALLED)/(20VT) (W/M3)	5.7	13.4	15.3	16.7	19.0	20.0
P (DEPENDABLE)/(20VT) (W/M3)	5.6	5.0	3.5	2.4	1.7	1.5
E (FIRM)/(20VT) (KWH/M3)	29.3	26.1	18.2	12.6	9.1	7.9
E (F+0.3*SECONDARY)/(20VT) (%)	34.7	47.8	42.5	37.1	33.8	32.3

PROJECT NAME : AGNO-2
 PROJECT ID : 3- 77- 0- 6-0-2
 TYPE : RUN-OF-RIVER

 * SUMMARY TABLE OF OUTPUTS *

 CASE

ITEMS	1	2	3	4	5	6
HEAD PONDAGE						
OUTPUT FACTOR	: 0.982	: 0.900	: 0.800	: 0.700	: 0.600	: 0.555
FULL SUPPLY LEVEL (M)	: 1012.9	: 1013.4	: 1013.7	: 1014.1	: 1014.7	: 1014.9
NORMAL OPERATING LEVEL (M)	: 1012.3	: 1012.8	: 1013.2	: 1013.6	: 1014.1	: 1014.4
MINIMUM OPERATING LEVEL (M)	: 1011.8	: 1012.3	: 1012.7	: 1013.1	: 1013.6	: 1013.9
DIVERSTON WEIR HEIGHT INC. 3M F-B:	: 5.9	: 6.4	: 6.7	: 7.1	: 7.7	: 7.9
WATER DEPTH AT TRASHRACK (M)	: 2.9	: 3.4	: 3.7	: 4.1	: 4.7	: 4.9
CHANNEL WIDTH AT TRASHRACK (M)	: 3.2	: 5.2	: 6.6	: 8.3	: 10.4	: 11.5
PONDAGE STORAGE VOLUME (1000 M3)	: 57.2	: 67.2	: 74.4	: 82.9	: 93.5	: 98.7

 WATERWAY

NUMBER OF WATERWAY	: 1	: 1	: 1	: 1	: 1	: 1
INSIDE DIAMETER OF HEADRACE (M)	: 1.8	: 1.8	: 2.0	: 2.4	: 2.9	: 3.1
HEADRACE TUNNEL LENGTH (M)	: 7950.0	: 7950.0	: 7950.0	: 7950.0	: 7950.0	: 7950.0
INSIDE DIAMETER OF PENSTOCK (M)	: 1.3	: 1.3	: 1.5	: 1.8	: 2.2	: 2.3
PENSTOCK LENGTH (HORIZONTAL) (M)	: 385.0	: 385.0	: 385.0	: 385.0	: 385.0	: 385.0
EXCAVATION VOLUME (1000 M3)	: 20.8	: 20.8	: 25.8	: 38.0	: 53.5	: 61.9

 POWER

FIRM DISCHARGE (M3/S)	: 0.7	: 0.7	: 0.7	: 0.7	: 0.7	: 0.7
DEPENDABLE DISCHARGE (M3/S)	: 1.2	: 1.2	: 1.2	: 1.2	: 1.2	: 1.2
PLANT PEAK DISCHARGE (M3/S)	: 1.3	: 3.3	: 5.5	: 8.6	: 13.6	: 16.5
TAIL WATER LEVEL (M)	: 850.0	: 850.0	: 850.0	: 850.0	: 850.0	: 850.0
NET HEAD (M)	: 159.2	: 150.9	: 146.5	: 143.5	: 149.2	: 149.6
INSTALLED CAPACITY (MW)	: 1.6	: 4.1	: 6.6	: 10.5	: 16.7	: 20.3
DEPENDABLE PEAK POWER (MW)	: 1.6	: 1.5	: 1.5	: 1.5	: 1.5	: 1.5
FIRM POWER (MW)	: 1.0	: 0.9	: 0.9	: 0.9	: 0.9	: 0.9
GUARANTEED POWER OUTPUT (MW)	: 0.9	: 0.8	: 0.8	: 0.8	: 0.8	: 0.8
FIRM ENERGY/YEAR (10**6 KWH)	: 3.5	: 8.1	: 7.8	: 7.9	: 8.0	: 8.0
SECONDARY ENERGY/YEAR (10**6 KWH)	: 5.2	: 22.3	: 34.6	: 51.2	: 72.0	: 82.0
ANNUAL ENERGY (MIL KWH/YR)	: 13.7	: 30.4	: 42.5	: 59.1	: 80.0	: 90.0

 PARAMETERS

P (INSTALLED)/(20VT) (W/M3)	: 4.0	: 10.0	: 12.7	: 13.8	: 15.6	: 16.4
P (DEPENDABLE)/(20VT) (W/M3)	: 3.9	: 3.7	: 2.9	: 2.0	: 1.4	: 1.2
E (FIRM)/(20VT) (KWH/M3)	: 20.4	: 19.4	: 15.2	: 10.4	: 7.4	: 6.5
E (F+0.3*SECONDARY)/(20VT) (")	: 24.2	: 35.4	: 35.3	: 30.6	: 27.6	: 25.3

PROJECT NAME : AGNO-3
 PROJECT ID : 3-77-0-7-0-2
 TYPE : RUN-OF-RIVER

 * SUMMARY TABLE OF OUTPUTS *

ITEMS	CASE					
	1	2	3	4	5	6
HEAD PONDAGE						
OUTPUT FACTOR	0.982	0.900	0.800	0.700	0.600	0.555
FULL SUPPLY LEVEL (M)	1214.1	1214.5	1214.9	1215.2	1215.7	1215.9
NORMAL OPERATING LEVEL (M)	1212.9	1213.3	1213.6	1214.0	1214.4	1214.7
MINIMUM OPERATING LEVEL (M)	1211.7	1212.1	1212.4	1212.8	1213.2	1213.4
DIVERSION WEIR HEIGHT (INC. 3M F-B)	7.1	7.5	7.9	8.2	8.7	8.9
WATER DEPTH AT TRASHRACK (M)	4.1	4.5	4.9	5.2	5.7	5.9
CHANNEL WIDTH AT TRASHRACK (M)	2.7	4.4	5.5	7.0	8.8	9.7
PONDAGE STORAGE VOLUME (1000 M3)	25.8	28.4	30.3	32.6	35.4	36.8

ITEMS	CASE					
	1	2	3	4	5	6
WATERWAY						
NUMBER OF WATERWAY	1	1	1	1	1	1
INSIDE DIAMETER OF HEADRACE (M)	1.8	1.8	1.8	2.1	2.5	2.7
HEADRACE TUNNEL LENGTH (M)	7250.0	7250.0	7250.0	7250.0	7250.0	7250.0
INSIDE DIAMETER OF PENSTOCK (M)	1.3	1.3	1.3	1.5	1.9	2.0
PENSTOCK LENGTH (HORIZONTAL) (M)	335.0	335.0	335.0	335.0	335.0	335.0
EXCAVATION VOLUME (1000 M3)	19.0	19.0	19.0	25.9	38.0	44.0

ITEMS	CASE					
	1	2	3	4	5	6
POWER						
FIRM DISCHARGE (M3/S)	0.5	0.5	0.5	0.5	0.5	0.5
DEPENDABLE DISCHARGE (M3/S)	0.9	0.9	0.9	0.9	0.9	0.9
PLANT PEAK DISCHARGE (M3/S)	0.9	2.4	3.9	5.2	9.8	11.8
TAIL WATER LEVEL (M)	1015.0	1015.0	1015.0	1015.0	1015.0	1015.0
NET HEAD (M)	195.2	191.5	183.6	183.0	184.9	185.2
INSTALLED CAPACITY (MW)	1.5	3.8	5.9	9.3	14.8	18.0
DEPENDABLE PEAK POWER (MW)	1.4	1.4	1.3	1.3	1.3	1.4
FIRM POWER (MW)	0.9	0.8	0.8	0.8	0.8	0.8
GUARANTEED POWER OUTPUT (MW)	0.8	0.7	0.7	0.7	0.7	0.7
FIRM ENERGY/YEAR (10**6 KWH)	7.5	7.3	7.0	7.0	7.1	7.1
SECONDARY ENERGY/YEAR (10**6 KWH)	4.5	20.4	31.3	45.4	64.3	79.1
ANNUAL ENERGY (MIL KWH/YR)	12.1	27.7	38.3	52.4	71.3	80.2

PARAMETERS	CASE					
	1	2	3	4	5	6
P (INSTALLED) / (20VT) (W/M3)	3.8	9.9	15.6	18.0	19.5	20.5
P (DEPENDABLE) / (20VT) (W/M3)	3.7	3.7	3.5	2.6	1.8	1.5
E (FIRM) / (20VT) (KWH/M3)	19.7	19.3	18.5	13.6	9.3	8.1
E (F+0.3*SECONDARY) / (20VT) (")	23.3	35.4	43.2	39.9	34.7	33.0

PROJECT NAME : CAMILING-1
 PROJECT ID : 3-77-1-8-0-1
 TYPE : RESERVOIR

BASIN NAME : AGNO
 RIVER NAME : CAMILING

 * 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) :	210.0	199.3	203.7	210.0	196.5	202.2	210.0	193.7	200.7	210.0
MIN. OPERATING LEVEL(M) :	160.6	134.8	150.2	165.7	134.8	152.7	170.6	134.8	154.8	174.8
POWER										
FIRM DISCHARGE (M3/S) :	7.2	7.0	7.0	7.0	6.8	6.7	6.7	6.5	6.4	6.4
PLANT PEAK DIS. (M3/S) :	14.4	14.1	14.0	13.9	13.5	13.5	13.4	12.9	12.9	12.7
AVERAGE NET HEAD (M) :	83.8	68.4	76.4	85.6	66.8	76.4	87.4	65.2	76.3	89.0
INSTALLED CAPACITY (MW) :	9.9	7.9	8.8	9.8	7.4	8.5	9.6	6.9	8.1	9.3
GUARANTEED POWER (MW) :	5.7	2.8	4.5	5.1	2.7	4.5	6.4	2.8	4.6	6.5
AVERAGE FIRM POWER (MW) :	5.0	4.0	4.4	4.9	3.7	4.2	4.8	3.5	4.0	4.7
FIRM ENERGY (MIL KWH/Y) :	43.	35.	39.	43.	33.	37.	42.	30.	35.	41.
SECONDARY ENERGY (%) :	11.	10.	11.	12.	11.	12.	13.	11.	12.	14.
ANNUAL AVERAGE E-GY (") :	54.	45.	49.	55.	43.	49.	55.	42.	48.	55.

D A M

DAM HEIGHT (M) :	112.8	102.1	106.5	112.8	99.3	105.0	112.8	96.5	103.5	112.8
EMBANKMENT VOL.(MIL M3) :	22.342	17.396	19.272	22.342	16.214	18.661	22.342	15.050	17.987	22.342

EVALUATION INDICES

CH/V :	1017.	1147.	1081.	987.	1149.	1057.	948.	1149.	1032.	905.
C/V :	10.	13.	11.	10.	13.	11.	9.	14.	11.	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) :	1.8	1.6	1.9	1.8	1.8	1.8	1.8	1.8	1.8	1.7
E(F+SEC*0.3)/(20VT+VD) :	2.0	2.0	2.0	1.9	2.0	2.0	1.9	2.0	2.0	1.9

PROJECT NAME : CAMILING-2
 PROJECT ID : 3-77-1-9-0-1
 TYPE : RESERVOIR

BASIN NAME : AGNO
 RIVER NAME : CAMILING

 * SUMMARY TABLE OF OUTPUTS *

RESERVOIR	CASE									
	1	2	3	4	5	6	7	8	9	10
RESERVOIR DEVELOP. COEF :	0.75	0.70	0.70	0.70	0.65	0.55	0.55	0.60	0.50	0.60
FULL SUPPLY LEVEL (M) :	254.0	243.2	247.8	254.0	240.8	245.2	254.0	238.0	244.6	254.0
MIN. OPERATING LEVEL (M) :	208.6	185.6	199.3	213.0	185.6	201.3	217.1	185.6	203.3	221.0
POWER										
FIRM DISCHARGE (M3/S) :	5.6	5.5	5.5	5.5	5.3	5.3	5.2	5.1	5.0	5.0
PLANT PEAK DIS. (M3/S) :	11.3	11.0	11.0	10.9	10.6	10.6	10.5	10.1	10.1	10.0
AVERAGE NET HEAD (M) :	87.1	72.5	80.0	88.5	70.9	79.7	89.9	69.2	79.3	91.3
INSTALLED CAPACITY (MW) :	8.1	6.6	7.2	8.0	6.2	6.9	7.8	5.8	6.6	7.5
GUARANTEED POWER (MW) :	5.0	3.0	4.1	5.3	2.8	4.1	5.4	2.7	4.1	5.4
AVERAGE FIRM POWER (MW) :	4.0	3.3	3.6	4.0	3.1	3.5	3.9	2.9	3.3	3.8
FIRM ENERGY (MIL KWH/Y) :	35.	29.	32.	35.	27.	30.	34.	25.	29.	33.
SECONDARY ENERGY (%) :	9.	8.	9.	9.	9.	9.	10.	9.	10.	11.
ANNUAL AVERAGE E-GY (%) :	44.	37.	40.	44.	36.	40.	44.	34.	39.	44.

D A M

DAM HEIGHT (M) :	112.0	101.2	105.6	112.0	98.8	104.2	112.0	95.0	102.6	112.0
EMBANKMENT VOL. (MIL M3) :	7.046	5.417	6.095	7.046	5.097	5.852	7.046	4.739	5.614	7.046

EVALUATION INDICES

CH/V :	2581.	2948.	2735.	2503.	2931.	2690.	2400.	2924.	2636.	2290.
C/V :	25.	32.	28.	24.	33.	28.	23.	34.	28.	22.
P/(20VT+VD) :	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9
E(FIRM)/(20VT+VD) :	4.4	4.6	4.5	4.4	4.5	4.5	4.3	4.5	4.4	4.1
E(F+SEC*0.3)/(20VT+VD) :	4.8	5.0	4.9	4.7	4.9	4.9	4.7	5.0	4.9	4.6

PROJECT NAME : PAMPANG
 PROJECT ID : 3-77-4-10-0-2
 TYPE : RUN-OF-RIVER

 * SUMMARY TABLE OF OUTPUTS *

ITEMS	CASE					
	1	2	3	4	5	6
HEAD PONDAGE						
OUTPUT FACTOR	0.982	0.900	0.800	0.700	0.600	0.555
FULL SUPPLY LEVEL (M)	362.5	362.9	363.2	363.5	363.9	364.1
NORMAL OPERATING LEVEL (M)	362.1	362.4	362.7	363.1	363.5	363.7
MINIMUM OPERATING LEVEL (M)	361.6	362.0	362.3	362.6	363.0	363.2
DIVERSION WEIR HEIGHT INC. 3M F-B:	5.5	5.9	6.2	6.5	6.9	7.1
WATER DEPTH AT TRASHRACK (M)	2.5	2.9	3.2	3.5	3.9	4.1
CHANNEL WIDTH AT TRASHRACK (M)	2.5	4.0	5.2	6.5	8.2	9.0
PONDAGE STORAGE VOLUME (1000 M3)	37.4	43.2	47.5	52.4	58.7	61.7

WATERWAY

NUMBER OF WATERWAY	1	1	1	1	1	1
INSIDE DIAMETER OF HEADRACE (M)	1.5	1.8	1.8	2.0	2.3	2.6
HEADRACE TUNNEL LENGTH (M)	5060.0	5060.0	5060.0	5060.0	5060.0	5060.0
INSIDE DIAMETER OF PENSTOCK (M)	1.3	1.3	1.3	1.5	1.8	1.9
PENSTOCK LENGTH (HORIZONTAL) (M)	215.0	215.0	215.0	215.0	215.0	215.0
EXCAVATION VOLUME (1000 M3)	13.2	13.2	13.2	16.0	22.5	27.2

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	2.0	3.3	5.3	8.3	10.1
TAIL WATER LEVEL (M)	206.0	206.0	208.0	206.0	206.0	206.0
NET HEAD (M)	154.1	152.4	148.6	146.0	145.6	147.7
INSTALLED CAPACITY (MW)	1.0	2.6	4.1	6.3	10.0	12.3
DEPENDABLE PEAK POWER (MW)	1.0	0.9	0.9	0.9	0.9	0.9
FIRM POWER (MW)	0.6	0.6	0.6	0.5	0.5	0.6
GUARANTEED POWER OUTPUT (MW)	0.5	0.5	0.5	0.5	0.5	0.5
FIRM ENERGY/YEAR (10**6 KWH)	5.0	5.0	4.9	4.8	4.8	4.8
SECONDARY ENERGY/YEAR (10**6 KWH)	3.1	13.8	21.5	30.8	43.3	49.5
ANNUAL ENERGY (MIL KWH/YR)	8.1	18.8	26.4	35.6	48.1	54.4

PARAMETERS

P (INSTALLED)/(20VT) (W/M3)	3.7	9.7	15.4	19.8	22.2	22.5
P (DEPENDABLE)/(20VT) (W/M3)	3.6	3.6	3.5	2.8	2.0	1.7
E (FIRM)/(20VT) (KWH/M3)	19.0	18.8	18.4	14.9	10.6	8.9
E (F+0.3*SECONDARY)/(20VT) (")	22.5	34.4	42.7	43.7	39.4	36.2

PROJECT NAME : KANAN
 PROJECT ID : 4- 7- 0- 1-0-1
 TYPE : RESERVOIR

BASIN NAME : ACOS
 RIVER NAME : KANAN

 * SUMMARY TABLE OF OUTPUTS *

RESERVOIR	CASE									
	1	2	3	4	5	6	7	8	9	10
RESERVOIR DEVELOP. COEF :	0.98	0.85	0.85	0.85	0.75	0.75	0.75	0.65	0.65	0.65
FULL SUPPLY LEVEL (M) :	294.0	286.9	289.1	294.0	281.6	285.0	294.0	274.5	280.8	294.0
MIN. OPERATING LEVEL(M) :	161.0	158.1	185.5	212.9	158.0	194.5	231.0	157.8	201.1	244.5
POWER										
FIRM DISCHARGE (M ³ /S) :	53.7	52.7	52.6	52.5	51.6	51.5	51.3	50.0	49.8	49.5
PLANT PEAK DIS. (M ³ /S) :	161.1	158.2	157.8	157.4	154.9	154.4	153.8	150.1	149.5	148.4
AVERAGE NET HEAD (M) :	146.0	140.4	150.8	163.0	136.9	151.0	168.9	132.1	150.4	173.3
INSTALLED CAPACITY (MW) :	193.7	182.9	195.9	211.3	174.5	192.0	213.9	163.3	185.2	211.8
GUARANTEED POWER (MW) :	72.5	67.6	101.2	134.5	66.1	109.8	153.1	63.9	114.1	163.2
AVERAGE FIRM POWER (MW) :	64.6	60.9	65.3	70.4	58.2	64.0	71.3	54.4	61.7	70.6
FIRM ENERGY (MIL KWH/Y) :	565.	534.	572.	617.	510.	561.	624.	477.	541.	618.
SECONDARY ENERGY (") :	44.	51.	53.	55.	59.	61.	66.	70.	74.	83.
ANNUAL AVERAGE E-GY (") :	610.	585.	625.	672.	569.	622.	691.	546.	615.	701.

