Table H.1-7 FIRR Cash Flow of Cost and Benefit
(5 years Delay in Benefit Accrual) (Unit: 1000Lps)

		()	years 1	CLAY	111 D	enerre 1	Accrual)	(Unit: 1000Lps)
			Cost				Discoun	t <u>Present Value</u>
No.	Year	Const.	0 & M			Benefit	Rate	
		Cost	Cost	To	tal			Cost Benefit
1	1993	1,459			, 459	0	1.0000	1,459 0
Ž	1994	1, 575			. 575	0		1, 575 0
3	1995	7, 129			129	Ŏ		
4	1996	36, 931	0		931	0		
						the second secon	A Company of the Comp	
5	1997	31,010	0.		, 010	0		
6	1998	25, 130	720	25	, 850	0		
7	1999	· 0	720		720	0	4.5	
8	2000	0	720		720	0		
-9	2001		720		720	0		
10	2002	. • 0	720		720	0	1.0000	120 0
11	2003	0	720		720	4,698	1.0000	720 4,698
12	2004	0	720		720	9,791	1.0000	720 9,791
13	2005	. 0	720		720.	15,303		
14	2006	0	720		720		1.0000	720 21, 263
15	2007	0	720	1.	720	21, 263		720 21,263
16	2008	0	720	1 - 1	720		1.0000	720 21, 263
17	2009	0	720		720			
1.15				1.		21, 263		
18	2010	0	720	3.1	720	21, 263		720 21, 263
19	2011	0	720	Ž.	720			720 21, 263
20	2012	0	720	· *	720	21, 263		
21	2013	0	720		720			720 21, 263
22		0	720		720	21, 263		
23	2015	0	720		720			
24	2016	0	720		720	21, 263	1.0000	720 21, 263
25	2017	0	720		720	21, 263	1.0000	720 21, 263
26	2018	. 0	720		720	21, 263	1.0000	720 21, 263
27	2019	0	720		720	21, 263	1.0000	720 21, 263
28	2020	0	720		720	21, 263	1.0000	720 21, 263
29	2021	. 0	720		720	21, 263		
30	2022	0	720		720	21, 263		
31	2023	Ö	720		720	21, 263		
32	2024	0.	720		720	21, 263		720 21, 263
33	2025	. 0.	720		720		1.0000	
34	2026	0	720		720			
35	2027	Õ	720		720	21, 263		720 21, 263
36	2028	0	720		720		1.0000	
37	2029	0	720		720		1.0000	720 21, 263
38	2030	0	720		720		1.0000	
39	2031	0	720			21, 263		720 21, 263
40	2032	0	720		720	61,600	1.0000	720 21, 263
41	2033	0.	720				1.0000	
42	2034	0	720		720		1.0000	
43	2035	0	720		720		1.0000	
44	2036	. 0	720				1.0000	
45	2037	0	720				1.0000	
46	2038	0	720		720	21, 263	1.0000	720 21,263
47	2039	0	720			21, 263	1.0000	720 21,263
48	2040	.0	720			21, 263		720 21, 263
49	2041	0	720		720	21, 263	1.0000	720 21, 263
50	2042	0.	720		720	21, 263		720 21, 263
		103, 234	32,400	135	634	816,523	100	135,634 816,523
(US	\$)	51,617	16,200	67	817	408, 262		67, 817 408, 262
				•				*

B/C = 6.02 B-C = 680,889 FIRR = 0.00 %

Table H.1-8 FIRR Cash Flow of Cost and Benefit
(2 years Delay in Benefit Accrual)
(Unit: 1000Lps)

		<del></del>			<del></del>	B.1	(Unit: 1	
			Cost		D	Discount	Prese	ent Valu
No.	Year	Const.	0 & M	T-1-1	Benefit	Rate	Cost	Benefit
	4000	Cost	Cost	Total	0	1 0000	1,459	Denerre 0
1	1993	1,459		1,459		1.0000	1,403	0
2	1994	1,575	0	1.575		0.8907	5,656	0
3	1995	7,129		7, 129	0	0.7933	26,095	0
4	1996	36,931	0	36, 931	0			0
5	1997	31,010	720	31,010	. 0	0.6293	19,516 14,490	0
6	1998	25, 130	720	25,850	0	0.5605	359	0
7	1999	0	720	720			320	
8		0	720	720	4,698			2,089
9	2001	0	720	720		0.3961	285	3,878
10			720	720		and the second second	254	
l 1	2003	0	720	720	21, 263	0.3142	226	6,681
12	2004	0	720	720			202	
13	2005	0	720	720	21, 263		179	5,300
4	2006	0	720	720	21, 263		160	
5		0		720			142	4, 205
6	2008	0	720	720		0.1761	127	
17	2009	0	720	720			113	3,336
8	2010	0	720	720		0.1397	101	
9	2011		720	720	21, 263		90	2,646
0.3	2012	. 0	720	720	21, 263		80	2, 357
1	2013	0	720	720			71	2,099
22	2014	0	720	720	21, 263		63	1,870
3	2015	0	720	720	21,263		56	1,665
4	2016	0	720	720	21, 263		50	1,483
5	2017	0	720	720			45	1,321
6	2018	<b>0</b>		720	21,263		40	1, 177
27	2019	.4 0		720			35	
28	2020	0	720	720			32	934
29	2021	0	720		21, 263		28	831
30	2022	: 0	720	720	21,263		25	741
31	2023	0	720	720	21, 263		22	660
32	2024	0	720	720	21, 263		20	588
33	2025	0	720	720	21, 263		18	523
34	2026	0	720	720	21, 263		16	466
35	2027	0	720	720	21,263	0.0195	14	415
36	2028	0	720	720	21, 263	0.0174	13	370
37	2029	. 0	720	720			11	329
38	2030	0		720	21, 263		10	293
39	2031	0		720	21,263		9	261
10	4 4	0			21,263		8	233
41		: 0			21, 263		7	207
12		0		720	21, 263		6	185
43	2035	0			21, 263		6	164
4	2036	0		720	21, 263		5	146
15	2037			720		0.0061	4	130
16	2038	0		720	21, 263		4	116
17		0				0.0049	4	103
18	2040	Ŏ	720	720	21, 263	0.0043	3	92
49	2041	. 0	720	720		0.0039	3	8 2
50	2042	0		720	21, 263		2	73
	al (Lp)						71,887	71,887
101	\$)	100,004	16, 200		440, 156		35,943	35, 943

B/C = 1.00 B-C = 0 FIRR = 12.27 %

Table H.1-9 FIRR Cash Flow of Cost and Benefit
(2 years Delay in Benefit Accrual)

	F)	Cost	Discount	Present Valu
Vo.	Year	Const. 0 & M	Benefit Rate	
	Y 2 7 6	Cost Cost Tota		Cost Benefit
1	1993	1,459 0 1,4		1.459
_	1994	1,575 0 1,5		1,406 0
3	1995	7,129 0 7,1		
		36,931 0 36,9	31 0 0.7118	
	1997	31,010 0 31,0		
6	1998			14,668 0
7	1999		20 0.5066	365 0
8	2000		20 4,698 0.4523	326 2,125
9	2000		20 9,791 0.4039	291 3,954
10	2001		20 15,303 0.3606	260 5,518
1	2003		20 21, 263 0, 3220	232 6,846
2	2004		20 21, 263 0, 2875	207 6, 113
3	2005		20 21, 263 0. 2567	185 5, 458
4	2006		20 21, 263 0, 2292	165 4,873
5	2007		20 21, 263 0. 2046	147 4, 351
6	2008		20 21, 263 0, 1827	132 3,885
	2009		20 21, 263 0. 1631	117 3,468
8	2010		20 21, 263 0. 1456	105 3,097
9	2011		20 21, 263 0, 1300	94 2, 765
0	2012		20 21, 263 0, 1161	84 2,469
1	2013	0 720 7	20 21, 263 0. 1037	75 2, 204
2	2014	0 720 7	20 21, 263 0. 0926	67 1,968
3	2015	0 720 7	20 21, 263 0.0826	60 1,757
4	2016	0 720 7	20 21, 263 0. 0738	53 1,569
5	2017		20 21, 263 0.0659	47 1,401
6	2018		20 21, 263 0. 0588	42 1, 251
7	2019		20 21, 263 0.0525	38 1, 117
8	2020		20 21, 263 0.0469	34 997
	2021		20 21,263 0.0419	30 890
0	2022		20 21, 263 0.0374	27 795
ì	2023		20 21,263 0.0334	24 710
	2024		20 21,263 0.0298	21 634
3	2025		20 21, 263 0. 0266	19 566
4	2026		20 21, 263 0. 0238	17 505
5	2027		20 21, 263 0. 0212	15 451
	2028	·	20 21, 263 0. 0189 20 21, 263 0. 0169	14 403
	2029			12 360
	2030		20 21, 263 0. 0151	11 321
	2031		20 21, 263 0. 0135	10 287
	2032	0 720 7		9 256
1	2033		20 21, 263 0. 0107	8 229
2	2034		20 21, 263 0, 0096	7 204
	2035		20 21, 263 0, 0086	6 182
4	2036		20 21, 263 0. 0076	6 163
5	2037		20 21, 263 0.0068	5 145
6	2038		20 21, 263 0, 0061	4 130
	2039		20 21, 263 0.0054	4 116
8	2040		20 21, 263 0.0049	4 103
9	2041	0 720 7	20 21, 263 0.0043	3 92
0	2042	0 720 7	20 21, 263 0.0039	3 82
ota	1(Lp)	103, 234 32, 400 135, 6	34 880, 312	72, 592 74, 808
(US			17 440, 156	36, 296 37, 404

B/C = 1.03 B-C = 2.216 F1RR = 12.00 %

Table H.1-10 FIRR Cash Flow of Cost and Benefit
(2 years Delay in Benefit Accrual)
(Unit: 1000Lps)

	**		Jears p	cray III I	euerre ve	Cruary	<u>(Unit: 1000Lps)</u>
			Cost			)iscount	<u>Present Value</u>
No.	Year	Const.	0 & M		Benefit	Rate	
		Cost	Cost	Total			<u>Cost Benefit</u>
1	1993	1,459	0	1,459	0	1.0000	1,459 0
2	1994	1,575	0	1,575	. 0	1.0000	1,575 0
3	1995	7,129	0	7, 129	0	1.0000	7, 129 0
4	1996	36,931	0	36,931	` . 0	1.0000	36, 931 0
5	1997	31,010	. 0	31,010		1.0000	31,010 0
6	1998	25, 130	720	25,850	0	1.0000	25,850 0
7	1999	- 0	720	720	· · · · · · · · · · · · · · · · · · ·	1.0000	720 0
8	2000	Ŏ	720		4,698	1.0000	720 4,698
9	2001	Ŏ	720	720			720 9, 791
10	2002	0	720	720	15, 303	1.0000	720 15, 303
		0	720	720		1.0000	720 21, 263
11	2003	0					720 21, 263
12	2004		720	720			
13	2005	0	720	720	-	1.0000	720 21, 263
14	2006	0	720	720		1.0000	720 21, 263
15	2007	0	720	720		1.0000	720 21, 263
16	2008	0	720	720		1.0000	720 21, 263
17	2009	0	720	720	21, 263		720 21, 263
18	2010	0	720	720	21, 263		720 21, 263
19	2011	0	720	720	21.263		720 21, 263
20	0 4 2 0	0	720	720	21, 263		720 21, 263
21 :	2013	0	720	720	21, 263	1.0000	720 21, 263
22	2014	· 0	720	720	21, 263	1.0000	720 21,263
23	2015	. 0	720	720		1.0000	720 21, 263
24	2016	0	720	720	21, 263	1.0000	720 21, 263
25	2017	. 0	720	720	21, 263	1.0000	720 21, 263
26	2018	0.	720	720	21, 263	1.0000	720 21,263
27		0	720	720	21, 263	1.0000	720 21,263
28		0	720	720	21, 263	1.0000	720 21, 263
	2021	0	720			1.0000	720 21, 263
	2022	0	720	720		1.0000	720 21, 263
31		· ·	720	720	21, 263	1.0000	720 21, 263
32:		Ŏ	720	720	21, 263	1.0000	720 21, 263
33	2025	Ŏ	720	720	21, 263	1.0000	720 21, 263
34	2026	0	720	720	21, 263	1.0000	720 21, 263
35	2027	Ö	720	720	21, 263	1.0000	720 21, 263
36		=	720		21, 263	1.0000	720 21, 263
37	2029			720	21, 263	1.0000	720 21, 263
		0	720	720		1.0000	720 21, 263
38			720		21, 263	1.0000	720 21, 263
39	2031	0				1.0000	720 21, 263
40	2032		100	720			720 21, 263
41	2033		720		21, 263	1.0000	
42	2034	. 0	720	720	21, 263	1.0000	720 21, 263
43	2035		720		21, 263		720 21, 263
44	2036	0	720	720		1.0000	720 21,263
45	2037	0	720			1.0000	720 21, 263
46	2038	. 0	720			1.0000	720 21, 263
47	2039	0	720			1.0000	720 21, 263
48	2040	0 .	720		21, 263	1.0000	720 21, 263
49	2041		720	720	21, 263		720 21, 263
50	2042	0	720	720	21, 263		720 21, 263
	al(Lp)	103, 234	32,400	135,634	880,312		135,634 880,312
	\$)		16,200	67,817			67,817 440,156

B/C = 6.49 B-C = 744,678 FIRR = 0.00 %

Table H.1-11 FIRR Cash Flow of Cost and Benefit
(20 % Decrease in Benefit)

*	· .	<u> </u>				(Unit: 1000Lps)
	La defen		Cost	<del></del>		Present Value
No.	Year	Const.	0 & M		Benefit Rate	
	4000	Cost	Cost	Total	A 4 444	Cost Benefit
1	1993	1,459	0	1,459	0 1.0000	1,459
2	1994	1,575	0	1,575	0 0.8898	1,401 0
3	1995			7, 129	0 0.7918	5,644 0
4	1996	36, 931	0	36,931		26,019 0
5	1997		700	31,010	0 0.6269	
6	1998		720	25,850		14,419 2,096
.7	1999	· · · · · · · · · · · · · · · · · · ·	720	720		357 3,888 318 5 407
-8 9	2000	0	720 720			318 5, 407 283 6, 685
10	2001 2002	0	720	720	17.010 0.3930	252 5,948
	2002	. 0	720	720		224 5, 293
11 12	2003	0	720	720		199 4,710
13	2004	0	720			177 4, 191
	2006	: 0	720	720		
15	2000	. 0	720	720	17,010 0.2192	140 3, 729
16	2007	- · · ·	720	720		125 2,952
17	2009	0.		720		111 2,627
	2010	-			17,010 0.1374	99 2,338
19	2011	. 0	720	720	17, 010 0.1314	88 2,080
	2012	0	720	720		78 1,851
21	2013	0	720	720	17,010 0.0968	70 1,647
22	2014	: 0		720	17,010 0.0861	62 1, 465
	2015	0		720	17,010 0.0767	
24	2016	0				49 1,160
25	2017	· 0.		720	17,010 0.0607	44 1,032
26	2018	Ŏ		720	17,010 0.0540	39 919
27	2019	Ō			17,010 0.0481	35 817
28	2020	Ŏ	720			31 0 305 7275
29.		. 0.			17,010 0.0380	27 1808 647
30		0		720		24 5505 576
31	2023	0	720	720		
32	2024	0	720	720	17,010 0.0268	19 7 45.6
33	2025	0	720	720		17 406
34	2026	0	720	720	17,010 0.0212	15 361
35	2027	0	720	720	17,010 0.0189	14 321
36	2028	0	720	720	17,010 0.0168	12 286
37	2029	0	720	720	17,010 0.0150	11 254
38	2030	Ō	720	720		10 226
39	2031	0	720	720	17,010 0.0118	9 201
40	2032		720	720	17,010 0.0105	8 179
41	2033	0	720	720		7 159
42	2034	0	720	720	17,010 0.0083	6 142
43	2035	0	720		17,010 0.0074	5 126
44	2036	0	720	720	17,010 0.0066	5 112
45	2037	0	720	720		4 100
46	2038	0	720	720.		4 89
47	2039	0	720	720	17,010 0.0047	3 79
48	2040	0	720	720	17,010 0.0041	3 70
49	2041	0	720	720	17,010 0.0037	3 63
	2042	0	720		17,010 0.0033	2 56
		103, 234	32, 400	135,634	738, 253	71,607 71,607
(US		51,617	16,200	67,817	369, 127	35,804 35,804

B/C = 1.00 B-C = 0 FIRR = 12.38 %

Table H.1-12 FIRR Cash Flow of Cost and Benefit (20 % Decrease in Benefit)

		* • 61	1		<u> </u>	: <del></del>		· · · · · · · · · · · · · · · · · · ·		1000Lps)
	d see	1. 1.	<u> </u>		st			Discount	Pres	<u>ent Valu</u>
Yo.	Year	Cons	ŧ.	0 8	Ł M	1 1 1 1 1	Benefit	Rate		
	1111	Cos	t .	Co	st	Total			Cost	Benefit
1	1993	1.3	459	100	0	1,45	9 0	1.0000	1,459	. 0
2	1994		575	1.1	. 0	1.57	5 0	0.8929	1,406	0
3	1995		129	Jan 1	0	7, 12			5,683	0
4	1996	36.			Ö	36,93			26, 287	0
·5	1997	31. (			Ŏ	31,01			19,707	Ŏ
		25.			720	25, 85		0.5674	14, 668	2, 132
6	1998	40,								
7	1999		0		720				365	3,968
8	2000		0		720	72			326	5,538
9	2001		0		720	72			291	6,870
0	2002		0		720	72			260	6,134
1	2003		0:		720	72	0 17,010	0.3220	232	5,477
2	2004		0	-	720	72	0 17,010	0.2875	207	4,890
3	2005		. 0		720	72			185	4,366
4	2006		0		720	72			165	3,898
5	2007		Ö	1	720	72			147	3, 481
6	2008	. *	0.		720	72			132	3, 108
			0		720	72			117	2,775
7	2009	* .								
8	2010		0		720				105	2, 477
9	2011		0		720	72			94	2.212
0	2012		0		720	72			84	1,975
1	2013		0		720				75	1,763
2	2014	10	0		720	72	0 17,010	0.0926	67	1,574
3	2015		0		720	72	17,010	0.0826	60	1,406
4	2016		0		720	72			53	1,255
5	2017	. P	Ō		720	72			47	1,121
6	2018	* **	ŏ	S. 3	720	72			42	1,001
7	2019	. •	0:		720	72			38	893
			0	4.0	720	72			34	798
8	2020			444.7		72			30	712
9	2021		0		720					636
30	2022		0		720				27	
31	2023		0:		720	72			24	568
32	2024		0		720	72			21	507
3	2025		0		720	72			19	453
4	2025		0		720	72	0 17,010	0.0238	17	404
5	2027		0		720	72	0 17,010	0.0212	15	361
36	2028		0	. :	720	72			14	322
, v } 7	2029	-	0		720	72			12	288
8	2030		0		720				11	257
			0		720	72			10	229
9	2031								9	205
0	2032		0.		720	72				
1	2033		0		720	72			8	183
2	2034		0		720	72			7	163
3	2035	•	0		720				6	146
4	2036		0	٠.	720	72			6	130
5	2037		0		720	72	17,010	0.0068	5	116
6	2038		0		720	72			4	104
7	2039		Õ		720	72			4	93
8	2040		0		720	72			4	83
			. 0		720	72			3	74
19			. 0		720	72			3	66
50	2042		-	0.0					72,592	75, 210
		103.			400	135,63				
US	\$)	51.	017	16,	200	67,81	7 369, 127		36,296	37,605

B/C = 1.04 B-C = 2,617 FIRR = 12.00 %

Table H.1-13 FIRR Cash Flow of Cost and Benefit (20 % Decrease in Benefit)

				, , ,	. <b>.</b>			Īřís. V v v v i	(Unit:	1000Lps)
		4 4 6		Co	ost			Discoun	Pres	ent Value
No.	Year	Cons	ŧ.		M		Benefit	Rate	gan in	
	1 1 TV	Cos			os t_	Total	ing a second		Cost	Benefit
1	1993		459		0	1,459	0	1.0000	1,459	0
2	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		575		0	1,575	0	the second second	1,575	
3	1995		129		0	7, 129	0	1.0000	7, 129	0
4	1996	36,			. 0		0	4.6		· · · · · · · · · · · · · · · · · · ·
- 5	1997	31.			0.		0			0
6	1998	25,			720			1.0000		3,758
	1999		0		720			1.0000		
8	2000	land in the second	0		720					12, 242
9			0	4	720			1.0000	720	17,010
10	2002	1.54	0		720	720				17,010
11		1.	Ő		720	720		1.0000		
12		. V.	0		720	720	17,010		720	
13	2004		0	*	720		17,010		720	
14	2005		_		720	720	17,010	1.0000		
	2006		0				45 040		and the second second	17,010
15	2007	: : : : : : : : : : : : : : : : : : :	0		720	720				
16	2008		0		720	The state of the s	17,010	1.0000		
17	2009	1	. 0	- :	720		17,010			17,010 17,010
18	2010		0		720	720				
19	2011		. 0		720		17,010		720	
20	2012	. •	0		720	720	17,010		720	
21	2013	-	0		720	720	17,010		720	
22	2014		0		720	4.1		1.0000		17.010
23	2015		0		720		17,010	1.0000	720	
24	2016	* .	0		720			1.0000	720	17,010
25	2017	+ .	0	٠.	720	720	17,010	1.0000		17,010
26	2018		0		720	720		1,0000		17.010
27			0	2 ° 2 '	720	720		1.0000	720	17,010
28	2020		0		720		17,010			17,010
29	2021		0		720		17,010	1.0000		17,010
30	2022		0		720		17,010	1.0000	720	
31	2023		0		720	720				17,010
32	2024	•	0	=	720	720		1.0000	720	17,010
33	2025		0		720	720		1.0000	720	17.010
34	2026		0		720	720	17,010	1.0000	720	17,010
35	2027		0		720	720	17,010	1.0000	720	17,010
36	2028		0.		720	720	17,010	1.0000		17.010
37	2029		0		720	720	17,010	1.0000	720	17.010
38	2030		0		720	720	17,010	1.0000	720	17,010
39	2031		0		720		17,010		720	17,010
40	2032	•	0		720		17,010		720	17,010
41	2033		0		720	720	17,010	1.0000		17,010
42	2034		0		720	720	17,010	1.0000		17,010
43	2035		0		720	720	17,010	1.0000	720	17,010
44	2036		0		720		17,010			17,010
45	2037		0		720		17,010			17,010
46	2038		0		720		17,010			17,010
47	2039		Õ		720		17,010			17.010
48	2040		Õ	1 V	720	720		1.0000	720	
49.	2041		Õ		720	720		1.0000	720	
50	2042		. 0		720	720		1.0000	720	17,010
		103				135,634		1.0000		
(US				16,		67, 817				369, 127
, , ,	Ψ,	441		,	550		,			- 0 - 1 2 2

B/C = 5.44 B-C = 602,619 FIRR = 0.00 %

Table H.1-14 FIRR Cash Flow of Cost and Benefit
(20 % Decrease in Benefit)

٠.			Cost			Discount	(Unit: 1000Lps) Present Valu			
о.	Year	Const.	0 & M		Benefit	Rate				
	<u> </u>	Cost	Cost	Total			Cost	Benefit		
1	1993	1,897	0	1,897	0	1.0000	1,897	0		
2	1994	2.048	. 0	2.048	0	0.8932	1.829	(		
3	1995	9,268	0	9,268	. 0	0.7978	7,393			
4	1996	48,010	0	48,010	0	0.7126	34, 210	· (		
5	1997	40,313	0	40,313	. 0	0.6364	25,657	. (		
6		32,669	936	33,605	4,698	0.5685	19,103	2,67		
7	1999		936	936	9,791					
8	2000		936		15,303	0.4535	424			
9	2001		936	936		0.4051	379	8,61		
0		0	936	936	21, 263		339			
1	2003	Ŏ	936	936		0.3231	302	6,871		
2	2004		936	936			270			
3		. 0	936			0.2578	241	5, 48		
4	2006	0	936			0.2303	216			
5		0	936	936		0. 2057	192	4, 373		
6 ·	4.4	. 0	936	936	21, 263		172			
-			936			0.1641	154			
7	2009		936		21, 263					
8	2010			936			137			
9	2011	0	936			0.1309	123	2, 783		
0	2012		936	936	-	0.1169	109			
1	2013	0	936			0.1044	98	2, 220		
2	2014		936			0.0933	87	1,983		
3	2015	0	936	936			78	1,771		
4	2016	0	936	936	21, 263		70	1,582		
5	2017	. 0		936	21, 263		62	1,413		
6	2018	0	936	936	21, 263		56	1, 2,62		
7	2019	0 1	936	936	21,263		50	1, 127		
8	2020	0	936	936	21, 263	0.0474	44	1,007		
9	2021	0	936	936	21,263	0.0423	40	899		
0 :	2022	0	936	936	21, 263	0.0378	35	808		
1	2023	0	936	936	21, 263	0.0337	32	717		
2 0	2024	0	936	936	21, 263	0.0301	28	641		
3			936	936		0.0269	25	572		
	2026	0	936	936	21, 263	0.0240	23	511		
	2027					0.0215				
	2028		936			0.0192	18	408		
7.				936	21, 263		16			
8	2030	0	936		21, 263			325		
9	2031		936		21, 263		13	291		
0		: . 0	936		21, 263		11	260		
1		0	936	936		0.0122	10	232		
2	2034		936				9	207		
					21, 263		8	185		
3	2035	0					7	165		
4 ·			936			0.0078	6			
5	2037	0	936		21, 263					
	2038	. 0	936	935	21, 263	0.0062	6	132		
7	2039	0	936		21, 263	0.0055	5	118		
	2040	0	936		21, 263		5	105		
9	2041	0	936	936	21, 263		4	94		
	2042		936		21, 263		4	84		
nt:	al (i.p)	134, 204	42, 120	176 324	922.838		94,506	94,507		

B/C = 1.00 B-C = 0 F1RR = 11.96 %

Table H.1-15 FIRR Cash Flow of Cost and Benefit
(30 % Increase in Cost)

			(30 %	Increase	in Cost)	
	<u> </u>					(Unit: 1000Lps)
	44.	<u> </u>	Cost			count <u>Present Valu</u>
٧o.	Year	Const.	. 0 & M		Benefit Ra	
	<u> </u>	Cost	Cost			Cost Benefit
1	1993	1,897		0 1,897		0000 1,897 0
2	1994	2,048	1.	0 2,048		3929 1.829 0
3	1995	9,268		0 9,268		972 7,388 0
4	1996	48,010		0 48,010		118 34,173 0
5	1997	40,313		0 40,313		355 25.620 0
6	1998	32,669	93			674 - 19,068 - 2,666
7 -	1999	0	93	6 936	9,791 0.5	066 474 4,960
8	2000	0	. 93	6 936	15,303 0.4	523 423 6,922
9	2001	0	93	6 936	21, 263 0.4	039 378 8,588
0	2002	0	93	6 936	21, 263 0.3	
1	2003	0	93		21, 263 0.3	
2		0.		936	21, 263 0.2	
3	2005	0	93		21, 263 0. 2	
4	2006	0	93		21, 263 0. 2	
5	2007	··. 0	93			046 192 4.351
6		Õ	93			827 171 3,885
7	2009	0	93			631 153 3,468
8	2010	o o	93			
9.	2011	0	93			
0	2012	•	93		21, 263 0.1	
1	2013	0	93			
2	2014	0	93		21, 263 0.0	
3	2014	0	93		21, 263 0.0	
4	2016	. 0	93		21, 263 0.0	
5	2017	0	93			· · · · · · · · · · · · · · · · · · ·
6	2018	. 0			21, 263 0.0	
7			93		21, 263 0.0	
8.8		. 0			21, 263 0.0	
	2020	0	93		21, 263 0.0	
9	2021		93			
30	2022	. 0	93		21, 263 0.0	
31	2023	0	930		21, 263 0.0	
2	2024	0	930		21, 263 0.0	
3	2025	. 0	93		21, 263 0.0	
4	2026	0	930		21, 263 0.0	
5	2027	0	93		21, 263 0.0	
6	2028	0		936		189 18 403
17	2029	. 0	93		21, 263 0.0	
8	2030	0	93			
9	2031	0	93		21, 263 0.0	
0	2032				21, 263 0.0	The state of the s
1	2033	. 0	93		21, 263 0.0	
2	2034	0				
3	2035	. 0	93			
4	2036	0	93		21, 263 0.0	•
5	2037	0	93		21, 263 0.0	
6	2038	0	93		21, 263 0.0	
7	2039	0	93	the state of the s	21, 263 0.0	
8	2040	0	93	936	21, 263 0.0	049 5 103
9	2041	0	93	936	21, 263 0.0	043 4 92
0	2042	0			21, 263 0.0	
•	al(Lp)	134, 205				94,370 94,014
	\$)	67, 103			461,419	47, 185 47, 007

B/C = 1.00 B-C = -355 FIRR = 12.00 %

Table H.1-16 FIRR Cash Flow of Cost and Benefit
(30 % Increase in Cost)

