
 * EL POTENCIAL TEORICO TOTAL DEL RIO TIGRE ES DE 4817.4 MW *
 * Y TIENE UNA LONGITUD ACUMULADA DE 1914.0 KM *
 * Y UN POTENCIAL ESPECIFICO DE 2.52 MW/KM *

POTENCIAL TEORICO DEL RIO TIGRE 1/17/79

I	L	H	W	AFD	DL	DM	PE	WC	POT	ESP	CUM
=====											
AFLUENTE SMINGUITO											
1	20.0	423.0	2.5	0.0							0.00
2	0.0	411.0	18.1	0.0	20.0	12.0	0.06	10.28	1.21	0.06	1.21
SUBTOTAL					20.0	12.0			1.21	0.06	
=====											
AFLUENTE PORTILLO											
3	15.0	417.0	8.1	0.0							0.00
4	0.0	408.0	18.1	0.0	15.0	9.0	0.06	13.11	1.16	0.08	1.16
SUBTOTAL					15.0	9.0			1.16	0.08	
=====											
AFLUENTE SAN ANTONIO											
5	30.0	370.0	3.7	0.0							0.00
6	0.0	351.0	27.2	0.0	30.0	19.0	0.06	15.48	2.89	0.10	2.89
SUBTOTAL					30.0	19.0			2.89	0.10	
=====											
AFLUENTE STA BARBARA											
7	30.0	368.0	2.5	0.0							0.00
8	0.0	350.0	22.9	0.0	30.0	18.0	0.06	12.70	2.24	0.07	2.24
SUBTOTAL					30.0	18.0			2.24	0.07	
=====											
AFLUENTE HUANGANUYACU											
9	40.0	320.0	1.2	0.0							0.00
10	0.0	293.0	48.0	0.0	40.0	27.0	0.07	24.63	6.52	0.16	6.52
SUBTOTAL					40.0	27.0			6.52	0.16	
=====											
AFLUENTE BARATILLO											
11	125.0	391.0	0.6	0.0							0.00
12	100.0	376.0	18.0	0.0	25.0	15.0	0.06	9.31	1.37	0.05	1.37
13	50.0	346.0	52.0	0.0	50.0	30.0	0.06	35.01	10.30	0.21	11.67
14	0.0	316.0	90.3	0.0	50.0	30.0	0.06	71.17	20.94	0.42	32.62
SUBTOTAL					125.0	75.0			32.62	0.26	
=====											
AFLUENTE TANGARANA											
15	200.0	486.0	0.6	0.0							0.00
16	150.0	376.0	53.4	0.0	50.0	110.0	0.22	26.99	29.13	0.58	29.13
17	100.0	346.0	175.9	0.0	50.0	30.0	0.06	114.63	33.74	0.67	62.86
18	50.0	316.0	224.0	90.3	50.0	30.0	0.06	199.98	58.85	1.18	121.72
19	0.0	286.0	340.8	0.0	50.0	30.0	0.06	327.57	96.40	1.93	218.12
SUBTOTAL					200.0	200.0			218.12	1.09	
=====											
AFLUENTE INTUTO											
20	40.0	284.0	1.9	0.0							0.00
21	0.0	244.0	15.5	0.0	40.0	40.0	0.10	8.68	3.41	0.09	3.41
SUBTOTAL					40.0	40.0			3.41	0.09	
=====											

POTENCIAL TEORICO DEL RIO TIGRE

1/17/79

I	L	H	Q	AFQ	DL	DH	PE	QC	POT	ESP	CUM
=====											
AFLUENTE PORTAL											
22	60.0	259.0	1.8	0.0	30.0	18.0	0.06	9.01	1.59	0.05	0.00
23	30.0	241.0	16.2	0.0	30.0	18.0	0.06	23.60	4.17	0.14	1.59
24	0.0	223.0	31.0	0.0							5.76
SUBTOTAL					60.0	36.0			5.76	0.10	
=====											
AFLUENTE PAVAYACU A											
25	35.0	230.0	3.5	0.0	35.0	21.0	0.06	9.15	1.89	0.05	0.00
26	0.0	209.0	14.8	0.0							1.89
SUBTOTAL					35.0	21.0			1.89	0.05	
=====											
AFLUENTE SHIVICYACU											
27	55.0	404.0	3.1	0.0	25.0	15.0	0.06	16.10	2.37		0.00
28	30.0	389.0	29.1	0.0	30.0	18.0	0.06	41.42	7.31	0.24	2.37
29	0.0	371.0	53.8	0.0							9.68
SUBTOTAL					55.0	33.0			9.68	0.18	
=====											
AFLUENTE MACOSANI											
30	100.0	410.0	3.2	0.0	50.0	30.0	0.06	22.10	6.50	0.13	0.00
31	50.0	380.0	41.0	0.0	50.0	30.0	0.06	63.96	18.82	0.38	6.50
32	0.0	350.0	86.9	0.0							25.33
SUBTOTAL					100.0	60.0			25.33	0.25	
=====											
AFLUENTE PLATANOYACU											
33	80.0	384.0	2.5	0.0	40.0	24.0	0.06	19.54	4.60	0.12	0.00
34	40.0	360.0	36.6	0.0	40.0	24.0	0.06	51.42	12.11	0.30	4.60
35	0.0	336.0	66.3	0.0							16.71
SUBTOTAL					80.0	48.0			16.71	0.21	
=====											
AFLUENTE SABALOYACU											
36	60.0	351.0	4.9	0.0	30.0	18.0	0.06	21.71	3.83	0.13	0.00
37	30.0	333.0	38.5	0.0	30.0	18.0	0.06	46.87	8.28	0.28	3.83
38	0.0	315.0	55.3	0.0							12.11
SUBTOTAL					60.0	36.0			12.11	0.20	
=====											
AFLUENTE PAVAYACU											
39	40.0	325.0	1.9	0.0	40.0	24.0	0.06	23.73	5.59	0.14	0.00
40	0.0	301.0	45.6	0.0							5.59
SUBTOTAL					40.0	24.0			5.59	0.14	
=====											
AFLUENTE CAPIRINA											
41	95.0	351.0	5.0	0.0	35.0	21.0	0.06	21.66	4.46	0.13	0.00
42	60.0	330.0	38.3	0.0	30.0	18.0	0.06	49.99	8.83	0.29	4.46
43	30.0	312.0	61.6	0.0	30.0	18.0	0.06	71.90	12.70	0.42	13.29
44	0.0	294.0	82.2	0.0							25.98
SUBTOTAL					95.0	57.0			25.98	0.27	
=====											
AFLUENTE COPALYACU											
45	110.0	343.0	1.3	0.0	20.0	12.0	0.06	8.05	0.95	0.05	0.00
46	90.0	331.0	14.8	0.0	30.0	18.0	0.06	23.21	4.10	0.14	0.95
47	60.0	313.0	31.6	0.0	30.0	18.0	0.06	43.95	7.76	0.26	5.05
48	30.0	295.0	56.3	0.0	30.0	18.0	0.06	63.81	11.27	0.38	12.81
49	0.0	277.0	71.3	0.0							24.07
SUBTOTAL					110.0	66.0			24.07	0.22	

POTENCIAL TEORICO DEL RIO TIGRE

1/17/79

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I	L	H	Q	AFQ	DL	DM	PE	QC	POT	ESP	CUM
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AFLUENTE CORRIENTES

50	290.0	410.0	101.9	0.0							
51	265.0	392.0	147.3	0.0	25.0	18.0	0.07	124.57	22.00	0.88	22.00
52	235.0	371.0	175.8	53.8	30.0	21.0	0.07	161.52	33.28	1.11	55.27
53	205.0	350.0	289.6	86.9	30.0	21.0	0.07	259.57	53.47	1.78	108.74
54	185.0	336.0	393.8	66.3	20.0	14.0	0.07	385.11	52.89	2.64	161.64
55	155.0	315.0	486.5	55.3	30.0	21.0	0.07	473.27	97.50	3.25	259.13
56	135.0	301.0	572.6	45.6	20.0	14.0	0.07	557.19	76.52	3.83	335.66
57	125.0	294.0	638.4	82.2	10.0	7.0	0.07	628.29	43.14	4.31	378.80
58	100.0	277.0	737.0	71.3	25.0	17.0	0.07	728.77	121.54	4.86	500.34
59	50.0	242.0	844.9	0.0	50.0	35.0	0.07	826.59	283.81	5.68	784.15
60	0.0	207.0	872.1	0.0	50.0	35.0	0.07	858.53	294.78	5.90	1078.93
SUBTOTAL					290.0	203.0			1078.93	3.72	

AFLUENTE TIGRILLO

61	50.0	162.0	1.6	0.0							
62	0.0	137.0	39.5	0.0	50.0	25.0	0.05	20.53	5.04	0.10	5.04
SUBTOTAL					50.0	25.0			5.04	0.10	