D A M

DAM HEIGHT (M) :	200.0	192.9	195.1	200.0	187.6	191.0	200.0	180.5	186.8	200.0
EMBANKMENT VOL. (MIL M3) :	27.232	24.572	25.373	27.232	22.568	23.831	27.232	20.223	22.283	27.232

EVALUATION INDICES

CH/V :	11837.	12409.	12117.	11549.	12850.	12343.	11273.	13344.	12484.	10875.
C/V :	62.	68.	65.	61.	72.	68.	59.	78.	71.	57.
P/(20VT+VD) :	6.2	6.5	6.7	6.8	6.6	7.0	6.9	6.8	7.1	6.8
E(FIRM)/(20VT+VD) :	13.2	18.9	19.6	19.9	19.4	20.3	20.2	19.9	20.8	20.0
E(F+SEC*0.3)/(20VT+VD) :	18.7	19.4	20.2	20.4	20.1	21.0	20.8	20.8	21.7	20.8

PROJECT NAME : DARAITAN
 PROJECT ID : 4-7-0-2-0-1
 TYPE : RESERVOIR

BASIN NAME : AGOS
 RIVER NAME : KALIWA

 * SUMMARY TABLE OF OUTPUTS *

ITEMS	CASE									
	1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.40	0.38	0.38	0.38	0.33	0.33	0.33	0.28	0.28	0.28
FULL SUPPLY LEVEL (M) :	234.0	228.2	230.7	234.0	224.3	228.5	234.0	220.4	225.8	234.0
MIN. OPERATING LEVEL (M) :	197.4	182.7	191.6	200.6	182.4	194.6	206.7	182.0	197.1	212.2
POWER										
FIRM DISCHARGE (M ³ /S) :	24.0	23.7	23.6	23.6	22.7	22.6	22.6	21.1	21.0	20.9
PLANT PEAK DIS. (M ³ /S) :	96.0	94.8	94.6	94.3	90.9	90.6	90.2	84.5	84.1	83.6
AVERAGE NET HEAD (M) :	77.5	68.8	73.5	78.5	66.2	72.9	80.6	63.5	72.0	82.3
INSTALLED CAPACITY (MW) :	61.2	53.7	57.2	61.0	49.6	54.4	59.8	44.1	49.8	56.6
GUARANTEED POWER (MW) :	40.0	28.6	35.1	41.6	27.3	35.7	44.1	25.0	34.8	44.4
AVERAGE FIRM POWER (MW) :	15.3	13.4	14.3	15.2	12.4	13.6	15.0	11.0	12.5	14.2
FIRM ENERGY (MIL KWH/Y) :	134.	118.	125.	134.	109.	119.	131.	97.	109.	124.
SECONDARY ENERGY (%) :	42.	41.	43.	44.	43.	46.	49.	48.	52.	57.
ANNUAL AVERAGE E-GY (%) :	177.	159.	168.	178.	152.	165.	180.	145.	161.	181.
D A M										
DAM HEIGHT (M) :	97.5	91.7	94.2	97.5	87.8	92.0	97.5	83.9	89.3	97.5
EMBANKMENT VOL. (MIL M ³) :	2.747	2.351	2.525	2.747	2.090	2.370	2.747	1.869	2.190	2.747
EVALUATION INDICES										
CH/V :	24708.	26697.	25534.	24280.	27495.	25375.	23221.	27178.	24672.	21485.
C/V :	275.	318.	295.	271.	343.	301.	259.	356.	303.	240.
P/(20VT+VD) :	13.5	13.0	13.3	13.5	12.9	13.2	13.3	12.2	12.7	12.6
E(FIRM)/(20VT+VD) :	29.6	28.5	29.1	29.5	28.2	28.8	29.1	26.8	27.7	27.6
E(F+SEC*0.3)/(20VT+VD) :	32.5	31.5	32.1	32.5	31.6	32.2	32.4	30.8	31.7	31.5

PROJECT NAME : UPPER AGOS-1M
 PROJECT ID : 4- 7- 0- 3-0-1
 TYPE : RESERVOIR

BASIN NAME : AGOS
 RIVER NAME : LENATIN

 * SUMMARY TABLE OF OUTPUTS *

RESERVOIR	CASE									
	1	2	3	4	5	6	7	8	9	10
RESERVOIR DEVELOP. COEF :	0.92	0.70	0.70	0.70	0.67	0.67	0.67	0.64	0.64	0.64
FULL SUPPLY LEVEL (M) :	252.0	245.2	248.0	252.0	244.2	247.4	252.0	243.2	246.7	252.0
MIN. OPERATING LEVEL(M) :	204.8	204.5	214.6	224.7	204.4	215.5	226.5	204.4	216.3	228.3
POWER										
FIRM DISCHARGE (M3/S) :	12.7	12.2	12.1	12.0	12.1	12.0	11.9	12.0	11.9	11.8
PLANT PEAK DIS. (M3/S) :	76.5	73.1	72.7	72.3	72.4	72.0	71.5	71.7	71.3	70.7
AVERAGE NET HEAD (M) :	68.7	64.1	69.2	75.2	63.4	69.1	75.7	62.7	68.9	76.3
INSTALLED CAPACITY (MW) :	43.2	38.5	41.4	44.7	37.8	40.9	44.6	37.0	40.4	44.4
GUARANTEED POWER (MW) :	22.3	21.2	26.7	32.2	20.9	27.0	32.9	20.7	27.2	33.6
AVERAGE FIRM POWER (MW) :	7.2	6.4	6.9	7.5	6.3	6.8	7.4	6.2	6.7	7.4
FIRM ENERGY (MIL KWH/Y) :	63.	56.	60.	65.	55.	60.	65.	54.	59.	65.
SECONDARY ENERGY (") :	7.	9.	10.	11.	10.	11.	12.	10.	11.	12.
ANNUAL AVERAGE E-GY (") :	71.	66.	71.	76.	65.	70.	77.	64.	70.	77.

D A M

DAM HEIGHT (M) :	77.7	70.9	73.7	77.7	69.9	73.1	77.7	68.9	72.4	77.7
EMBANKMENT VOL. (MIL M3) :	1.842	1.474	1.621	1.842	1.427	1.584	1.842	1.380	1.547	1.842

EVALUATION INDICES

CR/V :	18426.	20233.	18944.	17372.	20441.	19036.	17184.	20668.	19135.	16994.
C/V :	218.	261.	236.	206.	267.	299.	204.	273.	242.	202.
P/(20VT+VD) :	13.6	13.8	14.1	14.2	13.8	14.2	14.2	13.8	14.2	14.2
E(FIRM)/(20VT+VD) :	19.8	20.2	20.6	20.7	20.2	20.7	20.7	20.2	20.8	20.7
E(F+SEC*0.3)/(20VT+VD) :	20.5	21.2	21.7	21.8	21.3	21.8	21.8	21.3	21.9	21.9

PROJECT NAME : UPPER AGOS-IS
 PROJECT ID : 4- 7- 0- 4-0-1
 TYPE : RESERVOIR

BASIN NAME : AGOS
 RIVER NAME : LIMUTAN

 * SUMMARY TABLE OF OUTPUTS *

ITEMS	CASE									
	1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.22	0.20	0.20	0.20	0.17	0.17	0.17	0.14	0.14	0.14
FULL SUPPLY LEVEL (M) :	252.0	244.1	247.8	252.0	240.3	245.5	252.0	235.8	242.9	252.0
MIN. OPERATING LEVEL (M) :	220.3	207.1	215.6	224.2	206.7	218.4	230.0	206.4	220.5	234.5
POWER										
FIRM DISCHARGE (M3/S) :	8.2	7.9	7.8	7.8	7.3	7.3	7.2	6.7	6.7	6.6
PLANT PEAK DIS. (M3/S) :	49.3	47.1	47.0	46.9	43.7	43.6	43.4	40.2	40.0	39.8
AVERAGE NET HEAD (M) :	59.5	49.9	55.1	60.7	47.3	54.5	62.6	44.1	53.4	64.0
INSTALLED CAPACITY (MW) :	24.1	19.4	21.4	23.5	17.0	21.0	22.4	14.6	17.6	21.0
GUARANTEED POWER (MW) :	14.8	9.3	12.4	15.5	8.5	12.4	15.3	7.7	12.1	16.4
AVERAGE FIRM POWER (MW) :	4.0	3.2	3.6	3.9	2.8	3.3	3.7	2.4	2.9	3.5
FIRM ENERGY (MIL KWH/Y) :	35.	28.	31.	34.	25.	29.	33.	21.	26.	31.
SECONDARY ENERGY (") :	25.	24.	25.	27.	24.	26.	27.	24.	27.	32.
ANNUAL AVERAGE E-OY (") :	60.	52.	56.	61.	49.	55.	62.	46.	53.	62.
D A M										
DAM HEIGHT (M) :	77.7	69.8	73.5	77.7	66.0	71.2	77.7	61.5	68.6	77.7
EMBANKMENT VOL. (MIL M3) :	1.576	1.225	1.380	1.576	1.077	1.280	1.576	0.917	1.178	1.576
EVALUATION INDICES										
CH/V :	11512.	12588.	11799.	10958.	12472.	11363.	10127.	12422.	10869.	9277.
C/V :	164.	202.	179.	157.	213.	179.	145.	231.	179.	133.
P/(20VT+VD) :	10.1	9.6	9.8	9.9	9.1	9.5	9.5	8.6	9.0	8.9
E(FIRM)/(20VT+VD) :	14.8	14.0	14.3	14.4	13.3	13.8	13.8	12.6	13.2	13.1
E(F+SEC*0.3)/(20VT+VD) :	18.0	17.5	17.8	17.6	17.3	17.7	17.6	16.9	17.4	17.1

PROJECT NAME : UPPER AGOS-2
 PROJECT ID : 4- 7- 0- 5-0-1
 TYPE : RESERVOIR

DASIN NAME : AGOS
 RIVER NAME : KANAN

 * SUMMARY TABLE OF OUTPUTS *

RESERVOIR	CASE									
	1	2	3	4	5	6	7	8	9	10
RESERVOIR DEVELOP. COEF :	0.98	0.85	0.85	0.85	0.75	0.75	0.75	0.65	0.65	0.65
FULL SUPPLY LEVEL (M) :	316.0	310.5	312.5	316.0	305.6	309.2	316.0	300.6	305.3	316.0
MIN. OPERATING LEVEL (M) :	205.7	205.0	227.9	250.7	204.9	236.1	267.3	204.7	241.6	278.6
POWER										
FIRM DISCHARGE (M3/S) :	44.1	43.3	43.2	42.9	42.4	42.2	41.8	41.1	40.9	40.3
PLANT PEAK DIS. (M3/S) :	132.4	130.0	129.5	128.8	127.3	126.6	125.5	123.3	122.6	121.0
AVERAGE NET HEAD (M) :	110.8	106.9	115.7	125.5	103.6	116.2	130.9	100.3	115.4	134.6
INSTALLED CAPACITY (MW) :	120.7	114.4	123.3	133.0	108.6	121.2	135.2	101.8	116.5	134.1
GUARANTEED POWER (MW) :	38.7	37.3	60.2	82.8	36.4	67.0	96.9	35.1	70.2	104.0
AVERAGE FIRM POWER (MW) :	40.2	38.1	41.1	44.3	36.2	40.4	45.1	33.9	38.8	44.7
FIRM ENERGY (MIL KWH/Y) :	352.	334.	360.	388.	317.	354.	395.	297.	340.	392.
SECONDARY ENERGY (") :	28.	32.	34.	37.	37.	40.	44.	44.	47.	55.
ANNUAL AVERAGE E-GY (") :	380.	366.	394.	425.	354.	394.	439.	342.	388.	446.

D A M

DAM HEIGHT (M) :	156.0
EMBANKMENT VOL. (MIL M3) :	10.708
	150.5
	9.797
	152.5
	10.119
	145.6
	9.022
	149.2
	9.601
	156.0
	10.708
	140.6
	8.295
	145.3
	8.967
	156.0
	10.708

EVALUATION INDICES

CH/V :	19170.	19806.	19353.	16614.	20344.	19492.	18119.	20669.	19629.	17473.
C/V :	130.	139.	134.	126.	148.	139.	123.	156.	144.	119.
P/(20VT+VD) :	9.6	9.8	10.3	10.6	10.0	10.6	10.8	10.1	10.8	10.7
E(FIRM)/(20VT+VD) :	28.0	28.7	30.1	30.9	29.2	30.9	31.4	29.3	31.5	31.2
E(F+SEC*0.3)/(20VT+VD) :	28.7	29.5	30.9	31.8	30.2	31.9	32.5	30.7	32.8	32.5

PROJECT NAME : WAWA
 PROJECT ID : 4-115-1-1-0-1
 TYPE : RESERVOIR

BASIN NAME : PASIG
 RIVER NAME : WAWA

 * SUMMARY TABLE OF OUTPUTS *

ITEMS	CASE									
	1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.95	0.77	0.77	0.77	0.67	0.67	0.67	0.57	0.57	0.57
FULL SUPPLY LEVEL (M) :	151.0	143.0	146.2	151.0	138.1	143.1	151.0	132.5	139.8	151.0
MIN. OPERATING LEVEL (M) :	59.8	59.7	78.2	96.7	59.5	84.2	108.8	59.3	89.1	118.9
POWER										
FIRM DISCHARGE (M3/S) :	24.1	23.4	23.3	23.2	22.6	22.6	22.4	21.8	21.7	21.4
PLANT PEAK DIS. (M3/S) :	72.2	70.1	69.9	69.6	67.9	67.7	67.1	65.3	65.0	64.3
AVERAGE NET HEAD (M) :	94.1	88.8	96.9	106.2	85.5	96.9	110.1	81.7	98.3	113.4
INSTALLED CAPACITY (MW) :	55.9	51.2	55.8	60.8	47.8	54.0	60.9	43.9	51.6	60.0
GUARANTEED POWER (MW) :	18.9	18.2	28.3	38.2	17.6	30.5	43.2	16.8	31.8	46.3
AVERAGE FIRM POWER (MW) :	18.6	17.1	18.6	20.3	15.9	18.0	20.3	14.6	17.2	20.0
FIRM ENERGY (MIL KWH/Y) :	163.	150.	163.	178.	140.	158.	178.	128.	151.	175.
SECONDARY ENERGY (%) :	14.	17.	18.	19.	20.	22.	24.	24.	26.	30.
ANNUAL AVERAGE E-GY (%) :	177.	167.	181.	197.	160.	179.	202.	152.	176.	205.
D A M										
DAM HEIGHT (M) :	132.7	124.7	127.9	132.7	119.8	124.8	132.7	114.2	121.5	132.7
EMBANKMENT VOL. (MIL M3) :	6.206	5.315	5.654	6.206	4.802	5.325	6.206	4.250	4.973	6.206
EVALUATION INDICES										
CH/V	15215.	16157.	15549.	14654.	16608.	15569.	14122.	17137.	15561.	13511.
C/V	122.	139.	130.	116.	149.	134.	114.	162.	137.	109.
P/(20VT+VD)	7.0	7.2	7.5	7.6	7.2	7.6	7.6	7.2	7.6	7.5
E(FIRM)/(20VT+VD)	20.3	20.9	21.8	22.1	21.1	22.1	22.1	21.2	22.2	21.8
E(F+SEC*0.3)/(20VT+VD)	20.8	21.7	22.5	22.8	22.0	23.0	23.0	22.3	23.3	23.0

PROJECT NAME : BOSIGON
 PROJECT ID : 5-14-1-1-0-1
 TYPE : RESERVOIR

BASIN NAME : MATOCCON
 RIVER NAME : BOSIGON

 * SUMMARY TABLE OF OUTPUTS *

ITEMS	CASE									
	1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.38	0.35	0.35	0.35	0.30	0.30	0.30	0.25	0.25	0.25
FULL SUPPLY LEVEL (M) :	80.0	77.1	78.4	80.0	74.7	75.8	80.0	72.4	75.1	80.0
MIN. OPERATING LEVEL (M) :	56.8	51.7	56.2	60.6	51.5	57.9	64.3	51.2	59.6	68.1
POWER										
FIRM DISCHARGE (M ³ /S) :	19.0	18.6	18.5	18.3	17.7	17.5	17.3	16.5	16.3	16.0
PLANT PEAK DIS. (M ³ /S) :	114.1	111.6	110.8	110.1	106.0	105.0	103.8	99.2	97.8	96.1
AVERAGE NET HEAD (M) :	47.6	44.0	46.3	48.8	42.3	45.8	50.0	41.0	45.5	51.6
INSTALLED CAPACITY (MW) :	44.7	40.4	42.3	44.2	37.0	39.5	42.7	33.5	36.7	40.8
GUARANTEED POWER (MW) :	28.8	23.7	27.4	30.9	22.3	27.3	32.2	20.9	27.0	32.9
AVERAGE FIRM POWER (MW) :	7.4	6.7	7.0	7.4	6.2	6.6	7.1	5.6	6.1	6.8
FIRM ENERGY (MIL KWH/Y) :	65.	59.	62.	65.	54.	58.	62.	49.	54.	60.
SECONDARY ENERGY (") :	58.	56.	58.	60.	56.	59.	63.	57.	61.	68.
ANNUAL AVERAGE E-GY (") :	123.	115.	119.	124.	110.	117.	126.	106.	115.	127.