	V 12.1				•			000Lps)
			Cost			Discount	Prese	<u>nt Value</u>
No.	Year	Const.	0 & M	* -	Benefit	Rate	1000	*
	· ·	Cost	Cost	Total				<u>Benefit</u>
1	1993	1,897	0	1,897	0	1.0000	1,897	
2	1994	2.048	11 14 0	2,048	0	1.0000	2,048	0
3	1995	9, 268		9, 268	. 0	1,0000	9, 268	0
4	1996			48,010		1.0000	48.010	0
5	1997	40,313	0	40,313	0	1.0000	40.313	0
6	1998	32,669		33,605	4,698	1.0000		4,698
7	1999	0	936	936`	9,791	1.0000	936	9,791
8	2000	0	936	936	15,303	1.0000		15, 303
9	2001	0	936	936	21, 263		936	21, 263
10	2002	0	936	936		1.0000	936	
11	2003	0	936	936		1.0000		21, 263
12	2004	0	936	936		1.0000	936	21, 263
13	2005	0	936	936		1.0000	936	21, 263
14		0	936	936		1.0000	936	21, 263
15		0	936	936		1,0000	936	21, 263
16		0	936	936	21, 263	1.0000		21, 263
17	2009	0		936	21, 263	1.0000		
18	2010	0		936		1.0000	936	21, 263
19	2011	0	936	936		1.0000	936	21, 263
20	2012	0		936	21, 263	1.0000	936	21, 263
21	2013		936	936		1.0000	936	
22	2014	0	•		21, 263	1.0000	936	21, 263
23	2015	0		936	21, 263	1,0000	936	
24	2016			936	21, 263	1.0000	936	21, 263
25	2017	• ; 0	936	936	21, 263		936	21, 263
26 ∃	2018	0		936	21, 263	1.0000	936	21, 263
27	2019	्र <sup>े</sup> 0	936		21, 263	1.0000	936	21, 263
28			936	936	21, 263	1.0000	936	21, 263
29	2021		936	936	21, 263		936	21, 263
30	2022		936	936	21, 263	1.0000	936	21, 263
31	2023				21, 263	1.0000	936	21, 263
32	2024			936	21, 263	1.0000	936	21, 263
33	2025				21, 263	1.0000	936	21, 263
34	2026	0		936	21, 263	1.0000	936	21, 263
35	2027	. 0	936	936	21, 263	1.0000	936	21, 263
36	2028			936	21, 263	1.0000	936	21, 263
37	2029	0				1.0000	936	21, 263
38	2030				21, 263		936	21, 263
39	2031	0		936	21, 263		936	21, 263
40	2032	0		936	21, 263	1.0000	936	21, 263
41	2033					1.0000	936	21, 263
42	2034	0	936			1.0000	936	21, 263
43	2035	0		936	21, 263	1.0000	936	21, 263
44	2036	0		936	21, 263	1.0000	936	21, 263
45	2037			936	21, 263	1.0000	936	21, 263
46	2038			936	21, 263	1.0000	936	
47	2039	0		936	21, 263	1.0000	936	21, 263
48	2040	0	936	936		1.0000	936	21, 263
49					21, 263	1.0000		21, 263
	2042				21, 263		936	21, 263
		134, 205		176, 325		į.	176, 325	
(US	2)	67, 103	21,060	88,163	461, 419		88, 163	401,412

B/C = 5.23 B-C = 746.513 F1RR = 0.00 %

Table H.1-17 FIRR Cash Flow of Cost and Benefit
(30 % Increase in Cost)
(Unit: 1000Lps)

	**											٠.		<u> (Un</u>	it:	10	001	.ps)
	7.1.		5	Co	ost							Di	scoun	t	Pre	sen	t 1	/alue
No.	Year	Con	st.	0 (	M &		y se z			Ben	efit		Rate	7.	371			
			s t		ost		То	tal	7	: -	:	25		C	ost	R	ene	fit
$\overline{1}$	1993		0		0			0	L		0	1	. 0000			0	<u> </u>	0
_			-					0						,				
2	1994			M City	0					100	0		.8696			0 :		. 0
3	1995		459	5 5	: 0			, 459	1		0		7563		, 10			.0
4	1996	1	575		0		-1,	, 575	÷ 2	41.5	0	0	. 6577	1	, 03	6		· O
- 5	1997		129		. 0		-7.	129	3.5		0		. 5719		. 07	7	٠, ٠	0
6	1998		931		. 0			931		3 3	Ō		4974		36			Õ
7					0			010		100	Ö		. 4325		. 41			0
			010															
8		25		100	720		25,	850			698		. 3762		, 72			767
. 9	2001		0.		720			720					. 3271		23		-3,	203
10	2002	111	0		720			720		15	, 303	0	. 2845		20	5	4	353
11	2003		0		720		٠.	720	٠		263		. 2474		178	8		260
12	2004	. :	0		720			720			263		2151		15			574
13	2005	115	0		720			720			263		. 1871		13			978
1.4	2006		0		720	-		720			263		1627		11			460
15	2007	11 T	0		720		. :	720			263		. 1415		10	2	3,	009
16	2008		0.	11.3	720			720			263		1230		8			616
17	2009		Õ		720			720			263		1070		7			275
18	2010				720			720			263							979
			. 0			• .							0931		6			
19		44. T	: 0,		720			720					0809		58			721
	2012	. 3	0		720	11.2		720	7.				0704		5	1		496
21	2013	art f	0		720			720	100	21	263	0	0612		4	4	1,	301
22	2014		0		720			720			263		0532		31			132
23	2015	da k	Õ		720			720			263		0463			3	-	984
		7.7	Õ	•	720			720										
24	2016										263		0403			9 .		856
25	2017		0		720			720			263		0350			5		744
26	2018		0		720			720			263		0304		2 8		1	647
27	2019	de de la	0		720	j .		720	. **	21	263	0.	0265		19	9	1.	563
28	2020		0		720			720	- :	21	263	0	0230		11	7		489
29	2021		0		720			720					0200	1	1			426
30	2022		ő		720			720					0174		13			370
						٠.												
31	2023		0		720	٠.		720					0151		11			322
32	2024		0		720			720					0132		(			280
33	2025		0		720			720		21,	263	0.	0115		8	}		243
34	2026		0		720			720		21.	263	0	0100		. 7	7		212
35	2027		0		720			720			263		0087			3		184
	'		_	:							12 2 2					_		
36	2028		0	•	720			720					. 0075			5		160
37	2029		0		720			720					0065			5		139
38	2030		0		720			720					0057			1		121
39	2031		0		720			720		21,	263	0	0050		4	1		105
40	2032		0		720			720					0043		3	}		92
41	2033		0		720			720					0037			} :		80
							-1						0033			) }		
42	2034		0		720			720										69
43	2035	•	0		720			720					0028			2 .		60
44	2036	•	0		720								.0025			2		52
45	2037		0		720			720		21	263	0	0021		2	?		46
46	2038		0		720								0019			l in the		40
	2039		ő		720								0016		1		ė	34
48	2040		0		720			720	:				0014			l .		30
49	2041		0		720			720					0012			l .		26
	2042		0		720	·.				21	263	0.	0011		. 1	<u> </u>		23
Tota	il (Lp)	103.	234	30.	960	1	34.				312				, 524	Į .	49.	523
(US				15,				097			156				, 762			761
	-,		1	. v,			- ' '							J-1	, , , ,	- '	;	
D /^	_		ת ה			•												
B/C	z		1.00															
B-C	Ξ		0											19				

B/C = 1.00 B-C = 0FIRR = 14.99 %

Table H.1-18 FIRR Cash Flow of Cost and Benefit
(2 years Delay of Construction)

<del></del>			Cost				Discount		Unit: 1000Lps) Present Valu		
ło.	Year	Const.	0 & M			Benefit	Rate		<u> </u>		
		Cost	Cost		Total	50,,,,,,,,		Cost	Benefit		
1	1993	0		)	0	0	1.0000	0	-0		
2	1994	0	· (	)	Ó	0	0.8929	0	. 0		
3	1995	1,459		)	1,459	0	0.7972	1,163	0		
4	1996	1,575		0	1,575	0	0.7118	1,121	0		
5	1997	7, 129		Ó	7, 129	0	0.6355	4,531	. 0		
6	1998	36,931		)	36,931	0	0.5674	20,956	0		
7	1999			0	31,010	0	0.5066	15,711	.: (		
8	2000	25, 130			25,850	4,698		11,693	2, 125		
9	2001	0			720	9,791	0.4039	291	3,954		
0	2002	0			720	15,303	0.3606	260	5, 518		
1	2003	ŏ			720	21, 263	0.3220	232	6,846		
2	2004	ŏ			720	21, 263		207	6, 113		
3	2005	o o			720	21, 263		185	5, 458		
		0			720			165	4,873		
4	2006					21, 263			4, 351		
5 e:	2007	0			720		0.2046	147			
6	2008	0			720	21, 263	0.1827	132	3,885		
7	2009	0			720	21, 263	0.1631	117	3, 468		
8	2010	0			720	21, 263	0.1456	105	3,097		
9	2011	0			720	21, 263	0.1300	94			
0	2012	0			720	21, 263		84	2,469		
1	2013	0			720	21, 263	0.1037	75	2, 204		
2	2014	. 0			720	21, 263	0.0926	67	1,968		
	2015	. 0			720	21, 263	0.0826	60	1,757		
4	2016	0			720	21, 263		53	1,569		
5	2017	0	721	)	720	21, 263	0.0659	47	1,401		
6 -	2018	0	720	) :	720	21, 263	0.0588	42	1,251		
7	2019	0	720	)	720	21, 263	0.0525	38	1, 117		
8	2020	0	720	)	720	21, 263	0.0469	34	997		
9 :	2021	. 0	720	)	720	21, 263	0.0419	30	890		
Ó.	2022	4.1 O	720	) '	720	21, 263	0.0374	27	795		
1	2023	. 0	720	)	720	21, 263	0.0334	24	710		
2	2024	. 0	720	)	720	21, 263	0.0298	21	634		
3	2025	0	720		720	21, 263	0.0266	19	566		
4	2026	. 0			720	21, 263		17	505		
5	2027	0			720		0.0212	15	451		
6 :		Õ			720	21, 263		14	403		
7		· 0			720		0.0169	12	360		
8	2030	0			720	21, 263	0.0151	11	321		
9	2030	0			720	21, 263	0.0135	10	287		
0	2032				720	21, 263		9	256		
1	2032	0			720	21, 263	0.0120	8	229		
2	2033				720	21, 263	0.0096	7	204		
3	2035	. 0			720	21, 263	0.0036	6	182		
					720			6	163		
4		0				21, 263		5	145		
5		0			720	21, 263					
6	2038	0			720		0.0061	4	130		
7	2039	. 0			720	21, 263	0.0054	4	116		
8		0			720	21, 263		4	103		
	2041	0				21, 263	0.0043	3	92		
	2042	<del></del>	720			21, 263		3	82		
ńŧ:	a1 (Lp)	103, 234	30, 960	)	134 194	880,312	1.0	57.865	74,808		

B/C = 1.29 B-C = 16,943 P1RR = 12.00 %

Table H.1-19 FIRR Cash Flow of Cost and Benefit
(2 years Delay of Construction)
(Unit: 1000Lps)

		<del> </del>					(Unit: 1000Lps)
	200	<u> </u>	Cost		*		Present Valu
No.	Year	Const.	0 & M		Benefit	Rate	
		<u>Cost</u>	Cost	Total	<u> </u>	<del> </del>	Cost Benefit
1	1993	0	0	0	0	1.0000	0 (
2 -	1994	0	0	0	0	1.0000	: • O ; • . · · (
3	1995	1,459	. 0	1,459	0	1.0000	1,459
4	1996	1,575	0	1,575	0	1.0000	1,575
5	1997	7, 129	0	7, 129	0	1.0000	7, 129
6	1998	36,931	0	36, 931	0	1.0000	36,931
7	1999	31,010	0	31,010		1.0000	
8	2000	25, 130	720	25,850	4,698	1.0000	25, 850 4, 698
9	2001	0	720	720	9, 791	1.0000	720 9,791
0	2002	0	720	720	15,303	1.0000	720 15,303
11	2003	. 0	720	720	21, 263	1.0000	720 21, 263
12	2004	0	720	720	21, 263	1.0000	720 21, 263
13	2005	0	720	720	21, 263	1.0000	720 21, 263
14	2006	0	720	720	21, 263	1.0000	720 21, 263
15	2007	0	720	720	21, 263	1.0000	720 21, 263
16	2008	0	720	720	21, 263	1.0000	720 21, 263
17	2009	0	720	720	21, 263		720 21, 263
18	2010	0	720	720	21, 263		720 21, 263
	2011	0	720	720			720 21, 263
20	2012	0	720	720	21, 263	1.0000	720 21, 263
21	2013	0	720	720	21, 263	1.0000	720 21, 263
22	2014	0	720	720		1.0000	720 21, 263
23	2015	0	720	720		1.0000	720 21, 263
4	2016:		720	720	21, 263		720 21, 263
25	2017	. 0	720	720	21, 263		720 21, 263
26	2018	0	720	720	21, 263	1.0000	720 21, 263
27	2019	Ö	720	720		1.0000	720 21, 263
28	2020	0	720	720		1.0000	720 21, 263
29	2021	Ŏ	720	720	21, 263		720   321, 263
30	2022	0	720	720	21, 263		720 ( 21, 263
31	2023	0	720	720	21, 263	1.0000	720 21, 263
32	2024	0	720	720	21, 263	1.0000	720 21, 263
33	2025	0	720	720		1.0000	
	2025	0	720	720	21, 263		720 : 21, 263
		0					720 3 21, 263
35	2027		720	720	21, 263		720 21, 263
36	2028	0	720	720		1.0000	720 21, 263
37	2029	0	720	720		1.0000	720 21, 263
38	2030	0	720	720		1.0000	720 21, 263
39	2031	0	720	720		1.0000	720 21, 263
10	2032	0	720		21, 263		720 21, 263
11	2033	0	720	720		1.0000	720 21, 263
12	2034	0	720	720		1.0000	720 21, 263
43	2035	0	720	720		1.0000	720 21, 263
14	2036		720		21, 263		720 21, 263
45	2037	0	720			1.0000	720 21,263
46	2038	0	720	720	21, 263		720 21, 263
47	2039	0	720	720		1.0000	720 21, 263
18	2040	0	720	720		1.0000	720 21, 263
19	2041	0	720	720		1.0000	720 21, 263
50	2042	0	720	720	21, 263	1.0000	720 21, 263
lota	al(Lp)	103, 234	30,960	134, 194	880,312		134, 194 880, 312
	\$)			67,097	440,156		67,097 440,156

B/C = 6.56 B-C = 746,118 FIRR = 0.00 %

Table H.1-20 FIRR Cash Flow of Cost and Benefit
(2 years Delay of Construction)

		1	Cost			Discount	Prese	<u>nt Valu</u>
lo.	Year	Const.	0 & M		Benefit	Rate		
	2-10-2	Cost_	Cost	Total		:	Cost	Benefit
1	1993	0	0	0	0	1.0000	0	. (
2	1994	0	Ō	0.	0	0.8696	0	·O
3	1995	1,459	Ō	1,459	0	0.7563	1,103	0
4	1996	1, 575	0	1,575	Ů.		1,036	. 0
			0	7, 129	0	0.5720	4,077	Ò
5	1997	7, 129	0		0		18,369	C
6	1998	36,931		36,931				-
7	1999	31,010	0	31,010	0		13, 413	(
8		25, 130	720	25,850			9,724	1,767
9	2001	0	720	720	9,791		236	3, 203
0	2002	0	720	720	15, 303		205	4,353
1	2003	0	720	720	21, 263	0.2474	178	5,260
2	2004	, T	720	720	21, 263	0.2151	155	4, 57
3	2005	. 0	720	720	21, 263	0.1871	135	3,978
4	2006	0	720	720	21, 263	0.1627	117	3,460
5	and the second second	0	720	720	21, 263	0.1415	102	3,009
6	2008	. 0	720	720	21, 263	0.1231	89	2,616
7	2009		720	720	21, 263		77	2, 275
8	2010	0	720	720	21, 263	0.0931	67	1,979
	2011	-	720	720	21, 263	0.0809	58	1,721
9		0	720	720	21, 263	0.0704	51	1,496
0	2012					0.0612	44	1, 301
1	2013	. 0	720	720	21, 263			
2		0	720	720	21, 263	0.0532	38	1, 132
3	2015	0	720	720		0.0463	33	984
4	2016	0	720	720	21, 263		29	856
5	2017	0	720	720			25	744
6	2018	1.7. 0	720	720	21, 263		22	647
7	2019	0.	720	720	21, 263		19	563
8	2020	0	720	720	21, 263	0.0230	17	490
9	2021	0	720	720	21, 263		14	426
	2022	. 0.	720	720	21, 263	0.0174	13	370
1	2023	0	720	720	21, 263	0.0151	11	322
	2024	0	720	720	21, 263		9	280
3		0	720	720	21, 263	0.0115	8	243
4	2026	. 0		720	21, 263	0.0100	7	212
5	2027	. 0	720	720	21, 263	0.0087	6	184
			720	720	21, 263	0.0075	5	160
6	2028			720	21, 263		5	139
7	2029		720				4	121
8	2030		720	720	21, 263		4	108
9	2031				21, 263		3	
0	2032	0	720					92
1	2033		720			0.0037	3	80
2	2034		720		21, 263		2	69
3	2035	. 0	720	720	21, 263		2	60
4	2036	0	720		21, 263		2	5 2
5	2037	0	720	720	21, 263		2	4 6
6	2038	0	720	720	21, 263	0.0019	1	40
7			720	720	21, 263	0.0016	1	3 4
8	2040	Ö	720	720	21, 263		1	3 (
9	2041		720	720			ī	26
0	2041	The second second			21, 263		î	23
			30,960			<u></u>	49,525	49, 525
οt	ar (pb)		30, 960 15, 480		440, 156		24,762	24, 763

B/C = 1.00 B-C = 0 F1RR = 14.99 %

Table H.1-21 FIRR Cash Flow of Cost and Benefit
(5 years Delay of Construction)

		(0	Jears 1	7C1AJ 01 C	onstruct	10.11	(Unit: 1	000Lps)
			Cost		_	Discount	Prese	nt Value
No.	Year	Const.	0 & M		Benefit	Rate		
نند. نده	11	Cost	Cost	Total			Cost	Benefit_
1	1993	0	0	0	0	1.0000	0	
2	1994	·:; · 0	0 :	0	0	0.8698	- 0	0
3	1995	0	. 0	0.	0	0.7565	0	0
4	1996	0.	ai, . <b>0</b>	0	0	0.6580	. 0	
5	1997	0	0	. 0	0		0	0
6	1998	1,459	0	1,459	0		726	Va. 0
7	1999	1,575	0		0	0.4330		. 0
8	2000	7, 129	and the second second		0		2,685	0
9		36, 931	Ō			2.5	12,097	Ō
10		31,010		the contract of the contract o	Ö	0.2849	8,835	0
11	2003	25, 130	720			0.2478		1, 164
12	2004		720	720		0.2155	155	2, 110
13	2005	0	720			0.1875	135	
14		0	720	720	21, 263		117	
15	2007	0	720		21, 263	0.1418	and the second second	3,016
16	2008	1.5 O.	720	720		0.1416		2,623
17	2009	0	720	720	21, 263	0.1234	77	2, 023 2, 281
18	2019	0	720	720	and the second second		67	1,984
	2010			720			58	
19			720		21, 263			1,726
	2012	0	720	720			51	1,501
21		0	720	720		0.0614	44	1,306
22	2014	0	720		21, 263	0.0534	38	1, 136
	2015	0	720	720	21, 263		33	988
24	2016	. 0,	720	720	21, 263	0.0404	29	859
25	2017	0	720	720	21, 263		25	747
26	2018	0.	720		21, 263		22	650
27	2019	. 0	720		21, 263	0.0266	19	565
28	2020	0	720	720		0.0231	17	492
29	2021	0	720	720	21, 263	the state of the s	14	428
30	2022	0	720	720	21, 263	0.0175	13	372
31	2023	0	720	720	21, 263	0.0152	11	324
32	2024	0	720	720	21, 263		10	281
33	2025	0	720	720	21,263		8 .	245
34	2026	0	720		21, 263		7	213
35	2027	0	720	720	21, 263	0.0087	8	185
36	2028	0	720	720	21, 263	0.0076	5	161
3.7	2029	0	720	720	21, 263	0.0066	5	140
38	2030	0	720	720	21,263	0.0057	4	122
39	2031	0	720	720	21,263	0.0050	4	106
40	2032	0	720		21, 263	0.0043	3	92
41	2033	0	720	720		0.0038	3	80
42	2034	0	720	720			2	70
43	2035	0	720	720		0.0029	2	61
44	2036	0	720	720		0.0025	2 2	5.3
45	2037	0	720			0.0022	. 2	46
46	2038	0	720				1	40
47	2039	ō	720			0.0016	1	35
48	2040	Ŏ	720	720		0.0014	î	30
49	2041	0	720	720	21, 263	0.0012	1	26
50	2042	0	720		21, 263		1	23
	al (Lp)		28,800		816, 523		32, 618	
(US		51,617	14,400		408, 262		16,309	16,309
, 50	-,	,'	,	,			,	, ++ 0

B/C = 1.00 B-C = 0 FIRR = 14.97 %

Table H.1-22 FIRR Cash Flow of Cost and Benefit
(5 years Delay of Construction)

B/C = 1.29 B-C = 11,868 FIRR = 12.00 %

Table H.1-23 FIRR Cash Flow of Cost and Benefit

B/C = 6.18 B-C = 684,489 FIRR = 0.00 %

Table H.1-24 FIRR Cash Flow of Cost and Benefit
(30 % of Cost Hike and 20 % Decrease in Benefit

٠.	1.29.6	4						1000Lps)
1.17			Cost		- L	Discount	t <u>Prese</u>	<u>ent Value</u>
No.	Year	Const.	0 & M		Benefit	Rate		
	<u> </u>	Cost	Cost	Total	·		Cost	Benefit_
1	1993	1,897	0	1,897	0	1.0000	1,897	0
2	1994	2,048	. 0	2,048	0	0.9113	1,866	0
3	1995	9, 268	0	9, 268	- 0	0.8305	7, 697	0
4	1996	48, 010	0	48,010	0	0.7569	36, 339	. 0
5	1997	40, 313	0	40, 313	0	0.6898	27, 808	0
6	1998	32,669	936	33, 605	3, 758	0.6286		2, 362
7	1999	0	936	936	7, 833	0.5729	536	4, 487
8	2000	0	936	936	12, 242	0. 5221	489	6, 392
9	2001	0	936	936	17,010	0.4758	445	8,094
10	2002	0	936	936	17,010	0.4336	406	7, 376
11	2003	. 0	936	936	17,010	0.3952	370	6, 722
12	2004	. 0	936	936	17,010	0.3601	337	6, 126
13	2005	0	936	936	17,010	0. 3282	307	5, 583
14	2006	0	936	936	17,010	0. 2991	280	5,088
15	2007	Ŏ	936	936	17,010	0. 2726	255	4,637
16	2008	0	936		17,010	0. 2484	233	4, 226
17	2009	0	936	936		0. 2264	212	3, 851
18	2010	. 0	936		17, 010	0. 2063	193	3, 510
19	2011		936	936	17, 010	0. 1880	176	3, 198
20	2012	. 0	936	936	17, 010	0. 1714	160	2, 915
	2012	0	936	936	17, 010	0. 1562	146	2, 656
21	2013	0	936	936		0. 1423	133	2, 421
22	2014	0	936	936	17, 010		121	2, 206
23		0	936	936	17, 010		111	
24	2016	0	936	936	17, 010		101	1, 832
25	2017		936	936	17, 010	0. 1017		
26	2018	0			17, 010		84	1, 522
27	2019	0	936 936	936				1, 322
28				936	17,010		70	
29	2021	0	936	936	17, 010	0.0743		1, 264
30	2022	0	936	936		0.0677		1, 152
31	2023	0	936	936	17,010	0.0617	58	1,050
32	2024	0	936	936	17,010	0.0562	53	957
33	2025	0	936	936	17, 010	0.0513	48	872
34	2026	0	936	936	17, 010	0.0467	44	795
35	2027	0	936	936	17, 010	0.0426	40	724
36		0	936	936		0.0388	36	660
37	2029		936	936	17, 010	0.0354		601
38.			936	936	17, 010	0.0322	30	548
39	2031		936		17, 010			499
40	2032	0	936	936	17, 010		25	455
41	2033		936	936		0.0244	23	415
42	2034	0	936	936	17, 010	0. 0222		378
43	2035		936	936	17, 010	0.0203	19	345
44	2036	0		936	17,010		17	314
45	2037	0	936	936	17,010	0.0168	16	286
46	2038	0	936	936	17,010	0.0153	14	
47	2039	0	936	936	17,010	0.0140	13	238
48	2040	0	936	936	17, 010	0.0127	12	217
49	2041	0	936	936	17,010	0.0116	11	197
50	2042	0	and the second second	936	17,010	0.0106	10	180
		134, 205	42, 120	176, 325	738, 253		102,679	102, 678
	\$)	67, 103	21,060	88, 163	369, 127		51, 339	51, 339
100	Ψ	51, 100	51,000	00,100	,			

B/C = 1.00 B-C = 0 FIRR = 9.73 %

Table H.1-25 FIRR Cash Flow of Cost and Benefit
(30 % of Cost Hike and 20 % Decrease in Benefit