AFLUENTE TIGRE

63	439.0	426.0	203.8	0.0							0.00
64	419.0	411.0	230.5	18.1	20.0	15.0	0.07	217.14	31.95	1.60	31.95
65	414.0	408.0	267.9	18.1	5.0	3.0	0.06	258.24	7.60	1.52	39.55
66	384.0	387.0	315.2	0.0	30.0	21.0	0.07	300.57	61.92	2.06	101.47
67	334.0	351.0	426.7	27.2	50.0	36.0	0.07	370.93	131.00	2.62	232.47
68	332.0	350.0	460.7	22.9	2.0	1.0	0.05	457.33	4.49	2.24	236.96
69	292.0	322.0	540.3	0.0	40.0	28.0	0.07	511.97	140.63	3.52	377.59
70	252.0	293.0	600.8	48.0	40.0	29.0	0.07	570.53	162.31	4.06	539.89
71	242.0	286.0	653.5	340.8	10.0	7.0	0.07	651.14	44.71	4.47	584.61
72	182.0	244.0	1077.3	15.5	60.0	42.0	0.07	1035.81	426.77	7.11	1011.38
73	152.0	223.0	1117.2	31.0	30.0	21.0	0.07	1105.12	227.67	7.59	1239.05
74	132.0	209.0	1158.5	14.8	20.0	14.0	0.07	1153.43	158.41	7.92	1397.46
75	130.0	207.0	1176.8	872.1	2.0	2.0	0.10	1175.04	23.05	11.53	1420.51
76	80.0	172.0	2078.2	0.0	50.0	35.0	0.07	2063.57	706.53	14.17	2129.04
77	30.0	137.0	2227.1	39.5	50.0	35.0	0.07	2152.64	739.11	14.78	2668.15
78	0.0	116.0	2296.8	0.0	30.0	21.0	0.07	2281.69	470.05	15.67	3338.20
SUBTOTAL					439.0	310.0			3338.20	7.60	

 * EL POTENCIAL TEORICO TOTAL DEL RIO MARANON BAJO 2751.5 MW *
 * Y TIENE UNA LONGITUD ACUMULADA DE 1867.0 KM *
 * Y UN POTENCIAL ESPECIFICO DE 1.46 MW/KM *

POTENCIAL TEORICO DEL RIO MARANON BAJO 1/17/79

I	L	H	Q	AFQ	DL	DH	PE	QC	POT	ESP	CUM
=====											
AFLUENTE PAVAYACU											
1	100.0	148.0	4.6	0.0							0.00
2	50.0	144.0	39.4	0.0	50.0	4.0	0.01	21.97	0.86	0.02	0.86
3	0.0	139.0	60.0	0.0	50.0	5.0	0.01	49.70	2.44	0.05	3.30
SUBTOTAL					100.0	9.0			3.30	0.03	
=====											
AFLUENTE NUCURAY											
4	180.0	154.0	1.9	0.0							0.00
5	130.0	149.0	7.1	0.0	50.0	5.0	0.01	4.52	0.22	0.00	0.22
6	80.0	144.0	50.9	0.0	50.0	5.0	0.01	29.00	1.42	0.03	1.64
7	30.0	139.0	86.3	60.0	50.0	5.0	0.01	68.59	3.36	0.07	5.01
8	0.0	137.0	155.4	0.0	30.0	2.0	0.01	150.87	2.96	0.10	7.97
SUBTOTAL					180.0	17.0			7.97	0.04	
=====											
AFLUENTE URITUYACU											
9	170.0	147.0	1.5	0.0							0.00
10	150.0	146.0	11.9	0.0	20.0	1.0	0.00	6.71	0.07	0.00	0.07
11	100.0	142.0	44.1	0.0	50.0	4.0	0.01	27.99	1.10	0.02	1.16
12	50.0	138.0	107.4	0.0	50.0	4.0	0.01	75.76	2.97	0.06	4.14
13	0.0	135.0	140.9	0.0	50.0	3.0	0.01	124.15	3.65	0.07	7.79
SUBTOTAL					170.0	12.0			7.79	0.05	
=====											
AFLUENTE YANAYACU											
14	50.0	136.0	1.2	0.0							0.00
15	0.0	133.0	14.4	0.0	50.0	3.0	0.01	7.78	0.23	0.00	0.23
SUBTOTAL					50.0	3.0			0.23	0.00	
=====											
AFLUENTE PATAYACU											
16	30.0	135.0	1.1	0.0							0.00
17	0.0	132.0	11.0	0.0	30.0	3.0	0.01	6.07	0.18	0.01	0.18
SUBTOTAL					30.0	3.0			0.18	0.01	
=====											
AFLUENTE CUINICO											
18	55.0	134.0	0.4	0.0							0.00
19	25.0	132.0	11.4	11.0	30.0	2.0	0.01	5.89	0.12	0.00	0.12
20	0.0	131.0	49.5	0.0	25.0	1.0	0.00	35.94	0.35	0.01	0.47
SUBTOTAL					55.0	3.0			0.47	0.01	
=====											
AFLUENTE SMIRICYACU											
21	35.0	131.0	1.1	0.0							0.00
22	0.0	129.0	13.2	0.0	35.0	2.0	0.01	7.15	0.14	0.00	0.14
SUBTOTAL					35.0	2.0			0.14	0.00	
=====											

POTENCIAL TEORICO DEL RIO MARANON BAJO 1/17/79

I	L	H	Q	AFU	DL	DH	PE	QC	POT	ESP	CUM
=====											
AFLUENTE YURACYACU											
23	30.0	134.0	2.3	0.0							0.00
24	0.0	131.0	14.0	0.0	30.0	3.0	0.01	8.11	0.24	0.01	0.24
SUBTOTAL					30.0	3.0			0.24	0.01	
=====											
AFLUENTE PACAYACU											
25	70.0	136.0	1.5	0.0							0.00
26	50.0	134.0	11.4	0.0	20.0	2.0	0.01	6.46	0.13	0.01	0.13
27	0.0	129.0	27.1	0.0	50.0	5.0	0.01	19.28	0.95	0.02	1.07
SUBTOTAL					70.0	7.0			1.07	0.02	
=====											
AFLUENTE PATAYACU											
28	115.0	136.0	0.8	0.0							0.00
29	100.0	137.0	10.8	0.0	15.0	1.0	0.01	5.83	0.06	0.00	0.06
30	50.0	132.0	37.0	0.0	50.0	5.0	0.01	23.91	1.17	0.02	0.65
31	0.0	128.0	57.5	0.0	50.0	4.0	0.01	47.25	1.85	0.04	1.23
SUBTOTAL					115.0	10.0			3.08	0.03	
=====											
AFLUENTE TIGRILLO											
32	120.0	136.0	1.2	0.0							0.00
33	100.0	134.0	8.2	0.0	20.0	2.0	0.01	4.69	0.09	0.00	0.09
34	50.0	129.0	35.1	0.0	50.0	5.0	0.01	21.61	1.06	0.02	0.09
35	0.0	124.0	58.0	0.0	50.0	5.0	0.01	46.53	2.28	0.05	1.15
SUBTOTAL					120.0	12.0			3.43	0.03	
=====											
AFLUENTE CHAMBIRA											
36	176.0	139.0	0.8	0.0							0.00
37	131.0	135.0	2.7	0.0	45.0	4.0	0.01	1.76	0.07	0.00	0.07
38	81.0	131.0	38.0	14.0	50.0	4.0	0.01	20.39	0.80	0.02	0.07
39	41.0	129.0	71.4	27.1	40.0	2.0	0.00	61.72	1.21	0.03	0.87
40	40.0	128.0	100.4	57.5	1.0	1.0	0.10	99.48	0.98	0.98	2.08
41	20.0	126.0	171.0	58.0	20.0	2.0	0.01	164.46	3.23	0.16	3.06
42	0.0	124.0	278.4	0.0	20.0	2.0	0.01	253.71	4.98	0.25	6.26
SUBTOTAL					176.0	15.0			11.26	0.06	
=====											
AFLUENTE YANAQUILLO											
43	30.0	122.0	0.4	0.0							0.00
44	0.0	119.0	13.8	0.0	30.0	3.0	0.01	7.08	0.21	0.01	0.00
SUBTOTAL					30.0	3.0			0.21	0.01	
=====											
AFLUENTE CAUCHIO											
45	35.0	134.0	0.8	0.0							0.00
46	0.0	131.0	2.6	0.0	35.0	3.0	0.01	1.67	0.05	0.00	0.00
SUBTOTAL					35.0	3.0			0.05	0.00	
=====											