D A M

DAM HEIGHT (M) :	63.0	60.1	61.4	63.0	57.7	59.8	63.0	55.4	58.1	63.0
EMBANKMENT VOL. (MIL M3) :	1.451	1.290	1.366	1.451	1.163	1.273	1.451	1.056	1.180	1.451

EVALUATION INDICES

CH/V :	22853.	23833.	22930.	22039.	24012.	22553.	20753.	23754.	22077.	19334.
C/V :	413.	455.	426.	399.	479.	433.	376.	494.	435.	348.
P/(20VT+VD) :	18.2	17.7	17.9	18.1	17.3	17.6	17.7	16.8	17.4	17.2
E(FIRM)/(20VT+VD) :	26.5	25.8	26.2	26.4	25.3	25.8	25.8	24.6	25.4	25.1
E(F+SEC*0.3)/(20VT+VD) :	33.6	33.2	33.5	33.8	33.2	33.7	33.7	33.2	34.0	33.6

PROJECT NAME : PULANTUNA
 PROJECT ID : 5-20-0-1-0-1
 TYPE : RESERVOIR

BASIN NAME : BICOL
 RIVER NAME : PULANTUNA

 * SUMMARY TABLE OF OUTPUTS *

ITEMS	CASE									
	1	2	3	4	5	6	7	8	9	10
RESERVOIR										
RESERVOIR DEVELOP. COEF :	0.16	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.05	0.05
FULL SUPPLY LEVEL (M) :	65.0	64.1	65.0	63.8	64.1	64.4	64.7	65.0	52.7	65.0
MIN. OPERATING LEVEL (M) :	45.5	45.5	48.6	45.4	46.5	47.5	48.6	49.7	43.2	61.9
POWER										
FIRM DISCHARGE (M3/S) :	7.7	7.5	7.5	7.5	7.5	7.4	7.4	7.4	1.1	0.9
PLANT PEAK DIS. (M3/S) :	30.7	30.1	30.0	29.8	29.8	29.8	29.8	29.8	4.6	3.8
AVERAGE NET HEAD (M) :	35.8	35.2	36.8	35.0	35.5	36.1	36.6	37.2	27.6	41.9
INSTALLED CAPACITY (MW) :	9.1	8.7	9.1	8.6	8.7	8.8	9.0	9.1	1.0	1.3
GUARANTEED POWER (MW) :	5.5	5.4	6.1	5.3	5.6	5.8	6.0	6.3	0.8	1.2
AVERAGE FIRM POWER (MW) :	2.3	2.2	2.3	2.1	2.2	2.2	2.2	2.3	0.3	0.3
FIRM ENERGY (MIL KWH/Y) :	20.	19.	20.	19.	19.	19.	20.	20.	2.	3.
SECONDARY ENERGY (") :	26.	26.	26.	26.	26.	26.	26.	27.	7.	9.
ANNUAL AVERAGE E-CY (") :	46.	45.	46.	45.	45.	46.	46.	47.	9.	11.

D A M

DAM HEIGHT (M) :	50.2	49.3	50.2	49.0	49.3	49.6	49.9	50.2	37.9	50.2
EMBANKMENT VOL. (MIL M3) :	0.568	0.542	0.568	0.534	0.542	0.550	0.559	0.568	0.300	0.568

EVALUATION INDICES

CH/V :	18048.	18120.	17617.	18107.	17974.	17802.	17635.	17475	3704.	2261.
C/V :	427.	437.	417.	440.	434.	427.	420.	415.	121.	53.
P/(20VT+VD) :	8.1	8.0	8.1	7.9	8.0	8.1	8.1	8.2	1.3	1.2
E(FIRM)/(20VT+VD) :	17.7	17.5	17.8	17.4	17.5	17.6	17.7	17.9	2.9	2.7
E(F+SEC*0.3)/(20VT+VD) :	24.7	24.6	24.9	24.5	24.7	24.8	24.9	25.0	5.5	5.2

C-4 第一次建設費計算

PROJECT NAME : RIZAL
 PROJECT ID : 1-002-00-01-0
 TYPE : RESERVOIR

 * SUMMARY TABLE OF COST ESTIMATE *

(UNIT : MILLION USD)

I T E M	C A S E									
	1	2	3	4	5	6	7	8	9	10
POWER DEVELOPMENT (INST. CAP(KW))	(19.9)	(14.1)	(16.4)	(19.3)	(12.6)	(15.1)	(18.5)	(10.6)	(13.3)	(16.9)
STORAGE DAM	114.47	80.29	90.16	114.47	69.79	82.17	114.47	59.07	73.97	114.47
SPILLWAY	13.96	12.27	12.79	13.96	11.66	12.38	13.96	10.96	11.90	13.96
DIVERSION TUNNEL	16.22	16.22	16.22	16.22	16.22	16.22	16.22	16.22	16.22	16.22
INTAKE (PRESSURE TYPE)	0.83	0.98	0.83	0.70	0.91	0.74	0.81	0.80	0.64	0.51
HEADRACE TUNNEL (PRESSURE)	1.66	1.60	1.59	1.58	1.53	1.53	1.51	1.43	1.42	1.40
SURGE TANK	0.43	0.41	0.41	0.40	0.39	0.38	0.38	0.35	0.35	0.34
PENSTOCK	1.15	0.89	1.01	1.15	0.84	0.98	1.14	0.79	0.92	1.09
(PRESSURE SHAFT)	(0.49)	(0.44)	(0.47)	(0.50)	(0.43)	(0.47)	(0.50)	(0.42)	(0.46)	(0.49)
(STEEL LINER)	(0.65)	(0.45)	(0.54)	(0.65)	(0.42)	(0.51)	(0.64)	(0.37)	(0.47)	(0.60)
POWERHOUSE BUILDING	0.95	0.75	0.83	0.92	0.68	0.77	0.86	0.59	0.68	0.80
(SUPER STRUCTURE)	(0.43)	(0.33)	(0.37)	(0.41)	(0.30)	(0.34)	(0.39)	(0.26)	(0.30)	(0.35)
(SUB STRUCTURE)	(0.54)	(0.42)	(0.46)	(0.51)	(0.38)	(0.43)	(0.49)	(0.33)	(0.36)	(0.44)
MISCELLANEOUS CIVIL WORK	7.48	5.67	6.19	7.47	5.10	5.76	7.46	4.51	5.30	7.44
CONSTRUCTION FACILITIES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
POWER EQUIPMENT	5.42	4.52	4.82	5.18	4.18	4.54	4.94	3.71	4.09	4.52
ENGINEERING/ADMINISTRATION	20.32	15.45	16.86	20.26	13.91	15.68	20.20	12.30	14.44	20.09
CONTINGENCIES	36.58	27.81	30.34	36.46	25.04	28.23	36.35	22.15	25.98	36.17
S U B T O T A L	219.50	166.86	182.05	218.78	150.27	169.38	218.12	132.88	155.90	217.02

ACCESS ROAD (ROAD LENGTH 5.0 KM)

CONSTRUCTION COST	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
ENGINEERING ADMINISTRATION	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
CONTINGENCIES	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24
S U B T O T A L	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43	1.43

TRANSMISSION LINE SYSTEM (T/L LENGTH 4.0 KM)

TRANSMISSION LINE	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
SWITCHYARD AND SUBSTATION	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
ENGINEERING/ADMINISTRATION	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
CONTINGENCIES	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
S U B T O T A L	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47

T O T A L : 221.39 168.75 183.94 220.67 152.16 171.27 220.01 134.77 157.80 218.92

EVALUATION INDICES

U S D / K W	11117.2	11973.5	11243.9	11437.2	12093.4	11306.7	11877.7	12676.1	11851.5	12922.7
U S D / K W H	2.424	2.558	2.415	2.462	2.546	2.398	2.526	2.598	2.456	2.687

PROJECT NAME : BAGULIN
 PROJECT ID : 1-003-00-01-0
 TYPE : RESERVOIR

 * SUMMARY TABLE OF COST ESTIMATE *

(UNIT : MILLION USD)

I T E M	C A S E									
	1	2	3	4	5	6	7	8	9	10
POWER DEVELOPMENT (INST. CAP(MW))	(183.8)	(127.4)	(148.5)	(175.8)	(120.2)	(142.8)	(172.3)	(111.3)	(135.2)	(166.2)
STORAGE DAM	182.14	117.65	137.75	182.14	109.09	131.51	182.14	99.76	125.21	182.14
SPILLWAY	22.94	19.53	20.69	22.94	18.98	20.34	22.94	18.39	19.98	22.94
DIVERSION TUNNEL	28.43	28.43	28.43	28.43	28.43	28.43	28.43	28.43	28.43	28.43
INTAKE (PRESSURE TYPE)	4.30	4.68	4.13	3.69	4.49	3.91	3.46	4.24	3.65	3.20
HEADRACE TUNNEL (PRESSURE)	7.64	7.27	7.25	7.22	7.12	7.10	7.06	6.89	6.87	6.83
SURGE TANK	2.90	2.74	2.71	2.68	2.66	2.63	2.60	2.55	2.51	2.48
PENSTOCK	6.51	4.48	5.36	6.46	4.31	5.24	6.42	4.10	5.06	6.29
(PRESSURE SHAFT)	(1.44)	(1.24)	(1.35)	(1.46)	(1.23)	(1.35)	(1.46)	(1.22)	(1.34)	(1.46)
(STEEL LINER)	(5.06)	(3.24)	(4.01)	(5.00)	(3.08)	(3.89)	(4.96)	(2.88)	(3.72)	(4.83)
POWERHOUSE BUILDING	11.57	8.86	9.80	10.95	8.44	9.45	10.69	7.90	8.97	10.27
(SUPER STRUCTURE)	(5.14)	(3.94)	(4.35)	(4.87)	(3.75)	(4.20)	(4.75)	(3.51)	(3.99)	(4.56)
(SUB STRUCTURE)	(6.43)	(4.92)	(5.44)	(6.08)	(4.69)	(5.25)	(5.94)	(4.39)	(4.99)	(5.71)
MISCELLANEOUS CIVIL WORK	13.32	9.68	10.81	13.23	9.18	10.43	13.19	8.61	10.03	13.13
CONSTRUCTION FACILITIES	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
POWER EQUIPMENT	35.79	29.44	31.48	33.88	28.30	30.51	33.11	26.79	28.16	31.89
ENGINEERING/ADMINISTRATION	31.27	26.62	28.13	31.06	25.90	27.62	30.98	25.06	27.05	30.85
CONTINGENCIES	69.36	51.88	57.31	68.54	49.38	55.43	68.20	46.54	53.39	67.69
S U B T O T A L	416.16	311.25	343.84	411.21	296.26	332.60	409.21	279.25	320.31	406.14

ACCESS ROAD (ROAD LENGTH 10.0 KM)

CONSTRUCTION COST	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20
ENGINEERING ADMINISTRATION	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
CONTINGENCIES	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48
S U B T O T A L	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85	2.85

TRANSMISSION LINE SYSTEM (T/L LENGTH 18.0 KM)

TRANSMISSION LINE	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
SWITCHYARD AND SUBSTATION	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
ENGINEERING/ADMINISTRATION	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37
CONTINGENCIES	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
S U B T O T A L	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83

T O T A L : 422.84 317.93 350.51 417.69 302.94 339.28 415.89 285.93 326.99 412.82

EVALUATION INDICES

U S D / K W	2300.4	2495.7	2650.9	2376.5	2520.0	2376.0	2413.4	2568.2	2419.2	2484.5
U S D / K W H	1.454	1.522	1.452	1.467	1.520	1.447	1.476	1.522	1.450	1.496

PROJECT NAME : NAGUILIAN
 PROJECT ID : 1-003-00-02-0
 TYPE : RUN-OF-RIVER

 * SUMMARY TABLE OF COST ESTIMATE *

(UNIT : MILLION USD)

I T E M	C A S E					
	1	2	3	4	5	6
POWER DEVELOPMENT (INST. CAP. (MW))	(4.3)	(5.2)	(7.9)	(12.4)	(21.3)	(37.2)
DIVERSION DAM/WEIR	0.46	0.48	0.51	0.55	0.62	0.71
INTAKE (NON-PRESSURE TYPE)	0.11	0.13	0.17	0.23	0.33	0.47
HEADRACE TUNNEL (NON-PRES.)	5.76	5.76	5.76	6.37	8.55	11.73
HEAD TANK	0.10	0.11	0.14	0.19	0.27	0.37
PENSTOCK	2.68	2.80	3.13	3.76	5.20	7.40
(PRESSURE SHAFT)	(1.52)	(1.52)	(1.52)	(1.60)	(1.89)	(2.21)
(STEEL LINER)	(1.16)	(1.28)	(1.61)	(2.16)	(3.32)	(5.20)
POWERHOUSE BUILDING	0.15	0.19	0.29	0.64	1.38	2.70
(SUPER STRUCTURE)	(0.07)	(0.08)	(0.13)	(0.28)	(0.61)	(1.20)
(SUB STRUCTURE)	(0.08)	(0.10)	(0.16)	(0.36)	(0.77)	(1.50)
MISCELLANEOUS CIVIL WORK	0.46	0.47	0.50	0.59	0.82	1.17
CONSTRUCTION FACILITIES	0.	0.	0.	0.	0.	0.
POWER EQUIPMENT	0.90	1.09	1.60	2.42	4.01	6.47
ENGINEERING/ADMINISTRATION	1.33	1.38	1.51	1.64	2.65	3.88
CONTINGENCIES	2.39	2.48	2.72	3.32	4.78	6.98
S U B T O T A L	14.35	14.88	16.31	19.90	28.58	41.89

ACCESS ROAD (ROAD LENGTH 12.4 KM)

CONSTRUCTION COST	2.73	2.73	2.73	2.73	2.73	2.73
ENGINEERING ADMINISTRATION	0.22	0.22	0.22	0.22	0.22	0.22
CONTINGENCIES	0.59	0.59	0.59	0.59	0.59	0.59
S U B T O T A L	3.54	3.54	3.54	3.54	3.54	3.54

TRANSMISSION LINE SYSTEM (T/L LENGTH 17.4 KM)

TRANSMISSION LINE	0.40	0.40	0.40	0.40	0.40	0.80
SWITCHYARD AND SUBSTATION	0.27	0.27	0.27	0.27	0.27	0.54
ENGINEERING/ADMINISTRATION	0.08	0.08	0.08	0.08	0.08	0.17
CONTINGENCIES	0.11	0.11	0.11	0.11	0.11	0.23
S U B T O T A L	0.87	0.87	0.87	0.87	0.87	1.73

T O T A L : 18.76 19.28 20.71 24.30 32.99 47.16

EVALUATION INDICES

U S D / K W	4387.9	3673.0	2612.6	1960.3	1510.5	1268.6
U S D / K W H	0.724	0.701	0.659	0.675	0.708	0.780

PROJECT NAME : LUYA
 PROJECT ID : 1-010-00-01-0
 TYPE : RESERVOIR

 * SUMMARY TABLE OF COST ESTIMATE *

(UNIT : MILLION USD)