No. Year Const. O & M		_ Discount		1000lps) ent Valu
1       1993       1,897       0         2       1994       2,048       0         3       1995       9,268       0         4       1996       48,010       0         5       1997       40,313       0         6       1998       32,669       936         8       2000       0       936         8       2000       0       936         9       2001       0       936         10       2002       0       936         11       2003       0       936         12       2004       0       936         12       2004       0       936         12       2004       0       936         12       2004       0       936         12       2004       0       936         13       2005       0       936         14       2006       0       936         15       2007       0       936         16       2008       0       936         17       2009       0       936         18       2011       0 <td< th=""><th></th><th>Benefit Rate</th><th></th><th></th></td<>		Benefit Rate		
2       1994       2,048       0         3       1995       9,268       0         4       1996       48,010       0         5       1997       40,313       0         6       1998       32,669       936         7       1999       0       936         8       2000       0       936         9       2001       0       936         10       2002       0       936         11       2003       0       936         12       2004       0       936         12       2003       0       936         12       2003       0       936         13       2005       0       936         14       2006       0       936         15       2007       0       936         16       2008       0       936         17       2009       0       936         18       2010       0       936         19       2011       0       936         12       2013       0       936         12       2013       0	Total		Cost	Benefit
3       1995       9, 268       0         4       1996       48, 010       0         5       1997       40, 313       0         6       1998       32, 669       936         7       1999       0       936         8       2000       0       936         9       2001       0       936         9       2001       0       936         0       2002       0       936         1       2003       0       936         2       2004       0       936         2       2004       0       936         3       2005       0       936         4       2006       0       936         5       2007       0       936         6       2008       0       936         8       2010       0       936         8       2010       0       936         8       2010       0       936         8       2011       0       936         8       2015       0       936         8       2020       0       936	1,897		1,897	
4       1996       48,010       0         5       1997       40,313       0         6       1998       32,669       936         7       1999       0       936         8       2000       0       936         9       2001       0       936         9       2001       0       936         1       2003       0       936         2       2004       0       936         2       2004       0       936         2       2004       0       936         2       2004       0       936         2       2004       0       936         2       2005       0       936         4       2006       0       936         5       2007       0       936         8       2010       0       936         8       2010       0       936         9       2011       0       936         2       2014       0       936         2       2014       0       936         2       2017       0       936	2,048			0
5       1997       40, 313       0         6       1998       32, 669       936         7       1999       0       936         8       2000       0       936         9       2001       0       936         0       2002       0       936         1       2003       0       936         2       2004       0       936         3       2005       0       936         4       2006       0       936         5       2007       0       936         5       2007       0       936         6       2008       0       936         7       2009       0       936         8       2010       0       936         9       2011       0       936         2       2014       0       936         2       2014       0       936         2       2014       0       936         2       2017       0       936         2       2017       0       936         2       2018       0       936	9, 268			
6 1998 32,669 936 7 1999 0 936 8 2000 0 936 9 2001 0 936 0 2002 0 936 1 2003 0 936 2 2004 0 936 3 2005 0 936 4 2006 0 936 5 2007 0 936 6 2008 0 936 7 2009 0 936 8 2010 0 936 9 2011 0 936 0 2012 0 936 1 2013 0 936 2 2014 0 936 3 2015 0 936 4 2016 0 936 5 2017 0 936 4 2016 0 936 5 2017 0 936 6 2018 0 936 5 2017 0 936 6 2018 0 936 7 2019 0 936 8 2020 0 936 9 2021 0 936 0 2022 0 936 1 2023 0 936 1 2023 0 936 2 2024 0 936 3 2025 0 936 4 2026 0 936 5 2027 0 936 6 2028 0 936 7 2029 0 936 8 2030 0 936 9 2031 0 936	48,010			
7       1999       0       936         8       2000       0       936         9       2001       0       936         0       2002       0       936         1       2003       0       936         2       2004       0       936         3       2005       0       936         4       2006       0       936         5       2007       0       936         6       2008       0       936         7       2009       0       936         8       2010       0       936         8       2010       0       936         8       2011       0       936         8       2011       0       936         9       2011       0       936         2       2014       0       936         2       2014       0       936         3       2015       0       936         4       2016       0       936         5       2017       0       936         2       2024       0       936	40, 313	0 0.6355		
8       2000       0       936         9       2001       0       936         0       2002       0       936         1       2003       0       936         2       2004       0       936         3       2005       0       936         4       2006       0       936         5       2007       0       936         6       2008       0       936         7       2009       0       936         8       2010       0       936         9       2011       0       936         9       2011       0       936         9       2012       0       936         1       2013       0       936         2       2014       0       936         2       2014       0       936         2       2014       0       936         2       2017       0       936         2       2017       0       936         2       2021       0       936         2       2024       0       936	33,605		19,068	2, 132
9       2001       0       936         0       2002       0       936         1       2003       0       936         1       2003       0       936         2       2004       0       936         3       2005       0       936         4       2006       0       936         5       2007       0       936         6       2008       0       936         7       2009       0       936         8       2010       0       936         9       2011       0       936         9       2011       0       936         9       2012       0       936         9       2013       0       936         2       2014       0       936         2       2014       0       936         2       2017       0       936         2       2017       0       936         2       2018       0       936         2       2021       0       936         2       2024       0       936	936	7, 833 0, 5066	474	3, 968
0       2002       0       936         1       2003       0       936         2       2004       0       936         3       2005       0       936         4       2006       0       936         5       2007       0       936         6       2008       0       936         7       2009       0       936         8       2010       0       936         9       2011       0       936         9       2011       0       936         9       2012       0       936         1       2013       0       936         2       2014       0       936         2       2014       0       936         2       2017       0       936         2       2018       0       936         2       2021       0       936         2       2021       0       936         2       2024       0       936         2       2024       0       936         2       2027       0       936	936	12, 242 0. 4523	423	5, 538
1       2003       0       936         2       2004       0       936         3       2005       0       936         4       2006       0       936         5       2007       0       936         6       2008       0       936         7       2009       0       936         8       2010       0       936         9       2011       0       936         9       2011       0       936         9       2012       0       936         1       2013       0       936         2       2014       0       936         2       2014       0       936         2       2017       0       936         2       2017       0       936         2       2019       0       936         2       2021       0       936         2       2021       0       936         2       2024       0       936         2       2024       0       936         2       2027       0       936	936	17,010 0,4039	378	6,870
2       2004       0       936         3       2005       0       936         4       2006       0       936         5       2007       0       936         6       2008       0       936         7       2009       0       936         8       2010       0       936         9       2011       0       936         9       2012       0       936         1       2013       0       936         2       2014       0       936         2       2014       0       936         2       2014       0       936         2       2017       0       936         4       2016       0       936         5       2017       0       936         6       2018       0       936         9       2021       0       936         9       2021       0       936         2       2024       0       936         2       2024       0       936         2       2027       0       936	936	17,010 0.3606	338	6, 134
2       2004       0       936         3       2005       0       936         4       2006       0       936         5       2007       0       936         6       2008       0       936         7       2009       0       936         8       2010       0       936         9       2011       0       936         9       2012       0       936         1       2013       0       936         2       2014       0       936         2       2014       0       936         2       2014       0       936         2       2015       0       936         2       2016       0       936         2       2017       0       936         2       2018       0       936         2       2021       0       936         2       2021       0       936         2       2024       0       936         2       2024       0       936         2       2027       0       936	936	17,010 0.3220	301	5, 477
3       2005       0       936         4       2006       0       936         5       2007       0       936         6       2008       0       936         7       2009       0       936         8       2010       0       936         9       2011       0       936         9       2012       0       936         1       2013       0       936         2       2014       0       936         2       2014       0       936         2       2015       0       936         2       2017       0       936         2       2018       0       936         2       2019       0       936         2       2021       0       936         2       2021       0       936         2       2024       0       936         2       2024       0       936         2       2024       0       936         2       2027       0       936         2       2028       0       936	936			4,890
4       2006       0       936         5       2007       0       936         6       2008       0       936         7       2009       0       936         8       2010       0       936         9       2011       0       936         9       2012       0       936         1       2013       0       936         2       2014       0       936         3       2015       0       936         4       2016       0       936         5       2017       0       936         6       2018       0       936         7       2019       0       936         8       2020       0       936         9       2021       0       936         9       2021       0       936         9       2021       0       936         2       2024       0       936         2       2024       0       936         2       2027       0       936         2       2028       0       936	936		240	
5       2007       0       936         6       2008       0       936         7       2009       0       936         8       2010       0       936         9       2011       0       936         0       2012       0       936         1       2013       0       936         2       2014       0       936         3       2015       0       936         4       2016       0       936         5       2017       0       936         6       2018       0       936         7       2019       0       936         8       2020       0       936         9       2021       0       936         9       2021       0       936         9       2021       0       936         9       2022       0       936         9       2024       0       936         9       2027       0       936         9       2031       0       936         9       2031       0       936		17,010 0.2292	215	
6 2008	936		192	
7       2009       0       936         8       2010       0       936         9       2011       0       936         9       2012       0       936         1       2013       0       936         1       2013       0       936         2       2014       0       936         3       2015       0       936         4       2016       0       936         5       2017       0       936         6       2018       0       936         6       2018       0       936         7       2019       0       936         8       2020       0       936         9       2021       0       936         9       2021       0       936         1       2023       0       936         2       2024       0       936         3       2025       0       936         4       2026       0       936         5       2027       0       936         9       2031       0       936	936		171	3, 108
8       2010       0       936         9       2011       0       936         0       2012       0       936         1       2013       0       936         2       2014       0       936         3       2015       0       936         4       2016       0       936         5       2017       0       936         6       2018       0       936         6       2018       0       936         7       2019       0       936         8       2020       0       936         9       2021       0       936         9       2021       0       936         1       2023       0       936         2       2024       0       936         2       2024       0       936         3       2025       0       936         4       2026       0       936         5       2027       0       936         6       2032       0       936         9       2031       0       936		17,010 0.1631	153	
9       2011       0       936         0       2012       0       936         1       2013       0       936         2       2014       0       936         3       2015       0       936         4       2016       0       936         5       2017       0       936         6       2018       0       936         6       2018       0       936         7       2019       0       936         8       2020       0       936         9       2021       0       936         9       2022       0       936         2022       0       936       936         2023       0       936       936         2024       0       936       936         2027       0       936       936         2027       0       936       936         2028       0       936       936         2030       0       936       936         2031       0       936       936         2032       0       936       936		17,010 0.1456	136	
0       2012       0       936         1       2013       0       936         2       2014       0       936         3       2015       0       936         4       2016       0       936         5       2017       0       936         6       2018       0       936         6       2018       0       936         7       2019       0       936         8       2020       0       936         9       2021       0       936         9       2022       0       936         2       2024       0       936         2       2024       0       936         2       2024       0       936         2       2027       0       936         2       2028       0       936         2       2029       0       936         2       2031       0       936         2       2031       0       936         2       2034       0       936         2       2034       0       936	936	17,010 0.1300		
1       2013       0       936         2       2014       0       936         3       2015       0       936         4       2016       0       936         5       2017       0       936         6       2018       0       936         8       2020       0       936         8       2020       0       936         9       2021       0       936         9       2021       0       936         1       2023       0       936         2       2024       0       936         2       2024       0       936         2       2025       0       936         3       2025       0       936         4       2026       0       936         5       2027       0       936         6       2038       0       936         9       2031       0       936         9       2031       0       936         1       2033       0       936         2       2034       0       936	936	17,010 0.1161	109	
2       2014       0       936         3       2015       0       936         4       2016       0       936         5       2017       0       936         6       2018       0       936         7       2019       0       936         8       2020       0       936         9       2021       0       936         9       2022       0       936         1       2023       0       936         2       2024       0       936         2       2024       0       936         3       2025       0       936         4       2026       0       936         5       2027       0       936         5       2028       0       936         6       2038       0       936         9       2031       0       936         9       2031       0       936         1       2033       0       936         2       2034       0       936         3       2035       0       936	936	17,010 0.1037		
3       2015       0       936         4       2016       0       936         5       2017       0       936         5       2018       0       936         6       2019       0       936         7       2019       0       936         8       2020       0       936         9       2021       0       936         9       2022       0       936         2       2023       0       936         2       2024       0       936         3       2025       0       936         4       2026       0       936         5       2027       0       936         6       2028       0       936         7       2029       0       936         9       2031       0       936         9       2032       0       936         9       2032       0       936         1       2033       0       936         2       2034       0       936         3       2035       0       936	936	17,010 0.0926	87	
4       2016       0       936         5       2017       0       936         6       2018       0       936         6       2019       0       936         7       2019       0       936         8       2020       0       936         9       2021       0       936         9       2022       0       936         1       2023       0       936         2       2024       0       936         3       2025       0       936         4       2026       0       936         5       2027       0       936         6       2028       0       936         7       2029       0       936         9       2031       0       936         9       2031       0       936         9       2032       0       936         1       2033       0       936         2       2034       0       936         3       2035       0       936         4       2036       0       936	936	17,010 0.0826	77	1, 406
5       2017       0       936         6       2018       0       936         7       2019       0       936         8       2020       0       936         9       2021       0       936         9       2022       0       936         1       2023       0       936         2       2024       0       936         3       2025       0       936         4       2026       0       936         5       2027       0       936         5       2028       0       936         6       2038       0       936         9       2031       0       936         9       2031       0       936         9       2032       0       936         1       2033       0       936         2       2034       0       936         3       2035       0       936         4       2036       0       936         5       2037       0       936         5       2037       0       936	936	17,010 0.0738	69	1, 255
6       2018       0       936         7       2019       0       936         8       2020       0       936         9       2021       0       936         0       2022       0       936         1       2023       0       936         1       2023       0       936         2       2024       0       936         3       2025       0       936         4       2026       0       936         5       2027       0       936         5       2028       0       936         6       2030       0       936         9       2031       0       936         9       2031       0       936         1       2032       0       936         2       2034       0       936         3       2035       0       936         4       2036       0       936         5       2037       0       936         5       2038       0       936         6       2038       0       936	936			1, 121
7 2019 0 936 8 2020 0 936 9 2021 0 936 0 2022 0 936 1 2023 0 936 2 2024 0 936 3 2025 0 936 4 2026 0 936 5 2027 0 936 5 2028 0 936 7 2029 0 936 8 2030 0 936 10 2032 0 936 10 2032 0 936 10 2032 0 936 11 2033 0 936 12 2034 0 936 13 2035 0 936 14 2036 0 936 15 2037 0 936 16 2038 0 936 17 2039 0 936 18 2039 0 936 18 2040 0 936 18 2040 0 936	936		55	
8       2020       0       936         9       2021       0       936         0       2022       0       936         1       2023       0       936         1       2024       0       936         2       2024       0       936         3       2025       0       936         4       2026       0       936         5       2027       0       936         5       2028       0       936         6       2038       0       936         9       2031       0       936         9       2031       0       936         9       2032       0       936         1       2033       0       936         2       2034       0       936         3       2035       0       936         4       2036       0       936         5       2037       0       936         6       2038       0       936         8       2040       0       936         9       2041       0       936		17,010 0.0525	49	
9 2021 0 936 0 2022 0 936 1 2023 0 936 2 2024 0 936 3 2025 0 936 4 2026 0 936 5 2027 0 936 5 2028 0 936 7 2029 0 936 8 2030 0 936 9 2031 0 936 10 2032 0 936 10 2032 0 936 11 2033 0 936 12 2034 0 936 13 2035 0 936 14 2036 0 936 15 2037 0 936 16 2038 0 936 17 2039 0 936 18 2040 0 936 18 2040 0 936 18 2041 0 936	936		44	798
0       2022       0       936         1       2023       0       936         2       2024       0       936         3       2025       0       936         4       2026       0       935         5       2027       0       936         6       2028       0       936         7       2029       0       936         8       2030       0       936         9       2031       0       936         1       2032       0       936         2       2034       0       936         2       2034       0       936         3       2035       0       936         4       2036       0       936         5       2037       0       936         6       2038       0       936         7       2039       0       936         8       2040       0       936         9       2041       0       936	936	17,010 0.0403	39	712
1       2023       0       936         2       2024       0       936         3       2025       0       936         4       2026       0       936         5       2027       0       936         5       2028       0       936         7       2029       0       936         8       2030       0       936         9       2031       0       936         9       2032       0       936         1       2033       0       936         2       2034       0       936         3       2035       0       936         4       2036       0       936         5       2037       0       936         6       2038       0       936         7       2039       0       936         8       2040       0       936         9       2041       0       936		17, 010 0. 0374	35	
2     2024     0     936       3     2025     0     936       4     2026     0     936       5     2027     0     936       5     2028     0     936       7     2029     0     936       8     2030     0     936       9     2031     0     936       1     2032     0     936       1     2033     0     936       2     2034     0     936       2     2034     0     936       3     2035     0     936       4     2036     0     936       5     2037     0     936       6     2038     0     936       7     2039     0     936       8     2040     0     936       9     2041     0     936	936	17,010 0.0374	31	568
3     2025     0     936       4     2026     0     935       5     2027     0     936       5     2028     0     936       6     2029     0     936       8     2030     0     936       9     2031     0     936       1     2032     0     936       1     2033     0     936       2     2034     0     936       3     2035     0     936       4     2036     0     936       5     2037     0     936       6     2038     0     936       7     2039     0     936       8     2040     0     936       9     2041     0     936	936	17, 010 0. 0334	28	507
4       2026       0       936         5       2027       0       936         5       2028       0       936         7       2029       0       936         8       2030       0       936         9       2031       0       936         0       2032       0       936         1       2033       0       936         2       2034       0       936         3       2035       0       936         4       2036       0       936         5       2037       0       936         5       2038       0       936         7       2039       0       936         8       2040       0       936         9       2041       0       936	936	17.010 0.0296	25	453
5     2027     0     936       5     2028     0     936       7     2029     0     936       8     2030     0     936       9     2031     0     936       0     2032     0     936       1     2033     0     936       2     2034     0     936       3     2035     0     936       4     2036     0     936       5     2037     0     936       5     2038     0     936       6     2038     0     936       8     2040     0     936       9     2041     0     936	936	17,010 0.0238	22	404
5       2028       0       936         7       2029       0       936         8       2030       0       936         9       2031       0       936         0       2032       0       936         1       2033       0       936         2       2034       0       936         3       2035       0       936         4       2036       0       936         5       2037       0       936         5       2038       0       936         6       2038       0       936         8       2040       0       936         9       2041       0       936			20	
7 2029 0 936 8 2030 0 936 9 2031 0 936 0 2032 0 936 1 2033 0 936 2 2034 0 936 3 2035 0 936 4 2036 0 936 4 2036 0 936 5 2037 0 936 6 2038 0 936 7 2039 0 936 8 2040 0 936 9 2041 0 936	936	17, 010 0. 0212 17, 010 0. 0189		361
8     2030     0     936       9     2031     0     936       0     2032     0     936       1     2033     0     936       2     2034     0     936       3     2035     0     936       4     2036     0     936       5     2037     0     936       6     2038     0     936       7     2039     0     936       8     2040     0     936       9     2041     0     936	936		18	322
9 2031 0 936 0 2032 0 936 1 2033 0 936 2 2034 0 936 3 2035 0 936 4 2036 0 936 5 2037 0 936 6 2038 0 936 7 2039 0 936 8 2040 0 936 9 2041 0 936	936		16	288
0     2032     0     936       1     2033     0     936       2     2034     0     936       3     2035     0     936       4     2036     0     936       5     2037     0     936       6     2038     0     936       7     2039     0     936       8     2040     0     936       9     2041     0     936	936	17,010 0.0151	14	257
1     2033     0     936       2     2034     0     936       3     2035     0     936       4     2036     0     936       5     2037     0     936       6     2038     0     936       7     2039     0     936       8     2040     0     936       9     2041     0     936	936	the second secon	13	229
2     2034     0     936       3     2035     0     936       4     2036     0     936       5     2037     0     936       5     2038     0     936       7     2039     0     936       3     2040     0     936       9     2041     0     936	936	17,010 0.0120	11	205
3     2035     0     936       4     2036     0     936       5     2037     0     936       6     2038     0     936       7     2039     0     936       8     2040     0     936       9     2041     0     936	936		10	183
4     2036     0     936       5     2037     0     936       6     2038     0     936       7     2039     0     936       8     2040     0     936       9     2041     0     936		17,010 0.0096	9	163
5     2037     0     936       6     2038     0     936       7     2039     0     936       8     2040     0     936       9     2041     0     936	936	17,010 0,0086	8	146
6     2038     0     936       7     2039     0     936       8     2040     0     936       9     2041     0     936	935	17,010 0.0076	7	130
7 2039 0 936 8 2040 0 936 9 2041 0 936	936	17,010 0.0068	6	116
8 2040 0 936 9 2041 0 936	936	17,010 0.0061	6	104
9 2041 0 936	936	17,010 0.0054	5	93
	936	17,010 0.0049	5	83
0 2042 0 936	936		. 4	74
	936		4	66
	176, 325 88, 163	738, 253 369, 127	94, 370 47, 185	75, 210 37, 605

B/C = 0.80 B-C = -19,160 FIRR = 12.00 %

Table H.1-26 FIRR Cash Flow of Cost and Benefit
(30 % of Cost Hike and 20 % Decrease in Benefit

		. (	30 % 01	Cost H	ike and	20 %		
		<u> </u>	04	· · · · · · · · · · · · · · · · · · ·		D :		1000Lps)
	.,	Λ	Cost		D 63 4	Discount	Pres	ent Value
No.	Year	Const.	0 & M	Taki 1	Benefit	Rate	Cook	Danafit
	1000	Cost	Cost	Total		1 0000	Cost	Benefit
1	1993	1, 897	0	1,897	0	1.0000	1,897	. 0
2	1994	2,048	0	2, 048	0	1.0000	2, 048	0
3	1995	9, 268	0	9, 268	0	1.0000	9, 268	
4	1996	48,010	0	48, 010	0	1,0000	48, 010 40, 313	0
5	1997	40, 313	0	40, 313		1.0000		
6	1998	32, 669	936	33, 605	3, 758	1.0000 1.0000	33, 605	
7	1999	0	936 936	936 936	7,833	1. 0000	936 936	7, 833 12, 242
8	2000	0			12, 242	1. 0000	936	17, 010
9 .	2001	0	936	936	17,010	1. 0000	936	
10	2002		936	936	17,010		936	17, 010
11	2003	0	936	936	17, 010	1.0000		
12	2004	0	936	936	17,010	1.0000	936	
13	2005	0	936	936	17,010	1.0000	936	17, 010 17, 010
14	2006	0	936	936	17, 010	1.0000	936	
15	2007	0	936	936	17,010	1.0000	936	17,010
16	2008	0	936	936	17, 010	1.0000	936	17,010
17	2009	0	936	936	17,010	1.0000 1.0000	936 936	17,010
18	2010	0	936	936	17,010	1. 0000	936	17, 010 17, 010
19	2011	0	936	936 936	17,010	1. 0000	936	
20	2012	0	936 936	936	17,010	1. 0000	936	
21	2013			936	17,010	1. 0000	936	
. 22	2014	0	936	936	17, 010 17, 010	1. 0000	936	
23	2015	0	936 936	936	17, 010	1. 0000	936	
24	2016	0	936	936	17,010	1.0000	936	
25 26	2017 2018	0	936	936	17,010	1.0000	936	
27	2019	0	936	936	17,010	1. 0000	936	
28	2020	0	936	936	17, 010	1.0000	936	17, 010
29	2021	0	936	936	17,010	1.0000		17,010
30	2022	0:		936	17, 010	1. 0000	936	17,010
31	2023	0	936	936	17,010	1.0000	936	
32	2024	Ŏ	936	936	17,010	1.0000	936	
33	2025	0	936	936	17,010	1.0000	936	
34	2026	Ō	936	936	17, 010	1.0000	936	17,010
35	2027	Ö	936		17,010	1.0000	936	
36	2028	0	936	936	17,010	1.0000	936	
37	2029	Ö	936	936	17,010	1.0000	936	
38	2030	0	936	936	17,010	1.0000	936	
39	2031	0	936	936	17, 010	1.0000	936	
40	2032	Ō	936	936	17,010	1.0000	936	17,010
41	2033	0	936	936	17,010	1.0000	936	17,010
42	2034	0	936	936	17,010	1.0000	936	17,010
43	2035	Ö	936	936	17,010	1.0000	936	17,010
44	2036	0	936	936	17,010	1.0000	936	17,010
45	2037	. 0	936		17,010	1.0000	936	17,010
46	2038	0	936	936		1.0000	936	17,010
47	2039	0	936	936	17,010	1.0000	936	
48	2040	0	936	936	17,010	1.0000	936	
49	2041	0	936	936	17,010	1.0000	936	and the second s
50	2042	0	936	936	17,010	1.0000	936	17,010
		134, 205	42, 120	176, 325	738, 253		176, 325	738, 253
	\$)	67, 103	21,060	88, 163	369, 127		88, 163	369, 127

B/C = 4.19 B-C = 561,928 FIRR = 0.00 %

Table H.1-27 EIRR Cash Flow of Cost and Benefit (Base Case)

<u></u>		Addition of						000Lps)
			Cost			Discoun	Prese	ent Value
No.	Year	Const.	0 & M		Benefit	Rate		1.1
		Cost	Cost	Total			Cost	Benefit
1	1993	978	0	978		1.0000	978	0 -
2	1994	1,055	0	1,055		0.8642	912	0
3	1995	3,974		3,974	0	0.7469	2,968	0 .
4	1996	24,972	0	24, 972	0	0.8455		0 .
5	1997	17,793	0	17,793	0	0.5578		0
6	1998	14, 178	412	14,590		0.4821		1,637
7	1999		412	412			172	2,830
8	2000		412	412			148	3,668
9	2001	0	412	412				4,227
10	2002	0	412	412				3,653
11	2003	0	412	412			96	3, 157
12	2004	0	412	412	13,584	0.2008	83	2,728
13	2005	0	412	412	13,584	0.1736	72	2,358
14	2006		412	412	13,584	0.1500	62	2,038
15	2007		412	412	13, 584	0.1296	53	1.761
16	2008	. 0	412	412	13,584	0.1120	46	1,522
17	2009	0	412	412	13, 584	0.0968	40	1,315
18	2010	. 0	412	412		0.0837	34	1, 137
19	2011	0	412	412	13,584	0.0723	30	982
20	2012		412	412		0.0525	28	849
21	2013	0	412	412		0.0540	22	734
22	2014	0	412	412	13,584		h. : 19 .	
23	2015	0	412	412		0.0403	17	548
24	2016	0	412	412		0.0349	14	474
25	2017	0	412	412	13, 584		12	409
26	2018	0	412	412		0.0260	11	354
27	2019	: 0	412	412			9	306
28	2020	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	412	412	_ , , , ,	0.0194	. , 8	264
29	20.21	0	412	412	13,584		: 3 3t <b>7</b>	228
30	2022	0	412	412			6	197
31	2023	0	412	412	13,584	0.0126	5	171
32	2024	0	412	412			4	147
33	2025	0	412	412	13,584		4	127
34	2026	0	412	412		0.0081	- 3	110
35	2027	0	412	412	13,584		· * 3	95
36	2028	0	412	412		0.0061	2	82
37	2029	0	412	412	13,584	0.0052	2	71
38	2030	0	412	412		0.0045	2	61
39	2031	. 0	412	412	13,584		2	53
40	2032	. 0	412	412	13,584	0.0034	1	46
41	2033	. 0	412	412	13,584	0.0029	1	40
42	2034	0	412		13,584		1	34
43	2035	0	412	412		0.0022	1	30
44	2036	0	412	412		0.0019	1	26
45	2037	0	412	412		0.0016	1.	22
46	2038	. 0	412	412		0.0014	. 1	19
47	2039	. 0	412		13,584		1	17
48	2040	0	412	412	13, 584		. 0	14
49	2041	0	412	412	13,584	0.0009	0	12
50	2042	0	412		13, 584	0.0008	0	11
	al(Lp)		18,540		590, 904		39, 197	39, 197
(US	\$)	31,475	9,270	40,745	295, 452		19,599	19,598

B/C = 1.00 B-C = 0 EIRR = 15.71 %

Table H.1-28 EIRR Cash Flow of Cost and Benefit (Base Case)

B/C = 1.37 B-C = 16,359 EIRR = 12.00 %

Table H.1-29 EIRR Cash Flow of Cost and Benefit (Base Case)
(Unit: 1000Lps)