POTENCIAL TEORICO DEL RIO MARANON BAJO 1/17/79

I	L	H	Q	AFQ	DL	DH	PE	QC	POT	ESP	CUM
=====											
AFLUENTE YANAYACUGRAN											
47	95.0	132.0	1.5	0.0	45.0	3.0	0.01	18.52	0.54	0.01	0.00
48	50.0	129.0	35.5	0.0	50.0	5.0	0.01	48.96	2.40	0.05	0.54
49	0.0	124.0	62.4	0.0							2.95
SUBTOTAL					95.0	8.0			2.95	0.05	
=====											
AFLUENTE SAMIRIA											
50	270.0	142.0	2.4	0.0	25.0	3.0	0.01	9.34	0.27	0.01	0.00
51	245.0	139.0	16.3	0.0	50.0	4.0	0.01	34.36	1.35	0.03	0.27
52	195.0	135.0	52.4	0.0	50.0	4.0	0.01	224.07	8.79	0.18	1.62
53	145.0	131.0	395.7	2.6	30.0	2.0	0.01	438.02	6.59	0.29	10.42
54	115.0	129.0	477.7	0.0	50.0	5.0	0.01	502.83	24.66	0.49	19.01
55	65.0	124.0	527.9	62.4	15.0	1.0	0.01	595.07	5.84	0.39	43.67
56	50.0	123.0	599.8	0.0	50.0	5.0	0.01	619.76	30.40	0.61	49.51
57	0.0	118.0	639.7	0.0							79.91
SUBTOTAL					270.0	24.0			79.91	0.30	
=====											
AFLUENTE MARANONINFER											
58	306.0	140.0	7473.5	0.0	10.0	3.0	0.03	7480.84	220.16	22.02	0.00
59	296.0	137.0	7488.2	155.4	26.0	2.0	0.01	7655.14	150.19	5.78	220.16
60	270.0	135.0	7666.7	140.9	10.0	2.0	0.02	7809.67	153.23	15.32	370.35
61	260.0	133.0	7811.8	14.4	20.0	2.0	0.01	7832.09	153.67	7.68	523.56
62	240.0	131.0	7838.0	49.5	20.0	2.0	0.01	7895.41	154.91	7.75	677.25
63	220.0	129.0	7903.4	13.2	50.0	5.0	0.01	7928.32	388.88	7.78	832.15
64	170.0	124.0	7940.1	278.4	10.0	1.0	0.01	8226.05	80.70	8.07	1221.04
65	160.0	123.0	8233.6	0.0	50.0	4.0	0.01	8267.82	324.43	6.49	1301.74
66	110.0	119.0	8302.1	13.8	10.0	1.0	0.01	9468.22	92.88	9.29	1626.17
67	100.0	118.0	10620.6	639.7	50.0	3.0	0.01	11293.35	332.36	6.65	1719.05
68	50.0	115.0	11326.4	0.0	50.0	5.0	0.01	11368.97	557.65	11.15	2051.41
69	0.0	110.0	11411.6	0.0							2609.06
SUBTOTAL					306.0	30.0			2609.06	8.53	
=====											

 * EL POTENCIAL TEORICO TOTAL DEL RIO UTCUBAMBA ES DE 1232.2 MW *
 * Y TIENE UNA LONGITUD ACUMULADA DE 384.0 KM *
 * Y UN POTENCIAL ESPECIFICO DE 3.21 MW/KM *

POTENCIAL TEORICO DEL RIO UTCUBAMBA 1/17/79

I	L	H	Q	AFO	DL	DM	PE	UC	POT	ESP	CUM
=====											
AFLUENTE LA JALCA											
1	11.0	3000.0	0.2	0.0							0.00
2	0.0	1450.0	2.5	0.0	11.0	1550.0	14.09	1.31	19.97	1.82	19.97
SUBTOTAL					11.0	1550.0			19.97	1.82	
=====											
AFLUENTE CHILUQUIN											
3	11.0	1980.0	0.5	0.0							0.00
4	0.0	1000.0	3.5	0.0	11.0	980.0	8.91	1.97	18.98	1.73	18.98
SUBTOTAL					11.0	980.0			18.98	1.73	
=====											
AFLUENTE SONCHE											
5	33.0	1700.0	0.2	0.0							0.00
6	4.0	1000.0	8.6	3.5	29.0	700.0	2.41	4.40	30.19	1.04	30.19
7	0.0	870.0	12.2	0.0	4.0	130.0	3.25	12.16	15.50	3.88	45.69
SUBTOTAL					33.0	830.0			45.69	1.38	
=====											
AFLUENTE LAMUD											
8	12.0	2900.0	2.4	0.0							0.00
9	4.0	1950.0	6.6	0.0	8.0	950.0	11.87	4.52	42.15	5.27	42.15
10	0.0	840.0	7.3	0.0	4.0	1110.0	27.75	6.97	75.86	18.96	118.01
SUBTOTAL					12.0	2060.0			118.01	9.83	
=====											
AFLUENTE TOTO											
11	10.0	2000.0	0.2	0.0							0.00
12	0.0	710.0	1.4	0.0	10.0	1290.0	12.90	0.77	9.68	0.97	9.68
SUBTOTAL					10.0	1290.0			9.68	0.97	
=====											
AFLUENTE STACATALINA1											
13	41.0	2830.0	2.8	0.0							0.00
14	3.0	650.0	17.6	0.0	38.0	2180.0	5.74	10.19	217.85	5.73	217.85
SUBTOTAL					38.0	2180.0			217.85	5.73	
=====											
AFLUENTE STACATALINA2											
14	3.0	650.0	17.6	0.0							0.00
15	0.0	650.0	19.9	0.0	3.0	0.0	0.00	18.76	0.00	0.00	0.00
SUBTOTAL					3.0	0.0			0.00	0.00	
=====											
AFLUENTE YANCHICATE											
16	15.0	2200.0	2.7	0.0							0.00
17	0.0	499.0	2.9	0.0	15.0	1701.0	11.34	2.81	46.90	3.13	46.90
SUBTOTAL					15.0	1701.0			46.90	3.13	
=====											
AFLUENTE QDAMONDA SUP											
18	13.0	2000.0	2.1	0.0							0.00
19	4.0	650.0	3.9	0.0	9.0	1350.0	15.00	2.98	39.42	4.38	39.42
SUBTOTAL					9.0	1350.0			39.42	4.38	
=====											

POTENCIAL TEORICO DEL RIO UTCUBAMBA

1/17/79

I	L	H	Q	AFQ	DL	DM	PE	QC	POT	ESP	CUM
=====											
AFLUENTE QDAHONDA INF											
19	4.0	650.0	3.9	0.0							0.00
20	0.0	497.0	4.1	0.0	4.0	153.0	3.82	4.01	6.01	1.50	6.01
SUBTOTAL					4.0	153.0			6.01	1.50	
=====											
AFLUENTE PUCA											
21	14.0	2250.0	0.7	0.0							0.00
22	0.0	495.0	3.3	0.0	14.0	1755.0	12.54	2.04	35.07	2.50	35.07
SUBTOTAL					14.0	1755.0			35.07	2.50	
=====											
AFLUENTE CAPALLINSUP											
23	20.0	2650.0	0.3	0.0							0.00
24	3.0	500.0	2.4	0.0	17.0	2150.0	12.65	1.36	28.72	1.69	28.72
SUBTOTAL					17.0	2150.0			28.72	1.69	
=====											
AFLUENTE CAPALLININF											
24	3.0	500.0	2.4	0.0							0.00
25	0.0	491.0	3.4	0.0	3.0	9.0	0.50	2.90	0.26	0.09	0.26
SUBTOTAL					3.0	9.0			0.26	0.09	
=====											
AFLUENTE CAJARURO											
26	13.0	2000.0	0.2	0.0							0.00
27	0.0	489.0	0.9	0.0	13.0	1511.0	11.62	0.58	8.64	0.66	8.64
SUBTOTAL					13.0	1511.0			8.64	0.66	
=====											
AFLUENTE TOMAQUE											
28	15.0	2000.0	1.7	0.0							0.00
29	10.0	1000.0	3.1	0.0	5.0	1000.0	20.00	2.39	23.42	4.68	23.42
30	0.0	487.0	4.8	0.0	10.0	513.0	5.13	3.95	19.88	1.99	43.29
SUBTOTAL					15.0	1513.0			43.29	2.89	
=====											
AFLUENTE NINO											
31	12.0	1950.0	0.2	0.0							0.00
32	0.0	485.0	1.5	0.0	12.0	1465.0	12.21	0.83	11.91	0.99	11.91
SUBTOTAL					12.0	1465.0			11.91	0.99	
=====											
AFLUENTE UTCUBAMBA											
33	164.0	2980.0	0.6	0.0							0.00
34	153.0	2200.0	7.0	0.0	11.0	780.0	7.09	3.80	29.09	2.64	29.09
35	132.0	1450.0	21.0	2.5	21.0	750.0	3.57	13.97	102.80	4.90	131.89
36	121.0	1000.0	30.4	0.0	11.0	450.0	4.09	26.90	118.77	10.80	250.66
37	101.0	870.0	37.8	12.2	20.0	130.0	0.65	34.09	43.48	2.17	294.14
38	96.0	840.0	50.5	7.3	5.0	30.0	0.60	50.24	14.78	2.96	308.92
39	82.0	800.0	61.5	0.0	14.0	40.0	0.29	59.64	25.40	1.67	332.33
40	62.0	710.0	66.7	1.4	20.0	90.0	0.45	64.09	56.58	2.83	388.91
41	55.0	650.0	68.6	19.9	7.0	60.0	0.86	68.32	40.22	5.75	429.12
42	45.0	499.0	90.4	2.9	10.0	151.0	1.51	89.44	132.50	13.25	561.62
43	42.0	497.0	93.3	4.1	3.0	2.0	0.07	93.26	1.83	0.61	563.45
44	40.0	495.0	97.4	3.3	2.0	2.0	0.10	97.40	1.91	0.96	565.36
45	30.0	491.0	102.8	3.4	10.0	4.0	0.04	101.77	3.99	0.40	569.35
46	25.0	489.0	108.7	0.9	5.0	2.0	0.04	107.42	2.11	0.42	571.46
47	20.0	487.0	110.0	4.8	5.0	2.0	0.04	109.80	2.15	0.43	573.62
48	15.0	485.0	116.2	1.5	5.0	2.0	0.04	115.50	2.27	0.45	575.88
49	0.0	480.0	121.5	0.0	15.0	5.0	0.03	119.61	5.87	0.39	581.75
SUBTOTAL					164.0	2500.0			581.75	3.55	
=====											