I T E M	C A S E									
	1	2	3	4	5	6	7	8	9	10
POWER DEVELOPMENT (INST.CAP(NW))	(411.7)	(278.2)	(333.5)	(397.3)	(261.8)	(321.0)	(389.9)	(241.6)	(303.9)	(376.7)
STORAGE DAM	439.50	292.62	348.25	439.50	273.49	395.24	439.50	252.17	321.21	439.50
SPILLWAY	33.32	27.89	30.11	33.32	27.06	29.60	33.32	26.14	29.06	33.32
DIVERSION TUNNEL	34.06	34.06	34.06	34.06	34.06	34.06	34.06	34.06	34.06	34.06
INTAKE (PRESSURE TYPE)	8.18	8.67	7.79	6.98	8.32	7.40	6.56	7.87	6.92	6.07
HEADRACE TUNNEL (PRESSURE)	14.05	13.38	13.35	13.30	13.10	13.06	13.01	12.68	12.64	12.58
SURGE TANK	5.62	5.31	5.25	5.19	5.15	5.09	5.02	4.92	4.86	4.80
PENSTOCK	16.31	10.86	13.37	16.37	10.40	13.05	16.27	9.82	12.58	15.97
(PRESSURE SHAFT)	(2.84)	(2.46)	(2.68)	(2.88)	(2.44)	(2.68)	(2.89)	(2.42)	(2.66)	(2.88)
(STEEL LINER)	(13.47)	(8.39)	(10.69)	(13.48)	(7.96)	(10.38)	(13.38)	(7.41)	(9.92)	(13.08)
POWERHOUSE BUILDING	30.22	22.75	25.65	28.77	21.63	24.75	28.12	20.20	23.50	27.06
(SUPER STRUCTURE)	(13.43)	(10.11)	(11.40)	(12.79)	(9.61)	(11.00)	(12.50)	(8.98)	(10.45)	(12.03)
(SUB STRUCTURE)	(16.79)	(12.64)	(14.25)	(15.98)	(12.02)	(13.75)	(15.62)	(11.22)	(13.06)	(15.03)
MISCELLANEOUS CIVIL WORK	29.06	20.78	23.39	28.87	19.66	23.11	28.79	18.39	22.24	28.67
CONSTRUCTION FACILITIES	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
POWER EQUIPMENT	69.23	56.28	60.97	65.82	54.03	59.12	64.36	51.06	56.51	62.06
ENGINEERING/ADMINISTRATION	46.93	39.58	42.47	46.66	38.47	41.73	46.54	37.16	40.88	46.36
CONTINGENCIES	145.30	106.43	121.03	143.77	101.07	117.25	143.11	94.90	112.90	142.09
S U B T O T A L	871.78	638.60	726.19	862.60	606.43	703.47	858.68	568.38	677.36	852.54

ACCESS ROAD (ROAD LENGTH 0. KM)

CONSTRUCTION COST	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ENGINEERING ADMINISTRATION	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
CONTINGENCIES	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
S U B T O T A L	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TRANSMISSION LINE SYSTEM (T/L LENGTH 45.0 KM)

TRANSMISSION LINE	9.90	9.90	9.90	9.90	9.90	9.90	9.90	9.90	9.90	9.90
SWITCHYARD AND SUBSTATION	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
ENGINEERING/ADMINISTRATION	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36
CONTINGENCIES	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83	1.83
S U B T O T A L	14.05	14.05	14.05	14.05	14.05	14.05	14.05	14.05	14.05	14.05

T O T A L : 885.83 652.65 740.24 876.65 620.48 717.52 872.73 583.43 691.43 866.59

EVALUATION INDICES

U S D / K W	2151.9	2346.2	2219.7	2206.6	2369.9	2235.3	2238.3	2414.6	2275.2	2300.3
U S D / K W H	1.360	1.429	1.364	1.363	1.426	1.360	1.370	1.427	1.363	1.387

PROJECT NAME : LUYA (FOR ALT.)
 PROJECT ID : 1-010-00-01-1
 TYPE : RUN-OF-RIVER

 * SUMMARY TABLE OF COST ESTIMATE *

(UNIT : MILLION USD)

I T E M	C A S E					
	1	2	3	4	5	6
POWER DEVELOPMENT (INST. CAP. (MW))	(4.2)	(5.2)	(8.1)	(13.2)	(23.2)	(39.6)
DIVERSION DAM/WEIR	0.67	0.68	0.69	0.71	0.74	0.78
INTAKE (NON-PRESSURE TYPE)	0.21	0.24	0.32	0.44	0.66	0.96
HEADRACE TUNNEL (NON-PRES.)	4.57	5.06	6.24	8.49	11.86	16.28
HEAD TANK	0.18	0.20	0.26	0.35	0.49	0.68
PENSTOCK	0.58	0.63	0.76	0.97	1.35	1.91
(PRESSURE SHAFT)	(0.34)	(0.36)	(0.41)	(0.48)	(0.56)	(0.66)
(STEEL LINER)	(0.24)	(0.27)	(0.35)	(0.50)	(0.78)	(1.25)
POWERHOUSE BUILDING	0.21	0.26	0.40	0.93	1.99	3.92
(SUPER STRUCTURE)	(0.09)	(0.12)	(0.18)	(0.41)	(0.89)	(1.74)
(SUB STRUCTURE)	(0.12)	(0.14)	(0.22)	(0.52)	(1.11)	(2.18)
MISCELLANEOUS CIVIL WORK	0.32	0.35	0.43	0.59	0.85	1.23
CONSTRUCTION FACILITIES	0.	0.	0.	0.	0.	0.
POWER EQUIPMENT	1.40	1.69	2.51	3.89	6.43	10.38
ENGINEERING/ADMINISTRATION	1.02	1.14	1.45	2.05	3.05	4.52
CONTINGENCIES	1.83	2.05	2.61	3.68	5.48	8.13
S U B T O T A L	10.97	12.29	15.68	22.11	32.91	48.77
ACCESS ROAD (ROAD LENGTH 15.0 KM)						
CONSTRUCTION COST	3.30	3.30	3.30	3.30	3.30	3.30
ENGINEERING ADMINISTRATION	0.26	0.26	0.26	0.26	0.26	0.26
CONTINGENCIES	0.71	0.71	0.71	0.71	0.71	0.71
S U B T O T A L	4.28	4.28	4.28	4.28	4.28	4.28
TRANSMISSION LINE SYSTEM (T/L LENGTH 35.0 KM)						
TRANSMISSION LINE	0.80	0.80	0.80	0.80	0.80	1.61
SWITCHYARD AND SUBSTATION	0.27	0.27	0.27	0.27	0.27	0.54
ENGINEERING/ADMINISTRATION	0.13	0.13	0.13	0.13	0.13	0.27
CONTINGENCIES	0.18	0.18	0.18	0.18	0.18	0.36
S U B T O T A L	1.39	1.39	1.39	1.39	1.39	2.78
T O T A L	16.64	17.96	21.35	27.78	38.58	55.83
EVALUATION INDICES						
U S D / K W	3961.3	3455.1	2646.8	2102.6	1663.0	1410.2
U S D / K W H	0.851	0.656	0.673	0.717	0.771	0.858

PROJECT NAME : BAKUM
 PROJECT ID : 1-010-00-02-0
 TYPE : RUN-OF-RIVER

 * SUMMARY TABLE OF COST ESTIMATE *

(UNIT : MILLION USD)

I T E M	C A S E					
	1	2	3	4	5	6
POWER DEVELOPMENT (INST. CAP.(MW))	(3.8)	(4.7)	(7.2)	(11.5)	(19.9)	(33.9)
DIVERSION DAM/WEIR	0.37	0.38	0.40	0.42	0.47	0.53
INTAKE (NON-PRESSURE TYPE)	0.09	0.10	0.13	0.17	0.25	0.36
HEADRACE TUNNEL (NON-PRES.)	3.04	3.04	3.04	3.04	3.64	4.90
HEAD TANK	0.08	0.09	0.11	0.15	0.21	0.29
PENSTOCK	1.20	1.25	1.39	1.62	2.15	3.05
(PRESSURE SHAFT)	(0.69)	(0.69)	(0.69)	(0.69)	(0.76)	(0.89)
(STEEL LINER)	(0.51)	(0.56)	(0.70)	(0.93)	(1.39)	(2.15)
POWERHOUSE BUILDING	0.12	0.15	0.24	0.53	1.14	2.23
(SUPER STRUCTURE)	(0.05)	(0.07)	(0.10)	(0.24)	(0.50)	(0.99)
(SUB STRUCTURE)	(0.07)	(0.08)	(0.13)	(0.30)	(0.63)	(1.24)
MISCELLANEOUS CIVIL WORK	0.25	0.25	0.27	0.30	0.39	0.57
CONSTRUCTION FACILITIES	0.00	0.00	0.00	0.00	0.00	0.00
POWER EQUIPMENT	0.72	0.87	1.28	1.96	3.23	5.20
ENGINEERING/ADMINISTRATION	0.73	0.77	0.86	1.03	1.44	2.14
CONTINGENCIES	1.32	1.38	1.54	1.85	2.58	3.85
S U B T O T A L	7.91	8.27	9.25	11.08	15.50	23.11

ACCESS ROAD (ROAD LENGTH 7.0 KM)

CONSTRUCTION COST	1.54	1.54	1.54	1.54	1.54	1.54
ENGINEERING ADMINISTRATION	0.12	0.12	0.12	0.12	0.12	0.12
CONTINGENCIES	0.33	0.33	0.33	0.33	0.33	0.33
S U B T O T A L	2.00	2.00	2.00	2.00	2.00	2.00

TRANSMISSION LINE SYSTEM (T/L LENGTH 18.2 KM)

TRANSMISSION LINE	0.42	0.42	0.42	0.42	0.42	0.84
SWITCHYARD AND SUBSTATION	0.27	0.27	0.27	0.27	0.27	0.54
ENGINEERING/ADMINISTRATION	0.09	0.09	0.09	0.09	0.09	0.17
CONTINGENCIES	0.12	0.12	0.12	0.12	0.12	0.23
S U B T O T A L	0.89	0.89	0.89	0.89	0.89	1.78

T O T A L : 10.80 11.15 12.13 13.96 16.39 26.89

EVALUATION INDICES

U S D / K W	2855.8	2389.4	1685.7	1214.6	923.5	793.3
U S D / K W H	0.471	0.456	0.432	0.418	0.433	0.488

PROJECT NAME : TIBUNEC
 PROJECT ID : 1-010-01-03-0
 TYPE : RESERVOIR

 * SUMMARY TABLE OF COST ESTIMATE *

(UNIT : MILLION USD)

I T E M	C A S E									
	1	2	3	4	5	6	7	8	9	10
POWER DEVELOPMENT (INST. CAP(MW))	(124.7)	(87.5)	(101.5)	(119.4)	(82.7)	(97.7)	(117.0)	(76.6)	(92.4)	(112.8)
STORAGE DAM	179.05	117.64	137.87	179.05	109.75	131.75	179.05	101.51	126.20	179.05
SPILLWAY	20.54	17.43	18.55	20.54	16.95	18.24	20.54	16.43	17.92	20.54
DIVERSION TUNNEL	15.32	15.32	15.32	15.32	15.32	15.32	15.32	15.32	15.32	15.32
INTAKE (PRESSURE TYPE)	3.24	3.45	3.07	2.78	3.31	2.91	2.61	3.13	2.72	2.42
HEADRACE TUNNEL (PRESSURE)	2.46	2.34	2.33	2.32	2.29	2.28	2.27	2.22	2.21	2.20
SURGE TANK	1.75	1.66	1.64	1.61	1.61	1.58	1.56	1.54	1.51	1.49
PENSTOCK	4.15	2.90	3.44	4.12	2.79	3.36	4.09	2.64	3.24	4.00
(PRESSURE SHAFT)	(0.79)	(0.59)	(0.75)	(0.80)	(0.69)	(0.75)	(0.80)	(0.68)	(0.74)	(0.80)
(STEEL LINER)	(3.36)	(2.21)	(2.69)	(3.32)	(2.10)	(2.61)	(3.29)	(1.96)	(2.50)	(3.20)
POWERHOUSE BUILDING	5.64	4.35	4.80	5.34	4.15	4.63	5.21	3.89	4.40	5.01
(SUPER STRUCTURE)	(2.51)	(1.94)	(2.13)	(2.37)	(1.84)	(2.06)	(2.32)	(1.73)	(1.95)	(2.23)
(SUB STRUCTURE)	(3.13)	(2.42)	(2.67)	(2.97)	(2.31)	(2.57)	(2.90)	(2.16)	(2.44)	(2.78)
MISCELLANEOUS CIVIL WORK	11.61	8.26	9.35	11.55	7.81	9.00	11.53	7.33	8.68	11.50
CONSTRUCTION FACILITIES	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
POWER EQUIPMENT	25.78	21.33	22.76	24.42	20.51	22.06	23.66	19.42	21.08	22.99
ENGINEERING/ADMINISTRATION	28.77	24.22	25.78	28.63	23.06	25.28	28.57	21.68	24.78	28.48
CONTINGENCIES	59.66	43.78	48.98	59.14	41.51	47.28	58.92	39.02	45.61	58.60
S U B T O T A L	357.95	262.69	293.90	354.81	249.07	283.71	353.54	234.13	273.66	351.59

ACCESS ROAD (ROAD LENGTH 0. KM)

CONSTRUCTION COST	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
ENGINEERING ADMINISTRATION	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
CONTINGENCIES	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
S U B T O T A L	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TRANSMISSION LINE SYSTEM (T/L LENGTH 27.0 KM)

TRANSMISSION LINE	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
SWITCHYARD AND SUBSTATION	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
ENGINEERING/ADMINISTRATION	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
CONTINGENCIES	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
S U B T O T A L	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12

T O T A L : 363.07 267.81 299.02 359.93 254.19 288.82 358.66 239.25 278.78 356.71

EVALUATION INDICES

U S D / K W	2912.7	3059.3	2945.5	3015.5	3074.5	2957.5	3065.5	3122.2	3015.8	3162.2
U S D / K W H	1.840	1.868	1.812	1.861	1.856	1.801	1.874	1.853	1.808	1.904

PROJECT NAME : AMBURAYAN
 PROJECT ID : I-010-01-04-0
 TYPE : RUN-OF-RIVER

 * SUMMARY TABLE OF COST ESTIMATE *

(UNIT : MILLION USD)

I T E M	C A S E					
	1	2	3	4	5	6
POWER DEVELOPMENT (INST. CAP (MW))	(6.6)	(8.0)	(12.5)	(20.4)	(35.6)	(61.1)
DIVERSION DAM/WEIR	0.59	0.61	0.66	0.72	0.83	0.97
INTAKE (NON-PRESSURE TYPE)	0.19	0.21	0.29	0.40	0.59	0.86
HEADRACE TUNNEL (NON-PRES.)	8.38	8.92	11.01	14.71	20.55	28.21
HEAD TANK	0.16	0.18	0.24	0.32	0.45	0.62
PENSTOCK	1.16	1.25	1.56	2.06	2.96	4.36
(PRESSURE SHAFT)	(0.60)	(0.62)	(0.70)	(0.81)	(0.96)	(1.12)
(STEEL LINER)	(0.56)	(0.63)	(0.85)	(1.24)	(2.00)	(3.24)
POWERHOUSE BUILDING	0.27	0.33	0.51	1.18	2.53	4.98
(SUPER STRUCTURE)	(0.12)	(0.15)	(0.23)	(0.53)	(1.13)	(2.21)
(SUB STRUCTURE)	(0.15)	(0.18)	(0.28)	(0.66)	(1.41)	(2.77)
MISCELLANEOUS CIVIL WORK	0.54	0.58	0.71	0.97	1.40	2.00
CONSTRUCTION FACILITIES	0.	0.	0.	0.	0.	0.
POWER EQUIPMENT	1.60	1.92	2.85	4.42	7.31	11.79
ENGINEERING/ADMINISTRATION	1.61	1.75	2.23	3.10	4.58	6.72
CONTINGENCIES	2.90	3.15	4.01	5.57	8.24	12.10
S U B T O T A L	17.39	18.92	24.06	33.45	49.44	72.61

ACCESS ROAD (ROAD LENGTH 15.4 KM)

CONSTRUCTION COST	3.39	3.39	3.39	3.39	3.39	3.39
ENGINEERING ADMINISTRATION	0.27	0.27	0.27	0.27	0.27	0.27
CONTINGENCIES	0.73	0.73	0.73	0.73	0.73	0.73
S U B T O T A L	4.39	4.39	4.39	4.39	4.39	4.39

TRANSMISSION LINE SYSTEM (T/L LENGTH 32.8 KM)

TRANSMISSION LINE	0.75	0.75	0.75	0.75	1.51	2.23
SWITCHYARD AND SUBSTATION	0.27	0.27	0.27	0.27	0.54	0.82
ENGINEERING/ADMINISTRATION	0.13	0.13	0.13	0.13	0.26	0.36
CONTINGENCIES	0.17	0.17	0.17	0.17	0.35	0.48
S U B T O T A L	1.32	1.32	1.32	1.32	2.65	3.88

T O T A L : 23.11 24.63 29.78 39.16 56.48 80.69

EVALUATION INDICES

U S D / K W	3498.8	3065.8	2387.9	1917.4	1575.8	1320.4
U S D / K W H	0.577	0.584	0.611	0.659	0.737	0.811

PROJECT NAME : USO
 PROJECT ID : 1-011-00-01-0
 TYPE : RESERVOIR

 * SUMMARY TABLE OF COST ESTIMATE *

(UNIT : MILLION USD)