7 1999 0 412 412 10,188 1.0000 412 1 10 2002 0 412 412 13,584 1.0000 412 1 11 2003 0 412 412 13,584 1.0000 412 1 12 2004 0 412 412 13,584 1.0000 412 1 13 2005 0 412 412 13,584 1.0000 412 1 14 2006 0 412 412 13,584 1.0000 412 1 15 2007 0 412 412 13,584 1.0000 412 1 16 2008 0 412 412 13,584 1.0000 412 1 17 2009 0 412 412 13,584 1.0000 412 1 18 2010 0 412 412 13,584 1.0000 412 1 19 2011 0 412 412 13,584 1.0000 412 1 19 2011 0 412 412 13,584 1.0000 412 1 19 2011 0 412 412 13,584 1.0000 412 1 20 2012 0 412 412 13,584 1.0000 412 1 21 2013 0 412 412 13,584 1.0000 412 1 22 2014 0 412 412 13,584 1.0000 412 1 23 2015 0 412 412 13,584 1.0000 412 1 24 2016 0 412 412 13,584 1.0000 412 1 25 2017 0 412 412 13,584 1.0000 412 1 26 2018 0 412 412 13,584 1.0000 412 1 27 2019 0 412 412 13,584 1.0000 412 1 28 2020 0 412 412 13,584 1.0000 412 1 29 2011 0 412 412 13,584 1.0000 412 1 20 2022 014 0 412 412 13,584 1.0000 412 1 23 2015 0 412 412 13,584 1.0000 412 1 24 2016 0 412 412 13,584 1.0000 412 1 25 2017 0 412 412 13,584 1.0000 412 1 26 2018 0 412 412 13,584 1.0000 412 1 27 2019 0 412 412 13,584 1.0000 412 1 28 2020 0 412 412 13,584 1.0000 412 1 29 2021 0 412 412 13,584 1.0000 412 1 20 2022 0 412 412 13,584 1.0000 412 1 31 2023 0 412 412 13,584 1.0000 412 1 32 2024 0 412 412 13,584 1.0000 412 1 31 2023 0 412 412 13,584 1.0000 412 1 32 2024 0 412 412 13,584 1.0000 412 1 31 2023 0 412 412 13,584 1.0000 412 1 31 2023 0 412 412 13,584 1.0000 412 1 31 2023 0 412 412 13,584 1.0000 412 1 31 2023 0 412 412 13,584 1.0000 412 1 31 2023 0 412 412 13,584 1.0000 412 1 31 2023 0 412 412 13,584 1.0000 412 1 31 2023 0 412 412 13,584 1.0000 412 1 31 2023 0 412 412 13,584 1.0000 412 1 31 2023 0 412 412 13,584 1.0000 412 1 31 2023 0 412 412 13,584 1.0000 412 1 31 2023 0 412 412 13,584 1.0000 412 1 31 2023 0 412 412 13,584 1.0000 412 1 31 2023 0 412 412 13,584 1.0000 412 1 31 2023 0 412 412 13,584 1.0000 412 1 31 2023 0 412 412 13,584 1.0000 412 1 31 2023 0 412 412 13,584 1.0000 412 1 31 2023 0 412 412 13,584 1.0000 412 1 31 2033 0 412 412 13,584 1.00	OOLps)
Cost	t Value
1         1993         978         0         978         0         1,0000         978           2         1994         1,055         0         1,055         0         1,0000         1,755           3         1995         3,974         0         1,0000         24,972         0         1,0000         24,972           5         1997         17,793         0         17,793         0         1,0000         14,590           7         1998         14,178         412         41,590         3,396         1,0000         412           8         2000         0         412         412         6,792         1,0000         412           8         2000         0         412         412         10,188         1,0000         412           19         2001         0         412         412         13,584         1,0000         412         1           11         2003         0         412         412         13,584         1,0000         412         1           11         2003         0         412         412         13,584         1,0000         412         1           12         2004	
1994	enefit
3         1995         3,974         0         3,974         0         1,0000         24,972         0         1,0000         24,972         0         1,0000         24,972         0         1,0000         24,972         0         1,0000         24,972         0         1,0000         24,972         0         1,0000         14,793         0         1,0000         14,793         0         1,0000         14,793         0         1,0000         14,793         0         1,0000         14,590         3,386         1,0000         412         1,000         1,000         14,590         3,386         1,0000         412         1,000<	0
4       1996       24, 972       0       24, 972       0       1,0000       24, 972         5       1997       17,793       0       17,793       0       10,000       14,590         7       1999       0       412       412       6,792       1,0000       412         8       2000       0       412       412       10,188       1,0000       412       1         9       2001       0       412       412       13,584       1,0000       412       1         11       2003       0       412       412       13,584       1,0000       412       1         12       2004       0       412       412       13,584       1,0000       412       1         12       2004       0       412       412       13,584       1,0000       412       1         12       2006       0       412       412       13,584       1,0000       412       1         15       2007       0       412       412       13,584       1,0000       412       1         16       2088       0       412       412       13,584       1,0000       412<	0
4       1996       24, 972       0       24, 972       0       1,0000       24, 972         5       1997       17,793       0       17,793       0       10,0000       14,590         7       1993       0       412       412       6,792       1,0000       412         8       2000       0       412       412       10,188       1,0000       412       1         9       2001       0       412       412       13,584       1,0000       412       1         11       2003       0       412       412       13,584       1,0000       412       1         12       2004       0       412       412       13,584       1,0000       412       1         12       2005       0       412       412       13,584       1,0000       412       1         12       2006       0       412       412       13,584       1,0000       412       1         14       2006       0       412       412       13,584       1,0000       412       1         15       2007       0       412       412       13,584       1,0000       412	: 0
5         1997         17,793         0         17,793         0         1,0000         17,793         6         1998         14,178         412         14,590         3,396         1,0000         14,590         7         1999         0         412         412         6,792         1,0000         412         11         10,188         1,0000         412         11         10,2002         0         412         412         13,584         1,0000         412         1         11         2003         0         412         412         13,584         1,0000         412         1         1         2003         0         412         412         13,584         1,0000         412         1         1         2003         0         412         412         13,584         1,0000         412         1         1         2003         0         412         412         13,584         1,0000         412         1         1         2006         0         412         412         13,584         1,0000         412         1         1         1         2         2007         0         412         412         13,584         1,0000         412         1         1         1         <	0
6         1998         14, 178         412         14, 590         3, 396         1, 0000         14, 590         412         412         6, 792         1, 0000         412         18         1, 0000         412         12         18         1, 0000         412         12         10, 188         1, 0000         412         12         10, 188         1, 0000         412         11         2002         0         412         412         13, 584         1, 0000         412         1         11         2003         0         412         412         13, 584         1, 0000         412         1         1         12         2004         0         412         412         13, 584         1, 0000         412         1         1         2006         0         412         412         13, 584         1, 0000         412         1         1         1         2006         0         412         412         13, 584         1, 0000         412         1	0
7 1999	3, 396
8       2000       0       412       412       10,188       1.0000       412       1         9       2001       0       412       412       13,584       1.0000       412       1         10       2002       0       412       412       13,584       1.0000       412       1         11       2003       0       412       412       13,584       1.0000       412       1         12       2004       0       412       412       13,584       1.0000       412       1         13       2005       0       412       412       13,584       1.0000       412       1         14       2006       0       412       412       13,584       1.0000       412       1         16       2008       0       412       412       13,584       1.0000       412       1         17       2009       0       412       412       13,584       1.0000       412       1         18       2011       0       412       412       13,584       1.0000       412       1         21       2021       0       412       412       13,5	6,792
9         2001         0         412         412         13,584         1,0000         412         1           10         2002         0         412         412         13,584         1,0000         412         1           11         2003         0         412         412         13,584         1,0000         412         1           12         2004         0         412         412         13,584         1,0000         412         1           14         2006         0         412         412         13,584         1,0000         412         1           15         2007         0         412         412         13,584         1,0000         412         1           16         2008         0         412         412         13,584         1,0000         412         1           17         2009         0         412         412         13,584         1,0000         412         1           18         2010         0         412         412         13,584         1,0000         412         1           19         2011         0         412         412         13,584         1,0000<	10, 188
10       2002       0       412       412       13,584       1.0000       412       1         11       2003       0       412       412       13,584       1.0000       412       1         12       2004       0       412       412       13,584       1.0000       412       1         14       2006       0       412       412       13,584       1.0000       412       1         15       2007       0       412       412       13,584       1.0000       412       1         16       2008       0       412       412       13,584       1.0000       412       1         17       2009       0       412       412       13,584       1.0000       412       1         18       2010       0       412       412       13,584       1.0000       412       1         19       2011       0       412       412       13,584       1.0000       412       1         20       2012       0       412       412       13,584       1.0000       412       1         21       2013       0       412       412       13	13, 584
11       2003       0       412       412       13,584       1.0000       412       1         12       2004       0       412       412       13,584       1.0000       412       1         13       2005       0       412       412       13,584       1.0000       412       1         14       2006       0       412       412       13,584       1.0000       412       1         15       2007       0       412       412       13,584       1.0000       412       1         16       2008       0       412       412       13,584       1.0000       412       1         17       2009       0       412       412       13,584       1.0000       412       1         18       2010       0       412       412       13,584       1.0000       412       1         20       2012       0       412       412       13,584       1.0000       412       1         21       2013       0       412       412       13,584       1.0000       412       1         21       2013       0       412       412       13	13, 584
12       2004       0       412       412       13,584       1.0000       412       1         13       2005       0       412       412       13,584       1.0000       412       1         14       2006       0       412       412       13,584       1.0000       412       1         15       2007       0       412       412       13,584       1.0000       412       1         16       2008       0       412       412       13,584       1.0000       412       1         17       2009       0       412       412       13,584       1.0000       412       1         18       2010       0       412       412       13,584       1.0000       412       1         19       2011       0       412       412       13,584       1.0000       412       1         20       2012       0       412       412       13,584       1.0000       412       1         21       2013       0       412       412       13,584       1.0000       412       1         22       2014       0       412       412       13	
13       2005       0       412       412       13,584       1.0000       412       1         14       2006       0       412       412       13,584       1.0000       412       1         15       2007       0       412       412       13,584       1.0000       412       1         16       2008       0       412       412       13,584       1.0000       412       1         17       2009       0       412       412       13,584       1.0000       412       1         18       2010       0       412       412       13,584       1.0000       412       1         19       2011       0       412       412       13,584       1.0000       412       1         20       2012       0       412       412       13,584       1.0000       412       1         21       2013       0       412       412       13,584       1.0000       412       1         21       2013       0       412       412       13,584       1.0000       412       1         22       2014       0       412       412       13	
14       2006       0       412       412       13,584       1.0000       412       1         15       2007       0       412       412       13,584       1.0000       412       1         16       2008       0       412       412       13,584       1.0000       412       1         17       2009       0       412       412       13,584       1.0000       412       1         19       2011       0       412       412       13,584       1.0000       412       1         20       2012       0       412       412       13,584       1.0000       412       1         21       2013       0       412       412       13,584       1.0000       412       1         21       2013       0       412       412       13,584       1.0000       412       1         21       2013       0       412       412       13,584       1.0000       412       1         22       2014       0       412       412       13,584       1.0000       412       1         22       2015       0       412       412       13	
15       2007       0       412       412       13,584       1.0000       412       1         16       2008       0       412       412       13,584       1.0000       412       1         17       2009       0       412       412       13,584       1.0000       412       1         18       2010       0       412       412       13,584       1.0000       412       1         19       2011       0       412       412       13,584       1.0000       412       1         20       2012       0       412       412       13,584       1.0000       412       1         21       2013       0       412       412       13,584       1.0000       412       1         22       2014       0       412       412       13,584       1.0000       412       1         23       2015       0       412       412       13,584       1.0000       412       1         24       2016       0       412       412       13,584       1.0000       412       1         25       2017       0       412       412       13	
16       2008       0       412       412       13,584       1,0000       412       1         17       2009       0       412       412       13,584       1,0000       412       1         18       2010       0       412       412       13,584       1,0000       412       1         19       2011       0       412       412       13,584       1,0000       412       1         20       2012       0       412       412       13,584       1,0000       412       1         21       2013       0       412       412       13,584       1,0000       412       1         22       2014       0       412       412       13,584       1,0000       412       1         23       2015       0       412       412       13,584       1,0000       412       1         24       2016       0       412       412       13,584       1,0000       412       1         25       2017       0       412       412       13,584       1,0000       412       1         26       2018       0       412       412       13	
17       2009       0       412       412       13,584       1.0000       412       1         18       2010       0       412       412       13,584       1.0000       412       1         19       2011       0       412       412       13,584       1.0000       412       1         20       2012       0       412       412       13,584       1.0000       412       1         21       2013       0       412       412       13,584       1.0000       412       1         22       2014       0       412       412       13,584       1.0000       412       1         23       2015       0       412       412       13,584       1.0000       412       1         24       2016       0       412       412       13,584       1.0000       412       1         25       2017       0       412       412       13,584       1.0000       412       1         26       2018       0       412       412       13,584       1.0000       412       1         28       2020       0       412       412       13	13,584
18       2010       0       412       412       13,584       1.0000       412       1         19       2011       0       412       412       13,584       1.0000       412       1         20       2012       0       412       412       13,584       1.0000       412       1         21       2013       0       412       412       13,584       1.0000       412       1         22       2014       0       412       412       13,584       1.0000       412       1         23       2015       0       412       412       13,584       1.0000       412       1         24       2016       0       412       412       13,584       1.0000       412       1         25       2017       0       412       412       13,584       1.0000       412       1         26       2018       0       412       412       13,584       1.0000       412       1         27       2019       0       412       412       13,584       1.0000       412       1         28       2020       0       412       412       13	13,584
19       2011       0       412       412       13,584       1,0000       412       1         20       2012       0       412       412       13,584       1,0000       412       1         21       2013       0       412       412       13,584       1,0000       412       1         22       2014       0       412       412       13,584       1,0000       412       1         23       2015       0       412       412       13,584       1,0000       412       1         24       2016       0       412       412       13,584       1,0000       412       1         25       2017       0       412       412       13,584       1,0000       412       1         26       2018       0       412       412       13,584       1,0000       412       1         27       2019       0       412       412       13,584       1,0000       412       1         28       2020       0       412       412       13,584       1,0000       412       1         30       2022       0       412       412       13	e a company of the co
20       2012       0       412       412       13,584       1.0000       412       1         21       2013       0       412       412       13,584       1.0000       412       1         22       2014       0       412       412       13,584       1.0000       412       1         23       2015       0       412       412       13,584       1.0000       412       1         24       2016       0       412       412       13,584       1.0000       412       1         25       2017       0       412       412       13,584       1.0000       412       1         26       2018       0       412       412       13,584       1.0000       412       1         27       2019       0       412       412       13,584       1.0000       412       1         28       2020       0       412       412       13,584       1.0000       412       1         30       2022       0       412       412       13,584       1.0000       412       1         31       2023       0       412       412       13	13,584
21       2013       0       412       412       13,584       1.0000       412       1         22       2014       0       412       412       13,584       1.0000       412       1         23       2015       0       412       412       13,584       1.0000       412       1         24       2016       0       412       412       13,584       1.0000       412       1         25       2017       0       412       412       13,584       1.0000       412       1         26       2018       0       412       412       13,584       1.0000       412       1         27       2019       0       412       412       13,584       1.0000       412       1         28       2020       0       412       412       13,584       1.0000       412       1         30       2022       0       412       412       13,584       1.0000       412       1         31       2023       0       412       412       13,584       1.0000       412       1         32       2024       0       412       412       13	13,584
22       2014       0       412       412       13,584       1.0000       412       1         23       2015       0       412       412       13,584       1.0000       412       1         24       2016       0       412       412       13,584       1.0000       412       1         25       2017       0       412       412       13,584       1.0000       412       1         26       2018       0       412       412       13,584       1.0000       412       1         27       2019       0       412       412       13,584       1.0000       412       1         28       2020       0       412       412       13,584       1.0000       412       1         29       2021       0       412       412       13,584       1.0000       412       1         30       2022       0       412       412       13,584       1.0000       412       1         31       2023       0       412       412       13,584       1.0000       412       1         31       2023       0       412       412       13	
23       2015       0       412       412       13,584       1.0000       412       1         24       2016       0       412       412       13,584       1.0000       412       1         25       2017       0       412       412       13,584       1.0000       412       1         26       2018       0       412       412       13,584       1.0000       412       1         27       2019       0       412       412       13,584       1.0000       412       1         28       2020       0       412       412       13,584       1.0000       412       1         29       2021       0       412       412       13,584       1.0000       412       1         30       2022       0       412       412       13,584       1.0000       412       1         31       2023       0       412       412       13,584       1.0000       412       1         31       2023       0       412       412       13,584       1.0000       412       1         32       2024       0       412       412       13	
24       2016       0       412       412       13,584       1.0000       412       1         25       2017       0       412       412       13,584       1.0000       412       1         26       2018       0       412       412       13,584       1.0000       412       1         27       2019       0       412       412       13,584       1.0000       412       1         28       2020       0       412       412       13,584       1.0000       412       1         29       2021       0       412       412       13,584       1.0000       412       1         30       2022       0       412       412       13,584       1.0000       412       1         31       2023       0       412       412       13,584       1.0000       412       1         32       2024       0       412       412       13,584       1.0000       412       1         34       2026       0       412       412       13,584       1.0000       412       1         35       2027       0       412       412       13	13,584
25       2017       0       412       412       13,584       1.0000       412       1         26       2018       0       412       412       13,584       1.0000       412       1         27       2019       0       412       412       13,584       1.0000       412       1         28       2020       0       412       412       13,584       1.0000       412       1         29       2021       0       412       412       13,584       1.0000       412       1         30       2022       0       412       412       13,584       1.0000       412       1         31       2023       0       412       412       13,584       1.0000       412       1         32       2024       0       412       412       13,584       1.0000       412       1         34       2026       0       412       412       13,584       1.0000       412       1         35       2027       0       412       412       13,584       1.0000       412       1         36       2028       0       412       412       13	13,584
26       2018       0       412       412       13,584       1.0000       412       1         27       2019       0       412       412       13,584       1.0000       412       1         28       2020       0       412       412       13,584       1.0000       412       1         29       2021       0       412       412       13,584       1.0000       412       1         30       2022       0       412       412       13,584       1.0000       412       1         31       2023       0       412       412       13,584       1.0000       412       1         32       2024       0       412       412       13,584       1.0000       412       1         33       2025       0       412       412       13,584       1.0000       412       1         34       2026       0       412       412       13,584       1.0000       412       1         35       2027       0       412       412       13,584       1.0000       412       1         36       2028       0       412       412       13	13,584
26       2018       0       412       412       13,584       1.0000       412       1         27       2019       0       412       412       13,584       1.0000       412       1         28       2020       0       412       412       13,584       1.0000       412       1         29       2021       0       412       412       13,584       1.0000       412       1         30       2022       0       412       412       13,584       1.0000       412       1         31       2023       0       412       412       13,584       1.0000       412       1         32       2024       0       412       412       13,584       1.0000       412       1         33       2025       0       412       412       13,584       1.0000       412       1         34       2026       0       412       412       13,584       1.0000       412       1         35       2027       0       412       412       13,584       1.0000       412       1         36       2028       0       412       412       13	13,584
27       2019       0       412       412       13,584       1.0000       412       1         28       2020       0       412       412       13,584       1.0000       412       1         29       2021       0       412       412       13,584       1.0000       412       1         30       2022       0       412       412       13,584       1.0000       412       1         31       2023       0       412       412       13,584       1.0000       412       1         32       2024       0       412       412       13,584       1.0000       412       1         33       2025       0       412       412       13,584       1.0000       412       1         34       2026       0       412       412       13,584       1.0000       412       1         35       2027       0       412       412       13,584       1.0000       412       1         36       2028       0       412       412       13,584       1.0000       412       1         37       2029       0       412       412       13	13,584
28       2020       0       412       412       13,584       1.0000       412       1         29       2021       0       412       412       13,584       1.0000       412       1         30       2022       0       412       412       13,584       1.0000       412       1         31       2023       0       412       412       13,584       1.0000       412       1         32       2024       0       412       412       13,584       1.0000       412       1         33       2025       0       412       412       13,584       1.0000       412       1         34       2026       0       412       412       13,584       1.0000       412       1         35       2027       0       412       412       13,584       1.0000       412       1         36       2028       0       412       412       13,584       1.0000       412       1         37       2029       0       412       412       13,584       1.0000       412       1         38       2030       0       412       412       13	13,584
29       2021       0       412       412       13,584       1.0000       412       1         30       2022       0       412       412       13,584       1.0000       412       1         31       2023       0       412       412       13,584       1.0000       412       1         32       2024       0       412       412       13,584       1.0000       412       1         33       2025       0       412       412       13,584       1.0000       412       1         34       2026       0       412       412       13,584       1.0000       412       1         35       2027       0       412       412       13,584       1.0000       412       1         36       2028       0       412       412       13,584       1.0000       412       1         37       2029       0       412       412       13,584       1.0000       412       1         38       2030       0       412       412       13,584       1.0000       412       1         40       2032       0       412       412       13	
30       2022       0       412       412       13,584       1.0000       412       1         31       2023       0       412       412       13,584       1.0000       412       1         32       2024       0       412       412       13,584       1.0000       412       1         33       2025       0       412       412       13,584       1.0000       412       1         34       2026       0       412       412       13,584       1.0000       412       1         35       2027       0       412       412       13,584       1.0000       412       1         36       2028       0       412       412       13,584       1.0000       412       1         37       2029       0       412       412       13,584       1.0000       412       1         38       2030       0       412       412       13,584       1.0000       412       1         40       2032       0       412       412       13,584       1.0000       412       1         41       2033       0       412       412       13	
31       2023       0       412       412       13,584       1.0000       412       1         32       2024       0       412       412       13,584       1.0000       412       1         33       2025       0       412       412       13,584       1.0000       412       1         34       2026       0       412       412       13,584       1.0000       412       1         35       2027       0       412       412       13,584       1.0000       412       1         36       2028       0       412       412       13,584       1.0000       412       1         37       2029       0       412       412       13,584       1.0000       412       1         38       2030       0       412       412       13,584       1.0000       412       1         39       2031       0       412       412       13,584       1.0000       412       1         40       2032       0       412       412       13,584       1.0000       412       1         41       2033       0       412       412       13	13,584
32       2024       0       412       412       13,584       1.0000       412       1         33       2025       0       412       412       13,584       1.0000       412       1         34       2026       0       412       412       13,584       1.0000       412       1         35       2027       0       412       412       13,584       1.0000       412       1         36       2028       0       412       412       13,584       1.0000       412       1         37       2029       0       412       412       13,584       1.0000       412       1         38       2030       0       412       412       13,584       1.0000       412       1         39       2031       0       412       412       13,584       1.0000       412       1         40       2032       0       412       412       13,584       1.0000       412       1         41       2033       0       412       412       13,584       1.0000       412       1         42       2034       0       412       412       13	13, 584
33       2025       0       412       412       13,584       1.0000       412       1         34       2026       0       412       412       13,584       1.0000       412       1         35       2027       0       412       412       13,584       1.0000       412       1         36       2028       0       412       412       13,584       1.0000       412       1         37       2029       0       412       412       13,584       1.0000       412       1         38       2030       0       412       412       13,584       1.0000       412       1         39       2031       0       412       412       13,584       1.0000       412       1         40       2032       0       412       412       13,584       1.0000       412       1         41       2033       0       412       412       13,584       1.0000       412       1         42       2034       0       412       412       13,584       1.0000       412       1         43       2035       0       412       412       13	13, 584
34       2026       0       412       412       13,584       1.0000       412       1         35       2027       0       412       412       13,584       1.0000       412       1         36       2028       0       412       412       13,584       1.0000       412       1         37       2029       0       412       412       13,584       1.0000       412       1         38       2030       0       412       412       13,584       1.0000       412       1         39       2031       0       412       412       13,584       1.0000       412       1         40       2032       0       412       412       13,584       1.0000       412       1         41       2033       0       412       412       13,584       1.0000       412       1         42       2034       0       412       412       13,584       1.0000       412       1         43       2035       0       412       412       13,584       1.0000       412       1         44       2036       0       412       412       13	13, 584
35       2027       0       412       412       13,584       1.0000       412       1         36       2028       0       412       412       13,584       1.0000       412       1         37       2029       0       412       412       13,584       1.0000       412       1         38       2030       0       412       412       13,584       1.0000       412       1         39       2031       0       412       412       13,584       1.0000       412       1         40       2032       0       412       412       13,584       1.0000       412       1         41       2033       0       412       412       13,584       1.0000       412       1         42       2034       0       412       412       13,584       1.0000       412       1         43       2035       0       412       412       13,584       1.0000       412       1         44       2036       0       412       412       13,584       1.0000       412       1         45       2037       0       412       412       13	
36     2028     0     412     412     13,584     1.0000     412     1       37     2029     0     412     412     13,584     1.0000     412     1       38     2030     0     412     412     13,584     1.0000     412     1       39     2031     0     412     412     13,584     1.0000     412     1       40     2032     0     412     412     13,584     1.0000     412     1       41     2033     0     412     412     13,584     1.0000     412     1       42     2034     0     412     412     13,584     1.0000     412     1       43     2035     0     412     412     13,584     1.0000     412     1       44     2036     0     412     412     13,584     1.0000     412     1       45     2037     0     412     412     13,584     1.0000     412     1       46     2038     0     412     412     13,584     1.0000     412     1       47     2039     0     412     412     13,584     1.0000     412     1 <td></td>	
37     2029     0     412     412     13,584     1.0000     412     1       38     2030     0     412     412     13,584     1.0000     412     1       39     2031     0     412     412     13,584     1.0000     412     1       40     2032     0     412     412     13,584     1.0000     412     1       41     2033     0     412     412     13,584     1.0000     412     1       42     2034     0     412     412     13,584     1.0000     412     1       43     2035     0     412     412     13,584     1.0000     412     1       44     2036     0     412     412     13,584     1.0000     412     1       45     2037     0     412     412     13,584     1.0000     412     1       46     2038     0     412     412     13,584     1.0000     412     1       47     2039     0     412     412     13,584     1.0000     412     1	13,584
38       2030       0       412       412       13,584       1.0000       412       1         39       2031       0       412       412       13,584       1.0000       412       1         40       2032       0       412       412       13,584       1.0000       412       1         41       2033       0       412       412       13,584       1.0000       412       1         42       2034       0       412       412       13,584       1.0000       412       1         43       2035       0       412       412       13,584       1.0000       412       1         44       2036       0       412       412       13,584       1.0000       412       1         45       2037       0       412       412       13,584       1.0000       412       1         46       2038       0       412       412       13,584       1.0000       412       1         47       2039       0       412       412       13,584       1.0000       412       1	
39     2031     0     412     412     13,584     1.0000     412     1       40     2032     0     412     412     13,584     1.0000     412     1       41     2033     0     412     412     13,584     1.0000     412     1       42     2034     0     412     412     13,584     1.0000     412     1       43     2035     0     412     412     13,584     1.0000     412     1       44     2036     0     412     412     13,584     1.0000     412     1       45     2037     0     412     412     13,584     1.0000     412     1       46     2038     0     412     412     13,584     1.0000     412     1       47     2039     0     412     412     13,584     1.0000     412     1	13,584
40     2032     0     412     412     13,584     1.0000     412     1       41     2033     0     412     412     13,584     1.0000     412     1       42     2034     0     412     412     13,584     1.0000     412     1       43     2035     0     412     412     13,584     1.0000     412     1       44     2036     0     412     412     13,584     1.0000     412     1       45     2037     0     412     412     13,584     1.0000     412     1       46     2038     0     412     412     13,584     1.0000     412     1       47     2039     0     412     412     13,584     1.0000     412     1	
41       2033       0       412       412       13,584       1.0000       412       1         42       2034       0       412       412       13,584       1.0000       412       1         43       2035       0       412       412       13,584       1.0000       412       1         44       2036       0       412       412       13,584       1.0000       412       1         45       2037       0       412       412       13,584       1.0000       412       1         46       2038       0       412       412       13,584       1.0000       412       1         47       2039       0       412       412       13,584       1.0000       412       1	
42     2034     0     412     412     13,584     1.0000     412     1       43     2035     0     412     412     13,584     1.0000     412     1       44     2036     0     412     412     13,584     1.0000     412     1       45     2037     0     412     412     13,584     1.0000     412     1       46     2038     0     412     412     13,584     1.0000     412     1       47     2039     0     412     412     13,584     1.0000     412     1	
43     2035     0     412     412     13,584     1.0000     412     1       44     2036     0     412     412     13,584     1.0000     412     1       45     2037     0     412     412     13,584     1.0000     412     1       46     2038     0     412     412     13,584     1.0000     412     1       47     2039     0     412     412     13,584     1.0000     412     1	
44     2036     0     412     412     13,584     1.0000     412     1       45     2037     0     412     412     13,584     1.0000     412     1       46     2038     0     412     412     13,584     1.0000     412     1       47     2039     0     412     412     13,584     1.0000     412     1	
45     2037     0     412     412     13,584     1.0000     412     1       46     2038     0     412     412     13,584     1.0000     412     1       47     2039     0     412     412     13,584     1.0000     412     1	13, 584
45     2037     0     412     412     13,584     1.0000     412     1       46     2038     0     412     412     13,584     1.0000     412     1       47     2039     0     412     412     13,584     1.0000     412     1	13.584
46     2038     0     412     412     13,584     1.0000     412     1       47     2039     0     412     412     13,584     1.0000     412     1	13,584
47 2039 0 412 412 13,584 1.0000 412 1	13,584
	13,584
49 2041 0 412 412 13,584 1.0000 412 1	
50 2042 0 412 412 13,584 1.0000 412 1	
Total (Lp) 62, 950 18, 540 81, 490 590, 904 81, 490 59	
(US \$) 31, 475 9, 270 40, 745 295, 452 40, 745 29	
Joo 4) Allero Almin Anlino maniana Anlian an	. ,

B/C = 7.25 B-C = 509,414 EIRR = 0.00 %

Table H.1-30 EIRR Cash Flow of Cost and Benefit

1.00 B/C B-C 0. BIRR 10.17 %

Table H.1-31 EIRR Cash Flow of Cost and Benefit
(5 years Delay in Benefit Accrual) (Hpit. 10001ps)

			Cost		Discount	(Unit: 1000Lps) Present Valu
io.	Year	Const.	0 & M		Benefit Rate	
	1001	Cost	Cost	Total	DONOTE C. ROVO	Cost Benefit
1	1993	978		978	0 1.0000	978 0
2	1994		The same of the sa	1,055	0 0.8929	and the state of t
3	1995	3,974	0	3,974	0 0.7972	
4	1996	24, 972		24, 972		
5	1997	17,793		17,793	0 0.6355	
6	1998	14, 178	412	14,590	0 0.5674	
7	1999		412	412	0 0.5066	
8	2000		412	412	0 0.4523	186 0
9	2001		412	412	0 0.4039	166 0
.0	2002	Ŏ	412	412	0 0.3606	149 0
.1	2003		412	412	3,396 0.3220	133 1,093
2	2004	0	412	412	6,792 0.2875	118 1,953
3	2005	Ŏ	412	412		106 2,615
4	2005	Ŏ	412	412		94 3, 113
	2007	. 0	412	412	13,584 0.2046	84 2,780
.5 .6	2008	. 0	412			75 2,482
7	2009	. 0	412			67 2, 216
8	2010	0	412	412	13, 584 0, 1456	60 1,978
9	2010	0		412	13, 584 0. 1300	54 1.766
0	2011	0		412	13, 584 0, 1300	48 1,577
1		0	412	412	13, 584 0, 1101	43 1,408
		0	412	412	13, 584 0. 1037	\$
2	2014					38 1, 257
3	2015	. 0		412	13, 584 0.0826	34 1, 123
4	2016	0	412	412		30 1,002
5	2017	0	412	412		27 895
6	2018		412		13,584 0.0588	24 799 22 713
7.	2019	and the second s	412		13,584 0.0525	
8	2020	0 0	412	412		19 11 2 637
9	2021	0	412	412		17 303 569
0	2022	0	412	412 412	13,584 0.0374	
1	2023		412		13,584 0.0334	14 3 4 4 5 3
2	2024	0	and the second second	412		12 405
3	2025	0	412:	412	13, 584 0.0266	11 d 3 6 0 3 6 1
4	2026		412	412		10 323
5	2027	0	412	412	13,584 0.0212	9 288
6	2028	0	412	412	13,584 0.0189	8 257
7	2029	0	412	412		7 230
8	2030	0	412	412		6 205
9	2031	0	412		13,584 0.0135	6 183
0	2032	0	412	412	13,584 0.0120	5 164
1	2033	0	412	412	13, 584 0.0107	4 146
2	2034	0	412	412	13,584 0.0096	4 130
3	2035	0		412	13,584 0.0086	4 116
4	2036	0	412		13, 584 0.0076	3 104
5	2037	0	412		13,584 0.0068	3 93
6	2038	. 0	412	412		3 83
7	2039	0	412		13,584 0.0054	2 74
8	2040	0	412		13,584 0.0049	2 66
9	2041	0	412		13, 584 0.0043	2 59
0	2042	0	412	412	13,584 0.0039	2 53
	11(Lp)	62,950			522, 984	44, 384 34, 278
US	\$)	31, 475	9,270	40,745	261, 492	22, 192 17, 139

B/C = 0.77 B-C = -10,106EIRR = 12.00 %

Table H.1-32 EIRR Cash Flow of Cost and Benefit
(5 years Delay in Benefit Accrual)
(Unit: 1000Lps)

		<u> </u>						1000Lps)
			Cost	<u>-</u>		Discount	Pres	ent Value
No.	Year	Const.	0 & M		Benefit	Rate		
		Cost	Cost	Total		<del> </del>	Cost	Benefit
1	1993	978	0	978	. 0	1.0000	978	0
2	1994	1,055	0	1,055	0	1.0000	1,055	0
3	1995	3,974	0	3, 974	0	1,0000	3,974	0
4	1996	24, 972	0	24,972	0	1.0000	24,972	. 0
5	1997	17,793	0	17,793	0	1.0000	17,793	0
6	1998	14, 178	412	14,590	0	1.0000	14,590	0
7	1999		412	412	0	1.0000	412	0
8	2000	0	412	412	0	1.0000	412	0
9	2001	0	412	412	. 0'	1.0000	412	0
10	2002	0	412	412	0	1.0000	412	0
11	2003	0	412	412	3,396	1.0000	412	3,396
12	2004	Ŏ	412	412		1.0000	412	
13	2005	0	412	412	10, 188	1.0000	412	10,188
14	2006	Ő	412	412		1.0000	412	
15	2007	0	412	412	13, 584	1.0000	412	13, 584
	2007	0	412	412		1.0000	412	13,584
16		0	412	412	13, 584		412	
17	2009	0		412	13, 584		412	13, 584
18	2010		412				412	13, 584
19	2011	0	412	412	13, 584	1.0000		
20	2012	0	412	412	13, 584	1.0000	412	
21	2013	0	412	412	13, 584	1.0000	412	13, 584
22	2014	0	412	412	13, 584	1.0000	412	13,584
23	2015	0	412	412	13,584		412	13,584
24	2016	0	412	412	13,584	1.0000	412	13,584
25	2017	. 0	412	412	13,584	1.0000	412	13,584
26	2018	0	412	412	13,584	1.0000	412	13, 584
27	2019	0	412	412	13,584	1.0000	412	13, 584
28	2020		412	412	13,584	1.0000	412	13, 584
29	2021	0	412	412		1.0000	412	13,584
30	2022	0	412	412	13,584		412	13,584
31	2023	0	412	412	13,584	1.0000	412	
32	2024	0	412	412	13,584	1.0000	412	13,584
33	2025	0	412	412	13,584	1.0000	412	13,584
34	2026	0	412	412	13,584	1.0000	412	13,584
35	2027	0	412	412	13,584	1.0000	412	13,584
36	2028	0	412	412	13,584	1.0000		13,584
37	2029	0	412	412	13,584	1.0000	412	13,584
38		0	412	412	13,584	1.0000	412	13,584
39	2031	0	412	412	13,584	1.0000	412	
40	2032	0		412	13,584		412	
41	2033	0	412	412		1.0000	412	
42	2034	0		412	13,584	1.0000		
43	2035	. 0		412	13,584		412	13,584
44	2036	0	412	412	13,584	1.0000	412	
45	2037	0	412	412	13,584		412	
46	2038	Ď		412			412	
47	2039	. 0		412	13, 584	1.0000	412	13,584
48	2040		412	412		1.0000	412	13, 584
		0	and the second s	412		1.0000		13, 584
49 50	2041 2042	0		412	13, 584	1.0000		13, 584
				81,490	522, 984	1.0000		522, 984
	al(Lp)				261, 492			261, 492
(US	Φ/	31,475	9,270	40,745	641,436		40, (40	401,404