 * EL POTENCIAL TEORICO TOTAL DEL RIO CHIRIACO ES DE 832.5 MW *
 * *
 * Y TIENE UNA LONGITUD ACUMULADA DE 247.0 KM *
 * *
 * Y UN POTENCIAL ESPECIFICO DE 3.37 MW/KM *
 * *

POTENCIAL TEORICO DEL RIO CHIRIACO 1/17/79

I	L	H	Q	AFQ	DL	DH	PE	GC	POT	ESP	CUM
=====											
AFLUENTE AFLUENTE A											
1	16.0	2200.0	1.3	0.0							0.00
					16.0	1000.0	6.25	2.77	27.15	1.70	27.15
2	0.0	1200.0	4.2	0.0							27.15
SUBTOTAL					16.0	1000.0			27.15	1.70	
=====											
AFLUENTE AFLUENTE B											
3	14.0	2200.0	1.2	0.0							0.00
					14.0	1400.0	10.00	2.90	39.88	2.85	39.88
4	0.0	800.0	4.6	0.0							39.88
SUBTOTAL					14.0	1400.0			39.88	2.85	
=====											
AFLUENTE SHUSHUNGA											
5	40.0	3000.0	1.3	0.0							0.00
					20.0	2000.0	10.00	3.76	73.80	3.69	73.80
6	20.0	1000.0	6.2	0.0							73.80
					20.0	510.0	2.55	7.91	39.58	1.98	113.38
7	0.0	490.0	9.6	0.0							113.38
SUBTOTAL					40.0	2510.0			113.38	2.83	
=====											
AFLUENTE AFLUENTE C											
8	30.0	1200.0	0.1	0.0							0.00
					30.0	900.0	3.00	1.56	13.78	0.46	13.78
9	0.0	300.0	3.1	0.0							13.78
SUBTOTAL					30.0	900.0			13.78	0.46	
=====											
AFLUENTE CHIRIACOSUP											
10	147.0	2800.0	1.4	0.0							0.00
					50.0	1200.0	2.40	9.16	107.81	2.16	107.81
11	97.0	1600.0	16.9	0.0							107.81
SUBTOTAL					50.0	1200.0			107.81	2.16	
=====											
AFLUENTE CHIRIACOINF											
11	97.0	1600.0	16.9	0.0							0.00
					28.0	400.0	1.43	22.92	89.93	3.21	89.93
12	69.0	1200.0	28.9	4.2							89.93
					25.0	400.0	1.60	35.57	139.57	5.58	229.51
13	44.0	800.0	38.0	4.6							229.51
					30.0	310.0	1.03	44.73	136.02	4.53	365.52
14	14.0	490.0	46.8	9.6							365.52
					6.0	190.0	3.17	56.67	105.62	17.60	471.14
15	8.0	300.0	56.9	3.1							471.14
					8.0	100.0	1.25	60.48	59.33	7.42	530.47
16	0.0	200.0	61.0	0.0							530.47
SUBTOTAL					97.0	1400.0			530.47	5.47	
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*****
* EL POTENCIAL TEORICO TOTAL DEL RIO NIEVA      ES DE  258.4 MW
*
* Y TIENE UNA LONGITUD ACUMULADA DE  335.0 KM
*
* Y UN POTENCIAL ESPECIFICO DE  0.77 MW/KM
*
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POTENCIAL TEORICO DEL RIO NIEVA 1/30/79

I	L	H	Q	AFQ	DL	DH	PE	QC	POT	ESP	CUM
=====											
AFLUENTE NUMPATYACU											
1	50.0	2100.0	0.7	0.0							0.00
2	0.0	625.0	4.3	0.0	50.0	1475.0	2.95	2.49	36.04	0.72	36.04
					SUBTOTAL	50.0	1475.0		36.04	0.72	
=====											
AFLUENTE AMBUJA											
3	30.0	1200.0	0.4	0.0							0.00
4	0.0	440.0	1.7	0.0	30.0	760.0	2.53	1.05	7.85	0.26	7.85
					SUBTOTAL	30.0	760.0		7.85	0.26	
=====											
AFLUENTE QUINGUIZA											
5	25.0	550.0	0.3	0.0							0.00
6	0.0	420.0	1.4	0.0	25.0	130.0	0.52	0.86	1.10	0.04	1.10
					SUBTOTAL	25.0	130.0		1.10	0.04	
=====											
AFLUENTE CHIANGOS											
7	50.0	495.0	0.3	0.0							0.00
8	0.0	400.0	2.4	0.0	50.0	95.0	0.19	1.36	1.27	0.03	1.27
					SUBTOTAL	50.0	95.0		1.27	0.03	
=====											
AFLUENTE NIEVA											
9	180.0	1950.0	0.8	0.0							0.00
10	140.0	1525.0	8.8	0.0	40.0	425.0	1.06	4.83	20.16	0.50	20.16
11	100.0	625.0	16.3	4.3	40.0	900.0	2.25	12.59	111.13	2.78	131.29
12	70.0	440.0	23.6	1.7	30.0	185.0	0.62	22.08	40.08	1.34	171.37
13	60.0	420.0	25.8	1.4	10.0	20.0	0.20	25.53	5.01	0.50	176.37
14	50.0	400.0	27.7	2.4	10.0	20.0	0.20	27.45	5.39	0.54	181.76
15	0.0	303.0	33.9	0.0	50.0	97.0	0.19	31.97	30.42	0.61	212.19
					SUBTOTAL	180.0	1647.0		212.19	1.18	
=====											

 * EL POTENCIAL TEORICO TOTAL DEL RIO HUALLAGA SU ES DE 26362.2 MW *
 * Y TIENE UNA LONGITUD ACUMULADA DE 4324.0 KM *
 * Y UN POTENCIAL ESPECIFICO DE 6.10 MW/KM *

POTENCIAL TEORICO DEL RIO HUALLAGA SU 2/12/79

I	L	H	Q	AFQ	DL	DM	PE	QC	POT	ESP	CUM
=====											
AFLUENTE PUCURHUAY											
1	20.0	4360.0	0.0	0.0	20.0	1390.0	6.95	1.33	18.17	0.91	0.00
2	0.0	2970.0	2.7	0.0							18.17
SUBTOTAL					20.0	1390.0			18.17	0.91	
=====											
AFLUENTE TINGO											
3	38.0	4290.0	0.0	0.0	17.0	690.0	4.06	1.07	7.27	0.43	0.00
4	21.0	3600.0	2.1	0.0	21.0	814.0	3.88	3.63	28.98	1.38	7.27
5	0.0	2786.0	5.1	0.0							36.25
SUBTOTAL					38.0	1504.0			36.25	0.95	
=====											
AFLUENTE BLANCO											
6	33.0	4400.0	0.0	0.0	18.0	1000.0	5.56	1.28	12.54	0.70	0.00
7	15.0	3400.0	2.5	0.0	15.0	955.0	6.37	3.58	33.55	2.24	12.54
8	0.0	2445.0	4.6	0.0							46.09
SUBTOTAL					33.0	1955.0			46.09	1.40	
=====											
AFLUENTE HUASCACOCHA											
9	22.0	4625.0	0.0	0.0	22.0	1165.0	5.30	1.89	21.61	0.98	0.00
10	0.0	3460.0	3.8	0.0							21.61
SUBTOTAL					22.0	1165.0			21.61	0.98	
=====											
AFLUENTE USHUGOYA											
11	28.0	4438.0	0.1	0.0	13.0	658.0	5.06	0.71	4.56	0.35	0.00
12	15.0	3780.0	1.3	0.0	15.0	990.0	6.60	2.14	20.77	1.38	4.56
13	0.0	2790.0	3.0	0.0							25.33
SUBTOTAL					28.0	1648.0			25.33	0.90	
=====											
AFLUENTE NILAILA											
14	39.0	4372.0	0.0	0.0	9.0	281.0	3.12	0.34	0.93	0.10	0.00
15	30.0	4091.0	0.6	0.0	15.0	841.0	5.61	1.63	13.43	0.90	0.93
16	15.0	3250.0	2.6	0.0	15.0	875.0	5.83	3.57	30.67	2.04	14.36
17	0.0	2375.0	4.5	0.0							45.03
SUBTOTAL					39.0	1997.0			45.03	1.15	
=====											
AFLUENTE QUID											
18	17.0	4125.0	0.0	0.0	17.0	1775.0	10.44	0.61	10.57	0.62	0.00
19	0.0	2350.0	1.2	0.0							10.57
SUBTOTAL					17.0	1775.0			10.57	0.62	
=====											
AFLUENTE CHACACHINCHE											
20	28.0	4245.0	0.0	0.0	15.0	1470.0	9.80	1.00	14.48	0.97	0.00
21	13.0	2775.0	2.0	0.0	12.0	425.0	3.54	3.16	13.19	1.10	14.48
22	1.0	2350.0	4.3	1.2	1.0	40.0	4.00	5.51	2.16	2.16	27.68
23	0.0	2310.0	5.5	0.0							29.84
SUBTOTAL					28.0	1935.0			29.84	1.07	
=====											
AFLUENTE HUACARI											
24	16.0	4020.0	0.1	0.0	16.0	1960.0	12.25	0.75	14.35	0.90	0.00
25	0.0	2060.0	1.4	0.0							14.35
SUBTOTAL					16.0	1960.0			14.35	0.90	
=====											