I T E M	C A S E									
	1	2	3	4	5	6	7	8	9	10
POWER DEVELOPMENT (INST. CAP. (MW))	(10.1)	(6.8)	(8.2)	(9.9)	(6.0)	(7.7)	(9.6)	(5.2)	(6.9)	(9.0)
STORAGE DAM	126.24	80.14	97.37	126.24	69.88	90.96	126.24	59.94	83.89	126.24
SPILLWAY	10.63	8.73	9.51	10.63	6.23	9.22	10.63	7.70	8.91	10.63
DIVERSION TUNNEL	14.61	14.61	14.61	14.61	14.61	14.61	14.61	14.61	14.61	14.61
INTAKE (PRESSURE TYPE)	0.55	0.64	0.57	0.51	0.59	0.51	0.45	0.52	0.45	0.39
HEADRACE TUNNEL (PRESSURE)	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
SURGE TANK	0.26	0.26	0.26	0.26	0.25	0.24	0.24	0.23	0.22	0.22
PENSTOCK	0.80	0.66	0.73	0.80	0.69	0.71	0.80	0.60	0.68	0.78
(PRESSURE SHAFT)	(0.43)	(0.39)	(0.41)	(0.43)	(0.38)	(0.41)	(0.43)	(0.37)	(0.40)	(0.42)
(STEEL LINER)	(0.38)	(0.27)	(0.32)	(0.38)	(0.25)	(0.31)	(0.37)	(0.23)	(0.29)	(0.36)
POWERHOUSE BUILDING	0.54	0.41	0.47	0.53	0.37	0.44	0.51	0.33	0.39	0.47
(SUPER STRUCTURE)	(0.24)	(0.18)	(0.21)	(0.23)	(0.17)	(0.19)	(0.23)	(0.14)	(0.18)	(0.21)
(SUB STRUCTURE)	(0.30)	(0.23)	(0.26)	(0.29)	(0.21)	(0.24)	(0.28)	(0.18)	(0.22)	(0.26)
MISCELLANEOUS CIVIL WORK	7.72	5.31	6.22	7.72	4.77	5.88	7.72	4.24	5.50	7.71
CONSTRUCTION FACILITIES	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
POWER EQUIPMENT	3.35	2.77	3.02	3.23	2.57	2.86	3.15	2.30	2.61	2.93
ENGINEERING/ADMINISTRATION	20.69	14.30	16.70	20.68	12.84	15.78	20.65	11.41	14.76	20.60
CONTINGENCIES	37.25	25.73	30.06	37.22	23.12	28.41	37.17	20.54	26.58	37.08
S U B T O T A L	223.50	154.41	180.34	223.33	136.71	170.48	223.02	123.27	159.46	222.50

ACCESS ROAD (ROAD LENGTH 0. KM)	CONSTRUCTION COST	ENGINEERING ADMINISTRATION	CONTINGENCIES	S U B T O T A L
	0.	0.	0.	0.
	0.	0.	0.	0.
	0.	0.	0.	0.
	0.	0.	0.	0.

TRANSMISSION LINE SYSTEM (T/L LENGTH 40.0 KM)	TRANSMISSION LINE	SWITCHYARD AND SUBSTATION	ENGINEERING/ADMINISTRATION	CONTINGENCIES	S U B T O T A L
	0.92	0.92	0.92	0.92	0.92
	0.27	0.27	0.27	0.27	0.27
	0.15	0.15	0.15	0.15	0.15
	0.20	0.20	0.20	0.20	0.20
	1.54	1.54	1.54	1.54	1.54

T O T A L	225.02	155.95	181.88	224.87	140.25	172.02	224.56	124.81	161.00	224.04
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EVALUATION INDICES	U S D / K W	U S D / K W H
	22307.5	22999.3
	22098.5	22616.5
	23191.2	23352.7
	23315.0	24186.8
	23311.1	24991.8
	4.792	4.870
	4.706	4.830
	4.246	4.925
	4.705	4.935
	4.807	5.173

PROJECT NAME : CHICO-R
 PROJECT ID : 1-011-00-02-0
 TYPE : RUN-OF-RIVER

(UNIT : MILLION USD)

 * SUMMARY TABLE OF COST ESTIMATE *

I T E M	C A S E					
	1 (1.7)	2 (2.1)	3 (3.2)	4 (5.0)	5 (8.3)	6 (14.3)
POWER DEVELOPMENT (INST. CAP.(MW))						
DIVERSION DAM/WEIR	0.44	0.45	0.47	0.50	0.55	0.61
INTAKE (NON-PRESSURE TYPE)	0.09	0.10	0.12	0.17	0.24	0.34
HEADRACE TUNNEL (NON-PRES.)	7.05	7.05	7.05	7.05	8.12	10.81
HEAD TANK	0.07	0.08	0.11	0.14	0.20	0.28
PENSTOCK	1.51	1.55	1.64	1.78	2.15	2.83
(PRESSURE SHAFT)	(0.99)	(0.99)	(0.99)	(0.99)	(1.08)	(1.27)
(STEEL LINER)	(0.53)	(0.56)	(0.65)	(0.79)	(1.07)	(1.57)
POWERHOUSE BUILDING	0.07	0.09	0.13	0.30	0.62	1.22
(SUPER STRUCTURE)	(0.03)	(0.04)	(0.06)	(0.13)	(0.27)	(0.54)
(SUB STRUCTURE)	(0.04)	(0.05)	(0.07)	(0.17)	(0.34)	(0.68)
MISCELLANEOUS CIVIL WORK	0.46	0.47	0.48	0.50	0.59	0.80
CONSTRUCTION FACILITIES	0.	0.	0.	0.	0.	0.
POWER EQUIPMENT	0.48	0.58	0.86	1.30	2.10	3.39
ENGINEERING/ADMINISTRATION	1.27	1.30	1.36	1.47	1.82	2.54
CONTINGENCIES	2.29	2.33	2.44	2.64	3.28	4.57
S U B T O T A L	13.74	13.99	14.66	15.84	19.66	27.40

ACCESS ROAD (ROAD LENGTH 8.5 KM)

CONSTRUCTION COST	1.87	1.87	1.87	1.87	1.87	1.87
ENGINEERING ADMINISTRATION	0.15	0.15	0.15	0.15	0.15	0.15
CONTINGENCIES	0.40	0.40	0.40	0.40	0.40	0.40
S U B T O T A L	2.42	2.42	2.42	2.42	2.42	2.42

TRANSMISSION LINE SYSTEM (T/L LENGTH 37.0 KM)

TRANSMISSION LINE	0.85	0.85	0.85	0.85	0.85	0.85
SWITCHYARD AND SUBSTATION	0.27	0.27	0.27	0.27	0.27	0.27
ENGINEERING/ADMINISTRATION	0.14	0.14	0.14	0.14	0.14	0.14
CONTINGENCIES	0.19	0.19	0.19	0.19	0.19	0.19
S U B T O T A L	1.45	1.45	1.45	1.45	1.45	1.45

T O T A L : 17.62 17.86 18.53 19.72 23.54 31.27

EVALUATION INDICES

U S D / K W	10341.3	8515.3	5787.6	3969.0	2839.9	2191.6
U S D / K W H	1.706	1.624	1.481	1.365	1.330	1.347

PROJECT NAME : BANADANG
 PROJECT ID : 1-022-00-01-0
 TYPE : RESERVOIR

 * SUMMARY TABLE OF COST ESTIMATE *

(UNIT : MILLION USD)

I T E M	C A S E									
	1	2	3	4	5	6	7	8	9	10
POWER DEVELOPMENT (INST. CAP (MW))	(264.5)	(224.9)	(242.1)	(261.5)	(213.3)	(233.5)	(256.7)	(200.0)	(223.5)	(250.1)
STORAGE DAM	43.47	37.38	39.79	43.47	35.81	38.84	43.47	33.99	37.87	43.47
SPILLWAY	26.56	25.04	25.70	26.56	24.62	25.44	26.56	24.13	25.17	26.56
DIVERSION TUNNEL	82.70	82.70	82.70	82.70	82.70	82.70	82.70	82.70	82.70	82.70
INTAKE (PRESSURE TYPE)	11.59	11.93	11.50	11.11	11.51	11.01	10.57	11.01	10.46	9.97
HEADRACE TUNNEL (PRESSURE)	15.84	15.69	15.62	15.56	15.36	15.29	15.20	14.97	14.88	14.78
SURGE TANK	10.06	9.96	9.88	9.81	9.69	9.59	9.50	9.34	9.24	9.14
PENSTOCK	11.28	10.20	10.69	11.22	9.91	10.47	11.11	9.56	10.21	10.94
(PRESSURE SHAFT)	(3.95)	(3.83)	(3.89)	(3.95)	(3.80)	(3.87)	(3.94)	(3.76)	(3.84)	(3.92)
(STEEL LINER)	(7.33)	(6.37)	(6.80)	(7.27)	(6.11)	(6.60)	(7.17)	(5.80)	(6.37)	(7.02)
POWERHOUSE BUILDING	40.74	36.40	38.17	40.10	34.81	36.89	39.19	32.95	35.38	38.01
(SUPER STRUCTURE)	(18.11)	(16.18)	(16.96)	(17.82)	(15.47)	(16.39)	(17.42)	(14.64)	(15.72)	(16.89)
(SUB STRUCTURE)	(22.64)	(20.22)	(21.21)	(22.28)	(19.34)	(20.49)	(21.77)	(18.30)	(19.66)	(21.12)
MISCELLANEOUS CIVIL WORK	12.11	11.47	11.70	12.03	11.22	11.51	11.92	10.93	11.30	11.78
CONSTRUCTION FACILITIES	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
POWER EQUIPMENT	79.19	73.17	75.45	77.69	70.52	73.23	76.15	67.41	70.59	73.94
ENGINEERING/ADMINISTRATION	32.20	31.18	31.56	32.04	30.77	31.24	31.83	30.28	30.86	31.57
CONTINGENCIES	73.15	69.02	70.55	72.50	67.38	69.24	71.64	65.45	67.73	70.57
S U B T O T A L	438.89	414.14	423.32	434.98	404.28	415.43	429.85	392.72	406.39	423.43

ACCESS ROAD (ROAD LENGTH 0.5 KM)

CONSTRUCTION COST	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
ENGINEERING ADMINISTRATION	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
CONTINGENCIES	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
S U B T O T A L	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14

TRANSMISSION LINE SYSTEM (T/L LENGTH 24.0 KM)

TRANSMISSION LINE	5.28	2.66	5.28	5.28	2.66	5.28	5.28	2.66	2.66	5.28
SWITCHYARD AND SUBSTATION	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
ENGINEERING/ADMINISTRATION	0.78	0.45	0.78	0.78	0.45	0.78	0.78	0.45	0.45	0.78
CONTINGENCIES	1.05	0.61	1.05	1.05	0.61	1.05	1.05	0.61	0.61	1.05
S U B T O T A L	8.07	4.69	8.07	8.07	4.69	8.07	8.07	4.69	4.69	8.07

T O T A L : 447.11 418.97 431.53 443.19 409.12 423.65 438.06 397.55 411.22 431.65

EVALUATION INDICES

U S D / K W	1690.5	1863.1	1782.4	1695.0	1917.9	1814.1	1706.3	1987.5	1839.5	1725.7
U S D / K W H	0.547	0.598	0.573	0.545	0.611	0.578	0.544	0.626	0.580	0.545

PROJECT NAME : LANGIDEN
 PROJECT ID : 1-022-00-02-0
 TYPE : RESERVOIR

 * SUMMARY TABLE OF COST ESTIMATE *

(UNIT : MILLION USD)

I T E M	C A S E									
	1	2	3	4	5	6	7	8	9	10
POWER DEVELOPMENT (INST. CAP.(MW))	(2.9)	(2.5)	(3.0)	(2.4)	(2.5)	(2.7)	(2.8)	(3.0)	(2.3)	(2.9)
STORAGE DAM	36.67	29.93	36.67	28.34	29.72	31.62	33.99	36.67	26.63	36.67
SPILLWAY	7.54	7.27	7.84	7.11	7.25	7.41	7.61	7.84	6.94	7.84
DIVERSION TUNNEL	5.79	5.79	5.79	5.79	5.79	5.79	5.79	5.79	5.79	5.79
INTAKE (PRESSURE TYPE)	0.31	0.28	0.23	0.27	0.24	0.24	0.23	0.21	0.26	0.20
HEADRACE TUNNEL (PRESSURE)	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65
SURGE TANK	0.10	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.08
PENSTOCK	0.35	0.34	0.38	0.34	0.35	0.36	0.37	0.38	0.33	0.38
(PRESSURE SHAFT)	(0.23)	(0.22)	(0.24)	(0.22)	(0.23)	(0.23)	(0.24)	(0.24)	(0.22)	(0.24)
(STEEL LINER)	(0.13)	(0.12)	(0.14)	(0.12)	(0.12)	(0.13)	(0.13)	(0.14)	(0.11)	(0.14)
POWERHOUSE BUILDING	0.17	0.15	0.17	0.14	0.15	0.15	0.16	0.17	0.14	0.16
(SUPER STRUCTURE)	(0.08)	(0.07)	(0.08)	(0.06)	(0.07)	(0.07)	(0.07)	(0.07)	(0.06)	(0.07)
(SUB STRUCTURE)	(0.09)	(0.08)	(0.09)	(0.08)	(0.08)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)
MISCELLANEOUS CIVIL WORK	2.59	2.23	2.59	2.14	2.21	2.32	2.44	2.59	2.04	2.59
CONSTRUCTION FACILITIES	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
POWER EQUIPMENT	1.23	1.12	1.21	1.08	1.11	1.13	1.16	1.19	1.04	1.16
ENGINEERING/ADMINISTRATION	6.97	5.98	6.95	5.74	5.95	6.22	6.56	6.95	5.49	6.94
CONTINGENCIES	12.54	10.77	12.52	10.34	10.70	11.20	11.81	12.51	9.28	12.49
S U B T O T A L	75.23	64.61	75.11	62.04	64.22	67.18	70.88	75.04	59.28	74.96

ACCESS ROAD (ROAD LENGTH 12.5 KM)

CONSTRUCTION COST	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75	2.75
ENGINEERING ADMINISTRATION	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22
CONTINGENCIES	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59
S U B T O T A L	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3.56	3.56

TRANSMISSION LINE SYSTEM (T/L LENGTH 21.0 KM)

TRANSMISSION LINE	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48
SWITCHYARD AND SUBSTATION	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
ENGINEERING/ADMINISTRATION	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
CONTINGENCIES	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
S U B T O T A L	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97

T O T A L : 79.77 69.14 79.65 66.58 68.76 71.72 75.41 79.58 63.82 79.50

EVALUATION INDICES

U S D / K W	27469.9	27481.3	26360.7	27837.3	27215.6	28666.2	26710.5	26661.1	28326.1	27303.8
U S D / K W H	6.066	5.981	5.750	6.019	5.892	5.621	5.791	5.782	6.075	5.878

PROJECT NAME : BANOI
 PROJECT ID : 1-022-00-03-0
 TYPE : RESERVOIR

 * SUMMARY TABLE OF COST ESTIMATE *

(UNIT : MILLION USD)

I T E M	C A S E									
	1	2	3	4	5	6	7	8	9	10
POWER DEVELOPMENT (INST. CAP. (MW))	(3.1)	(2.5)	(2.8)	(3.1)	(2.4)	(2.7)	(3.1)	(2.2)	(2.6)	(3.0)
STORAGE DAM	109.35	68.82	97.07	109.35	64.41	94.44	109.35	79.96	91.97	109.35
SPILLWAY	7.22	6.50	6.60	7.22	6.33	6.71	7.22	6.17	6.62	7.22
DIVERSION TUNNEL	7.61	7.61	7.61	7.61	7.61	7.61	7.61	7.61	7.61	7.61
INTAKE (PRESSURE TYPE)	0.27	0.29	0.26	0.24	0.27	0.25	0.22	0.26	0.23	0.21
HEADRACE TUNNEL (PRESSURE)	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
SURGE TANK	0.12	0.12	0.12	0.12	0.12	0.12	0.11	0.11	0.11	0.11
PENSTOCK	0.36	0.33	0.35	0.37	0.33	0.35	0.37	0.32	0.34	0.36
(PRESSURE SHAFT)	(0.23)	(0.22)	(0.23)	(0.23)	(0.22)	(0.23)	(0.23)	(0.22)	(0.22)	(0.23)
(STEEL LINER)	(0.13)	(0.11)	(0.12)	(0.13)	(0.11)	(0.12)	(0.13)	(0.11)	(0.12)	(0.13)
POWERHOUSE BUILDING	0.19	0.16	0.17	0.18	0.15	0.17	0.18	0.14	0.16	0.17
(SUPER STRUCTURE)	(0.08)	(0.07)	(0.08)	(0.08)	(0.07)	(0.07)	(0.08)	(0.06)	(0.07)	(0.08)
(SUB STRUCTURE)	(0.10)	(0.09)	(0.10)	(0.10)	(0.08)	(0.09)	(0.10)	(0.08)	(0.09)	(0.10)
MISCELLANEOUS CIVIL WORK	6.30	5.24	5.67	6.30	5.01	5.53	6.30	4.78	5.40	6.30
CONSTRUCTION FACILITIES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
POWER EQUIPMENT	1.37	1.22	1.28	1.34	1.18	1.24	1.31	1.13	1.20	1.27
ENGINEERING/ADMINISTRATION	16.72	13.91	15.04	16.71	13.30	14.67	16.71	12.68	14.33	16.70
CONTINGENCIES	30.10	25.03	27.07	30.08	23.94	26.41	30.07	22.83	25.79	30.06
S U B T O T A L	180.60	150.20	162.41	180.51	143.62	158.48	180.44	136.99	154.73	180.35