B/C = 6.42 B-C = 441,494 EIRR = 0.00 %

Table H.1-33 EIRR Cash Flow of Cost and Benefit (2 years Delay in Benefit Accrual)

Table H.1-34 EIRR Cash Flow of Cost and Benefit (2 years Delay in Benefit Accrual)

			Cost		<del></del>		Discount	11030	<u>ent Valu</u>
0	Year	Const.	0 & M			Benefit	Rate	0 4	n e : 4
		Cost	Cost		otal		1 0000	Cost	Benefit
į	1993	978		0	978	0	1.0000	978	0
3	1994	1,055			1.055	0	0.8929	942	(
}	1995	3, 974			3,974	0	0.7972	3, 168	. (
Į	1996	24, 972			4, 972	0		17,775	(
5	1997	17,793			7, 793	0	0.6355	11, 308	. (
)	1998	14, 178	41		4,590	0		8,279	(
	1999	0	41		412	0	* *	209	(
} <u>.</u> .	2000	0	41		412	3.396		186	1,53
}	2001	0	41		412			166	2, 74;
)	2002	0	41		412	10, 188		149	3, 674
l	2003	0	41		412	13, 584		133	4, 374
2	2004	0	41		412	13, 584		118	3,905
3	2005	. 0	3 41		412			106	3, 48
1	2006	0	41		412	13, 584		94	_
•	2007	0	41		412	13,584		84	
;	2008	0	41		412	13,584	0.1827	75	2,482
ì	2009	0	41		412	13, 584		67	
}	2010	0	41	2	412	13,584	0.1456	60	1,978
) [	2011	0	41	2	412	13,584	0.1300	54	1,766
}	2012	0	41	2	412	13,584	0.1161	48	1.577
:	2013	0	41	2	412	13,584	0.1037	43	1,408
?	2014	0	41		412	13,584	0.0926	38	1,257
}	2015	0	41		412	13,584	0.0826	34	1, 123
Į	2016	0	41		412	13,584		30	1,002
;	2017	0	41		412	13,584		27	895
	2018	0	41		412	13,584		24	799
1	2019	0	41		412	13,584		22	713
} .:	2020	0	41		412	13,584	0.0469	19	637
	2021	0	41		412	13,584		17	569
	2022	0	41		412	13, 584		15	508
	2023	0	41		412	13,584		14	
)		ŏ	41		412	13, 584		12	405
3	2025	Ŏ	41		412	13,584		11	361
ĺ	2026	0	41		412	13, 584		10	323
5	2027	. 0	41		412	13, 584		9	
,	2028	. 0			412	13, 584		8	257
1	2029	0		2	412			ž	230
}	2029	. 0	41		412	13, 584		6	205
) }	2030		41		412	13, 584		6	183
) )	2031	. 0			412	13, 584		5	164
			41			13, 584		4	146
	2033	· 0	41	_	412	13, 584		4	130
) )	2034	. 0	41		412	13, 584		4	116
}	2035	0			412	13, 584		3	104
	2036	0			412	13, 584		3	93
	2037							3	83
,	2038	0			412	13,584		2	74
	2039	0	41			13, 584		2	66
3	2040	0	41		412	13,584			
9	2041	0	41			13, 584		2	59
	2042	0 050			412		0.0039	2	53
) t	al(Lp)	62, 350	18,54	บ ชีว	1,490	563,736		44,384 22,192	48,336

B/C = 1.09 B-C = 3,951 EIRR = 12.00 %

Table H.1-35 EIRR Cash Flow of Cost and Benefit
(2 years Delay in Benefit Accrual) (Unit: 1000Lps)

· .			years i					(Unit: 1	
			Cost				Discoun	Prese	ent Valu
No.	Year	Const.	0 & M			efit	Rate		
	100	Cost	Cost	Tota	1			Cost	Benefit
1	1993	978			78	0	1,0000		. 0
2	1994	1,055	0	1,0	55	0	1.0000	1,055	0
. 3	1995	3,974	0	3, 9	74	0	1.0000	3,974	. 0
4	1996	24,972	0	24,9	72	0	1.0000	24, 972	0
. 5	1997	17,793				. 0	1.0000	17,793	0
6	1998	14, 178	41.2			. 0		14,590	0
7	1999				12	0	1.0000	412	0
8	2000		412				1.0000		
9	2001	Ŏ	412				1.0000		6,792
10	2002	Ö	412				1.0000	412	10, 188
11	2003	ŏ	412				1.0000		13, 584
12	2004		412				1.0000		13,584
			412				1.0000		13, 584
13	2005								13, 584
14	2006		412				1.0000		
15.	2007	0	412		and the second second	. 584	1.0000	412	13,584
16	2008	0	412			. 584	1.0000	412	
17	2009	0				, 584	1.0000	412	13,584
18	2010	: 0.		4		. 584	1.0000	412	13,584
19	2011	0	412				1.0000	412	13,584
20.	2012		412				1.0000	412	13,584
21	2013	0	412				1.0000		13,584
22 🗀	2014	0	412		12 13	, 584	1.0000	412	13,584
23	2015	0.	412	4	12 13	, 584	1.0000	412	13,584
24	2016	. 0	412	4	12 13	584	1.0000	412	13,584
25	2017	0.			12 13	. 584	1.0000	412	13,584
26	2018	. 0	412				1.0000		13,584
27	2019	. 0	412				1.0000		13,584
28	2020	0	412				1.0000		13,584
29	2021	Ō	412				1.0000		13, 584
30	2022	0	412			584	1.0000		13,584
31	2023	. 0	412				1.0000		13, 584
32	2024		412				1.0000		13, 584
33	2025	0	412				1.0000		13, 584
							1.0000		
34 25	2026	0	412			, 584			13,584
35	2027	0	412				1.0000		13,584
36	2028	0	412				1.0000		13, 584
37	2029	0	412				1.0000		13,584
38	2030	0	412				1.0000		13, 584
39	2031	0	412				1.0000		13, 584
40	2032	0	412				1.0000		13,584
41	2033	0	412				1.0000		13,584
42	2034	0					1.0000	412	13,584
43	2035	0	412	4			1.0000		13,584
44	2036	0	412	4	12. 13	584	1.0000	412	13,584
45	2037	0					1.0000		13,584
46	2038	0	412	4			1.0000		13,584
47	2039	0	412				1.0000		13,584
48	2040	Õ					1.0000		13,584
49	2041	0					1.0000	412	13, 584
50	2042		412				1.0000		13, 584
	2042 al (Lp)		18, 540					81,490	
ょひもさ	գ։ (Իի)		10,040	04,43	uu - (UQ)	, (90	• * •	. OI 4 4 3 0 .	מוטו ופועם

B/C = 6.92 B-C = 482,246 EIRR = 0.00 %

Table H.1-36 EIRR Cash Flow of Cost and Benefit

	·		·		st					Discount	. Prese	<u>ent Valu</u>
No.	Year	Cons	t.	0 8	M é			Ben	efit	Rate		
-		Cos		Co	ost	To	tal				Cost	Benefit
1	1993	77.	978		0		978	, f.	0			(
2	1994	1.	055		0	1	, 055	i	0	0.8850	934	(
3	1995	3,	974	1	Q		. 974		0	0.7832	3, 112	· · · · (
4	1996		972	1	0		. 972		0	0.6931	17,307	- {
5	1997	17,			0		, 798		0		10,913	(
	1998	14,		\$ 6	412		, 590	2	717	0.5428	7,919	1, 47!
7	1999	,	0		412	100	412		434		198	
	2000		0		412		412			0.4251	175	
9:	2001		Ô		412		412		867		155	4,088
10	2002	_	0		412	- :	412			0.3329	137	3,618
11	2003	. •	Ŏ.		412		412		867		121	3, 202
12	2004	-	Ŏ		412		412			0.2607	107	
			0		412		412			0.2307	95	2,507
	2005	·. -	0				412		867		84	2, 219
14	2006				412						74	
15	2007		0		412		412			0.1807		1.964
16	2008		0		412		412		867		66	-
	2009		0		412		412			0.1415	58	1,538
81	2010		0		412		412			0.1252	52	1,361
19	2011	1 -	0		412		412			0.1108	46	1, 20
20	2012		0		412		412			0.0981	40	1,060
21	2013		0		412		412			0.0868	36	943
22	2014		0	`	412	•	412		867		32	835
23	2015	•	Ü		412		412			0.0680	28	739
24	2016		0		412	:	~			0.0602	25	654
25	2017		0		412		412			0.0532	22	579
26	2018	,	0	. :	412		412			0.0471	19	512
27	2019		0	. 3	412		412	10	867	0.0417	17	453
28	2020	·	0		412	- 1	412	10	867		15	
29	2021	:	0 :	. ·	412		412			0.0327	13	355
30	2022		0.7	ē	412	•	412		867		12	314
31	2023		Ó	- 2	412		412		867		11	278
32	2024		0	· ' .	412		412		867		9	
33	2025		0		412		412			0.0200	8	218
34	2026		Ŏ.		412		417		867		7	193
	2027	-	0		412		412			0.0157	6	170
36	2028		0		412		412			0.0139	6	151
3 7	2029		.0		412	, · · ·	412		867		5	133
38	2023		0		412			10	267	0.0109	4	118
	2030			. )		4	412			0.0096	4	105
39 40			_		412		412			0.0035	4	: 93
40	2032						412			0.0075	3	82
41	2033				412	7.7				0.0013	3	72
42	2034		-		412		412				2	64
43	2035		~				412		867		2	57
44	2036		-		412				867		2	
45	2037				* * 0					0.0046		50
46	2038		0		412		412			0.0041	2	44
47	2039		0		412	11.	412	10	867	0.0036	1	39
48	2040		-		412		412	10	867	0.0032	1	3.5
49	2041		0		412		412		867		1	31
<u>50</u>	2042		0		412					0.0025	1	27
	al(Lp)		950		540			472			42,876	42,877
(ÚS	\$)	31.	475	9,	270	40	. 745	236	362		21,438	21, 438
	-											*
B/C		1	.00									
B-C	=		0									

Table H.1-37 EIRR Cash Flow of Cost and Benefit
(20 % Decrease in Benefit)

					Benefit)			1000Lps)
÷	V ~ ~ ~	Canat	Cost 0 & M		Danas.	Discount	1.5	ent Valu
o.	Year	Const.	Cost	Total	Benefit	Rate	Cost	Benefit
ī	1993	978	0031	978	0			DUNGITU 0
2	1994			1,055		0.8929	4.0	
3	1995			3, 974			and the second second	
4	1996			24, 972		0.7118		
5	1997		0	17, 793		0.6355		
6		14, 178	412			0.5674		
7	1999	0		412	E 424	0.5066	209	
8	2000			412				
9	2000	0	412	412				
0	2001		412	412		0.3606	149	
1	2003	0	412		10,867			3, 499
2	2004	. 0	412	412		0. 2875	118	
3	2005	0		412		0.2567	106	
4	2006	0		412		0.2292	94	
5	2007	0	412		10,867		84	
6	2008	0	412		10,867		75	
7	2009	0					67	
8	2010	0			10,867		60	
9	2011	0		412		0.1300		1,413
0.	2012	0	412	412		0.1161	48	
1	2013	0	412	412		0.1037	43	1,127
2		0	412			0.0926	38	1,006
3	2015	0	412		10,867	0.0826	34	•
4	2016	0	412	412		0.0738	30	
5	2017	0	412	412	10,867	0.0659	27	716
ô	2018	. 0	412	412	10,867	0.0588	24	639
7	2019	0	412	412	10,867	0.0525	22	571
8	2020	0	412	412	10,867	0.0469	19	510
9	2021	0	412	412	10,867	0.0419	17	455
0	2022	0	412	412	10,867	0.0374	15	406
1	2023	0	412	412	10,867	0.0334	14	363
2	2024	0	412	412	10,867	0.0298	12	324
3	2025	0	412	412	10,867	0.0266	11	
4	2026	0	412	412	10,867	0.0238	10	258
5		0	412	412		0.0212	9	
6	2028	0	412	412		0.0189	8	206
7	2029	0	412		10,867		7	
8	2030	Ŏ	412		10,867		6	164
9	2031	.0	412		10,867			146
Ö	2032	0				0.0120	5	131
1	2033	0	412	412		0.0120	4	117
2	2034	0	412		10,867		4	
3	2035	0	412	412			4	
4	2036	0	412	412	10 867	0.0076	3	
5	2037	0	412	412	10,867	0. 0010 በ በበደደ		
6	2038	0	412	410	10,867	0.0000 0.0000	3	
7	2039	0	412		10,867		2	
	2040	0	412		10,867		2	
8							2	
9	2041	0	412		10,867			
0		60.050	412		10,867			40 505
	al(Lp)				472, 723		44, 384	
υS	\$)	31, 475	9, Z10	40,745	236,362		22, 192	24, 298

B/C = 1.09 B-C = 4,211 EIRR = 12.00 %

Table H.1-38 EIRR Cash Flow of Cost and Benefit
(20 % Decrease in Benefit)

		(2	0 % Decr	ease In	Benefit)	•	(Unit: 1000Lps)
			Cost			Discount	
No.	Year	Const.	0 & M		Benefit		
no.	1041	Cost	Cost	Total	BOROTTE	Nato	Cost Benefit
	1993	978		978	0	1.0000	978 0
1		1,055	0	1.055	0	1.0000	1,055
2	1994						
3	1995	3, 974	0	3, 974	0	1.0000	3, 974 0
4	1996	24, 972	0	24, 972	0	1.0000	24, 972 0
. 5	1997	17,793	0	17,793	0	1.0000	
6	1998	14, 178	412	14,590	2,717		14,590 2,717
7	1999	. 0	412	412	5, 434		412 5,434
8	2000	. 0	412	412			412 8,150
9	2001	0 -			10,867		412 10,867
10	2002	0	412	412	- 10,867	1.0000	412 10,867
11	2003	0	412	412	10,867	1.0000	412 10,867
12	2004	. 0	412	412	10.867	1.0000	412 10,867
13.	2005	0			10.867	1.0000	412 10,867
14	2006	0	412			1.0000	412 10,867
15	and the second second	0	412		10,867		412 10,867
16		Ô	412	412		1.0000	412 10,867
17		0	412	412			412 10,867
18		0	412	412	10,867		412 10,867
19	2011	Ö	412	412	10,867		412 10,867
20	2012	Ů	412	412	10,867	1.0000	412 10,867
21	2013	. 0	412		10,867	1.0000	412 10,867
22	2014		412	412	10,867	1.0000	412 10,867
23	2015	0		412		1.0000	412 10,867
24	2016	0	412	412	10,867	1.0000	412 10,867
25	2017	0	412			1.0000	412 10,867
26	2018	0	412	412	10,867	1.0000	412 10,867
27		. 0	412		10,867		412 10,867
28		0	412	412	10,867		412 10,867
			412	412	10,867	1.0000	412 10,867
29 30		0	412		10,867	1.0000	412 10,867
	2022			412	10,867	1.0000	412 10,867
31		•	412			1.0000	
32	2024	0		412	10,867		
33	2025	. 0	412	412	10,867 10,867		
34	2026	0	412	412		1.0000	
35	2027	0	412	412	10,867	1.0000	412 10,867
	2028	0	412		10,867	1.0000	412 10,867
37		0	412	412	10,867	1.0000	412 10,867
38		0	412		10,867	1.0000	412 10,867
39	2031	0	412		10,867		412 10,867
40	2032	0	412			1.0000	412 10,867
41		0	412	412	10,867	1.0000	412 10.867
42	2034	0		412	10,867	and the second second	412 10,867
43	2035	0	412		10,867	1.0000	412 10,867
44	2036	0	412	412	10,867	1.0000	412 10,867
45	2037	0	412	412	10,867	1.0000	412 10,867
46	2038	0	412			1.0000	412 10.867
47	2039	•	412		10,867	1.0000	412 10,867
48	2040	0	412	412	10,867		412 10,867
49	2041	0	412		10,867	1.0000	412 10,867
50	2042	0	412	412	10,867	1.0000	412 10,867
	al(Lp)		18,540		472,723		81,490 472,723
(US	\$)	31, 475	9,270	40,745	236,362	÷	40,745 236,362

B/C = 5.80 B-C = 391,233 EIRR = 0.00 %

Table H.1-39 EIRR Cash Flow of Cost and Benefit
(30 % increase in Cost)

		<del></del>	Cost			Discount	Present Valu			
No. Year		Const.	0 & M		Benefit					
١٠.	1001	Cost	Cost	Total	Bonorra		Cost Benefit			
1	1993	1, 271		1, 271	0	1.0000	1, 271 0			
2	1994		to the second of the second	1,372		0.8884				
			0	5, 166	0	0.7893	4,078			
3	1995	5, 166			_		A 1 T F 1 A 1 A 1			
4	1996	32,464		32,464		0.7012				
5	1997			23, 131		0.6230				
6	1998		536	18,967			10,497 1,880			
7	1999	0				0.4917	263 3,340			
8	2000	0	536	536		0.4368				
9 .	2001	0	536			0.3881	208 5, 272			
0 -	2002	0	536	536	13,584	0.3448	185 4,684			
1 .	2003	. 0	536	536	13,584	0.3063	164 4,161			
2	2004	0	536	536	13,584	0.2721	146 3,697			
3	2005	0	536			0.2418				
4	2006	0	536	536		0.2148	115 2,918			
5	2007	0				0.1908	102 2,592			
6.	2008	0		536	13, 584		91 2,303			
		0		536		0.1506	81 2,046			
	2009									
	2010	0				0.1338	72 1,818			
9	2011	0			13,584		64 1,615			
0	2012	and the second second	536			0.1056	57 1.435			
	2013	• . 0	536		13,584		50 1, 275			
2	2014		536			0.0834	45 1, 132			
3	2015		536		13,584	0.0741	40 1,006			
4	2016	0	536	536	13,584	0.0658	35 894			
5	2017	0	536	536	13,584	0.0584	31 794			
6.	2018	0	536	536	13,584	0.0519	28 705			
7	2019	. 0	536			0.0461	25 627			
8	2020	0	536	536		0.0410	22 3 98 557			
9	2021	0				0.0364	20 1808 495			
0	2022	. 0	536	536		0.0323	17 % 0 % 489			
ì	2023	Ô	536	536		0.0287	15/503 390			
2	2024	0	536		13, 584		14 100 347			
		0			. 13, 584		12 25 05 308			
3	2025						11 45 5 274			
4	2026	0	536			0.0202				
5		Ü	536		13,584		10 3.55 243			
6	2028	0	536			0.0159				
	2029	0	536	536	13,584	0.0141	8 192			
8		. 0				0.0126				
9 -	2031	0		536	13,584	0.0112	6 152			
0	2032	0	536	536	13,584	0.0099	5 7 135			
	2033	0	536	536	13,584	0.0088	5 120			
2	2034	0		536	13,584	0.0078	4 106			
3	2035		536	536	13.584	0.0069	4 94			
4	2036	0		536	13,584	0.0062	3 84			
5			536	536	13 584	0.0055	3 74			
	2038	N N	536	4 Q E		0.0049				
		v	200	000 000						
	2039		536	000	10,004	0.0043	2 59			
8		0	536			0.0038				
9 .		. 0	536			0.0034				
0		0	536	536	13,584	0.0030	2 41			
	al(Lp)						56,585 56,586			
US	\$)	40,918	12,051	52,969	295,452		28, 293 28, 293			
\Č		1.00								
-0	=	0								

EIRR = 12.56 %

Table H.1-40 EIRR Cash Flow of Cost and Benefit

				Λ.	- a +				Diccom	+ D	<u>1000Lps)</u> ent Valu
	v				st M			- Donofi	Discoun t Rate	t <u>rres</u>	ent varu
lo.	Year	Cons			st.	т.	tal	Benefi	t nate	Cost	Benefit
1	1000	Cos	271		0		. 271		0 1.0000		<u>Denoi 1 c</u> 0
1	1993			:	0		, 211 , 372		0 0.8929		· .ŏ
2	1994		372		0				0.8323 0.7972	4, 118	
3	1995		166		0		, 166				0
4	1996	32,					, 464				
5	1997	23.			0		. 131				1,927
6	1998	18,			536		. 967	-	6 0.5674		
	1999		0		536		536				
8	2000		0		536		536		8 0.4523		
9	2001		0		536		536				
10	2002		0 :		536		536		4 0.3606		
11	2003		0		536		536				
12	2004		0		536		536		4 0.2875		
	2005		. 0		536		536				
4			0		536		536		4 0.2292		
L 5	2007		0 .		536		536		4 0.2046		
l 6	2008		. 0		536		536		4 0.1827		
17	2009		0		536		536				
8	2010		0 .		536	\$ 1 P	536				
9 :	2011		0		536		536				1,766
0.5	2012		0		536	:	536		4 0.1161	62	1, 577
21	2013		0	٠.	536		536			56	1,408
22 :	2014	100	0	1,000	536		536		4 0.0926		1,257
3	2015	n ti	0		536		536			44	1.123
24.	2016		0		536		536		4 0.0738	40	
25	2017	vi i	0		536		536		4 0.0659		
26	2018	1:1	0	٠.	536	5 1	536				799
27 :	2019	. 1	0.	11.7	536		536	13,58	4 0.0525		
28	2020	A set	0		536		536	13,58	4 0.0469	25	
29	2021	<b>-</b> 4,5	0		536		536	13,58	4 0.0419	22	569
30	2022	4 g i	0 :		536	6 to 10 to 1	536	13,58	4 0.0374	20	
31	2023	1	0		536		536	13,58	4 0.0334	18	453
32	2024		. 0		536	-	536	13,58	4 0.0298	16	405
33	2025		0		536	11.	536	13,58	4 0.0266	14	361
34	2026		0		536		536	13,58	4 0.0238	13	323
35:			0	. :	536		536	13,58	4 0.0212	11	. 288
36	2028	٠.	0		536	* *	536	13,58	4 0.0189	10	257
37			0 -		536	_	536		4 0.0169	9	230
38	2030		0		536				4 0.0151		205
39	2031		_		536		536		4 0.0135		183
10			ŏ		536		536		4 0.0120		164
	2033	s.	Ö		536	1.3	536				146
12	2034		Ŏ-				536		4 0.0096	5	130
13	2035		0		536		536		4 0.0086	5	116
	2036				536		536		4 0.0076		104
	2037		0		536		536		4 0.0068		93
16	2038		0		536		536		4 0.0061		83
17.	2039		0		536		536		4 0.0054		74
18	2040		.0		536		536		4 0.0049		66
			0	. •	536		536		4 0.0043	2	59
19			. 0	٠	536				4 0.0039		53
50								590, 90		57,699	
	al(Lp)		835							28,850	30, 372
(08	\$)	40,	918	ız,	160	οZ	, 303	295,45	4 · ·	V60,03V	00,016
n /^			٨٢					•			
3/C 3-C			.05 044								
	=	3.	11 / / / 1								

Table H.1-41 EIRR Cash Flow of Cost and Benefit
(30 % Increase in Cost)
(Unit: 1000Ins)

1		(3	O & THEI	ease in	Cost)		(Unit: 1000Lps)
		1	Cost			Discoun	
No.	Year	Const.	0 & M	er 444.1.	Benefit		
	5 15 5	Cost	Cost	Total		·	Cost Benefit
1	1993	1, 271	0	1, 271		1.0000	
2	1994	1, 372	0	1.372			
3	1995	5, 166		5, 166		1.0000	
4	1996	32, 464	0	32, 464			the contract of the contract o
5	1997	23, 131	0	23, 131	0	* * * * * * * * * * * * * * * * * * * *	23, 131
6	1998	18, 431	536				18,967 3,396
	1999	0	536	536			
8	2000	. 0	536			1.0000	
9	2001	0	536	536	· ·		
10	2002	0	536			1.0000	
11	2002	. 0	536	536			
12		0	536	536			
						1.0000	
13	2005	0	536			1.0000	
14	2006	0	536			1,0000	
15		. 0	536	536	13, 584	1.0000	
16	2008	: 0	536	536		* *	
17	2009	0	536	536	13,584		
18	2010	0	536	536		1.0000	
19	2011	0					
20	2012	0	536	536			536 13,584
21	2013	0	536	536		1.0000	
22	2014	0	536			1.0000	536 13,584
	2015	0	536	536		1.0000	· ·
24	2016	0	536	536		1.0000	536 13,584
25	2017	0	536			1.0000	536 13,584
26	2018	0	536	536		1.0000	536 13,584
27	2019	0	536	536	13,584	1.0000	536 13,584
28	2020	. 0	536	536	13,584	1.0000	536 13,584
29	2021	0	536	536			536 13,584
30	2022	0	536	536	13, 584		536 13,584
31	2023	0	536	536	13,584		536 13,584
32	2024	0	536	536		1.0000	536 13,584
33	2025	0	536	536		1.0000	536 13,584
34	2026	0	536	536	13,584	1.0000	535 13,584
35	2027	0	536	536	13, 584	1.0000	536 13,584
36	2028	0	536	536	13,584	1.0000	536 13,584
37	2029	0	536	536	13, 584	1.0000	535 13,584
38	2030	0	536	536		1.0000	536 13,584
39	2031	0	536	536		1.0000	536 13,584
40	2032	0	536	536		1.0000	536 13,584
41	2033	0	536			1.0000	536 13,584
42	2034	0	536	536		1.0000	536 13,584
43	2035	0	536	536		1,0000	
44	2036	0	536	536		1.0000	
45	2037	0	536	536		1.0000	
46	2038		536	536		1.0000	536 13,584
47	2039	Õ	536	536		1.0000	536 13,584
48	2040	Õ	536	536		1.0000	536 13, 584
49	2041	Ő	536	536		1.0000	
50	2042		536	536		1.0000	536 13,584
	al(Lp)	81,835	24, 102	105, 937			105, 937 590, 904
(US		40, 918	12,051	52, 969			52, 969 295, 452
, , ,	Ψ/	40,010	10,001	A 10 1 10 13 13	200, 402		401,004 600,400

B/C = 5.58 B-C = 484,967 EIRR = 0.00 %

Table H.1-42 EIRR Cash Flow of Cost and Benefit

B/C = 1.00 B-C = 0 EIRR = 15.70 %

Table H.1-43 EIRR Cash Flow of Cost and Benefit
(2 years Delay of Construction)
(Unit 10001 ps)