POTENCIAL TEORICO DEL RIO HUALLAGA SU 2/12/79

I	L	H	Q	AFQ	DL	DH	PE	QC	POT	ESP	CUM
=====											
AFLUENTE HUERTAS											
26	104.0	4541.0	0.0	0.0	21.0	611.0	2.91	2.27	13.60	0.65	0.00
27	83.0	3930.0	4.5	0.0	11.0	470.0	4.27	6.54	30.15	2.74	13.60
28	72.0	3460.0	8.5	3.8	21.0	670.0	3.19	14.69	96.54	4.60	45.75
29	51.0	2790.0	17.0	3.0	21.0	415.0	1.98	21.03	85.63	4.08	140.28
30	30.0	2375.0	22.1	4.5	4.0	65.0	1.62	26.71	17.03	4.26	225.91
31	26.0	2310.0	26.8	5.5	11.0	105.0	0.95	32.85	33.83	3.08	242.94
32	15.0	2205.0	33.4	0.0	10.0	95.0	0.95	34.17	31.84	3.18	276.78
33	5.0	2110.0	35.0	1.4	5.0	30.0	0.60	36.60	10.77	2.15	308.62
34	0.0	2080.0	36.8	0.0							319.39
SUBTOTAL					104.0	2461.0			319.39	3.07	
=====											
AFLUENTE HIGUERAS											
35	52.0	4120.0	0.1	0.0	31.0	1620.0	5.23	2.97	47.25	1.52	0.00
36	21.0	2500.0	5.9	0.0	21.0	598.0	2.85	7.59	44.52	2.12	47.25
37	0.0	1902.0	9.3	0.0							91.77
SUBTOTAL					52.0	2218.0			91.77	1.76	
=====											
AFLUENTE CONCHUMAYO											
38	56.0	4100.0	0.1	0.0	38.0	2100.0	5.53	3.85	79.32	2.09	0.00
39	18.0	2000.0	7.6	0.0	18.0	188.0	1.04	9.45	17.43	0.97	79.32
40	0.0	1812.0	11.3	0.0							96.75
SUBTOTAL					56.0	2288.0			96.75	1.73	
=====											
AFLUENTE TAMBOGAN											
41	45.0	3200.0	0.2	0.0	45.0	1420.0	3.16	8.22	114.51	2.54	0.00
42	0.0	1780.0	16.2	0.0							114.51
SUBTOTAL					45.0	1420.0			114.51	2.54	
=====											
AFLUENTE PANAQ											
43	50.0	3720.0	0.7	0.0	27.0	1720.0	6.37	8.28	139.78	5.18	0.00
44	23.0	2000.0	15.9	0.0	23.0	488.0	2.12	21.00	100.51	4.37	139.78
45	0.0	1512.0	26.1	0.0							240.30
SUBTOTAL					50.0	2208.0			240.30	4.81	
=====											
AFLUENTE CHINCHAO											
46	29.0	2640.0	0.5	0.0	29.0	1861.0	6.42	8.31	151.64	5.23	0.00
47	0.0	779.0	16.1	0.0							151.64
SUBTOTAL					29.0	1861.0			151.64	5.23	
=====											

POTENCIAL TEORICO DEL RIO HUALLAGA SU 2/12/79

I	L	H	G	AFG	DL	DH	PE	GC	PDT	ESP	CUM
=====											
AFLUENTE CAMOTE											
48	41.0	2560.0	0.7	0.0							0.00
49	0.0	790.0	21.4	0.0	41.0	1770.0	4.32	11.05	191.93	4.68	191.93
SUBTOTAL					41.0	1770.0			191.93	4.68	
=====											
AFLUENTE MONSON											
50	63.0	3840.0	0.3	0.0							0.00
51	22.0	790.0	19.5	21.4	41.0	3050.0	7.44	9.92	296.73	7.24	296.73
52	0.0	678.0	51.4	0.0	22.0	112.0	0.51	46.16	50.72	2.31	347.45
SUBTOTAL					63.0	3162.0			347.45	5.52	
=====											
AFLUENTE PATUY RONDOS											
53	75.0	4050.0	0.2	0.0							0.00
54	46.0	1745.0	28.4	0.0	29.0	2305.0	7.95	14.29	323.06	11.14	323.06
55	10.0	678.0	54.8	51.4	36.0	1067.0	2.96	41.58	435.22	12.09	758.28
56	0.0	646.0	107.2	0.0	10.0	32.0	0.32	106.65	33.48	3.35	791.76
SUBTOTAL					75.0	3404.0			791.76	10.56	
=====											
AFLUENTE TULUMAYO											
57	61.0	3100.0	0.9	0.0							0.00
58	0.0	616.0	19.6	0.0	61.0	2484.0	4.07	10.25	249.66	4.09	249.66
SUBTOTAL					61.0	2484.0			249.66	4.09	
=====											
AFLUENTE CUCHARA											
59	48.0	1750.0	0.8	0.0							0.00
60	0.0	596.0	10.0	0.0	48.0	1154.0	2.40	5.40	61.12	1.27	61.12
SUBTOTAL					48.0	1154.0			61.12	1.27	
=====											
AFLUENTE MAGDALENA											
61	56.0	950.0	0.9	0.0							0.00
62	0.0	554.0	10.8	0.0	56.0	396.0	0.71	5.84	22.68	0.41	22.68
SUBTOTAL					56.0	396.0			22.68	0.41	
=====											
AFLUENTE STA MARTHA											
63	82.0	4075.0	0.1	0.0							0.00
64	40.0	1000.0	27.0	0.0	42.0	3075.0	7.32	13.55	408.87	9.74	408.87
65	0.0	553.0	37.0	0.0	40.0	447.0	1.12	32.01	140.38	3.51	549.26
SUBTOTAL					82.0	3522.0			549.26	6.70	
=====											
AFLUENTE CHUNTAYACU											
66	113.0	3950.0	0.2	0.0							0.00
67	8.0	3000.0	20.8	0.0	105.0	950.0	0.90	10.51	97.96	0.93	97.96
68	4.0	1000.0	77.0	0.0	4.0	2000.0	50.00	48.89	959.25	239.81	1057.20
69	0.0	496.0	90.0	0.0	4.0	504.0	12.60	83.50	412.82	103.21	1470.03
SUBTOTAL					113.0	3454.0			1470.03	13.01	
=====											

POTENCIAL TEORICO DEL RIO HUALLAGA SU 2/12/79

I	L	H	Q	AFQ	DL	DH	PE	QC	POT	ESP	CUM
=====											
AFLUENTE TOCACHE											
70	77.0	3950.0	0.1	0.0	44.0	2450.0	5.57	15.09	362.57	8.24	0.00
71	33.0	1500.0	30.1	0.0	33.0	1043.0	3.16	39.47	403.85	12.24	362.57
72	0.0	457.0	48.9	0.0							766.43
SUBTOTAL					77.0	3493.0			766.43	9.95	
=====											
AFLUENTE COTOMONO											
73	52.0	3900.0	0.3	0.0	52.0	3459.0	6.65	8.47	287.47	5.53	0.00
74	0.0	441.0	16.7	0.0							287.47
SUBTOTAL					52.0	3459.0			287.47	5.53	
=====											
AFLUENTE MISHOLLO											
75	90.0	4120.0	0.1	0.0	55.0	3120.0	5.67	20.05	613.63	11.16	0.00
76	35.0	1000.0	40.0	0.0	30.0	559.0	1.86	42.72	234.26	7.81	613.63
77	5.0	441.0	45.5	16.7	5.0	5.0	0.10	62.29	3.06	0.61	847.88
78	0.0	436.0	62.4	0.0							850.94
SUBTOTAL					90.0	3684.0			850.94	9.45	
=====											
AFLUENTE HUAMBO											
79	83.0	2000.0	0.4	0.0	83.0	1188.0	1.43	9.50	110.69	1.33	0.00
80	0.0	812.0	18.6	0.0							110.69
SUBTOTAL					83.0	1188.0			110.69	1.33	
=====											
AFLUENTE PUCAYACU											
81	34.0	1650.0	0.0	0.0	34.0	850.0	2.50	5.42	45.20	1.33	0.00
82	0.0	800.0	10.8	0.0							45.20
SUBTOTAL					34.0	850.0			45.20	1.33	
=====											
AFLUENTE SIMACA											
83	42.0	1650.0	0.1	0.0	42.0	890.0	2.12	4.82	42.09	1.00	0.00
84	0.0	760.0	9.6	0.0							42.09
SUBTOTAL					42.0	890.0			42.09	1.00	
=====											
AFLUENTE HUABAYACU											
85	56.0	3050.0	0.8	0.0	56.0	2545.0	4.54	17.58	438.94	7.84	0.00
86	0.0	505.0	34.4	0.0							438.94
SUBTOTAL					56.0	2545.0			438.94	7.84	
=====											
AFLUENTE MOLLON											
87	44.0	3800.0	0.1	0.0	44.0	2300.0	5.23	13.64	307.68	6.99	0.00
88	0.0	1500.0	27.2	0.0							307.68
SUBTOTAL					44.0	2300.0			307.68	6.99	
=====											
AFLUENTE PAJATEN											
89	67.0	3850.0	0.1	0.0	67.0	3270.0	4.88	20.87	669.49	9.99	0.00
90	0.0	580.0	41.7	0.0							669.49
SUBTOTAL					67.0	3270.0			669.49	9.99	
=====											
AFLUENTE JEPELACHE											
91	118.0	2950.0	2.7	0.0	53.0	1450.0	2.74	26.59	378.28	7.14	0.00
92	63.0	1500.0	50.5	27.2	43.0	920.0	2.14	87.75	791.99	18.42	378.28
93	20.0	580.0	97.8	41.7	20.0	180.0	0.90	143.00	252.50	12.63	1170.27
94	0.0	400.0	146.5	0.0							1422.77
SUBTOTAL					116.0	2550.0			1422.77	12.27	
=====											
AFLUENTE TUMAC											
95	26.0	3800.0	1.4	0.0	26.0	1950.0	7.50	4.93	189.99	7.31	0.00
96	0.0	1850.0	18.5	0.0							189.99
SUBTOTAL					26.0	1950.0			189.99	7.31	