ACCESS ROAD (ROAD LENGTH 0.5 KM)

CONSTRUCTION COST	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
ENGINEERING ADMINISTRATION	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
CONTINGENCIES	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
S U B T O T A L	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14

TRANSMISSION LINE SYSTEM (T/L LENGTH 35.0 KM)

TRANSMISSION LINE	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
SWITCHYARD AND SUBSTATION	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
ENGINEERING/ADMINISTRATION	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
CONTINGENCIES	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
S U B T O T A L	1.39	1.39	1.39	1.39	1.39	1.39	1.39	1.39	1.39	1.39

T O T A L : 182.13 151.73 163.95 182.04 145.16 159.99 181.97 136.52 156.26 181.88

EVALUATION INDICES

U S D / K W	57849.3	60616.7	58342.0	56582.9	61201.1	59475.9	59609.0	62286.2	60540.3	61151.4
U S D / K W H	12.696	13.179	12.814	12.765	13.239	12.874	12.912	13.346	13.027	13.146

PROJECT NAME : ALIP
 PROJECT ID : 1-022-00-04-0
 TYPE : RESERVOIR

 * SUMMARY TABLE OF COST ESTIMATE *

(UNIT : MILLION USD)

I T E M	C A S E									
	1	2	3	4	5	6	7	8	9	10
POWER DEVELOPMENT (INST.CAP.(MW))	(16.0)	(14.6)	(16.9)	(14.2)	(14.8)	(15.5)	(16.2)	(17.0)	(13.9)	(17.0)
STORAGE DAM	77.23	68.05	77.23	64.71	66.90	69.78	73.43	77.23	63.21	77.23
SPILLWAY	15.16	14.38	15.16	14.10	14.28	14.52	14.83	15.16	13.96	15.16
DIVERSION TUNNEL	20.33	20.33	20.33	20.33	20.33	20.33	20.33	20.33	20.33	20.33
INTAKE (PRESSURE TYPE)	1.02	0.96	0.84	0.94	0.90	0.86	0.82	0.79	0.92	0.76
HEADRACE TUNNEL (PRESSURE)	0.80	0.78	0.78	0.77	0.77	0.77	0.77	0.77	0.77	0.76
SURGE TANK	0.37	0.35	0.35	0.35	0.35	0.34	0.34	0.34	0.34	0.34
PENSTOCK	0.77	0.74	0.85	0.73	0.76	0.79	0.83	0.86	0.73	0.87
(PRESSURE SHAFT)	(0.36)	(0.36)	(0.39)	(0.36)	(0.37)	(0.38)	(0.39)	(0.39)	(0.36)	(0.40)
(STEEL LINER)	(0.41)	(0.38)	(0.46)	(0.37)	(0.40)	(0.42)	(0.44)	(0.47)	(0.37)	(0.47)
POWERHOUSE BUILDING	0.82	0.77	0.85	0.75	0.77	0.79	0.82	0.84	0.74	0.84
(SUPER STRUCTURE)	(0.37)	(0.34)	(0.38)	(0.33)	(0.34)	(0.35)	(0.36)	(0.36)	(0.33)	(0.37)
(SUB STRUCTURE)	(0.46)	(0.43)	(0.47)	(0.42)	(0.43)	(0.44)	(0.45)	(0.47)	(0.41)	(0.47)
MISCELLANEOUS CIVIL WORK	5.83	5.32	5.82	5.13	5.25	5.41	5.61	5.82	5.05	5.81
CONSTRUCTION FACILITIES	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
POWER EQUIPMENT	4.85	4.60	4.89	4.50	4.59	4.68	4.76	4.87	4.44	4.84
ENGINEERING/ADMINISTRATION	15.90	14.54	15.89	14.04	14.36	14.79	15.32	15.88	13.81	15.87
CONTINGENCIES	28.62	25.16	28.60	25.27	25.85	26.62	27.58	28.58	24.86	28.56
S U B T O T A L	171.69	156.99	171.57	151.63	155.13	159.70	165.48	171.48	149.15	171.38

ACCESS ROAD (ROAD LENGTH 8.0 KM)

CONSTRUCTION COST	1.76	1.76	1.76	1.76	1.76	1.76	1.76	1.76	1.76	1.76
ENGINEERING ADMINISTRATION	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
CONTINGENCIES	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38
S U B T O T A L	2.28	2.28	2.28	2.28	2.28	2.28	2.28	2.28	2.28	2.28

TRANSMISSION LINE SYSTEM (T/L LENGTH 10.0 KM)

TRANSMISSION LINE	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23
SWITCHYARD AND SUBSTATION	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
ENGINEERING/ADMINISTRATION	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
CONTINGENCIES	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
S U B T O T A L	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65

T O T A L : 174.62 159.92 174.50 154.56 158.05 162.62 168.41 174.40 152.07 174.31

EVALUATION INDICES

U S D / K W	10938.8	10924.6	10320.1	10914.7	10681.2	10500.8	10370.2	10257.4	10971.0	10260.2
U S D / K W H	2.430	2.410	2.281	2.401	2.351	2.313	2.285	2.261	2.407	2.262

PROJECT NAME : SUPO
 PROJECT ID : 1-022-00-05-0
 TYPE : RESERVOIR

 * SUMMARY TABLE OF COST ESTIMATE *

(UNIT : MILLION USD)

I T E M	C A S E									
	1	2	3	4	5	6	7	8	9	10
POWER DEVELOPMENT (INST. CAP (MW))	(142.3)	(132.1)	(134.5)	(135.5)	(139.5)	(142.1)	(119.5)	(123.4)	(132.1)	(137.0)
STORAGE DAM	55.55	51.56	52.43	53.36	54.46	55.55	47.29	48.62	52.76	55.55
SPILLWAY	23.16	22.53	22.66	22.81	22.98	23.16	21.81	22.05	22.72	23.16
DIVERSION TUNNEL	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
INTAKE (PRESSURE TYPE)	5.31	4.92	4.83	4.75	4.66	4.58	4.54	4.39	4.11	3.97
HEADRACE TUNNEL (PRESSURE)	5.38	5.18	5.17	5.17	5.16	5.16	4.94	4.93	4.91	4.90
SURGE TANK	3.41	3.23	3.22	3.22	3.21	3.20	3.03	3.01	2.98	2.97
PENSTOCK	5.41	5.16	5.25	5.35	5.44	5.54	4.82	4.97	5.29	5.47
(PRESSURE SHAFT)	(1.48)	(1.46)	(1.47)	(1.48)	(1.49)	(1.50)	(1.43)	(1.45)	(1.49)	(1.51)
(STEEL LINER)	(3.94)	(3.70)	(3.78)	(3.86)	(3.95)	(4.04)	(3.39)	(3.52)	(3.81)	(3.97)
POWERHOUSE BUILDING	10.79	10.08	10.20	10.32	10.44	10.56	9.22	9.41	9.83	10.07
(SUPER STRUCTURE)	(4.79)	(4.48)	(4.53)	(4.58)	(4.64)	(4.70)	(4.10)	(4.18)	(4.37)	(4.47)
(SUB STRUCTURE)	(5.99)	(5.60)	(5.66)	(5.73)	(5.80)	(5.87)	(5.12)	(5.23)	(5.46)	(5.59)
MISCELLANEOUS CIVIL WORK	6.95	6.63	6.69	6.75	6.82	6.89	6.28	6.37	6.63	6.80
CONSTRUCTION FACILITIES	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
POWER EQUIPMENT	36.53	34.47	34.73	34.99	35.27	35.54	31.98	32.41	33.34	33.85
ENGINEERING/ADMINISTRATION	22.81	21.72	21.90	22.09	22.31	22.52	20.49	20.77	21.57	22.09
CONTINGENCIES	41.06	39.10	39.42	39.76	40.15	40.54	36.88	37.39	38.83	39.77
S U B T O T A L	246.38	234.57	236.51	238.56	240.91	243.24	221.28	224.33	232.99	238.61

ACCESS ROAD (ROAD LENGTH 3.1 KM)

CONSTRUCTION COST	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
ENGINEERING ADMINISTRATION	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
CONTINGENCIES	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
S U B T O T A L	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88

TRANSMISSION LINE SYSTEM (T/L LENGTH 31.7 KM)

TRANSMISSION LINE	3.52	3.52	3.52	3.52	3.52	3.52	3.52	3.52	3.52	3.52
SWITCHYARD AND SUBSTATION	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
ENGINEERING/ADMINISTRATION	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56
CONTINGENCIES	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
S U B T O T A L	5.79	5.79	5.79	5.79	5.79	5.79	5.79	5.79	5.79	5.79

T O T A L	253.06	241.25	243.19	245.24	247.59	249.92	227.96	231.00	239.67	245.29
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EVALUATION INDICES

U S D / K W	1778.0	1826.8	1808.5	1791.0	1774.6	1758.7	1908.1	1872.2	1814.0	1790.5
U S O / K W H	0.734	0.741	0.734	0.727	0.721	0.715	0.756	0.743	0.722	0.714

PROJECT NAME : ETEB
 PROJECT ID : 1-022-00-06-0
 TYPE : RESERVOIR

 * SUMMARY TABLE OF COST ESTIMATE *

(UNIT : MILLION USD)

I T E M	C A S E									
	1	2	3	4	5	6	7	8	9	10
POWER DEVELOPMENT (INST.CAP(MW))	(106.7)	(80.6)	(93.4)	(107.1)	(74.8)	(99.1)	(104.7)	(69.0)	(84.9)	(102.2)
STORAGE DAM	58.77	39.30	47.69	58.77	36.01	45.73	58.77	32.81	43.70	58.77
SPILLWAY	18.74	16.04	17.29	18.74	15.51	17.01	18.74	14.96	16.71	18.74
DIVERSION TUNNEL	33.28	33.28	33.28	33.28	33.28	33.28	33.28	33.28	33.28	33.28
INTAKE (PRESSURE TYPE)	4.40	4.45	4.30	4.18	4.23	4.07	3.94	4.00	3.83	3.70
HEADRACE TUNNEL (PRESSURE)	4.54	4.45	4.45	4.44	4.34	4.33	4.32	4.22	4.21	4.21
SURGE TANK	2.96	2.89	2.88	2.87	2.79	2.78	2.76	2.69	2.67	2.66
PENSTOCK	4.96	4.10	4.50	4.93	3.94	4.38	4.87	3.77	4.26	4.81
(PRESSURE SHAFT)	(1.55)	(1.46)	(1.52)	(1.55)	(1.47)	(1.51)	(1.55)	(1.45)	(1.50)	(1.54)
(STEEL LINER)	(3.41)	(2.62)	(2.98)	(3.38)	(2.47)	(2.87)	(3.33)	(2.32)	(2.76)	(3.27)
POWERHOUSE BUILDING	8.65	7.03	7.75	8.48	6.61	7.42	8.25	6.18	7.09	8.01
(SUPER STRUCTURE)	(3.85)	(3.12)	(3.44)	(3.77)	(2.94)	(3.30)	(3.67)	(2.75)	(3.15)	(3.56)
(SUB STRUCTURE)	(4.81)	(3.91)	(4.30)	(4.71)	(3.67)	(4.12)	(4.58)	(3.43)	(3.94)	(4.45)
MISCELLANEOUS CIVIL WORK	6.82	5.58	6.11	6.78	5.34	5.95	6.75	5.10	5.79	6.71
CONSTRUCTION FACILITIES	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
POWER EQUIPMENT	30.63	26.46	28.24	30.02	25.17	27.20	29.22	23.86	26.16	28.40
ENGINEERING/ADMINISTRATION	21.72	17.95	19.56	21.56	17.15	19.02	21.36	16.36	18.47	21.16
CONTINGENCIES	39.09	32.31	35.21	38.81	30.87	34.23	38.48	29.45	33.24	38.09
S U B T O T A L	234.57	193.85	211.27	232.88	185.24	205.40	230.73	176.68	199.43	228.53

ACCESS ROAD (ROAD LENGTH 0.2 KM)

CONSTRUCTION COST	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
ENGINEERING ADMINISTRATION	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CONTINGENCIES	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
S U B T O T A L	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07

TRANSMISSION LINE SYSTEM (T/L LENGTH 36.5 KM)

TRANSMISSION LINE	4.05	4.05	4.05	4.05	4.05	4.05	4.05	4.05	4.05	4.05
SWITCHYARD AND SUBSTATION	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
ENGINEERING/ADMINISTRATION	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
CONTINGENCIES	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
S U B T O T A L	6.48	6.48	6.48	6.48	6.48	6.48	6.48	6.48	6.48	6.48

T O T A L : 241.12 200.40 217.82 239.43 191.79 211.95 237.28 180.76 205.98 235.09

EVALUATION INDICES

U S D / K W	2218.9	2484.9	2333.1	2235.6	2563.5	2377.8	2266.5	2618.7	2425.1	2301.0
U S D / K W H	0.947	1.046	0.985	0.946	1.066	0.993	0.949	1.075	1.001	0.953

PROJECT NAME : BUCNIT
 PROJECT ID : 1-022-00-07-0
 TYPE : RESERVOIR

 * SUMMARY TABLE OF COST ESTIMATE *

(UNIT : MILLION USD.)

I T E M	C A S E									
	1	2	3	4	5	6	7	8	9	10
POWER DEVELOPMENT (INST. CAP (MW))	(142.8)	(130.4)	(160.8)	(125.4)	(149.6)	(120.1)	(126.4)	(132.8)	(139.8)	(148.1)
STORAGE DAM	143.46	125.18	143.46	120.08	143.46	113.90	118.96	124.33	131.74	143.46
SPILLWAY	20.42	19.39	20.42	19.07	20.42	18.69	19.00	19.33	19.77	20.42
DIVERSION TUNNEL	25.63	25.63	25.63	25.63	25.63	25.63	25.63	25.63	25.63	25.63
INTAKE (PRESSURE TYPE)	5.60	5.26	4.62	5.11	4.39	4.96	4.75	4.54	4.33	4.15
HEADRACE TUNNEL (PRESSURE)	5.99	5.82	5.79	5.73	5.69	5.64	5.63	5.61	5.60	5.59
SURGE TANK	3.36	3.23	3.17	3.16	3.09	3.09	3.07	3.05	3.03	3.01
PENSTOCK	4.02	3.80	4.49	3.70	4.52	3.60	3.81	4.03	4.26	4.53
(PRESSURE SHAFT)	(1.09)	(1.08)	(1.17)	(1.07)	(1.18)	(1.06)	(1.09)	(1.13)	(1.16)	(1.19)
(STEEL LINER)	(2.94)	(2.72)	(3.32)	(2.63)	(3.34)	(2.53)	(2.71)	(2.90)	(3.11)	(3.34)
POWERHOUSE BUILDING	10.60	9.85	10.82	9.53	10.68	9.18	9.50	9.80	10.14	10.52
(SUPER STRUCTURE)	(4.71)	(4.38)	(4.81)	(4.23)	(4.74)	(4.08)	(4.22)	(4.36)	(4.50)	(4.67)
(SUB STRUCTURE)	(5.89)	(5.47)	(6.01)	(5.29)	(5.93)	(5.10)	(5.28)	(5.45)	(5.63)	(5.84)
MISCELLANEOUS CIVIL WORK	10.95	9.91	10.92	9.60	10.89	9.23	9.52	9.82	10.23	10.87
CONSTRUCTION FACILITIES	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
POWER EQUIPMENT	35.63	33.61	35.75	32.69	35.23	31.74	32.44	33.12	33.85	34.68
ENGINEERING/ADMINISTRATION	28.55	27.15	28.51	26.71	28.45	26.18	26.59	27.01	27.56	28.39
CONTINGENCIES	58.84	53.76	58.72	52.20	58.49	50.37	51.78	53.26	55.23	58.25
S U B T O T A L	353.05	322.58	352.31	313.21	350.93	302.21	310.67	319.54	331.38	349.50

ACCESS ROAD (ROAD LENGTH 15.0 KM)

CONSTRUCTION COST	3.30	3.30	3.30	3.30	3.30	3.30	3.30	3.30	3.30	3.30
ENGINEERING ADMINISTRATION	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
CONTINGENCIES	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
S U B T O T A L	4.28	4.28	4.28	4.28	4.28	4.28	4.28	4.28	4.28	4.28

TRANSMISSION LINE SYSTEM (T/L LENGTH 50.0 KM)

TRANSMISSION LINE	5.55	5.55	5.55	5.55	5.55	5.55	5.55	5.55	5.55	5.55
SWITCHYARD AND SUBSTATION	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
ENGINEERING/ADMINISTRATION	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
CONTINGENCIES	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
S U B T O T A L	8.42	8.42	8.42	8.42	8.42	8.42	8.42	8.42	8.42	8.42

T O T A L : 365.75 335.28 365.01 325.91 363.63 314.91 323.37 332.24 344.03 362.20

EVALUATION INDICES

U S D / K W	2560.4	2571.1	2420.2	2599.0	2431.4	2622.4	2558.2	2501.6	2460.6	2446.1
U S D / K W H	1.673	1.658	1.565	1.663	1.561	1.665	1.626	1.592	1.568	1.559