No.   Year   Const.   Os M   Cost			l a	years D	eray or	Construc	rion)	(Unit: 1000Lps)
Cost	1 1 4.		er di s					Present Value
1   1993	No.	Year	Const.				Rate	
2   1994	1.6.2	19.3 255	Cost	Cost	Total			
S	1	1993	0	0	0	0	1.0000	
3         1995         978         0         9.78         0         0.7912         780         0           4         1996         1,055         0         1,055         0         0.7118         751         0           5         1997         3,974         0         3,974         0         0.6555         2,526         0           6         1998         24,972         0         0.5674         14,170         0           7         1999         17,793         0         17,793         0         0.566         9,014         0           9         2001         10         412         412         690         3,396         0.4523         6,600         1,536           9         2001         0         412         412         690         0.4523         6,600         1,536           11         2003         0         412         412         11,880         0.3201         133         4,374           12         2003         0         412         412         13,584         0.2567         106         3,487           14         2006         0         412         412         13,584         0.2567	2			0	0	0	0.8929	0
1996				0	978	0	0.7972	780 0
6         1997         3,974         0         3,974         0         0.6358         2,526         0           6         1938         24,972         0         0.5674         14,170         0           7         1999         17,793         0         17,793         0         0.5066         9,014         0           8         2000         14,178         412         14,590         3,396         0.4523         6,600         1,536           9         2001         0         412         412         10,188         3666         149         3,674           11         2003         0         412         412         13,584         0.3220         133         4,374           12         2004         0         412         412         13,584         0.3220         133         4,374           12         2005         0         412         412         13,584         0.2875         116         3,898           14         2006         0         412         412         13,584         0.2892         94         3,113           15         2007         0         412         412         13,584         0.1827				0				751 0
6 1998 24,972 0 24,972 0 0. 0. 5674 14,170 0 7 1999 17,793 0 17,793 0 0.5066 9,014 0 8 2000 14,178 412 14,590 3,396 0.4523 6,600 1,5678 9 2001 0 412 412 10,188 0.3606 149 3,674 12 2003 0 412 412 13,584 0.2875 118 3,905 13 2005 0 412 412 13,584 0.2875 118 3,905 13 2005 0 412 412 13,584 0.2875 118 3,905 13 2005 0 412 412 13,584 0.2875 118 3,905 13 2007 0 412 412 13,584 0.2487 106 3,487 14 2006 0 412 412 13,584 0.2487 166 3,487 17 2009 0 412 412 13,584 0.1827 75 2,482 17 2009 0 412 412 13,584 0.1827 75 2,482 17 2009 0 412 412 13,584 0.1827 75 2,482 17 2009 0 412 412 13,584 0.1631 67 2,216 18 2010 0 412 412 13,584 0.1631 67 2,216 18 2010 0 412 412 13,584 0.1631 67 2,216 18 2010 0 412 412 13,584 0.10631 67 2,216 18 2010 0 412 412 13,584 0.10631 67 2,216 18 2011 0 412 412 13,584 0.10631 67 2,216 18 2011 0 412 412 13,584 0.10631 67 2,216 18 2011 0 412 412 13,584 0.1631 67 2,216 18 2011 0 412 412 13,584 0.1631 67 2,216 18 2011 0 412 412 13,584 0.1631 67 2,216 18 2011 0 412 412 13,584 0.1631 67 2,216 18 2011 0 412 412 13,584 0.0638 38 1,257 21 2013 0 412 412 13,584 0.0130 54 1,766 22 2014 0 412 412 13,584 0.0137 43 1,408 22 2014 0 412 412 13,584 0.0086 38 1,257 21 2013 0 412 412 13,584 0.0086 38 1,257 21 2013 0 412 412 13,584 0.0086 38 1,257 21 2013 0 412 412 13,584 0.0086 38 1,257 21 2013 0 412 412 13,584 0.0086 38 1,257 21 2013 0 412 412 13,584 0.0086 17 17 1808 569 30 2022 0 412 412 13,584 0.0086 17 17 1808 569 30 2022 0 412 412 13,584 0.0086 11 17 1808 569 31 2023 0 412 412 13,584 0.0086 11 17 1808 569 31 2023 0 412 412 13,584 0.0199 7 230 361 34 2026 0 412 412 13,584 0.0199 7 230 361 34 2026 0 412 412 13,584 0.0199 7 230 361 34 2026 0 412 412 13,584 0.0199 7 230 361 34 2026 0 412 412 13,584 0.0086 11 17 1808 569 30 2022 0 412 412 13,584 0.0199 7 230 361 34 2026 0 412 412 13,584 0.0086 11 17 1808 569 30 2022 0 412 412 13,584 0.0086 11 17 1808 569 30 2022 0 412 412 13,584 0.0068 3 3 93 46 2038 0 412 412 13,584 0.0068 3 3 93 46 2038 0 412 412 13,584 0.0068 3 3 93 46 2038 0 412 412 13,584 0.0068 3 3 93 46 2038 0 412 41								
7 1999 17,793 0 17,793 0 0.5066 9,014 0 8 2000 14,178 412 14,590 3,336 0.4523 6,600 1,536 9 2001 0 412 412 10,188 0.3606 149 3,674 11 2003 0 412 412 13,584 0.3220 133 4,374 12 2004 0 412 412 13,584 0.2875 118 3,905 13 2005 0 412 412 13,584 0.2875 118 3,905 13 2005 0 412 412 13,584 0.2567 106 3,487 14 2006 0 412 412 13,584 0.2046 84 2,780 16 2008 0 412 412 13,584 0.1827 75 2,482 17 2009 0 412 412 13,584 0.1827 75 2,482 17 2009 0 412 412 13,584 0.1631 67 2,216 18 2010 0 412 412 13,584 0.1631 67 2,216 18 2010 0 412 412 13,584 0.1631 67 2,216 18 2010 0 412 412 13,584 0.1631 67 2,216 18 2010 0 412 412 13,584 0.1631 67 2,216 18 2010 0 412 412 13,584 0.1631 67 2,216 212 0 412 412 13,584 0.1631 67 2,216 212 0 412 412 13,584 0.1631 67 2,216 212 0 412 412 13,584 0.1631 67 2,216 212 0 412 412 13,584 0.1631 67 2,216 212 0 412 412 13,584 0.1631 67 2,216 212 0 412 412 13,584 0.1631 67 2,216 212 0 412 412 13,584 0.1631 67 2,216 212 0 412 412 13,584 0.1631 67 2,216 212 0 412 412 13,584 0.1631 67 2,216 212 0 412 412 13,584 0.0926 38 1,257 23 2015 0 412 412 13,584 0.0926 38 1,257 23 2015 0 412 412 13,584 0.0926 38 1,257 23 2015 0 412 412 13,584 0.0926 38 1,257 23 2015 0 412 412 13,584 0.0926 38 1,257 23 2015 0 412 412 13,584 0.0926 38 1,257 23 2015 0 412 412 13,584 0.0926 38 1,257 23 2015 0 412 412 13,584 0.0926 38 1,257 23 2015 0 412 412 13,584 0.0926 38 1,257 23 2015 0 412 412 13,584 0.0926 38 1,257 33 2020 0 412 412 13,584 0.0926 38 1,257 33 2020 0 412 412 13,584 0.0926 38 1,257 33 2020 0 412 412 13,584 0.0986 4 19 3086 58 32 2020 0 412 412 13,584 0.0986 11 308 328 32 2020 0 412 412 13,584 0.0986 11 308 328 32 2021 0 412 412 13,584 0.0986 4 13 308 32 2020 0 412 412 13,584 0.0986 4 13 308 32 2020 0 412 412 13,584 0.0986 4 13 308 32 2020 0 412 412 13,584 0.0986 4 13 308 32 300 412 412 13,584 0.0066 1 13 308 32 308 30 412 412 13,584 0.0066 1 13 308 32 308 30 412 412 13,584 0.0066 4 116 42 2034 0 412 412 13,584 0.0066 4 116 42 2034 0 412 412 13,584 0.0066 3 3 93 46 2038 0 412 412 13,584 0.0068 3 3 93 46 2038 0 412 412 13,584 0.00								
8 2000 14,178 412 14,590 3,396 0.4523 6,600 1,536 9 2001 0 412 412 10,188 0.3606 149 3,674 11 2003 0 412 412 11,584 0.3820 133 4,374 12 2004 0 412 412 13,584 0.2875 118 3,905 13 2005 0 412 412 13,584 0.2875 118 3,905 14 206 0 412 412 13,584 0.2875 118 3,905 14 206 0 412 412 13,584 0.2875 166 3,487 17 2009 0 412 412 13,584 0.2897 94 3,118 15 2007 0 412 412 13,584 0.2897 94 3,118 15 2007 0 412 412 13,584 0.1827 75 2,482 17 2009 0 412 412 13,584 0.1827 75 2,482 17 2009 0 412 412 13,584 0.1837 67 2,216 18 2010 0 412 412 13,584 0.1456 60 1,978 19 2011 0 412 412 13,584 0.1456 60 1,978 19 2011 0 412 412 13,584 0.1161 48 1,577 21 2013 0 412 412 13,584 0.1161 48 1,577 21 2013 0 412 412 13,584 0.1037 43 1,408 22 2014 0 412 412 13,584 0.0926 38 1,257 23 2015 0 412 412 13,584 0.0926 38 1,257 23 2015 0 412 412 13,584 0.0926 38 1,257 23 2016 0 412 412 13,584 0.0926 38 1,257 23 2017 0 412 412 13,584 0.0926 38 1,257 23 2017 0 412 412 13,584 0.0926 38 1,257 23 2018 0 412 412 13,584 0.0926 38 1,257 23 2019 0 412 412 13,584 0.0926 38 1,257 23 2017 0 412 412 13,584 0.0926 38 1,257 23 2017 0 412 412 13,584 0.0926 38 1,257 23 2017 0 412 412 13,584 0.0926 38 1,257 2019 0 412 412 13,584 0.0926 38 1,257 2019 0 412 412 13,584 0.0058 27 895 27 895 2021 0 412 412 13,584 0.0058 27 895 27 718 28 2020 0 412 412 13,584 0.0525 22 713 28 2020 0 412 412 13,584 0.0058 24 799 2021 0 412 412 13,584 0.0058 24 799 2021 0 412 412 13,584 0.0058 24 799 2021 0 412 412 13,584 0.0058 24 799 2021 0 412 412 13,584 0.0058 24 799 2021 0 412 412 13,584 0.0059 47 895 508 31 2023 0 412 412 13,584 0.0058 24 799 2021 0 412 412 13,584 0.0058 24 799 2021 0 412 412 13,584 0.0058 24 799 2021 0 412 412 13,584 0.0058 24 799 2021 0 412 412 13,584 0.0058 24 799 2021 0 412 412 13,584 0.0058 24 799 2021 0 412 412 13,584 0.0058 24 799 2021 0 412 412 13,584 0.0059 41 2 412 13,584 0.0058 24 799 2021 0 412 412 13,584 0.0068 3 10 43 28 35 2027 0 412 412 13,584 0.0068 3 10 43 28 35 2027 0 412 412 13,584 0.0068 3 10 42 2034 40 412 412 13,584 0.0068 3 25 3 2020 0 412 412 13,584 0.00							4.4	
9 2001			and the second second					
10   2002   0   412   412   10, 188   0, 3806   149   3, 674   11   2003   0   412   412   13, 584   0, 3220   133   4, 374   378   378   388								
11 2003								
12       2004       0       412       412       13,584       0.2875       118       3,905         13       2005       0       412       412       13,584       0.2292       94       3,113         15       2007       0       412       412       13,584       0.2292       94       3,113         16       2008       0       412       412       13,584       0.1827       75       2,482         17       2009       0       412       412       13,584       0.1827       75       2,482         17       2009       0       412       412       13,584       0.1827       75       2,482         17       2009       0       412       412       13,584       0.1827       75       2,482         17       2001       0       412       412       13,584       0.1877       75       2,482         17       2011       0       412       412       13,584       0.1837       43       1,766         20       2012       0       412       412       13,584       0.1037       43       1,408         22       2014       0       412								
13       2005       0       412       412       13,584       0.2567       106       3,487         14       2006       0       412       412       13,584       0.2292       94       3,113         15       2007       0       412       412       13,584       0.2046       84       2,780         16       2008       0       412       412       13,584       0.1631       67       2,216         18       2010       0       412       412       13,584       0.1631       67       2,216         18       2010       0       412       412       13,584       0.1456       60       1,978         19       2011       0       412       412       13,584       0.1400       54       1,766         20       2012       0       412       412       13,584       0.1037       43       1,408         22       2014       0       412       412       13,584       0.1037       43       1,408         22       2014       0       412       412       13,584       0.0926       38       1,257         21       2013       0       412								
14       2006       0       412       412       13,584       0.2292       94       3,113         15       2007       0       412       412       13,584       0.2046       84       2,780         16       2008       0       412       412       13,584       0.1827       75       2,482         17       2009       0       412       412       13,584       0.1456       60       1,978         19       2011       0       412       412       13,584       0.1456       60       1,978         19       2011       0       412       412       13,584       0.1300       54       1,766         20       2012       0       412       412       13,584       0.1037       43       1,408         22       2014       0       412       412       13,584       0.1037       43       1,408         22       2014       0       412       412       13,584       0.0826       38       1,257         23       2015       0       412       412       13,584       0.0826       34       1,123         24       2016       0       412								
15 2007								
16         2008         0         412         412         13,584         0.1827         75         2,482           17         2009         0         412         412         13,584         0.1631         67         2,216           18         2010         0         412         412         13,584         0.1456         60         1,978           19         2011         0         412         412         13,584         0.1300         54         1,766           20         2012         0         412         412         13,584         0.1161         48         1,577           21         2013         0         412         412         13,584         0.0037         43         1,408           22         2014         0         412         412         13,584         0.0926         38         1,257           23         2015         0         412         412         13,584         0.0826         34         1,123           24         2016         0         412         412         13,584         0.0659         27         895           26         2017         0         412         412         13,58								
17 2009								
18       2010       0       412       412       13,584       0.1456       60       1,978         19       2011       0       412       412       13,584       0.1300       54       1,766         20       2012       0       412       412       13,584       0.1161       48       1,776         21       2013       0       412       412       13,584       0.1037       43       1,408         22       2014       0       412       412       13,584       0.0926       38       1,257         23       2015       0       412       412       13,584       0.0826       34       1,123         24       2016       0       412       412       13,584       0.0826       34       1,123         25       2017       0       412       412       13,584       0.0659       27       895         26       2018       0       412       412       13,584       0.0659       27       895         27       2019       0       412       412       13,584       0.0469       19,636,637         29       2021       0       412       412			· · ·					
19       2011       0       412       412       13,584       0.1300       54       1,765         20       2012       0       412       412       13,584       0.1161       48       1,517         21       2013       0       412       412       13,584       0.1037       43       1,408         22       2014       0       412       412       13,584       0.0926       38       1,257         23       2015       0       412       412       13,584       0.0926       34       1,237         24       2016       0       412       412       13,584       0.0626       34       1,123         24       2016       0       412       412       13,584       0.0659       27       895         26       2018       0       412       412       13,584       0.0659       27       895         27       2019       0       412       412       13,584       0.0555       22       713         28       2020       0       412       412       13,584       0.0419       171808       569         30       2022       0       412	17	2009	0 -					
20       2012       0       412       412       13,584       0.1161       48       1,577         21       2013       0       412       412       13,584       0.1037       43       1,408         22       2014       0       412       412       13,584       0.0926       38       1,257         23       2015       0       412       412       13,584       0.0826       34       1,123         24       2016       0       412       412       13,584       0.0659       27       895         25       2017       0       412       412       13,584       0.0659       27       895         26       2018       0       412       412       13,584       0.0525       22       713         27       2019       0       412       412       13,584       0.0525       22       713         28       2020       0       412       412       13,584       0.0469       19,636,637         29       2021       0       412       412       13,584       0.0419       17,808,563         31       2022       0       412       412       13,584	18	2010	0	412		13,584	0.1456	
20       2012       0       412       412       13,584       0.1161       48       1,577         21       2013       0       412       412       13,584       0.1037       43       1,408         22       2014       0       412       412       13,584       0.0926       38       1,257         23       2015       0       412       412       13,584       0.0826       34       1,123         24       2016       0       412       412       13,584       0.0659       27       895         25       2017       0       412       412       13,584       0.0659       27       895         26       2018       0       412       412       13,584       0.0525       22       713         27       2019       0       412       412       13,584       0.0525       22       713         28       2020       0       412       412       13,584       0.0469       19,636,637         29       2021       0       412       412       13,584       0.0419       17,808,563         31       2022       0       412       412       13,584	19	2011	0.1	412	412	13,584	0.1300	54 1,766
21       2013       0       412       412       13,584       0.1037       43       1,408         22       2014       0       412       412       13,584       0.0926       38       1,257         23       2015       0       412       412       13,584       0.0926       34       1,123         24       2016       0       412       412       13,584       0.0738       30       1,002         25       2017       0       412       412       13,584       0.0588       24       799         26       2018       0       412       412       13,584       0.0588       24       799         27       2019       0       412       412       13,584       0.0669       19,586       637         29       2021       0       412       412       13,584       0.0469       19,586       637         30       2022       0       412       412       13,584       0.0469       19,586       637         31       2021       0       412       412       13,584       0.0419       17,780       568         31       2023       0       412 <td>20</td> <td>2012</td> <td>15 0</td> <td>412</td> <td></td> <td>13,584</td> <td>0.1161</td> <td>48 1,577</td>	20	2012	15 0	412		13,584	0.1161	48 1,577
22         2014         0         412         412         13,584         0.0926         38         1,257           23         2015         0         412         412         13,584         0.0826         34         1,123           24         2016         0         412         412         13,584         0.0738         30         1,002           25         2017         0         412         412         13,584         0.0659         27         895           26         2018         0         412         412         13,584         0.0588         24         799           27         2019         0         412         412         13,584         0.0469         19636         637           29         2021         0         412         412         13,584         0.0469         19636         637           31         2022         0         412         412         13,584         0.0419         17,588         569           31         2023         0         412         412         13,584         0.0374         15,889         568           31         2023         0         412         412         1			0					43 1.408
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24       2016       0       412       412       13,584       0.0738       30       1,002         25       2017       0       412       412       13,584       0.0659       27       895         26       2018       0       412       412       13,584       0.0588       24       799         27       2019       0       412       412       13,584       0.0525       22       713         28       2020       0       412       412       13,584       0.0469       19,686       637         29       2021       0       412       412       13,584       0.0419       17,7808       569         30       2022       0       412       412       13,584       0.0419       17,7808       569         30       2022       0       412       412       13,584       0.0419       17,7808       569         31       2023       0       412       412       13,584       0.0334       14,483       453         31       2023       0       412       412       13,584       0.0298       12,136       405         33       2026       0       4			-					
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26 2018 0 412 412 13,584 0.0588 24 799 27 2019 0 412 412 13,584 0.0525 22 713 28 2020 0 412 412 13,584 0.0469 19 656 637 29 2021 0 412 412 13,584 0.0419 17 1808 569 30 2022 0 412 412 13,584 0.0374 15 888 568 31 2023 0 412 412 13,584 0.0334 14 883 453 32 2024 0 412 412 13,584 0.0298 12 668 33 2025 0 412 412 13,584 0.0298 12 668 34 2026 0 412 412 13,584 0.0238 10 63 32\$ 35 2027 0 412 412 13,584 0.0212 9 68 32\$ 36 2028 0 412 412 13,584 0.0189 8 88 257 37 2029 0 412 412 13,584 0.0189 8 88 257 37 2029 0 412 412 13,584 0.0169 7 230 38 2030 0 412 412 13,584 0.0169 7 230 38 2030 0 412 412 13,584 0.0169 7 230 38 2031 0 412 412 13,584 0.0151 6 205 39 2031 0 412 412 13,584 0.0151 6 205 39 2031 0 412 412 13,584 0.0151 6 205 41 2033 0 412 412 13,584 0.0151 6 205 41 2034 0 412 412 13,584 0.0169 7 230 41 2035 0 412 412 13,584 0.0169 7 230 41 2036 0 412 412 13,584 0.0169 7 230 41 2038 0 412 412 13,584 0.0169 7 230 41 2038 0 412 412 13,584 0.0169 7 230 41 2038 0 412 412 13,584 0.0169 7 230 41 2038 0 412 412 13,584 0.0169 3 1046 42 2034 0 412 412 13,584 0.0169 3 1046 44 2036 0 412 412 13,584 0.0066 4 130 45 2037 0 412 412 13,584 0.0066 3 3 93 46 2038 0 412 412 13,584 0.0066 3 3 93 46 2038 0 412 412 13,584 0.0066 3 3 93 46 2038 0 412 412 13,584 0.0066 3 3 93 46 2038 0 412 412 13,584 0.0066 3 3 93 46 2038 0 412 412 13,584 0.0066 3 3 93 46 2038 0 412 412 13,584 0.0066 3 3 93 46 2038 0 412 412 13,584 0.0066 3 5 93 50 2042 0 412 412 13,584 0.0049 2 666 49 2041 0 412 412 13,584 0.0049 2 666 49 2041 0 412 412 13,584 0.0049 2 566 49 2041 0 412 412 13,584 0.0049 2 59 50 2042 0 412 412 13,584 0.0049 2 59 50 2042 0 412 412 13,584 0.0049 2 59								
27 2019 0 412 412 13,584 0.0525 22 713 28 2020 0 412 412 13,584 0.0469 19 8.0 637 29 2021 0 412 412 13,584 0.0419 17 18 08 569 30 2022 0 412 412 13,584 0.0374 15 8 9 8 568 31 2023 0 412 412 13,584 0.0374 15 8 9 8 568 32 2024 0 412 412 13,584 0.0298 12 6 6 4 9 2041 0 412 412 13,584 0.0169 7 230 38 2030 0 412 412 13,584 0.0169 7 230 38 2030 0 412 412 13,584 0.0169 7 230 38 2030 0 412 412 13,584 0.0169 7 230 38 2030 0 412 412 13,584 0.0169 7 230 38 2030 0 412 412 13,584 0.0169 7 230 38 2030 0 412 412 13,584 0.0169 7 230 38 2030 0 412 412 13,584 0.0169 7 230 38 2030 0 412 412 13,584 0.0169 7 230 38 2030 0 412 412 13,584 0.0169 7 230 38 2030 0 412 412 13,584 0.0169 7 230 38 2030 0 412 412 13,584 0.0169 7 230 38 2030 0 412 412 13,584 0.0169 7 230 41 2412 13,584 0.0169 7 230 41 2412 13,584 0.0169 7 230 41 2412 13,584 0.0169 7 230 41 2412 13,584 0.0169 7 230 41 2412 13,584 0.0169 7 230 41 2412 13,584 0.0169 7 230 41 2412 13,584 0.0169 7 230 41 2412 13,584 0.0066 4 130 43 2035 0 412 412 13,584 0.0076 3 104 44 2036 0 412 412 13,584 0.0066 4 130 45 2037 0 412 412 13,584 0.0066 3 393 46 2038 0 412 412 13,584 0.0068 3 93 46 2038 0 412 412 13,584 0.0068 3 93 46 2038 0 412 412 13,584 0.0068 3 93 46 2038 0 412 412 13,584 0.0068 3 93 46 2038 0 412 412 13,584 0.0068 3 93 46 2038 0 412 412 13,584 0.0068 3 93 46 2038 0 412 412 13,584 0.0068 3 93 46 2038 0 412 412 13,584 0.0068 3 93 46 2038 0 412 412 13,584 0.0068 3 93 46 2038 0 412 412 13,584 0.0068 3 93 47 2039 0 412 412 13,584 0.0068 3 93 48 2040 0 412 412 13,584 0.0069 2 66 49 2041 0 412 412 13,584 0.0049 2 66 49 2041 0 412 412 13,584 0.0049 2 566 49 2041 0 412 412 13,584 0.0049 2 566 49 2041 0 412 412 13,584 0.0049 2 566 49 2041 0 412 412 13,584 0.0049 2 566								
28 2020 0 412 412 13,584 0.0469 19 63 63 7 29 2021 0 412 412 13,584 0.0419 17 18 08 569 30 2022 0 412 412 13,584 0.0374 15 8 9 8 568 31 2023 0 412 412 13,584 0.0334 14 8 8 9 4 53 32 2024 0 412 412 13,584 0.0298 12 14 4 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8								
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30       2022       0       412       412       13,584       0.0374       15 398       508         31       2023       0       412       412       13,584       0.0334       14 393       453         32       2024       0       412       412       13,584       0.0298       12 364       405         33       2025       0       412       412       13,584       0.0266       11 302       361         34       2026       0       412       412       13,584       0.0238       10 323         35       2027       0       412       412       13,584       0.0212       9 363       288         36       2028       0       412       412       13,584       0.0189       8 257         37       2029       0       412       412       13,584       0.0169       7 230         38       2030       0       412       412       13,584       0.0169       7 230         38       2031       0       412       412       13,584       0.0151       6 205         39       2031       0       412       412       13,584       0.0120       5 164 <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td></td> <td></td>			-					
31       2023       0       412       412       13,584       0.0334       14       433       453         32       2024       0       412       412       13,584       0.0298       12       405         33       2025       0       412       412       13,584       0.0266       11       303       361         34       2026       0       412       412       13,584       0.0238       10       323         35       2027       0       412       412       13,584       0.0212       9       288         36       2028       0       412       412       13,584       0.0169       7       230         38       2030       0       412       412       13,584       0.0169       7       230         38       2030       0       412       412       13,584       0.0169       7       230         38       2031       0       412       412       13,584       0.0151       6       205         39       2031       0       412       412       13,584       0.0120       5       164         41       2033       0 <t< td=""><td></td><td></td><td>•</td><td></td><td></td><td></td><td></td><td></td></t<>			•					
32       2024       0       412       412       13,584       0.0298       12:2:2:40       405         33       2025       0       412       412       13,584       0.0266       11:2:2:364       361         34       2026       0       412       412       13,584       0.0238       10:3:23         35       2027       0       412       412       13,584       0.0212       9:2:28         36       2028       0       412       412       13,584       0.0189       8:257         37       2029       0       412       412       13,584       0.0169       7:230         38       2030       0       412       412       13,584       0.0169       7:230         38       2030       0       412       412       13,584       0.0151       6:205         39       2031       0       412       412       13,584       0.0135       6:183         40       2032       0       412       412       13,584       0.0120       5:164         41       2033       0       412       412       13,584       0.0107       4:146         42			•					
33       2025       0       412       412       13,584       0.0266       11 303 361         34       2026       0       412       412       13,584       0.0238       10 323         35       2027       0       412       412       13,584       0.0212       9 3288         36       2028       0       412       412       13,584       0.0189       8 257         37       2029       0       412       412       13,584       0.0169       7 230         38       2030       0       412       412       13,584       0.0169       7 230         38       2030       0       412       412       13,584       0.0151       6 205         39       2031       0       412       412       13,584       0.0135       6 183         40       2032       0       412       412       13,584       0.0120       5 164         41       2033       0       412       412       13,584       0.0107       4 146         42       2034       0       412       412       13,584       0.0096       4 130         43       2035       0       412 <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td></td> <td></td>			-					
34       2026       0       412       412       13,584       0.0238       10       323         35       2027       0       412       412       13,584       0.0212       9       288         36       2028       0       412       412       13,584       0.0189       8       257         37       2029       0       412       412       13,584       0.0169       7       230         38       2030       0       412       412       13,584       0.0151       6       205         39       2031       0       412       412       13,584       0.0135       6       183         40       2032       0       412       412       13,584       0.0120       5       164         41       2033       0       412       412       13,584       0.0107       4       146         42       2034       0       412       412       13,584       0.0096       4       130         43       2035       0       412       412       13,584       0.0066       4       116         44       2036       0       412       412       1								
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37       2029       0       412       412       13,584       0.0169       7       230         38       2030       0       412       412       13,584       0.0151       6       205         39       2031       0       412       412       13,584       0.0135       6       183         40       2032       0       412       412       13,584       0.0120       5       164         41       2033       0       412       412       13,584       0.0107       4       146         42       2034       0       412       412       13,584       0.0096       4       130         43       2035       0       412       412       13,584       0.0096       4       116         44       2036       0       412       412       13,584       0.0086       4       116         44       2037       0       412       412       13,584       0.0076       3       104         45       2038       0       412       412       13,584       0.0068       3       93         46       2038       0       412       412       13,	35		0 .					
38       2030       0       412       412       13,584       0.0151       6       205         39       2031       0       412       412       13,584       0.0135       6       183         40       2032       0       412       412       13,584       0.0120       5       164         41       2033       0       412       412       13,584       0.0107       4       146         42       2034       0       412       412       13,584       0.0096       4       130         43       2035       0       412       412       13,584       0.0086       4       116         44       2036       0       412       412       13,584       0.0076       3       104         45       2037       0       412       412       13,584       0.0068       3       93         46       2038       0       412       412       13,584       0.0068       3       93         48       2040       0       412       412       13,584       0.0061       3       83         47       2039       0       412       412       13,58	36	2028	0	412				
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39 2031 0 412 412 13,584 0.0135 6 183  40 2032 0 412 412 13,584 0.0120 5 164  41 2033 0 412 412 13,584 0.0107 4 146  42 2034 0 412 412 13,584 0.0096 4 130  43 2035 0 412 412 13,584 0.0086 4 116  44 2036 0 412 412 13,584 0.0076 3 104  45 2037 0 412 412 13,584 0.0068 3 93  46 2038 0 412 412 13,584 0.0068 3 93  46 2038 0 412 412 13,584 0.0061 3 83  47 2039 0 412 412 13,584 0.0061 3 83  47 2039 0 412 412 13,584 0.0061 3 83  48 2040 0 412 412 13,584 0.0054 2 74  48 2040 0 412 412 13,584 0.0049 2 66  49 2041 0 412 412 13,584 0.0049 2 66  49 2041 0 412 412 13,584 0.0043 2 59  50 2042 0 412 412 13,584 0.0039 2 53  Total (Lp) 62,950 17,716 80,666 563,736 35,380 48,336	38	2030	0	412	412	13, 584	0.0151	6 205
40       2032       0       412       412       13,584       0.0120       5       164         41       2033       0       412       412       13,584       0.0107       4       146         42       2034       0       412       412       13,584       0.0096       4       130         43       2035       0       412       412       13,584       0.0086       4       116         44       2036       0       412       412       13,584       0.0076       3       104         45       2037       0       412       412       13,584       0.0068       3       93         46       2038       0       412       412       13,584       0.0068       3       93         47       2039       0       412       412       13,584       0.0061       3       83         47       2039       0       412       412       13,584       0.0054       2       74         48       2040       0       412       412       13,584       0.0049       2       66         49       2041       0       412       412       13,584<			0					
41       2033       0       412       412       13,584       0.0107       4       146         42       2034       0       412       412       13,584       0.0096       4       130         43       2035       0       412       412       13,584       0.0086       4       116         44       2036       0       412       412       13,584       0.0076       3       104         45       2037       0       412       412       13,584       0.0068       3       93         46       2038       0       412       412       13,584       0.0061       3       83         47       2039       0       412       412       13,584       0.0054       2       74         48       2040       0       412       412       13,584       0.0049       2       66         49       2041       0       412       412       13,584       0.0049       2       59         50       2042       0       412       412       13,584       0.0039       2       53         Total (Lp)       62,950       17,716       80,666       563,736 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>								
42       2034       0       412       412       13,584       0.0096       4       130         43       2035       0       412       412       13,584       0.0086       4       116         44       2036       0       412       412       13,584       0.0076       3       104         45       2037       0       412       412       13,584       0.0068       3       93         46       2038       0       412       412       13,584       0.0061       3       83         47       2039       0       412       412       13,584       0.0054       2       74         48       2040       0       412       412       13,584       0.0049       2       66         49       2041       0       412       412       13,584       0.0049       2       59         50       2042       0       412       412       13,584       0.0039       2       53         Total (Lp)       62,950       17,716       80,666       563,736       35,380       48,336								
43       2035       0       412       412       13,584       0.0086       4       116         44       2036       0       412       412       13,584       0.0076       3       104         45       2037       0       412       412       13,584       0.0068       3       93         46       2038       0       412       412       13,584       0.0061       3       83         47       2039       0       412       412       13,584       0.0054       2       74         48       2040       0       412       412       13,584       0.0049       2       66         49       2041       0       412       412       13,584       0.0049       2       59         50       2042       0       412       412       13,584       0.0039       2       53         Total (Lp)       62,950       17,716       80,666       563,736       35,380       48,336								
44       2036       0       412       412       13,584       0.0076       3       104         45       2037       0       412       412       13,584       0.0068       3       93         46       2038       0       412       412       13,584       0.0061       3       83         47       2039       0       412       412       13,584       0.0054       2       74         48       2040       0       412       412       13,584       0.0049       2       66         49       2041       0       412       412       13,584       0.0049       2       59         50       2042       0       412       412       13,584       0.0039       2       53         Total (Lp)       62,950       17,716       80,666       563,736       35,380       48,336								
46     2038     0     412     412     13,584     0.0061     3     83       47     2039     0     412     412     13,584     0.0054     2     74       48     2040     0     412     412     13,584     0.0049     2     66       49     2041     0     412     412     13,584     0.0043     2     59       50     2042     0     412     412     13,584     0.0039     2     53       Total (Lp)     62,950     17,716     80,666     563,736     35,380     48,336						13 584	0.0078	
46     2038     0     412     412     13,584     0.0061     3     83       47     2039     0     412     412     13,584     0.0054     2     74       48     2040     0     412     412     13,584     0.0049     2     66       49     2041     0     412     412     13,584     0.0043     2     59       50     2042     0     412     412     13,584     0.0039     2     53       Total (Lp)     62,950     17,716     80,666     563,736     35,380     48,336				414		13 584	8800.0	
47     2039     0     412     412     13,584     0.0054     2     74       48     2040     0     412     412     13,584     0.0049     2     66       49     2041     0     412     412     13,584     0.0043     2     59       50     2042     0     412     412     13,584     0.0039     2     53       Total (Lp)     62,950     17,716     80,666     563,736     35,380     48,336					410°	13 584	0.0000	
48     2040     0     412     412     13,584     0.0049     2     66       49     2041     0     412     412     13,584     0.0043     2     59       50     2042     0     412     412     13,584     0.0039     2     53       Total (Lp)     62,950     17,716     80,666     563,736     35,380     48,336					416 119	10,004	. በ በስፍል	
49     2041     0     412     412     13,584     0.0043     2     59       50     2042     0     412     412     13,584     0.0039     2     53       Total (Lp)     62,950     17,716     80,666     563,736     35,380     48,336								
50         2042         0         412         412         13,584         0.0039         2         53           Total (Lp)         62,950         17,716         80,666         563,736         35,380         48,336					412			
Total (Lp) 62, 950 17, 716 80, 666 563, 736 35, 380 48, 336								
(US \$) 31,475 8,858 40,333 281,868 17,690 24,168		_						
	(US	\$)	31,475	8,858	40,333	281,868	.* .	17,690 24,168