I	L	H	G	AFJ	DL	TH	PE	UC	PJT	ESP	CUM
=====											
AFLUENTE CURVO											
97	69.0	2800.0	1.0	0.0							0.00
					47.0	950.0	2.02	18.88	175.99	3.74	175.99
98	22.0	1850.0	36.8	18.5							
					22.0	900.0	4.09	62.51	551.94	25.09	727.93
99	0.0	950.0	69.8	0.0							
									727.93	10.55	
					SUBTOTAL	69.0	1850.0				
=====											
AFLUENTE ABISEO											
100	115.0	4400.0	0.1	0.0							0.00
					51.0	3450.0	6.76	17.50	592.12	11.61	592.12
101	64.0	950.0	34.9	69.8							
					64.0	610.0	0.95	115.04	688.44	10.76	1280.55
102	0.0	340.0	125.4	0.0							
									1280.55	11.14	
					SUBTOTAL	115.0	4060.0				
=====											
AFLUENTE PACHILLA											
103	71.0	1150.0	0.0	0.0							0.00
					71.0	835.0	1.17	10.67	87.23	1.23	87.23
104	0.0	317.0	21.3	0.0							
									87.23	1.23	
					SUBTOTAL	71.0	833.0				
=====											
AFLUENTE HUALLABAMBA											
105	231.0	3000.0	0.2	0.0							0.00
					81.0	2188.0	2.70	41.91	899.62	11.11	899.62
106	150.0	812.0	83.6	18.6							
					3.0	12.0	0.40	102.38	12.05	4.02	911.67
107	147.0	800.0	102.5	10.8							
					1.0	40.0	4.00	115.52	45.33	45.33	957.00
108	146.0	760.0	117.7	9.6							
					46.0	255.0	0.55	128.50	321.45	6.99	1278.45
109	100.0	505.0	129.7	34.4							
					38.0	105.0	0.28	174.50	179.74	4.73	1458.19
110	62.0	400.0	184.9	146.5							
					32.0	60.0	0.19	334.31	196.77	6.15	1654.97
111	30.0	340.0	337.2	125.4							
					22.0	23.0	0.10	465.47	105.02	4.77	1759.99
112	8.0	317.0	468.3	21.3							
					8.0	2.0	0.02	489.97	9.61	1.20	1769.60
113	0.0	315.0	490.3	0.0							
									1769.60	7.66	
					SUBTOTAL	231.0	2685.0				
=====											
AFLUENTE SAPOSQA											
114	117.0	1900.0	0.1	0.0							0.00
					41.0	900.0	2.20	8.41	74.26	1.81	74.26
115	76.0	1000.0	16.7	0.0							
					29.0	500.0	1.72	24.15	118.45	4.08	192.71
116	47.0	500.0	31.6	0.0							
					47.0	211.0	0.45	42.39	87.74	1.87	280.45
117	0.0	289.0	53.2	0.0							
									280.45	2.40	
					SUBTOTAL	117.0	1611.0				
=====											
AFLUENTE CHUPICHOTAL											
118	30.0	945.0	0.2	0.0							0.00
					30.0	515.0	1.72	12.34	62.36	2.08	62.36
119	0.0	430.0	24.5	0.0							
									62.36	2.08	
					SUBTOTAL	30.0	515.0				
=====											
AFLUENTE BIABO SUP											
120	227.0	750.0	1.0	0.0							0.00
					45.0	320.0	0.71	20.41	64.06	1.42	64.06
121	182.0	430.0	39.8	24.5							
					32.0	30.0	0.09	86.56	25.48	0.80	89.53
122	150.0	400.0	108.9	0.0							
					50.0	60.0	0.12	137.71	81.05	1.62	170.59
123	100.0	340.0	166.5	0.0							
					90.0	60.0	0.07	191.32	112.61	1.25	283.20
124	10.0	280.0	216.1	0.0							
									283.20	1.31	
					SUBTOTAL	217.0	470.0				
=====											
AFLUENTE BIABO INF											
124	10.0	280.0	216.1	0.0							0.00
					10.0	7.0	0.07	218.56	15.01	1.50	15.01
125	0.0	273.0	221.0	0.0							
									15.01	1.50	
					SUBTOTAL	10.0	7.0				

POTENCIAL TEORICO DEL RIO HUALLAGA SU 2/12/79

I	L	H	Q	AFQ	DL	DH	PE	QC	POT	ESP	CUM
=====											
AFLUENTE SISA SUP											
126	110.0	1600.0	0.2	0.0							0.00
					62.0	1100.0	1.77	4.09	44.13	0.71	44.13
127	48.0	500.0	8.0	0.0							
					40.0	200.0	0.50	13.78	27.04	0.68	71.17
128	8.0	300.0	19.6	0.0							
					SUBTOTAL	102.0	1300.0		71.17	0.70	
=====											
AFLUENTE SISA INF											
128	8.0	300.0	19.6	0.0							0.00
					8.0	30.0	0.37	20.42	6.01	0.75	6.01
129	0.0	270.0	21.2	0.0							
					SUBTOTAL	8.0	30.0		6.01	0.75	
=====											
AFLUENTE PANASA											
130	51.0	900.0	2.3	0.0							0.00
					51.0	652.0	1.28	12.03	76.95	1.51	76.95
131	0.0	248.0	21.8	0.0							
					SUBTOTAL	51.0	652.0		76.95	1.51	
=====											
AFLUENTE SERRANO											
132	42.0	3080.0	0.1	0.0							0.00
					42.0	1700.0	4.05	15.09	251.63	5.99	251.63
133	0.0	1380.0	30.1	0.0							
					SUBTOTAL	42.0	1700.0		251.63	5.99	
=====											
AFLUENTE CANDAMO											
134	41.0	3200.0	0.1	0.0							0.00
					41.0	2160.0	5.27	14.05	297.71	7.26	297.71
135	0.0	1040.0	28.0	0.0							
					SUBTOTAL	41.0	2160.0		297.71	7.26	
=====											
AFLUENTE TONCHIMA											
136	90.0	3025.0	0.4	0.0							0.00
					90.0	2175.0	2.42	24.06	513.35	5.70	513.35
137	0.0	850.0	47.8	0.0							
					SUBTOTAL	90.0	2175.0		513.35	5.70	
=====											
AFLUENTE MORROYACU											
138	40.0	1030.0	3.1	0.0							0.00
					40.0	130.0	0.32	17.26	22.01	0.55	22.01
139	0.0	900.0	31.4	0.0							
					SUBTOTAL	40.0	130.0		22.01	0.55	
=====											
AFLUENTE TARAPOTO											
140	43.0	1100.0	0.3	0.0							0.00
					43.0	870.0	2.02	4.78	40.83	0.95	40.83
141	0.0	230.0	9.3	0.0							
					SUBTOTAL	43.0	870.0		40.83	0.95	