PROJECT NAME : UPPER BUCNIT
 PROJECT ID : 1-022-00-08-0
 TYPE : RESERVOIR

 * SUMMARY TABLE OF COST ESTIMATE *

(UNIT : MILLION USD)

I T E M	C A S E									
	1	2	3	4	5	6	7	8	9	10
POWER DEVELOPMENT (INST. CAP(MW))	(120.7)	(111.0)	(125.4)	(109.1)	(112.8)	(116.9)	(121.2)	(125.6)	(104.7)	(124.4)
STORAGE DAM	98.11	86.87	98.11	84.83	87.05	90.43	94.17	98.11	80.93	98.11
SPILLWAY	17.96	17.11	17.96	16.96	17.12	17.38	17.66	17.96	16.65	17.96
DIVERSION TUNNEL	32.64	32.64	32.64	32.64	32.64	32.64	32.64	32.64	32.64	32.64
INTAKE (PRESSURE TYPE)	5.16	4.87	4.45	4.81	4.69	4.57	4.46	4.34	4.67	4.13
HEADRACE TUNNEL (PRESSURE)	7.07	6.90	6.86	6.86	6.86	6.85	6.83	6.82	6.75	6.71
SURGE TANK	3.38	3.27	3.23	3.24	3.23	3.22	3.21	3.20	3.17	3.12
PENSTOCK	6.26	5.95	6.57	5.89	6.05	6.22	6.40	6.59	5.74	6.57
(PRESSURE SHAFT)	(1.85)	(1.84)	(1.90)	(1.84)	(1.85)	(1.87)	(1.89)	(1.90)	(1.83)	(1.90)
(STEEL LINER)	(4.40)	(4.11)	(4.67)	(4.05)	(4.20)	(4.35)	(4.52)	(4.68)	(3.91)	(4.66)
POWERHOUSE BUILDING	9.38	8.77	9.49	8.65	8.84	9.05	9.26	9.47	8.35	9.34
(SUPER STRUCTURE)	(4.17)	(3.90)	(4.22)	(3.84)	(3.93)	(4.02)	(4.12)	(4.21)	(3.71)	(4.15)
(SUB STRUCTURE)	(5.21)	(4.87)	(5.27)	(4.81)	(4.91)	(5.03)	(5.14)	(5.26)	(4.64)	(5.19)
MISCELLANEOUS CIVIL WORK	9.00	8.32	8.97	8.19	8.32	8.52	8.73	8.96	7.94	8.93
CONSTRUCTION FACILITIES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
POWER EQUIPMENT	32.58	30.89	32.55	30.56	31.00	31.48	31.96	32.44	29.69	31.95
ENGINEERING/ADMINISTRATION	25.93	24.92	25.89	24.74	24.94	25.23	25.54	25.87	24.34	25.80
CONTINGENCIES	49.49	46.10	49.34	45.47	46.14	47.11	48.17	49.28	44.17	49.05
S U B T O T A L	296.95	276.61	296.04	272.84	276.87	282.68	289.03	295.65	265.05	294.30

ACCESS ROAD (ROAD LENGTH 10.5 KM)

CONSTRUCTION COST	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31	2.31
ENGINEERING ADMINISTRATION	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
CONTINGENCIES	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
S U B T O T A L	2.99	2.99	2.99	2.99	2.99	2.99	2.99	2.99	2.99	2.99

TRANSMISSION LINE SYSTEM (T/L LENGTH 53.0 KM)

TRANSMISSION LINE	5.88	5.88	5.88	5.88	5.88	5.88	5.88	5.88	5.88	5.88
SWITCHYARD AND SUBSTATION	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
ENGINEERING/ADMINISTRATION	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
CONTINGENCIES	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15
S U B T O T A L	8.85	8.85	8.85	8.85	8.85	8.85	8.85	8.85	8.85	8.85

T O T A L

T O T A L	308.80	288.45	307.89	284.69	288.72	294.53	300.87	307.51	276.89	306.14
EVALUATION INDICES										
U S D / K W	2558.7	2599.8	2454.4	2609.3	2560.6	2519.4	2482.7	2449.2	2645.8	2461.0
U S D / K W H	1.672	1.679	1.588	1.681	1.651	1.626	1.602	1.581	1.692	1.578

PROJECT NAME : DAYAPAN
 PROJECT ID : 1-022-00-09-0
 TYPE : RESERVOIR

 * SUMMARY TABLE OF COST ESTIMATE *

(UNIT : MILLION USD)

I T E M	C A S E									
	1	2	3	4	5	6	7	8	9	10
POWER DEVELOPMENT (INST. CAP/MW)	(24.1)	(18.6)	(21.1)	(23.9)	(17.7)	(20.6)	(23.8)	(16.8)	(19.9)	(23.4)
STORAGE DAM	189.22	148.55	163.94	189.22	139.92	158.00	189.22	131.17	152.55	189.22
SPILLWAY	18.82	17.05	17.75	18.82	16.64	17.50	18.82	16.21	17.24	18.82
DIVERSION TUNNEL	19.51	19.51	19.51	19.51	19.51	19.51	19.51	19.51	19.51	19.51
INTAKE (PRESSURE TYPE)	0.96	1.14	1.01	0.90	1.10	0.96	0.84	1.06	0.91	0.78
HEADRACE TUNNEL (PRESSURE)	1.84	1.81	1.81	1.81	1.79	1.78	1.78	1.75	1.74	1.74
SURGE TANK	0.44	0.44	0.44	0.43	0.43	0.43	0.42	0.42	0.41	0.41
PENSTOCK	2.45	2.06	2.25	2.48	2.02	2.23	2.46	1.96	2.19	2.45
(PRESSURE SHAFT)	(0.97)	(0.91)	(0.94)	(0.97)	(0.91)	(0.94)	(0.97)	(0.90)	(0.94)	(0.97)
(STEEL LINER)	(1.48)	(1.15)	(1.31)	(1.49)	(1.11)	(1.29)	(1.49)	(1.07)	(1.26)	(1.48)
POWERHOUSE BUILDING	1.09	0.92	0.99	1.08	0.88	0.97	1.07	0.84	0.94	1.05
(SUPER STRUCTURE)	(0.49)	(0.41)	(0.44)	(0.48)	(0.39)	(0.43)	(0.47)	(0.37)	(0.42)	(0.46)
(SUB STRUCTURE)	(0.61)	(0.51)	(0.55)	(0.60)	(0.49)	(0.54)	(0.59)	(0.47)	(0.52)	(0.58)
MISCELLANEOUS CIVIL WORK	11.72	9.57	10.39	11.71	9.11	10.07	11.71	8.65	9.78	11.70
CONSTRUCTION FACILITIES	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
POWER EQUIPMENT	5.90	5.21	5.51	5.82	5.05	5.39	5.75	4.86	5.24	5.63
ENGINEERING/ADMINISTRATION	27.76	24.97	26.06	27.75	24.33	25.64	27.74	23.30	25.24	27.72
CONTINGENCIES	55.94	46.25	49.93	55.90	44.16	48.50	55.86	41.95	47.15	55.81
S U B T O T A L	335.66	277.48	299.60	335.43	264.93	290.97	335.15	251.67	282.91	334.83

ACCESS ROAD (ROAD LENGTH 4.0 KM)

CONSTRUCTION COST	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
ENGINEERING ADMINISTRATION	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
CONTINGENCIES	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
S U B T O T A L	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14	1.14

TRANSMISSION LINE SYSTEM (T/L LENGTH 12.0 KM)

TRANSMISSION LINE	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
SWITCHYARD AND SUBSTATION	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
ENGINEERING/ADMINISTRATION	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
CONTINGENCIES	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
S U B T O T A L	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71

T O T A L : 337.51 279.33 301.45 337.27 266.76 292.82 337.02 253.52 284.75 336.68

EVALUATION INDICES

U S D / K W : 14033.5 15002.9 14280.0 14083.3 15031.6 14240.6 14155.7 15111.2 14344.8 14373.8

U S D / K W H : 3.098 3.283 3.134 3.096 3.272 3.111 3.099 3.267 3.116 3.129

PROJECT NAME : ABRA
 PROJECT ID : 1-022-00-10-0
 TYPE : RUN-OF-RIVER

 * SUMMARY TABLE OF COST ESTIMATE *

(UNIT : MILLION USD)

I T E M	C A S E					
	1	2	3	4	5	6
POWER DEVELOPMENT (INST. CAP.(MW))	(2.4)	(3.4)	(4.8)	(6.6)	(9.7)	(10.7)
DIVERSION DAM/WEIR	0.44	0.46	0.48	0.51	0.55	0.56
INTAKE (NON-PRESSURE TYPE)	0.11	0.13	0.16	0.20	0.26	0.28
HEADRACE TUNNEL (NON-PRES.)	3.93	3.93	3.93	4.00	4.19	5.04
HEAD TANK	0.09	0.11	0.14	0.17	0.22	0.23
PENSTOCK	0.91	0.96	1.02	1.12	1.34	1.41
(PRESSURE SHAFT)	(0.57)	(0.57)	(0.57)	(0.59)	(0.65)	(0.67)
(STEEL LINER)	(0.34)	(0.38)	(0.45)	(0.54)	(0.69)	(0.74)
POWERHOUSE BUILDING	0.10	0.14	0.20	0.40	0.58	0.65
(SUPER STRUCTURE)	(0.05)	(0.06)	(0.09)	(0.18)	(0.26)	(0.29)
(SUB STRUCTURE)	(0.06)	(0.08)	(0.11)	(0.22)	(0.32)	(0.36)
MISCELLANEOUS CIVIL WORK	0.28	0.29	0.30	0.32	0.39	0.41
CONSTRUCTION FACILITIES	0.	0.	0.	0.	0.	0.
POWER EQUIPMENT	0.67	0.90	1.24	1.69	2.37	2.61
ENGINEERING/ADMINISTRATION	0.82	0.86	0.93	1.05	1.31	1.40
CONTINGENCIES	1.47	1.56	1.68	1.89	2.36	2.52
S U B T O T A L	8.82	9.33	10.07	11.34	14.17	15.09

ACCESS ROAD (ROAD LENGTH 10.0 KM)

CONSTRUCTION COST	2.20	2.20	2.20	2.20	2.20	2.20
ENGINEERING ADMINISTRATION	0.18	0.18	0.18	0.18	0.18	0.18
CONTINGENCIES	0.48	0.48	0.48	0.48	0.48	0.48
S U B T O T A L	2.85	2.85	2.85	2.85	2.85	2.85

TRANSMISSION LINE SYSTEM (T/L LENGTH 8.0 KM)

TRANSMISSION LINE	0.18	0.16	0.18	0.18	0.18	0.18
SWITCHYARD AND SUBSTATION	0.27	0.27	0.27	0.27	0.27	0.27
ENGINEERING/ADMINISTRATION	0.06	0.06	0.06	0.06	0.06	0.06
CONTINGENCIES	0.06	0.08	0.08	0.08	0.08	0.08
S U B T O T A L	0.59	0.59	0.59	0.59	0.59	0.59

T O T A L	12.25	12.77	13.51	14.78	17.61	18.53
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EVALUATION INDICES

U S D / K W	5019.5	3787.5	2844.8	2237.3	1819.6	1724.5
U S D / K W H	0.816	0.771	0.742	0.742	0.775	0.788

PROJECT NAME : NAGLIBACAN
 PROJECT ID : 1-022-01-11-0
 TYPE : RESERVOIR

 * SUMMARY TABLE OF COST ESTIMATE *

(UNIT : MILLION USD)

I T E M	C A S E									
	1	2	3	4	5	6	7	8	9	10
POWER DEVELOPMENT (INST. CAP. (MW))	(11.3)	(10.5)	(11.2)	(12.0)	(10.2)	(11.0)	(12.1)	(9.8)	(10.8)	(12.0)
STORAGE DAM	79.10	69.92	73.68	79.10	66.27	71.15	79.10	63.11	68.51	79.10
SPILLWAY	13.59	12.98	13.23	13.59	12.74	13.06	13.59	12.50	12.88	13.59
DIVERSION TUNNEL	13.83	13.83	13.83	13.83	13.83	13.83	13.83	13.83	13.83	13.83
INTAKE (PRESSURE TYPE)	0.76	0.72	0.67	0.61	0.70	0.64	0.58	0.68	0.61	0.54
HEADRACE TUNNEL (PRESSURE)	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
SURGE TANK	0.26	0.25	0.25	0.25	0.25	0.25	0.25	0.24	0.24	0.24
PENSTOCK	0.50	0.46	0.52	0.56	0.48	0.53	0.57	0.47	0.52	0.58
(PRESSURE SHAFT)	(0.26)	(0.25)	(0.27)	(0.28)	(0.25)	(0.27)	(0.29)	(0.25)	(0.27)	(0.29)
(STEEL LINER)	(0.25)	(0.23)	(0.26)	(0.28)	(0.23)	(0.26)	(0.29)	(0.22)	(0.25)	(0.29)
POWERHOUSE BUILDING	0.58	0.54	0.57	0.59	0.53	0.56	0.59	0.51	0.55	0.59
(SUPER STRUCTURE)	(0.26)	(0.24)	(0.25)	(0.26)	(0.24)	(0.25)	(0.26)	(0.23)	(0.24)	(0.26)
(SUB STRUCTURE)	(0.32)	(0.30)	(0.32)	(0.33)	(0.29)	(0.31)	(0.33)	(0.28)	(0.30)	(0.33)
MISCELLANEOUS CIVIL WORK	5.47	4.98	5.18	5.47	4.78	5.04	5.46	4.61	4.90	5.46
CONSTRUCTION FACILITIES	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
POWER EQUIPMENT	3.51	3.34	3.44	3.54	3.28	3.40	3.53	3.19	3.32	3.48
ENGINEERING/ADMINISTRATION	14.80	13.48	14.02	14.79	12.96	13.65	14.79	12.49	13.27	14.77
CONTINGENCIES	26.64	24.25	25.23	26.62	23.32	24.58	26.61	22.48	23.88	26.59
S U B T O T A L	159.82	145.57	151.40	159.75	139.92	147.46	159.68	134.89	143.29	159.55

ACCESS ROAD (ROAD LENGTH 38.0 KM)

CONSTRUCTION COST	8.36	8.36	8.36	8.36	8.36	8.36	8.36	8.36	8.36	8.36
ENGINEERING ADMINISTRATION	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
CONTINGENCIES	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81	1.81
S U B T O T A L	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83	10.83

TRANSMISSION LINE SYSTEM (T/L LENGTH 27.0 KM)

TRANSMISSION LINE	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62
SWITCHYARD AND SUBSTATION	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
ENGINEERING/ADMINISTRATION	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
CONTINGENCIES	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
S U B T O T A L	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15

T O T A L	171.81	157.56	163.38	171.73	151.91	159.45	171.67	146.88	155.28	171.54
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EVALUATION INDICES

U S D / K W	15149.3	15032.2	14580.1	14297.3	14948.5	14443.1	14227.5	15047.6	14432.4	14320.6
U S D / K W H	3.365	3.317	3.220	3.160	3.289	3.182	3.137	3.295	3.166	3.145

PROJECT NAME : TINEG-1
 PROJECT ID : 1-022-01-12-0
 TYPE : RESERVOIR

 * SUMMARY TABLE OF COST ESTIMATE *

(UNIT : MILLION USD)

I T E M	C A S E									
	1	2	3	4	5	6	7	8	9	10
POWER DEVELOPMENT (INST. CAP(MW))	(367.9)	(301.6)	(330.9)	(364.9)	(289.0)	(322.1)	(361.3)	(274.4)	(311.3)	(355.1)
STORAGE DAM	237.96	190.95	209.25	237.96	181.66	202.38	237.96	171.24	195.53	237.96
SPELLWAY	33.36	30.59	31.69	33.36	29.98	31.30	33.36	29.30	30.89	33.36
DIVERSION TUNNEL	48.76	49.76	49.76	49.76	49.76	49.76	49.76	49.76	49.76	49.76
INTAKE (PRESSURE TYPE)	8.15	8.81	8.25	7.75	8.54	7.91	7.36	8.22	7.54	6.94
HEADRACE TUNNEL (PRESSURE)	14.89	14.69	14.67	14.64	14.45	14.43	14.30	14.16	14.13	14.08
SURGE TANK	5.97	5.90	5.87	5.83	5.77	5.73	5.68	5.61	5.56	5.51
PENSTOCK	10.61	8.34	9.44	10.70	8.08	9.32	10.76	7.78	9.14	10.74
(PRESSURE SHAFT)	(2.04)	(1.83)	(1.95)	(2.06)	(1.82)	(1.95)	(2.08)	(1.80)	(1.95)	(2.09)
(STEEL LINER)	(8.57)	(6.51)	(7.49)	(8.64)	(6.26)	(7.37)	(8.68)	(5.98)	(7.19)	(8.65)
POWERHOUSE BUILDING	28.66	24.95	26.52	28.28	24.06	25.85	27.87	23.02	25.02	27.27
(SUPER STRUCTURE)	(12.74)	(11.09)	(11.79)	(12.57)	(10.70)	(11.49)	(12.38)	(10.23)	(11.12)	(12.12)
(SUB STRUCTURE)	(15.92)	(13.86)	(14.74)	(15.71)	(13.37)	(14.36)	(15.48)	(12.79)	(13.90)	(15.15)
MISCELLANEOUS CIVIL WORK	19.47	16.70	17.77	19.41	16.12	17.33	19.36	15.45	16.88	19.28
CONSTRUCTION FACILITIES	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
POWER EQUIPMENT	67.77	61.47	64.03	66.81	59.68	62.60	65.79	57.54	60.83	64.39
ENGINEERING/ADMINISTRATION	38.89	36.02	37.16	38.80	35.36	36.88	38.71	34.60	36.16	38.58
CONTINGENCIES	103.10	89.64	94.89	102.66	85.69	92.86	102.20	83.34	90.29	101.57
S U B T O T A L	618.58	537.81	559.31	615.95	520.15	555.95	613.18	500.02	541.72	609.43