B/C = 1.37 B-C = 12,955EIRR = 12.00 %

Table H.1-44 EIRR Cash Flow of Cost and Benefit (2 years Delay of Construction)

B/C = 6.99 B-C = 483,070 BIRR = 0.00 %

Table H.1-45 EIRR Cash Flow of Cost and Benefit
(5 years Delay of Construction)

		(0	years D	clay of	Constr		(		1000Lps)
	1. 1.		Cost	<del> </del>	<del></del>		iscount_	Prese	ent Value
No.	Year	Const.	0 & M		Bene	fit	Rate		$\mathbf{c} = (\mathbf{r}_{1}^{-1}, \mathbf{r}_{2}, \mathbf{r}_{2})$
		Cost	Cost	<u>Total</u>	<u> </u>			Cost	Benefit
1	1993	0			0		1.0000	0	0
2	1994	. 0			0		0.8644	0	0
3	1995	0			0		0.7472	0	0
4	1996	0			0	, 0	0.6458	0	0
5	1997	0	0	· .	0	0	0.5583	0	0
6	1998	978	0	97	8	0	0.4826	472	: 0
7	1999	1,055	. 0	1,05	5	0	0.4171	440	0
8	2000	3,974	0	3,97	4	0 .	0.3606	1,433	0
9 .	2001	24,972	0	24,97	2	0	0.3117	7,783	. 0
10	2002	17,793	0				0.2694	4,793	0
11	2003	14, 178		14,59			0. 2329	3, 397	791
12	2004		412				0.2013	83	
13	2005	0	412				0.1740	72	1,773
14	2006	0	412	41			0.1504	62	2,043
15	2007	0	412	41			0.1300	54	
16	2008	•	412	41			0.1124	46	1,526
17	2009	Ŏ		41			0.0971	40	1.319
18	2010	Ō			2 13,		0.0840	35	
19	2011	0		. 41			0.0726	30	986
20	2012	. 0		41			0.0627	26	
21	2013	0		41			0.0542	22	737
22	2014	Ö		41			0.0469	19	637
23	2014	0		41			0.0405	17	550
24	2016	0		41			0.0350	14	
		0							476
25	2017			41			0.0303	12	411
26	2018	0		41			0.0262	11	355
27	2019	0					0.0226	9	307
28	2020	. 0		41			0.0196	8	266
29	2021	0		. 41			0.0169	7	230
30	2022	0	412	41			0.0146	6	198
31	2023	0		41			0.0126	5	172
32	2024	0	412	41			0.0109	4	148
33	2025	0	412	41			0.0094	4	128
34	2026	. 0	412	41			0.0082	3	111
35	2027	0	412	41			0.0070	3	96
36	2028	0	412	41			0.0061	3	83
37	2029	0		41			0.0053	2	72
38	2030	0		41			0.0046	2	62
39	2031	0		41			0.0039	2	53
40	2032	0		41			0.0034	1	46
41	2033	. 0		: 41	2 13,	84	0.0029	1	40
42	2034	0		41			0.0025	1	35
43	2035	0		41	2 13,5	84	0.0022	1	30
44	2036	0			2 13, 5	84	0.0019	1	26
45	2037	0	412	41			0.0016	1	22
46	2038	0	412	41			0.0014	1	19
47	2039	0		41			0.0012	1	17
48	2040	0		41			0.0011	0	14
49	2041	0		41			0.0009	Õ	12
50	2042	ő					0.0008	Ŏ	11
	al(Lp)			79, 43				18,928	
(88		31, 475		39, 71				9,464	9, 464
, , , ,	-,		-, -, -	, .1				-, - • •	-1 ***
B/C	=	1.00							
_, _									

B/C = 1.00 B-C = 0 EIRR = 15.69 %

Table H.1-46 EIRR Cash Flow of Cost and Benefit
(5 years Delay of Construction)

t a	Vaan	Const.	Cost 0 & M	<del></del>	Benefit	Discount Rate	1100	ent Valu
lo.	Year	Cost	Cost	Total	Defferit	Nato	Cost_	Benefi
1	1993			10.21	0	1.0000	0031	DONOTT:
1		0		0	0	0.8929	Ő	ì
2	1994	บ	and the second second second	0	0	0.7972	0	Ò
3	1995	_					0	·
4	1996	0		0	0	0.7118	0	
5	1997	0		0	0	0.6355		(
6	1998	978		978	0	0.5674	555	
7	1999	1,055		1,055	0	0.5066	534	
8	2000	3, 974		3,974	0	0.4523	1,798	
9	2001	24, 972		24,972	. 0	0.4039	10,086	
0	2002	17,793	0	17,793	0	0.3606	6,416	
1	2003	14, 178	412	14,590	3,396	0.3220	4,698	1,09
2	2004	0	412	412	6,792	0.2875	118	1,95
3	2005	0	412	412	10,188	0.2567	106	2,61
4	2006	0			13,584	0.2292	94	3, 11
5	2007	0		412	13,584		84	2, 78
6	2008	Ö		412	13,584		75	2,48
7	2009	0		412	13, 584	0.1631	67	2, 21
8				412	13, 584	0.1456	60	1, 97
9	2011	0		412	13, 584		54	1, 76
0	2012			412	13, 584		48	1, 57
1	2013	0		412	13, 584	0.1037	43	1, 40
	. 6	0		412	13, 584	0.0926	38	1, 25
2	2014	_		412	13, 584		34	1, 12
3	2015	0					30	1.00
4	2016	. 0		412	13, 584	0.0738		89
5	2017	0		412	13,584	0.0659		
6 -	2018	. 0		412	13, 584		24	79
7	2019	0		412	13, 584	0.0525	22	71
8	2020	0		412	13, 584	0.0469	19	63
9		0		412	13, 584	0.0419	17	569
0	2000	0		412	13, 584		15	50
1	2023			412	13, 584	0.0334	14	45
2	2024	0		412	13,584		12	40
3	2025	0		412	13,584	0.0266	11	36
4	2026	0	412	412	13, 584	0.0238	10	32
5	2027	0	412	412	13,584	0.0212	9	28
6	2028	. 0	412	412	13,584	0.0189	8	25
7	2029	. 0	and the second second	412	13, 584	0.0169	7	23
8	2030	0		412	13,584	0.0151	6	20
9	2031	0		412	13,584		6	18
	2032	Ö		412	13,584	0.0120	5	16
1	2033	Ö		412	13, 584	0.0107	4	14
2	2034	Ó		412	13, 584	0.0096	4	13
3	2035	Ö		412	13, 584	0.0086	4	11
4	2036			412	13, 584	0.0076	3	10
5	2037	0		412	13, 584	0.0068	3	9:
	and the second second	0		412	13, 584	0.0061	3	8:
6	2038	0			13, 584	0.0054	2	7
7	2039			412		·	2	6
8				412		0.0049		
9	2041	0		412	13, 584	0.0043	2	5
0	2042	0		412	13, 584	0.0039	2 2 170	5:
	al(Lp)			79,430	522, 984		25, 179	34, 27
US	\$)	31, 475	8,240	39,715	261,492		12,589	17, 139

B/C = 1.36 B-C = 9.098 EIRR = 12.00 %

Table H.1-47 EIRR Cash Flow of Cost and Benefit
(5 years Delay of Construction)

	<u> </u>	(5		Lay of C	onstruction)	(Unit: 1000Lps)
	ig ga		Cost		Discount	. Present Value
No.	Year	Const.	0 & M		Benefit Rate	
	4	Cost	Cost	Total		Cost Benefit
1	1993		) 0	0	0 1.0000	0 0
	1994		):: [0]	0	0 1.0000	0 0
3	1995	. 0		0	0 1.0000	0 0
4	1996	0	) 0	0	0 1.0000	0 0
- 5	1997	0	) 0	0	0 1.0000	0 0
6	1998	978	0	978	0 1.0000	978 0
7	1999	1,055	0	1,055	0 1.0000	1,055 0
8	2000	3,974		3,974	0 1.0000	3,974 0
9	2001	24,972		24,972	0 1.0000	
10	2002			17,793	0 1.0000	
11	2003			14,590	3,396 1.0000	14,590 3,396
	2004	0		412	6,792 1.0000	412 6,792
13	2005	0		412	10, 188 1.0000	
		0		412	13,584 1.0000	
	2006				10,004 1.0000	
15	2007	, 0	· · · · · · · · · · · · · · · · · · ·		13, 584 - 1. 0000	
16	2008	0			13,584 1.0000	412 13,584
17	2009	0		412		412 13,584
18	2010	0		412		
19	2011	0		412	13,584 1.0000	412 13,584
20	2012			412	13,584 1.0000	412 13,584
21	2013	0		412	13,584 1.0000	412 13,584
22.	2014	0	412		13,584 1.0000	412 13,584
23	2015	. 0	412	412	13,584 1,0000	412 13,584
24	2016	. 0	412	412	13,584 1.0000	412 13,584
25	2017	0		412	13,584 1.0000	412 13,584
26			412		13,584 1.0000	412 13,584
27	2019			412		412 13,584
2.8	2020	. 0			13,584 1.0000	412 13, 584
29	2021	. 0		412		412 313, 584
30	2022	0			13, 584 1.0000	412 - 13, 584
31	2023	. 0			13,584 1.0000	412 13, 584
32	2024	0		412		
33	2025	0		412	13,584 1.0000	412 13,584
34	2026	0		412	13,584 1.0000	412 13,584
35	2027	0		412	13,584 1.0000	412 13,584
36	2028	0			13,584 1.0000	412 13,584
37	2029	0		412		412 13.584
38	2030	0				412 13,584
39	2031	0			13,584 1.0000	412 13,584
40	2032	0	412	412	13,584 1.0000	412 13,584
41	2033	. 0	412	412	13,584 1.0000	412 13,584
42	2034	. 0		412	13,584 1.0000	412 13,584
43	2035	0			13,584 1.0000	412 13,584
44	2036	. 0		412	13,584 1.0000	412 13,584
45	2037	Ŏ		412	13,584 1.0000	412 13,584
46	2038	Ö		110		412 13, 584
47	2039	0		412	13, 584 1. 0000	412 13, 584
48	2040	0			13, 584 1.0000	412 13, 584
49	2041				13,584 1.0000	412 13,584
<u>50</u>	2042	60.050			13,584 1.0000	412 13,584
	al (Lp)			79.430		79, 430 522, 984
(US	\$ <i>}</i>	31, 475	8,240	39,715	261, 492	39,715 261,492

B/C = 6.58 B-C = 443,554 EIRR = 0.00 %

Table H.1-48 EIRR Cash Flow of Cost and Benefit
(30 % of Cost Hike and 20 % Decrease in Benefit

	<u> </u>	· · · · · · · · · · · · · · · · · · ·		<del></del>				l000Lps)
			Cost	<del></del>		Discount	t Prese	ent Value
No.	Year	Const.	0 & M		Benefit	Rate		
	<u> </u>	Cost	Cost	Total	·	_ <del></del>	Cost	<u>Benefit</u>
1	1993	1, 271	0	1, 271	0	1.0000	1, 271	0
2	1994	1, 372	0	1, 372	0	1.0000	1, 372	. 0
3	1995	5, 166	0	5, 166	0	1.0000	5, 166	0
4	1996	32, 464	. 0	32, 464	0	1,0000	32, 464	0
5	1997	23, 131	0	23, 131	0	1.0000	23, 131	0
6	1998	18, 431	536	18, 967	2, 717	1.0000	18, 967	2, 717
7	1999	. 0	536	536	5, 434	1.0000	536	5, 434
8	2000	0	536	536	8, 150	1.0000	536	-8, 150
9	2001	0	536	536	10,867	1.0000	536	10,867
10	2002	0.	536	536	10, 867	1.0000	536	10,867
11	2003	0	536	536	10,867	1.0000	536	10,867
12		0	536	536	10, 867	1.0000		10, 867
13	2005	. 0	536	536	10, 867	1.0000	536	10,867
14	2006	0	536	536	10, 867		536	
15	2007	Ŏ	536	536	10, 867	1.0000	536	10,867
16	2008	0	536	536	10, 867	1.0000	536	
17	2009	0	536	536	10, 867	1.0000	536	10,867
	2010	0	536	536	10, 867	1.0000	536	10,867
18	2010		536	536	10, 867	1.0000	536	10,867
19		0	536	536	10, 867	1.0000	536	10, 867
20	2012	0	536	536		1.0000	536	10, 867
21	2013				10,867		536	
22	2014		536	536	10,867	1.0000	536	
23	2015	0	536	536	10, 867			10,867
24	2016		536	536	10, 867		536	10,867
25	2017	0	536	536		1.0000	536	10, 867
26	2018	0	536	536	10, 867		536	10,867
27	2019		536	536	10, 867		536	10, 867
28	2020		536	536	10, 867		536	10,867
29	2021	. 0	536	536	10, 867	1.0000	536	10, 867
30	2022	0	536	536	10, 867	1.0000	536	10, 867
31	2023	. 0	536	536	10,867	1.0000	536	10,867
32	2024	0	536	536	10, 867	1.0000	536	10,867
33	2025	0)	536	536	10, 867	1.0000	536	
34	2026	. 0	536	536	10, 867	1.0000	536	10, 867
35	2027	. 0	53 <b>6</b>	536	10, 867	1,0000	536	10,867
36	2028	0	- 536	536		1.0000	536	10,867
37	2029	0	536	536	10, 867	1.0000	536	10,867
38	2030	0	536	536	10, 867	1.0000	536	10,867
39	2031	. 0	536	536	10,867	1.0000	536	10,867
40	2032	. 0	536	536	10, 867	1.0000	536	10,867
41	2033	0	536	536	10,867	1.0000	536	10,867
42	2034	0	536	536	10,867	1.0000	536	10,867
43	2035	0	536	536	10,867	1.0000	536	10,867
44	2036	0	536	536	10,867	1.0000	536	10,867
45	2037	0	536	536	10,867	1.0000	536	
46	2038	ŏ	536	536	10,867	1.0000	536	10,867
47	2039	Ö	538	536	10, 867	1.0000	536	10, 867
48	2040	0	536			1,0000	536	10, 867
49	2041		536		10, 867	1.0000	536	10, 867
50	2042	0:		536		1.0000	536	10, 867
	al (Lp)			105, 937		2, 0000	105, 937	
(US		40, 918	12, 051	52, 969				236, 362
CUJ	φ/	40, 910	TH, VVI		200,000		J., VVV	200,000

B/C = 4.46 B-C = 366,786 EIRR = 0.00 %

Table H.1-49 EIRR Cash Flow of Cost and Benefit
(30 % of Cost Hike and 20 % Decrease in Benefit

<del></del>		<u> </u>	O-16					(000lps
.,		0-11-1	Cost		D	Discount	Prese	ent valu
No.	Year	Const.	0 & M	T-4-1	Benefit	Rate	n4	D
	1000	Cost	Cost	Total			Cost	
1	1993	1, 271	0	1, 271	0	1.0000	1, 271	
2	1994			1, 372	0	0.9070		
3	1995		0	5, 166		0.8227		
4		32, 464		32, 464		0.7462		
5	1997	23, 131	0	23, 131		0.6768		
	1998		536	18, 967		0.6138		
7	1999		536	536		0.5568		3, 025
8	2000		536	536		0.5050	270	
9	2001		536		10, 867		245	
10	2002	. 0	536	536		0.4154	223	
11	2003	0.	536	536	10,867	0.3768	202	4, 095
12	2004	: 0	536	536	10,867	0.3418	183	3,714
13	2005	. 0	536	536	10,867	0.3100	166	3, 369
14	2006	.0	536	536	10,867	0. 2812	151	3,055
15	2007	0	536		10,867		137	
	2008		536	536		0. 2313	124	
17		•		536		0. 2098	112	
	2010		536			0.1903		2,068
19	2011	0	536		10, 867		92	1, 876
20		0		536		0.1565	84	1, 701
21	2013		536	536		0.1420	76	1, 543
22	2014	0	536	536		0.1288	69	1, 399
23	2015	0	536	536		0.1168	63	1, 269
24	2016		536	536	10, 867		57:	
25	2017	0	536	536		0. 1033	51	1, 101
20 26	2017	. 0	536	536			47	947
	2019	0	536	536		0.0791	42	859
	2020	0	536	536			38	
28		. 0	536	536		0.0650	35	
29		0	536				32°	
30	2022			536		0.0590		
31	2023		536	536		0.0535	29	581
32	2024		536	536	10, 867	0.0485	26	527
33	2025	. 0	536	536	10, 867	0.0440	24	478
34	2026	0		536	10, 867	0.0399	21	434
35	2027	0	536	536	10, 867	0.0362	19	393
36	2028	0	536	536	10, 867	0.0328	18	357
37	2029	0	536	536	10, 867	0.0298	16	324
38	2030	0	536	536	10, 867	0.0270	14	294
39	2031	0	536	536	10, 867	0.0245	13	266
40	2032	0	536	536	10, 867	0.0222	12	242
41	2033		536	536	10,867	0.0202	11	219
42	2034	0	536	536	10,867	0.0183	10	199
43	2035	0	536	536	10, 867	0.0166	9	180
44	2036	0	536	536	10,867	0.0150	8	163
45	2037	0	536	536	10.867	0.0136	7	148
46	2038	0	536	536	10,867	0.0124	. 7	134
47	2039	0	536	536	10,867	0.0112	6	122
48	2040	0	536	536	10,867	0.0102	5	111
49	2041	0	536	536	10, 867	0.0092	5	100
50	2042	Ö	536	536	10, 867	0.0084	4	91
	al (Lp)		24, 102		472, 723			61, 448
(US		40, 918	12,051	52, 969	236, 362		30, 725	30, 724
,,,,	Ψ,	010	20,002	· -, • • •	, UVB		74, 1 <b>20</b>	**! 103

B/C = 1.00 B-C = 0 EIRR = 10.25 %

Table H.1-50 EIRR Cash Flow of Cost and Benefit (30 % of Cost Hike and 20 % Decrease in Benefit

								(Unit: 1	000Lps)
				Cost			Discount		nt Value
	No.	Year	Const.	0 & M		Benefit	Rate		
			Cost	Cost	[otal_			Cost	<u>Benefit</u>
	1	1993	1, 271	0	1, 271	0	1,0000	1, 271	0
•	2	1994	1, 372	0	1,372	0	0.8929	1, 225	0
1	3	1995	5, 166	0	5, 166	0	0.7972	4, 118	0
	4	1996	32, 464	0.	32, 464	0	0.7118	23, 107	0
	5	1997	23, 131	. 0	23, 131	0	0.6355	14,700	0
	6	1998	18, 431	536	18, 967	2, 717	0.5674	10, 762	1,542
and the second	7	1999	0	536	536	5, 434		271	2, 753
	8	2000	Ŏ	536	536	8, 150		242	3,687
	9	2001	0	536	536	10, 867		216	4, 389
	10	2002	Ŏ	536	536	10, 867		193	3, 919
	11	2002	. 0	536	536	10, 867	0. 3220	172	3, 499
	12	2003	0	536	536		0. 2875	154	3, 124
			0	536	536	10, 867	0. 2567	137	2, 789
	13	2005		536	536	10, 867	0. 2292	123	2, 490
•	14	2006	0	53 <b>6</b>	536	10, 867		110	2, 224
	15	2007				10,867	0. 1827	98	1, 985
1. The second of	16	2008	0	536	536			87	1, 773
	17	2009	0	536	536	10,867		78	
	18	2010	0	536	536	10, 867	0.1456		1, 583
	19	2011	. 0	536	536	10,867	0.1300	70	1, 413
	20	2012	: 0	536	536	10,867	0.1161	62	1, 262
1 K 12 2	21	2013	0	536		10,867	0.1037	56	1, 127
	22	2014	0	536	536	10, 867	0.0926	50	1,006
	23	2015	0	536	536	10, 867	0.0826	44	898
	24	2016	0	536	536	10, 867	0.0738		802
	25	2017	0	536	536	10, 867	0.0659	35	716
200	26	2018	0	536	536	10,867	0.0588	32	639
	27	2019	0	536	536	10, 867	0.0525	28	571
Aug 1 1 1 1	28	2020	0	536	536	10, 867	0.0469	25	510
	29	2021	. 0	536	536	10, 867	0.0419	22:	455
	30	2022	0	536	536	10,867	0.0374	20	406
	31	2023	0	536	536	10,867	0.0334	18	363
	32	2024	0	536	536	10,867	0.0298	16	324
	33	2025	0	536	536	10, 867	0.0266	14	289
	34	2026	0	536	536	10, 867	0.0238	13	258
	35	2027	0	536	536	10,867	0.0212	11	231
	36	2028	0	536	536		0.0189	10	206
	37	2029	0	536	536	10,867	0.0169	9	184
	38	2030	0	536	536	10,867	0.0151	8	164
	38	2031	. 0	536	536	10,867	0.0135	7	146
	40	2032	0	536	536	10, 867	0.0120	6	131
1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	41	2033	0	536	536	10,867	0.0107	6	117
	42	2034	. 0	536	536	10,867	0.0096	5	104
	43	2035	-0	536	536	10,867	0.0086	5	93
	44	2036	0	536	536	10,867	0.0076	4	83
	45	2037	0	536	536	10,867	0.0068	4	74
	46	2038	0.	536	536		0.0061	. 3	66
	47	2039	. 0	536	536	10,867	0.0054	3	59
÷ .	48	2040	0	536	536	10,867	0.0049	3	53
	49	2041	0	536	536	10,867	0.0043	2	47
٠.		2042			536	10, 867	0.0039	2	42
	$\overline{}$	al (Lp)	81,835	24, 102	105, 937	472, 723		57, 699	48, 595
	(US		40, 918	12, 051	52, 969	236, 362		28,850	24, 298
	,50	75	,,	,		,		•	-

B/C 0.84 = B-C -9, 104 = EIRR = 12.00 %

#### H.2 Social Evaluation

In this chapter estimation of potential damages from the collapse of the Coyolar dam will be carried out.

### (1) Background of the estimation

The potential damages from the collapse of the Coyolar Dam are estimated as a form of social evaluation. The reasons behind this procedures are:

- 1) The probability and the exact time of collapse cannot be precisely forecasted currently from the observed status of the Dam, and hence the estimation should be treated differently from other meteorological disasters like current floods or tidal damages of the statistically predictable nature.
- 2) Although the assumed damages from the collapse cannot be economically evaluated, the current degree of water leakage and dilapidated appearance of the Dam already have already caused worries to the inhabitants and has provoked anxiety among those who are concerned with it. Under such serious circumstances, it will be socially significant to assess the importance of taking preventive measures for potential risk of collapse, by means of the estimation of possible damages coming from it.

#### (2) Estimation methods

Various degrees of collapse can occur according to the causes and situations of the Dam body. However, a full scale of collapse, which entails a whole volume of torrential discharge or twelve million tons of instant discharge, is assumed here. Based on this, the area attacked by the torrential flow and that affected by submersion of flooded water are delineated on a contour map and distribution of infrastructure or registered assets are checked within the delineated areas.

The time span required for the assumed flood to reach the potential affected area is estimated at about 1.6 hours (15 km) from the instant of collapse, and this implies that any effective measures for emergency shelterring to avoid damages can hardly be taken prior to the flood attack.

Based on the topography of the San Jose and Humuya river basins, the potentially flooded area is estimated at around 1250 has with a flood depth of 0.96 m. or deeper. Late summer seems to be the season which has the highest probability of occurrence of the collapse accident. At this time, the largest run-off is expected in the catchment area of the Coyolar Dam, and hence the water level within the Dam tends to rise with all efforts to evacuate water by discharging it through the outlet/spillway.

The estimated area under flood damages covers the urban area of San Antonio, the villages of San Jose, San Benito and La Plazuela, but the urban area of Flores and the village of Los Palillos lie out of the affected area.

First of all, direct damages from torrential mud/water flow accompanying washed out boulders and pieces of rocks, and from flood submersion are estimated by infrastructure and properties, i.e., roads, bridges, buildings, houses, social facility, standing/harvesting crops, orchards, livestock and other farm properties. The estimation is based on catastral registration inventory, value assessment and rate of damage suffered by damaged items.

Then, indirect damages are estimated as those caused by paralysed traffic flow (mainly related to the National highway No 5) and as prolonged production slack of crops as well as livestock. Human casualties are most probably to happen due to the fast arrival of the flood, but this factor is too variable to estimate and evaluate, and so it was excluded from the estimation.

- Landscape of supposed damaged area

Vanishing factors of hydraulic bore:

process of the second second second second

a. Meandering of the San Jose River.

Confidential matter of the

- b. Wide alluvial fan.
- c. Dry riverbed of the Humuya River is crossed diagonally.

There is not so much livestock in the supposed damaged area and it is not an attractive property (its value may be around 23 million Lps.).

Major properties in the area according to the official data is shown as follow:

- Reasons to restrict the damage by flood on account of the landscape mentioned above even if the hydraulic bore may damage Flores District

The damage is restricted within the San Antonio District because of wide dry riverbed.

It is not practical to assume damage by the hydraulic bore on the U.S. Army base on Comayagua City under the condition of 12 million ton of flood water.

In this regard, the damaged area is composed by the following areas:

- a. Alluvial fan: 800 ha, including Flores and Los Palillos.
- b. Apart from irrigated farm and urban area of San Antonio: 1,250 ha.
- Damaged properties and cost estimation

Area	of	San Antonio	7	35,110	ha
		Urban area		560	ha
		Farm		4,930	ha
		Forest, etc.		29,620	ha

Estimated price of land property (per ha)

Urban area Lps.1,930 /ha
Farm Lps.1,830 /ha
Forest, etc. Lps. 190 /ha

Note: Prices are quoted from data of San Antonio Registration Office.

Actual transaction prices are approximately three times above prices.

- Total estimated prices of properties excluding land (including public properties and non-tax properties)

(x1,000 Lps.)
Urban area 1,079
Farm 9,022
Forest, etc. 5,404

Reasonable investment costs for restoration of damaged farm of 1,847 ha estimated from above data is around 3,380 thousand Lps.

Cost estimation for restoration at this stage is 9,116 thousand Lps. The overestimation rate is approximately 2.7 times.

# - Property estimation for inhabitants

 Urban area
 453 houses; 4,670,780 Lps.

 Rural area
 1,356 houses; 4,519,820 Lps.

 Total
 1,809 houses; 9,190,600 Lps.

Reasonable investment cost for restoration: 9,191 thousand Lps.