POTENCIAL TEORICO DEL RIO HUALLAGA SU 2/12/79

I	L	H	Q	AFQ	DL	DM	PE	QC	POT	ESP	CUM
=====											
AFLUENTE MAYO SUP											
142	249.0	2000.0	0.5	0.0							0.00
143	203.0	1380.0	89.7	30.1	46.0	620.0	1.35	45.10	274.33	5.96	274.33
144	188.0	1040.0	125.5	28.0	15.0	340.0	2.27	122.66	409.13	27.28	683.45
145	155.0	915.0	228.2	47.8	33.0	125.0	0.38	190.85	234.03	7.09	917.48
146	148.0	900.0	278.1	31.4	7.0	15.0	0.21	277.01	40.76	5.82	958.24
147	40.0	400.0	391.1	0.0	108.0	500.0	0.46	350.32	1718.33	15.91	2676.57
SUBTOTAL					209.0	1600.0			2676.57	12.81	
=====											
AFLUENTE MAYO INF											
147	40.0	400.0	391.1	0.0							0.00
148	9.0	230.0	411.3	9.3	31.0	170.0	0.55	401.22	669.11	21.58	669.11
149	0.0	218.0	423.0	0.0	9.0	12.0	0.13	421.80	49.65	5.52	718.76
SUBTOTAL					40.0	182.0			718.76	17.97	
=====											
AFLUENTE CHIPURANA											
150	76.0	900.0	0.3	0.0							0.00
151	0.0	161.0	53.7	0.0	76.0	739.0	0.97	27.02	195.91	2.58	195.91
SUBTOTAL					76.0	739.0			195.91	2.58	
=====											
AFLUENTE YANAYACU											
152	45.0	1050.0	0.0	0.0							0.00
153	0.0	200.0	21.9	0.0	45.0	850.0	1.89	10.97	91.44	2.03	91.44
SUBTOTAL					45.0	850.0			91.44	2.03	
=====											
AFLUENTE CAINARACHE S											
154	87.0	950.0	0.2	0.0							0.00
155	55.0	450.0	8.1	0.0	32.0	500.0	1.56	4.14	20.33	0.64	20.33
SUBTOTAL					32.0	500.0			20.33	0.64	
=====											
AFLUENTE CAINARACHE I											
155	55.0	450.0	8.1	0.0							0.00
156	25.0	200.0	19.0	21.9	30.0	250.0	0.83	13.54	33.22	1.11	33.22
157	0.0	159.0	52.3	0.0	25.0	41.0	0.16	46.60	18.74	0.75	51.96
SUBTOTAL					55.0	291.0			51.96	0.94	
=====											

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I	L	H	Q	AFQ	DL	DM	PE	QC	POT	ESP	CUM.
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AFLUENTE HUALLAGA SUP

158	787.0	4395.0	0.1	0.0							0.00
159	771.0	4000.0	1.0	0.0	16.0	395.0	2.47	0.53	2.06	0.13	2.06
160	758.0	3600.0	5.5	0.0	13.0	400.0	3.08	3.21	12.62	0.97	14.68
161	741.0	2970.0	7.9	2.7	17.0	630.0	3.71	6.70	41.40	2.44	56.08
162	733.0	2786.0	11.3	5.1	8.0	184.0	2.30	10.95	19.77	2.47	75.85
163	712.0	2445.0	19.0	4.6	21.0	341.0	1.62	17.69	59.19	2.82	135.04
164	698.0	2080.0	26.2	36.8	14.0	365.0	2.61	24.88	89.08	6.36	224.12
165	686.0	1996.0	65.8	0.0	12.0	84.0	0.70	64.38	53.05	4.42	277.17
SUBTOTAL					101.0	2399.0			277.17	2.74	

AFLUENTE HUALLAGA MED

165	686.0	1996.0	65.8	0.0							0.00
166	675.0	1902.0	69.5	9.3	11.0	94.0	0.85	67.64	62.37	5.67	62.37
167	649.0	1812.0	81.7	11.3	26.0	90.0	0.35	80.21	70.82	2.72	133.19
168	646.0	1780.0	94.4	16.2	3.0	32.0	1.07	93.67	29.40	9.80	162.60
169	624.0	1512.0	121.4	26.1	22.0	268.0	1.22	116.03	305.06	13.87	467.65
170	593.0	779.0	185.3	16.1	31.0	733.0	2.36	166.45	1196.89	38.61	1664.54
171	560.0	646.0	240.1	107.2	33.0	133.0	0.40	220.82	288.11	8.73	1952.65
172	538.0	616.0	350.7	19.6	22.0	30.0	0.14	349.03	102.72	4.67	2055.37
173	527.0	596.0	379.5	10.0	11.0	20.0	0.18	374.91	73.56	6.69	2128.93
174	489.0	554.0	408.8	10.8	38.0	42.0	0.11	399.14	164.46	4.33	2293.38
175	486.0	553.0	419.7	37.0	3.0	1.0	0.03	419.66	4.12	1.37	2297.50
176	435.0	496.0	489.3	90.0	51.0	57.0	0.11	473.01	264.50	5.19	2562.00
177	392.0	457.0	604.0	48.9	43.0	39.0	0.09	591.68	226.37	5.26	2788.37
178	370.0	436.0	665.3	62.4	22.0	21.0	0.10	659.09	135.78	6.17	2924.15
179	314.0	346.0	763.5	0.0	56.0	90.0	0.16	745.64	658.32	11.76	3582.47
180	259.0	315.0	794.8	490.3	55.0	31.0	0.06	779.17	236.95	4.31	3819.42
181	232.0	289.0	1299.8	53.2	27.0	26.0	0.10	1292.49	329.66	12.21	4149.08
182	212.0	273.0	1353.4	221.0	20.0	16.0	0.08	1353.23	212.40	10.62	4361.48
183	208.0	270.0	1577.3	21.2	4.0	3.0	0.07	1575.87	46.38	11.59	4407.86
184	189.0	248.0	1607.1	21.8	19.0	22.0	0.12	1602.84	345.93	18.21	4753.79
185	157.0	218.0	1652.1	423.0	32.0	30.0	0.09	1640.53	482.81	15.09	5236.60
186	129.0	194.0	2088.7	0.0	28.0	24.0	0.09	2081.91	490.17	17.51	5726.76
187	57.0	170.0	2155.8	53.7	72.0	24.0	0.03	2122.29	499.67	6.94	6226.43
188	8.0	160.0	2234.8	52.3	49.0	10.0	0.02	2222.17	218.00	4.45	6444.43
189	0.0	159.0	2287.4	0.0	8.0	1.0	0.01	2287.26	22.44	2.80	6466.87
SUBTOTAL					686.0	1837.0			6466.87	9.43	

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*
* EL POTENCIAL TEORICO TOTAL DEL RIO HUALLAGAINF ES DE 916.9 MW
*
*
* Y TIENE UNA LONGITUD ACUMULADA DE 1158.0 KM
*
*
* Y UN POTENCIAL ESPECIFICO DE 0.79 MW/KM
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POTENCIAL TEORICO DEL RIO HUALLAGAINF 2/12/79

I	L	H	Q	AFO	DL	DH	PE	QC	POT	ESP	CUM
AFLUENTE MATADOR											
1	70.0	195.0	0.0	0.0							0.00
2	0.0	158.0	32.6	0.0	70.0	37.0	0.05	16.29	5.91	0.08	5.91
SUBTOTAL					70.0	37.0			5.91	0.08	
AFLUENTE SHANUSI											
3	120.0	1080.0	0.1	0.0							0.00
4	0.0	151.0	32.4	0.0	120.0	929.0	0.77	16.25	148.10	1.23	148.10
SUBTOTAL					120.0	929.0			148.10	1.23	
AFLUENTE CACHIYACU											
5	56.0	1700.0	0.1	0.0							0.00
6	0.0	170.0	16.8	0.0	56.0	1530.0	2.73	8.42	126.45	2.26	126.45
SUBTOTAL					56.0	1530.0			126.45	2.26	
AFLUENTE CHARAPILLE											
7	49.0	1020.0	0.1	0.0							0.00
8	0.0	159.0	17.1	0.0	49.0	861.0	1.76	8.60	72.64	1.48	72.64
SUBTOTAL					49.0	861.0			72.64	1.48	
AFLUENTE PARANAPARI											
9	132.0	500.0	0.2	0.0							0.00
10	72.0	170.0	40.0	16.8	60.0	350.0	0.55	20.09	65.05	1.06	65.05
11	27.0	159.0	69.0	17.1	45.0	11.0	0.02	62.89	6.79	0.15	71.82
12	0.0	151.0	90.5	0.0	27.0	8.0	0.03	66.54	6.93	0.26	78.75
SUBTOTAL					132.0	349.0			78.75	0.60	
AFLUENTE ZAPOTEYACU											
13	46.0	185.0	2.5	0.0							0.00
14	0.0	150.0	22.1	0.0	46.0	35.0	0.08	12.30	4.22	0.09	4.22
SUBTOTAL					46.0	35.0			4.22	0.09	
AFLUENTE SHISHINAHUA											
15	83.0	200.0	1.3	0.0							0.00
16	0.0	148.0	29.5	0.0	83.0	52.0	0.06	15.43	7.87	0.09	7.87
SUBTOTAL					83.0	52.0			7.87	0.09	
AFLUENTE AHMANAYACU											
17	57.0	180.0	0.5	0.0							0.00
18	0.0	145.0	15.9	0.0	57.0	35.0	0.06	8.19	2.81	0.05	2.81
SUBTOTAL					57.0	35.0			2.81	0.05	