ACCESS ROAD (ROAD LENGTH 16.0 KM)

CONSTRUCTION COST	3.52	3.30	3.52	3.52	3.52	3.52	3.52	3.52	3.52	3.52
ENGINEERING ADMINISTRATION	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
CONTINGENCIES	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
S U B T O T A L	4.56	4.56	4.56	4.56	4.56	4.56	4.56	4.56	4.56	4.56

TRANSMISSION LINE SYSTEM (T/L LENGTH 15.0 KM)

TRANSMISSION LINE	3.30	3.30	3.30	3.30	3.30	3.30	3.30	3.30	3.30	3.30
SWITCHYARD AND SUBSTATION	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
ENGINEERING/ADMINISTRATION	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53
CONTINGENCIES	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
S U B T O T A L	5.51	5.51	5.51	5.51	5.51	5.51	5.51	5.51	5.51	5.51

T O T A L : 628.65 547.88 579.39 626.02 530.23 566.02 623.25 510.10 551.80 619.50

EVALUATION INDICES

U S D / K W	1708.6	1816.3	1750.8	1715.5	1834.7	1757.1	1725.0	1859.1	1772.5	1744.7
U S D / K W H	1.107	1.164	1.125	1.104	1.166	1.121	1.102	1.170	1.120	1.105

PROJECT NAME : TINES-2
 PROJECT ID : 1-022-01-13-0
 TYPE : RESERVOIR

 * SUMMARY TABLE OF COST ESTIMATE *

(UNIT : MILLION USD)

I T E M	C A S E									
	1	2	3	4	5	6	7	8	9	10
POWER DEVELOPMENT (INST. CAP.(MW))	(134.5)	(105.9)	(118.1)	(132.2)	(100.6)	(113.8)	(129.9)	(94.9)	(108.9)	(126.6)
STORAGE DAM	211.74	156.78	178.41	211.74	146.90	170.17	211.74	137.29	162.29	211.74
SPILLWAY	26.00	23.31	24.40	26.00	22.77	24.01	26.00	22.22	23.61	26.00
DIVERSION TUNNEL	30.13	30.13	30.13	30.13	30.13	30.13	30.13	30.13	30.13	30.13
INTAKE (PRESSURE TYPE)	3.30	3.53	3.22	2.94	3.40	3.06	2.77	3.25	2.87	2.58
HEADRACE TUNNEL (PRESSURE)	4.45	4.33	4.32	4.31	4.24	4.23	4.22	4.13	4.12	4.10
SURGE TANK	1.89	1.83	1.81	1.80	1.78	1.76	1.74	1.71	1.69	1.68
PENSTOCK	5.72	4.46	5.06	5.75	4.30	4.94	5.72	4.11	4.80	5.64
(PRESSURE SHAFT)	(1.02)	(0.93)	(0.98)	(1.03)	(0.93)	(0.98)	(1.03)	(0.92)	(0.98)	(1.03)
(STEEL LINER)	(4.70)	(3.53)	(4.08)	(4.73)	(3.37)	(3.96)	(4.69)	(3.19)	(3.82)	(4.62)
POWERHOUSE BUILDING	5.79	4.87	5.23	5.64	4.66	5.05	5.51	4.43	4.85	5.35
(SUPER STRUCTURE)	(2.57)	(2.17)	(2.22)	(2.50)	(2.07)	(2.25)	(2.45)	(1.97)	(2.15)	(2.38)
(SUB STRUCTURE)	(3.22)	(2.71)	(2.91)	(3.13)	(2.59)	(2.81)	(3.06)	(2.46)	(2.69)	(2.97)
MISCELLANEOUS CIVIL WORK	14.45	11.46	12.63	14.42	10.91	12.17	14.39	10.36	11.72	14.36
CONSTRUCTION FACILITIES	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
POWER EQUIPMENT	25.83	22.78	23.88	25.09	21.97	23.18	24.56	21.05	22.35	23.87
ENGINEERING/ADMINISTRATION	31.98	28.42	29.85	31.91	27.70	29.28	31.85	26.97	28.70	31.78
CONTINGENCIES	72.26	58.38	63.79	71.94	55.75	61.59	71.73	53.13	59.43	71.45
S U B T O T A L	433.55	350.28	382.72	431.67	334.50	369.57	430.36	318.80	356.56	428.70

ACCESS ROAD (ROAD LENGTH 36.0 KM)

CONSTRUCTION COST	7.92	7.92	7.92	7.92	7.92	7.92	7.92	7.92	7.92	7.92
ENGINEERING ADMINISTRATION	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
CONTINGENCIES	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71	1.71
S U B T O T A L	10.26	10.26	10.26	10.26	10.26	10.26	10.26	10.26	10.26	10.26

TRANSMISSION LINE SYSTEM (T/L LENGTH 27.0 KM)

TRANSMISSION LINE	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
SWITCHYARD AND SUBSTATION	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
ENGINEERING/ADMINISTRATION	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
CONTINGENCIES	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
S U B T O T A L	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12	5.12

T O T A L : 448.93 365.66 398.11 447.05 349.88 384.95 445.74 334.18 371.95 444.09

EVALUATION INDICES

U S D / K W	3336.7	3451.7	3372.1	3380.6	3476.5	3382.4	3431.3	3522.4	3416.3	3507.2
U S D / K W H	2.163	2.196	2.152	2.162	2.189	2.138	2.174	2.189	2.134	2.197

PROJECT NAME : TINEG-3
 PROJECT ID : 1-022-01-14-0
 TYPE : RESERVOIR

 * SUMMARY TABLE OF COST ESTIMATE *

(UNIT : MILLION USD)

I T E M	C A S E									
	1	2	3	4	5	6	7	8	9	10
POWER DEVELOPMENT (INST. CAP (MW))	(16.8)	(15.0)	(17.9)	(14.4)	(17.8)	(13.8)	(14.7)	(15.6)	(16.6)	(17.6)
STORAGE DAM	121.53	102.73	121.53	97.83	121.53	93.13	97.62	103.93	112.29	121.53
SPILLWAY	15.88	14.89	15.88	14.61	15.88	14.33	14.60	14.95	15.40	15.88
DIVERSION TUNNEL	22.59	22.59	22.59	22.59	22.59	22.59	22.59	22.59	22.59	22.59
INTAKE (PRESSURE TYPE)	1.06	0.97	0.82	0.95	0.76	0.92	0.86	0.81	0.76	0.71
HEADRACE TUNNEL (PRESSURE)	0.72	0.70	0.70	0.69	0.68	0.58	0.68	0.68	0.67	0.67
SURGE TANK	0.38	0.36	0.36	0.36	0.35	0.35	0.35	0.34	0.34	0.34
PENSTOCK	2.20	2.10	2.32	2.06	2.31	2.02	2.09	2.16	2.23	2.31
(PRESSURE SHAFT)	(1.03)	(1.02)	(1.05)	(1.01)	(1.05)	(1.00)	(1.02)	(1.03)	(1.04)	(1.04)
(STEEL LINER)	(1.18)	(1.08)	(1.27)	(1.05)	(1.27)	(1.02)	(1.07)	(1.13)	(1.20)	(1.26)
POWERHOUSE BUILDING	0.88	0.80	0.90	0.77	0.89	0.75	0.78	0.81	0.84	0.87
(SUPER STRUCTURE)	(0.39)	(0.36)	(0.40)	(0.34)	(0.39)	(0.33)	(0.34)	(0.36)	(0.37)	(0.39)
(SUB STRUCTURE)	(0.49)	(0.44)	(0.50)	(0.43)	(0.49)	(0.41)	(0.43)	(0.45)	(0.47)	(0.49)
MISCELLANEOUS CIVIL WORK	8.26	7.26	8.25	6.99	8.25	6.74	6.98	7.31	7.76	8.25
CONSTRUCTION FACILITIES	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
POWER EQUIPMENT	5.15	4.80	5.17	4.56	5.10	4.52	4.65	4.77	4.90	5.03
ENGINEERING/ADMINISTRATION	22.33	19.65	22.31	18.94	22.29	18.25	18.90	19.79	20.97	22.27
CONTINGENCIES	40.20	35.37	40.16	34.03	40.13	32.86	34.02	35.63	37.75	40.09
S U B T O T A L	241.19	212.22	240.98	204.53	240.77	197.13	204.10	213.77	226.51	240.54

ACCESS ROAD (ROAD LENGTH 51.0 KM)

CONSTRUCTION COST	11.22	11.22	11.22	11.22	11.22	11.22	11.22	11.22	11.22	11.22
ENGINEERING ADMINISTRATION	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
CONTINGENCIES	2.42	2.42	2.42	2.42	2.42	2.42	2.42	2.42	2.42	2.42
S U B T O T A L	14.54	14.54	14.54	14.54	14.54	14.54	14.54	14.54	14.54	14.54

TRANSMISSION LINE SYSTEM (T/L LENGTH 39.0 KM)

TRANSMISSION LINE	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
SWITCHYARD AND SUBSTATION	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
ENGINEERING/ADMINISTRATION	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
CONTINGENCIES	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
S U B T O T A L	1.51	1.51	1.51	1.51	1.51	1.51	1.51	1.51	1.51	1.51

T O T A L : 257.24 228.27 257.03 220.58 256.82 213.18 220.15 229.82 242.56 256.59

EVALUATION INDICES

U S D / K W	15330.2	15213.5	14395.6	15329.6	14468.2	15467.7	15022.8	14750.2	14630.5	14575.0
U S D / K W H	3.408	3.348	3.175	3.357	3.178	3.371	3.279	3.222	3.198	3.188

PROJECT NAME : BINONGAN-R
 PROJECT ID : 1-022-02-15-0
 TYPE : RUN-OFF-RIVER

(UNIT : MILLION USD)

 * SUMMARY TABLE OF COST ESTIMATE *

I T E M	C A S E					
	1	2	3	4	5	6
POWER DEVELOPMENT (INST. CAP (MW))	(3.1)	(3.9)	(5.7)	(8.3)	(12.3)	(13.6)
DIVERSION DAM/WEIR	1.03	1.07	1.13	1.21	1.31	1.34
INTAKE (NON-PRESSURE TYPE)	0.16	0.20	0.26	0.33	0.43	0.46
HEADRACE TUNNEL (NON-PRES.)	11.45	11.75	13.97	17.05	21.40	22.78
HEAD TANK	0.14	0.17	0.22	0.27	0.34	0.36
PENSTOCK	0.68	0.72	0.84	0.99	1.20	1.26
(PRESSURE SHAFT)	(0.41)	(0.43)	(0.48)	(0.53)	(0.60)	(0.61)
(STEEL LINER)	(0.26)	(0.29)	(0.36)	(0.46)	(0.60)	(0.65)
POWERHOUSE BUILDING	0.15	0.20	0.29	0.59	0.87	0.97
(SUPER STRUCTURE)	(0.07)	(0.09)	(0.13)	(0.26)	(0.39)	(0.43)
(SUB STRUCTURE)	(0.09)	(0.11)	(0.16)	(0.33)	(0.48)	(0.54)
MISCELLANEOUS CIVIL WORK	0.58	0.71	0.83	1.02	1.28	1.36
CONSTRUCTION FACILITIES	0.	0.	0.	0.	0.	0.
POWER EQUIPMENT	1.05	1.35	1.86	2.61	3.68	4.04
ENGINEERING/ADMINISTRATION	1.92	2.02	2.42	3.01	3.81	4.07
CONTINGENCIES	3.45	3.64	4.36	5.42	6.86	7.33
S U B T O T A L	20.71	21.84	26.19	32.50	41.18	43.98

ACCESS ROAD (ROAD LENGTH 27.0 KM)

CONSTRUCTION COST	5.94	5.94	5.94	5.94	5.94	5.94
ENGINEERING ADMINISTRATION	0.48	0.48	0.48	0.48	0.48	0.48
CONTINGENCIES	1.28	1.28	1.28	1.28	1.28	1.28
S U B T O T A L	7.70	7.70	7.70	7.70	7.70	7.70

TRANSMISSION LINE SYSTEM (T/L LENGTH 36.0 KM)

TRANSMISSION LINE	0.83	0.83	0.83	0.83	0.83	0.83
SWITCHYARD AND SUBSTATION	0.27	0.27	0.27	0.27	0.27	0.27
ENGINEERING/ADMINISTRATION	0.14	0.14	0.14	0.14	0.14	0.14
CONTINGENCIES	0.19	0.19	0.19	0.19	0.19	0.19
S U B T O T A L	1.42	1.42	1.42	1.42	1.42	1.42

T O T A L : 29.83 30.96 35.30 41.62 50.30 53.10

EVALUATION INDICES

U S D / K W	9556.1	7870.3	6244.4	4984.6	4104.2	3899.7
U S D / K W H	1.552	1.600	1.624	1.649	1.741	1.774

PROJECT NAME : PAGAMAO
 PROJECT ID : 1-022-03-16-0
 TYPE : RESERVOIR

 * SUMMARY TABLE OF COST ESTIMATE *

(UNIT : MILLION USD)

I T E M	C A S E									
	1	2	3	4	5	6	7	8	9	10
POWER DEVELOPMENT (INST. CAP(MW))	(9.7)	(8.7)	(10.2)	(8.4)	(10.1)	(8.0)	(8.5)	(8.9)	(9.4)	(10.0)
STORAGE DAM	67.42	56.54	67.42	53.78	67.42	51.22	53.50	56.69	61.14	67.42
SPILLWAY	12.21	11.45	12.21	11.25	12.21	11.04	11.22	11.46	11.79	12.21
DIVERSION TUNNEL	16.67	16.67	16.67	16.67	16.67	16.67	16.67	16.67	16.67	16.67
INTAKE (PRESSURE TYPE)	0.70	0.64	0.53	0.62	0.50	0.60	0.56	0.53	0.50	0.47
HEADRACE TUNNEL (PRESSURE)	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
SURGE TANK	0.27	0.26	0.25	0.25	0.25	0.25	0.25	0.25	0.24	0.24
PENSTOCK	1.03	0.99	1.09	0.98	1.09	0.96	0.99	1.02	1.05	1.08
(PRESSURE SHAFT)	(0.55)	(0.55)	(0.57)	(0.55)	(0.57)	(0.54)	(0.55)	(0.56)	(0.56)	(0.57)
(STEEL LINER)	(0.48)	(0.44)	(0.51)	(0.43)	(0.51)	(0.42)	(0.44)	(0.46)	(0.49)	(0.51)
POWERHOUSE BUILDING	0.53	0.48	0.54	0.47	0.53	0.45	0.47	0.48	0.50	0.52
(SUPER STRUCTURE)	(0.23)	(0.21)	(0.24)	(0.21)	(0.23)	(0.20)	(0.21)	(0.21)	(0.22)	(0.23)
(SUB STRUCTURE)	(0.28)	(0.27)	(0.30)	(0.26)	(0.29)	(0.25)	(0.26)	(0.27)	(0.28)	(0.29)
MISCELLANEOUS CIVIL WORK	4.98	4.40	4.98	4.24	4.98	4.10	4.23	4.40	4.64	4.97
CONSTRUCTION FACILITIES	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
POWER EQUIPMENT	3.31	3.09	3.31	3.01	3.26	2.92	2.99	3.06	3.13	3.21
ENGINEERING/ADMINISTRATION	13.50	11.92	13.48	11.52	13.47	11.14	11.47	11.93	12.57	13.46
CONTINGENCIES	24.30	21.46	24.27	20.73	24.25	20.05	20.64	21.47	22.62	24.22
S U B T O T A L	145.78	128.78	145.62	124.39	145.48	120.27	123.86	128.83	135.72	145.35

ACCESS ROAD (ROAD LENGTH 17.0 KM)

CONSTRUCTION COST	3.74	3.74	3.74	3.74	3.74	3.74	3.74	3.74	3.74	3.74
ENGINEERING ADMINISTRATION	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
CONTINGENCIES	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
S U B T O T A L	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85	4.85

TRANSMISSION LINE SYSTEM (T/L LENGTH 15.0 KM)

TRANSMISSION LINE	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34
SWITCHYARD AND SUBSTATION	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27	0.27
ENGINEERING/ADMINISTRATION	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
CONTINGENCIES	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
S U B T O T A L	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80

T O T A L	151.42	134.43	151.26	130.03	151.13	125.92	129.50	134.47	141.36	150.99
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EVALUATION INDICES

U S D / K W	15658.3	15465.5	14812.0	15562.0	14934.1	15609.2	15319.0	15079.6	14977.3	15079.1
U S D / K W H	3.477	3.402	3.263	3.407	3.276	3.419	3.341	3.291	3.270	3.293