POTENCIAL TEORICO DEL RIO HUALLAGAINF 2/12/79

I	L	H	Q	AFQ	DL	DM	PE	QC	PDT	ESP	CUM
AFLUENTE NURACYACU											
19	62.0	185.0	0.0	0.0							
20	0.0	152.0	17.7	0.0	62.0	33.0	0.05	8.88	2.87	0.05	0.00
SUBTOTAL					62.0	33.0			2.87	0.05	
AFLUENTE ZAPOTE											
21	95.0	160.0	1.0	0.0							
22	0.0	146.0	20.3	0.0	95.0	14.0	0.01	10.65	1.46	0.02	0.00
SUBTOTAL					95.0	14.0			1.46	0.02	
AFLUENTE AIPENA											
23	147.0	162.0	0.1	0.0							
24	98.0	152.0	10.5	17.7	49.0	10.0	0.02	5.31	0.52	0.01	0.00
25	50.0	146.0	47.1	20.3	48.0	6.0	0.01	37.67	2.22	0.05	0.52
26	0.0	141.0	75.4	0.0	50.0	5.0	0.01	71.39	3.50	0.07	2.74
SUBTOTAL					147.0	21.0			6.24	0.04	
AFLUENTE HUALLAGAINF											
27	241.0	159.0	2287.6	0.0							
28	237.0	158.0	2287.7	32.6	4.0	1.0	0.02	2287.66	22.44	5.61	0.00
29	184.0	152.0	2350.8	32.4	53.0	6.0	0.01	2335.57	137.47	2.59	22.44
30	181.0	151.0	2383.9	90.5	3.0	1.0	0.03	2383.58	23.38	7.79	159.91
31	149.0	150.0	2480.5	22.1	32.0	1.0	0.00	2477.47	24.30	0.76	183.30
32	115.0	148.0	2512.8	29.5	34.0	2.0	0.01	2507.73	49.20	1.45	207.60
33	75.0	145.0	2553.9	15.9	40.0	3.0	0.01	2548.13	74.99	1.87	256.80
34	16.0	141.0	2601.9	75.4	59.0	4.0	0.01	2585.89	101.47	1.72	331.79
35	0.0	140.0	2679.2	0.0	16.0	1.0	0.01	2678.26	26.27	1.64	433.26
SUBTOTAL					241.0	19.0			459.54	1.91	

 * EL POTENCIAL TEORICO TOTAL DEL RIO URUBAMBA ES DE 10591.3 MW *
 * Y TIENE UNA LONGITUD ACUMULADA DE 3536.0 KM *
 * Y UN POTENCIAL ESPECIFICO DE 3.00 MW/KM *

POTENCIAL TEORICO DEL RIO URUBAMBA 3/29/79

I	L	H	Q	AFQ	DL	DH	PE	QC	POT	ESP	CUM
=====											
AFLUENTE HUAROCONDO											
1	49.0	3900.0	0.3	0.0							0.00
2	31.0	3336.0	1.8	0.0	18.0	564.0	3.13	1.04	5.76	0.32	5.76
3	0.0	2587.0	4.9	0.0	31.0	749.0	2.42	3.35	24.61	0.79	30.38
SUBTOTAL					49.0	1313.0			30.38	0.62	
=====											
AFLUENTE HUADQUINA											
4	20.0	4150.0	0.6	0.0							0.00
5	0.0	1755.0	3.8	0.0	20.0	2395.0	11.98	2.21	51.85	2.59	51.85
SUBTOTAL					20.0	2395.0			51.85	2.59	
=====											
AFLUENTE SANTA TERESA											
6	35.0	4730.0	0.4	0.0							0.00
7	2.0	1775.0	4.1	3.8	33.0	2955.0	8.95	2.25	65.33	1.98	65.33
8	0.0	1745.0	7.9	0.0	2.0	30.0	1.50	7.89	2.32	1.16	67.65
SUBTOTAL					35.0	2985.0			67.65	1.93	
=====											
AFLUENTE LUCMA											
9	68.0	4925.0	0.1	0.0							0.00
10	30.0	2000.0	9.2	0.0	38.0	2925.0	7.70	4.65	133.37	3.51	133.37
11	0.0	1500.0	14.1	0.0	30.0	500.0	1.67	11.64	57.08	1.90	190.45
SUBTOTAL					68.0	3425.0			190.45	2.80	
=====											
AFLUENTE SANTA MARIA											
12	47.0	4025.0	0.1	0.0							0.00
13	0.0	1500.0	5.0	0.0	47.0	2525.0	5.37	2.54	62.86	1.34	62.86
SUBTOTAL					47.0	2525.0			62.86	1.34	
=====											
AFLUENTE ACOBAMBA											
14	62.0	4100.0	0.2	0.0							0.00
15	49.0	2000.0	2.5	0.0	13.0	2100.0	16.15	1.32	27.29	2.10	27.29
16	28.0	1500.0	6.5	0.0	21.0	500.0	2.38	4.49	22.02	1.05	49.31
17	0.0	925.0	12.3	0.0	28.0	575.0	2.05	9.43	53.20	1.90	102.51
SUBTOTAL					62.0	3175.0			102.51	1.65	
=====											
AFLUENTE YANATILI											
18	132.0	4600.0	0.1	0.0							0.00
19	101.0	2000.0	8.8	0.0	31.0	2600.0	8.39	4.46	115.84	3.67	115.84
20	65.0	1475.0	15.8	0.0	36.0	525.0	1.46	12.29	63.30	1.76	177.13
21	29.0	925.0	23.8	12.3	36.0	550.0	1.53	19.78	106.70	2.96	243.83
22	0.0	705.0	43.2	0.0	29.0	220.0	0.76	39.69	85.66	2.95	369.49
SUBTOTAL					132.0	3895.0			369.49	2.80	
=====											
AFLUENTE ICHIQIATO											
23	34.0	2500.0	0.1	0.0							0.00
24	0.0	642.0	9.1	0.0	34.0	1858.0	5.46	4.61	84.10	2.47	84.10
SUBTOTAL					34.0	1858.0			84.10	2.47	
=====											
AFLUENTE CONAORTAYOC											
25	52.0	3850.0	0.1	0.0							0.00
26	0.0	715.0	6.7	0.0	52.0	3135.0	6.03	3.42	105.18	2.02	105.18
SUBTOTAL					52.0	3135.0			105.18	2.02	
=====											

POTENCIAL TEORICO DEL RIO URUBAMBA 3/29/79

I	L	H	Q	AFQ	OL	OH	PE	QC	POT	ESP	CUM
=====											
AFLUENTE CONCEBIDAYUC											
27	82.0	4855.0	0.1	0.0	64.0	4140.0	6.47	3.55	144.35	2.26	0.00
28	18.0	715.0	7.0	6.7	18.0	97.0	0.54	16.66	15.86	0.88	144.35
29	0.0	618.0	19.6	0.0							160.20
SUBTOTAL					82.0	4237.0			160.20	1.95	
=====											
AFLUENTE PINCHIMURO											
30	21.0	4675.0	0.1	0.0	11.0	535.0	4.86	0.34	1.78	0.16	0.00
31	10.0	4140.0	0.6	0.0	10.0	365.0	3.65	1.00	3.59	0.36	1.78
32	0.0	3775.0	1.4	0.0							5.37
SUBTOTAL					21.0	900.0			5.37	0.26	
=====											
AFLUENTE LAURAMARCA											
33	22.0	4625.0	0.0	0.0	12.0	725.0	6.04	0.36	2.56	0.21	0.00
34	10.0	4100.0	0.7	0.0	10.0	440.0	4.40	0.88	3.82	0.38	2.56
35	0.0	3660.0	1.1	0.0							6.38
SUBTOTAL					22.0	1165.0			6.38	0.29	
=====											
AFLUENTE PALIAMAYO											
36	24.0	4675.0	0.0	0.0	15.0	670.0	5.80	0.30	2.58	0.17	0.00
37	9.0	3805.0	0.6	0.0	9.0	214.0	2.38	0.83	1.74	0.19	2.58
38	0.0	3591.0	1.1	0.0							4.32
SUBTOTAL					24.0	1084.0			4.32	0.18	
=====											
AFLUENTE CATCA											
39	31.0	4230.0	0.0	0.0	11.0	605.0	5.50	0.20	1.19	0.11	0.00
40	20.0	3625.0	0.4	0.0	10.0	131.0	1.31	0.69	0.89	0.09	1.19
41	10.0	3494.0	1.0	0.0	10.0	144.0	1.44	1.19	1.68	0.17	2.08
42	0.0	3350.0	1.4	0.0							3.75
SUBTOTAL					31.0	880.0			3.75	0.12	
=====											
AFLUENTE JACHACALLA											
43	28.0	4980.0	0.0	0.0	8.0	855.0	10.69	0.17	1.41	0.18	0.00
44	20.0	4125.0	0.3	0.0	10.0	546.0	5.46	1.05	5.65	0.56	1.41
45	10.0	3579.0	1.8	0.0	10.0	331.0	3.31	1.94	6.30	0.63	7.06
46	0.0	3248.0	2.1	0.0							13.35
SUBTOTAL					28.0	1732.0			13.35	0.48	
=====											
AFLUENTE MICA											
47	25.0	4000.0	0.1	0.0	25.0	995.0	3.98	0.83	8.10	0.32	0.00
48	0.0	3005.0	1.6	0.0							8.10
SUBTOTAL					25.0	995.0			8.10	0.32	
=====											
AFLUENTE COLLUME											
49	21.0	4020.0	0.0	0.0	21.0	1048.0	4.99	0.52	5.35	0.25	0.00
50	0.0	2972.0	1.0	0.0							5.35
SUBTOTAL					21.0	1048.0			5.35	0.25	
=====											
AFLUENTE COLQUEPATA											
51	29.0	4120.0	0.0	0.0	29.0	1840.0	6.34	0.83	15.04	0.52	0.00
52	0.0	2280.0	1.6	0.0							15.04
SUBTOTAL					29.0	1840.0			15.04	0.52	
=====											