Cost estimation for restoration at this stage (only direct

damage): 28,288 thousand Lps.

Overestimation rate : approximately 3.1 times.

Total properties in the District : 22,948 thousand Lps. (for

1988).

Cost estimation at this stage : 60,070 thousand Lps.

ANNEX I: OTHERS

			TABLE OF CONTENTS	Pag	зe
1.1	Preliui	nary	Irrigation Study in the Selguapa Distri	ı-	2
	Table I	.1-1	Summary of Required Principal Facilities	1-	3
	Table I	.1-2	Hydraulic Calculation of Pipeline	1-	5
	Fig. 1	.1-1	Location of Proposed Irrigation Area	1-	4
•	Fig. I	.1-2	Cross Section of Proposed Irrigation Area	I-	4
1.2	Propose	d Ter	tiary Irrigation System	I-	6
	Table I	.2-1	Construction Cost for Improvement of Farm Lot -	I-	6
	Fig. I	.2-1	Typical Irrigation and Drainage System on Farm	ı-	7

#### I.1 Preliminary Irrigation Plan in the Selguapa District

At present, the southern end section of the Selguapa Irrigation District, located adjacent to the Flores Irrigation District, is not utilized due to lack of irrigation water. If sufficient water in the reservoir of the Coyolar dam could be storaged through the present Project, the conduction of surplus water to above mentioned section will be considered.

Topographically, the supposed irrigation area belongs to the Selguapa River System.

The proposed irrigation area is limited by the Humuya River to the east and has gradient slopes eastward with approximately 2%. On the other hand, the western end section of the Flores Irrigation District slopes to the Humuya River with approximately 1.5% (Fig. I.1-1,-2).

To conduct the surplus water to the Selguapa Irrigation District, it is necessary to carry out works such as syphon, canals, etc.

The proposed irrigation area is decided according to height range in the proposed irrigation area, i.e., head works. Preliminarily, the irrigable area is calculated to be as follows:

Altitude (m)	Irrigable Area (ha)
575 - 580	274
580 - 590	593
590 - 600	912
600 - 610	1,130

To conduct the surplus water to the mentioned area, it is necessary to implement some facilities such as syphon, irrigation canals, etc. Moreover, the rehabilitation of lateral canal No.6, which is the most appropriate canal for this purpose, based on the conduction capacity and location, is required. At present, the lateral canal No.6 has a conduction capacity of 0.136 m³/sec. To increase the conducted water volume, the canal section has to be enlarged to permit an increase of the conducted water volume to approximately 1.1 m³/sec; this is the minimum level required to irrigate the existing irrigated area in the Flores District and

proposed area in the Selguapa District. Therefore, an overall rehabilitation of existing irrigation works of the Flores District is needed, including the main canal and diversion works. Extension of the lateral canal No.6 to the Selguapa District is required. To cross the Humuya River section, syphon works are the most appropriate from the technical point of view, But the length of the pipeline will be quite large. Hydraulic calculation is shown in Table I.1-2.

Table I.1-1 Summary of Required Principal Facilities

Works	Quantity	Amount (US\$ million)	Irrigable Area (hectare)	
Retarding pond	1 pond	2.480	· · ·	
Syphon	1 syphon	0.850		
Pipeline	ф1000m/m (L=6255m)	2.302	1130	
	φ 800m/m (L=5550m)	1.479	912	
	φ 660m/m (L=4650m)	0.857	593	
	φ 450m/m (L=3950m)	0.477	274	

However, after implementation of above mentioned works, water management will be difficult due to the big distance between the diversion works and irrigation area. The operation and maintenance of irrigation facilities seem to be limited.

In consequence, this sub-project is considered as more expensive than other irrigation projects. Problems pertaining maintenance and operation are considerable. The water balance study indicates little surplus irrigation water through the present Project, It is recommended to study other projects to be carried out on the same catchment area of the Selguapa River System.

Table I.1-2 Hydraulic Calculation of Pipeline

ĺ	Mark	H (m)	L (m)	I=H/L	1^0.54	Irrigation Area (ha)	
	A1 G A2 G A3 G A4 G	10 20 30 40	6225 5550 4650 3975	0.00161 0.00360 0.00645 0.01006	0. 0310 0. 0479 0. 0656 0. 0835	1130 912 593 274	
	A1 F A2 F A3 F A4 F	5 15 25 35	5500 4825 3900 3200	0.00091 0.00311 0.00641 0.01094	0. 0228 0. 0443 0. 0654 0. 0873		

 $V = 0.355 \cdot C \cdot D^0.63 \cdot I^0.54$ 

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Γ	D (m)	D^0. 63	V (m	/s)	C=150	
L		(m)	A1 G	A2 G	A3 G	A4 G
	0.40	0.5614	0.926	1.433	1.963	2. 495
Ľ	0.45	0.6047	0.998	1. 543	2. 114	2. 687
	0.50	0.6462	1.066	1.649	2. 259	2. 872
ı	0.60	0.7248	1. 196	1.850	2. 534	3. 221
	0.70	0.7988	1. 318	2.039	2. 792	3, 550
	0.80	0.8689	1. 434	2. 218	3.037	3.861
	0.90	0. 9358	1. 544	2, 389	3. 271	4.159
L	1.00	1.0000	1.650	2. 552	3.496	4. 444

ſ	D (m)	D 0.63	V (m	/s)	C=130	
1	<u></u>	(m) <u> </u>	A1 G	A2 G	A3 G	A4 G
	0.40	0. 5614	0.803	1. 242	1. 701	2. 162
1	0.45	0.6047	0.865	1. 338	1.832	2. 329
1	0.50	0.6462	0.924	1. 429	1. 958	2. 489
1	0.60	0.7248	1.037	1. 603	2. 196	2.792
1	0.70	0.7988	1. 142	1. 767	2.420	3.076
I	0.80	0.8689	1. 242	1. 922	2.632	3. 346
-	0. 90	0. 9358	1.338	2. 070	2.835	3.604
L	1,00	1.0000	1.430	2, 212	3.030	3. 852

	D (m)	D^0.63	V (m	/s)	C=150	
L		(m)	A1 F	A2 F	A3 F	A4 F
	0.40	0. 5614	0. 681	1. 323	1. 956	2. 610
۱	0.45	0.6047	0.734	1. 425	2. 106	2. 811
1	0.50	0.6462	0.784	1. 523	2. 251	3.004
1	0.60	0.7248	0.879	1. 708	2. 525	3. 370
ł	0.70	0.7988	0.969	1.882	2. 783	3.713
	0.80	0.8689	1.054	2, 048	3. 027	4.039
	0.90	0. 9358	1. 135	2. 205	3. 260	4. 350
L	1.00	1.0000	1. 213	2. 357	3. 484	4.649

D (m)	D^0.63	V (m	/s)	C=130	
	(m)	A1 F	A2 F	A3 F	A4 F
0.40	0.5614	0.590	1. 147	1.695	2. 262
0.45	0.6047	0.636	1. 236	1.826	2. 436
0. 50	0.6462	0.679	1. 321	1.951	2. 603
0.60	0.7248	0.762	1. 481	2. 188	2. 920
0.70	0.7988	0.840	1.632	2. 412	3. 218
0.80	0.8689	0.914	1,776	2. 623	3. 501
0.90	0.9358	0.984	1. 912	2. 825	3.770
1.00	1. 0000	1.052	2.044	3.019	4, 029

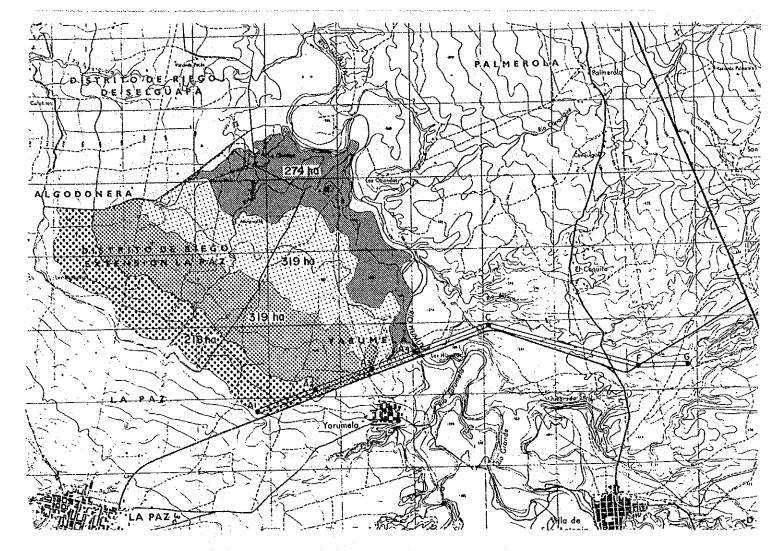


Fig. I.1-1 Location of Proposed Irrigation Area

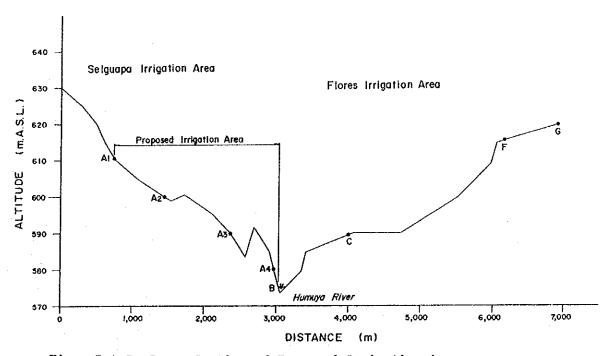


Fig. I.1-2 Cross Section of Proposed Irrigation Area

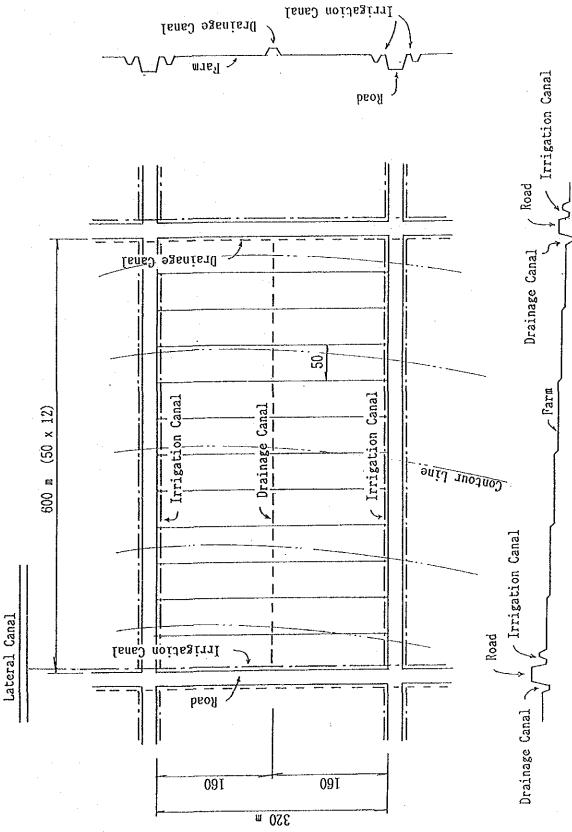
## 1.2 Proposed Tertiary Irrigation System

Improvement of the tertiary canal system is not included in this Project. Therefore, irrigation system is preliminarily planned for farm lot of 19.2 ha (Fig.I.2-1). Irrigation canal and drainage canal are main works. The amount of the works and their costs are shown in Table I.2-1. Total cost is Lps.242,660 and cost per ha is Lps.12,640.

Table I.2-1 Construction Cost for Improvement of Farm Lot

Description	Quantity	Unit	U/Cost(Lps.)	Amount (Lps.)
Excavation and Earth				
Moving	48,000	<b>3</b>	2.36	113,280
Farm Road	920	M	28.38	26,110
Irrigation Canal	1,520	M	6.92	10,520
Drainage Canal	920	. <b>B</b>	6.78	6,240
Sub-total				156,150
Micellaneous 5%				7,810
Overhead 48%				78,700
Total Cost	19.2	ha		242,660
Cost per ha	1	ha		12,640

Fig. I.2-1 Typical Irrigation and Drainage System on Farm

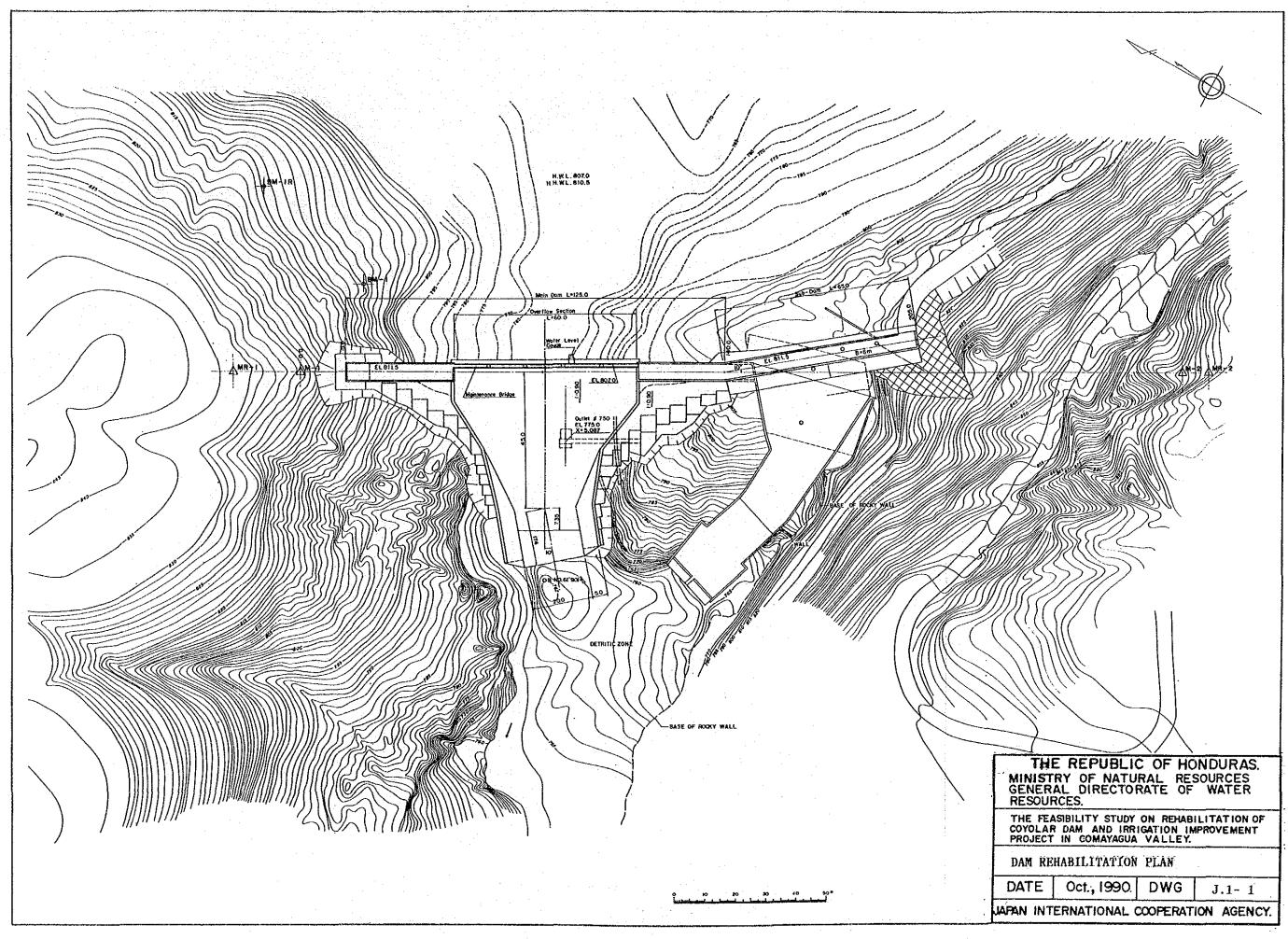


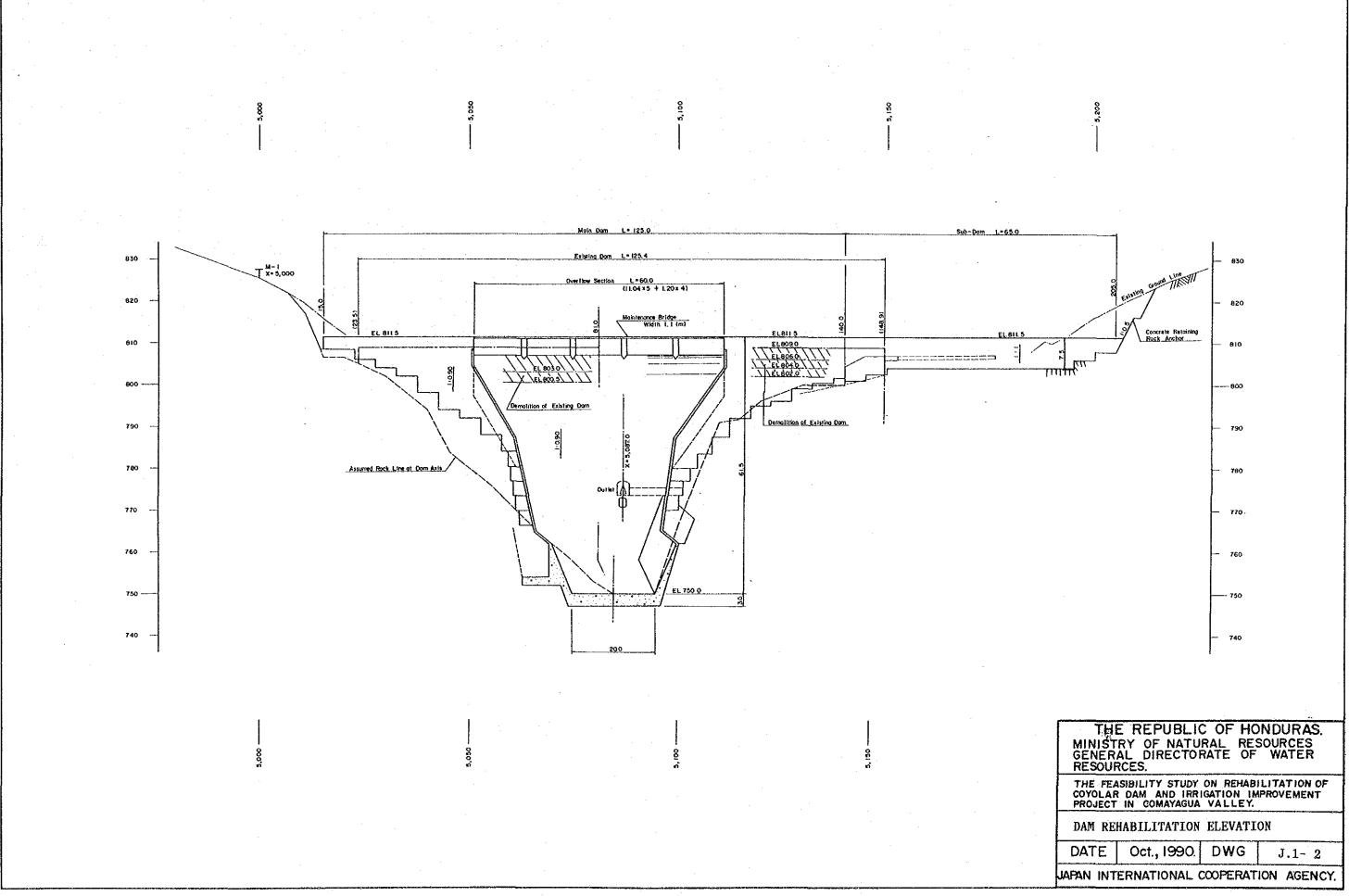
ANNEX J : DRAWINGS

# TABLE OF CONTENTS

			Page
J.1	COYOLAR	DAM REHABILITATION	J- 1
	T 1 1	Dam Rehabilitation Plan	
	J.1- 1 J.1- 2	Dam Rehabilitation Elevation	
	J.1- 2 J.1- 3	Cross Section of Dam Rehabilitation	
	J.1- 4	Plan of Temporary Works	J- 6
	J.1- 5	Grouting Work	J- 7
		Sub-Dam	J- 8
	J.1 0	Valve Operation Room	J- 9
	J 1- 8	Maintenance Bridge	J-10
	J.1- 9	Results of Echo Sounding	J-11
J.2	IMPROVE	MENT OF FLORES IRRIGATION SYSTEM	J-12
	J.2- 1	Longitudinal Profile of Main Canal	
		Sector I: 6.11km (1/2)	J-12
	J.2-2	Longitudinal Profile of Main Canal	
		Sector I: 6.11km (2/2)	J-13
	J.2-3	Longitudinal Profile of Lateral Canal	
		(CL-2. Sector I) 4.87km (1/2)	J-14
	J.2-4	Longitudinal Profile of Lateral Canal	
		(CL-2. Sector I) 4.87km (2/2)	J-15
		(CL-3. Sector I) 0.30km	J-15
	J.2- 5	Longitudinal Profile of Lateral Canal	
		(CL-4. Sector I) 2.80km	J-16
	J.2- 6	Longitudinal Profile of Lateral Canal	
	i .	(CL-5. Sector I) 2.29km	J-17
	J.2-7	Longitudinal Profile of Main Canal	
		Sector II: 6.44km (1/2)	J-18
	J.2-8	Longitudinal Profile of Main Canal	7 10
		Sector II: 6.44km (2/2)	1-Ta
		Longitudinal Profile of Lateral Canal	7.00
		(CL-1. Sector II) 2.48km	J-20
	J.2-10	Longitudinal Profile of Lateral Canal	7 01
		(CL-2. Sector II) 1.12km	J-21
		(CL-3. Sector II) 0.38km	J-21
		Longitudinal Profile of Lateral Canal	7.00
		(CL-4. Sector II) 2.66km	J-22
	J. 2-12	Longitudinal Profile of Lateral Canal	7 00
		(CL-5. Sector II) 2.48km	J-23

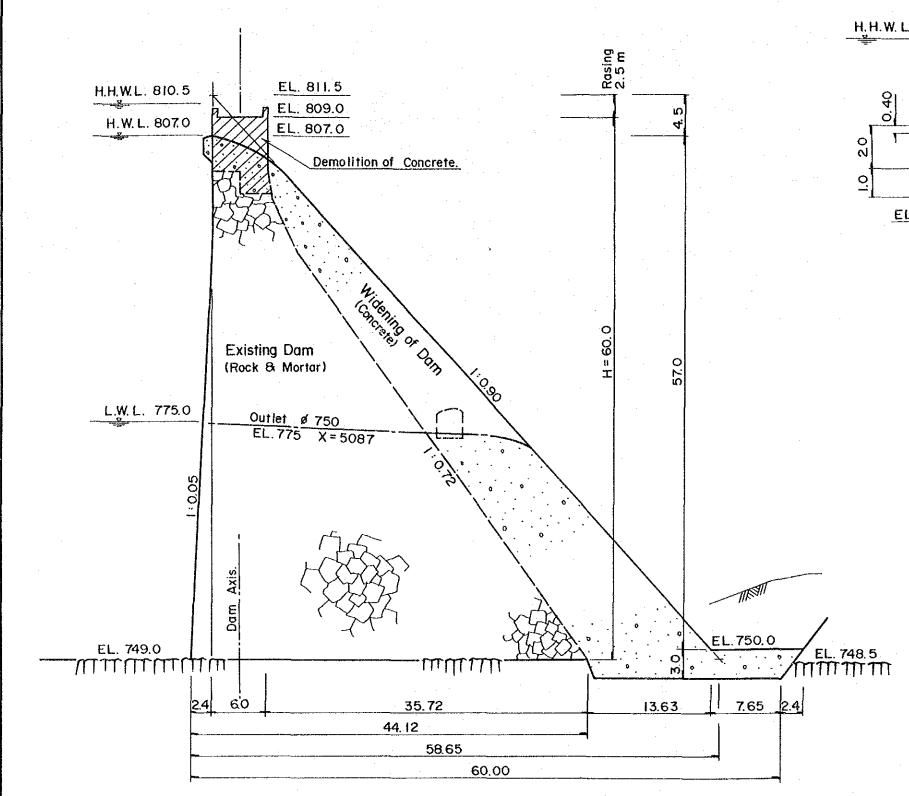
			Page
J. 2-13	Diversion Works	(1/2)	J-24
J.2-14	Diversion Works	(2/2)	J-25
		ection of Canal Improvement	
J.2-16	Stop-Log		J-27

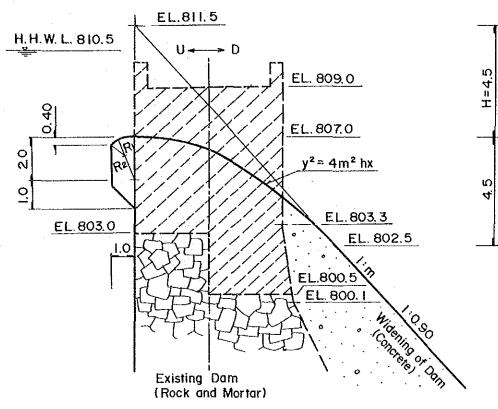




## Standard Cross Section of Over-Flow Section

## Detail of Spillway Crest





DAM BODY		SPILLWAY CREST ( DOWNSTREAM )			
<sup>EL</sup> 797.0	∐3.00	B07.00	∐3.00	806.00	D 0.82
803.3	D 3.00	806.90	□ 1.79	805.50	D 1.68
800. I	D 3.45	806.80	∐ 1.29	804.52	D 3.00
794.1	D 6.25	806.60	⊔ 0.59	802.50	D 5.10
SPIL	LWAY CF	REST (	UPSTREA	M SIDE	)
Rı 🗲	= 1.80, <i>ξ</i>	=21.168	°, ∆ ∐ ≈0	.650, ∆⊦	i=0.121
R <sub>2</sub> >	=0.75, \$	=34.7019	2,Δ⊔≈0	.350, ∆⊦	1=0.279

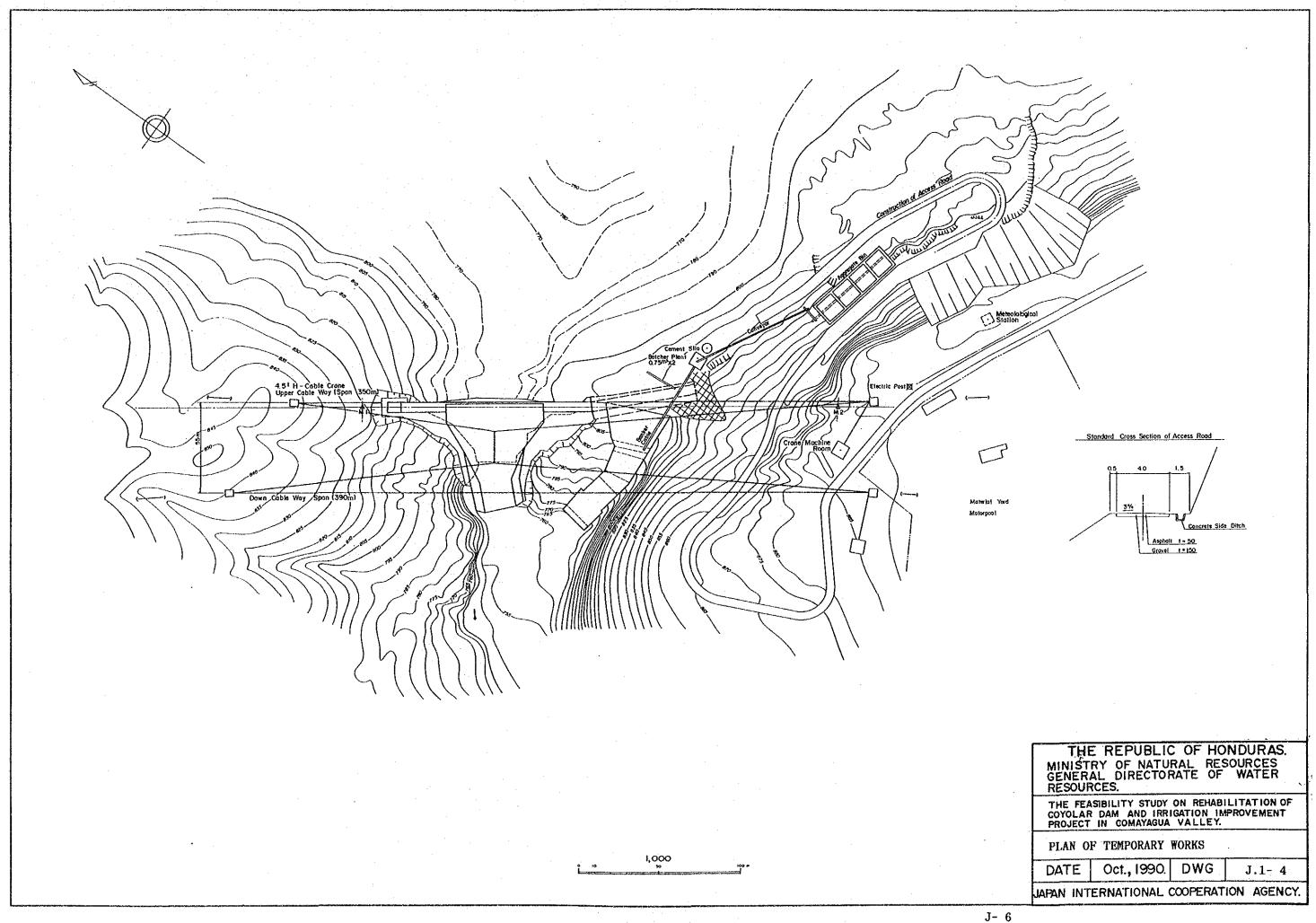
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RESOURCES.

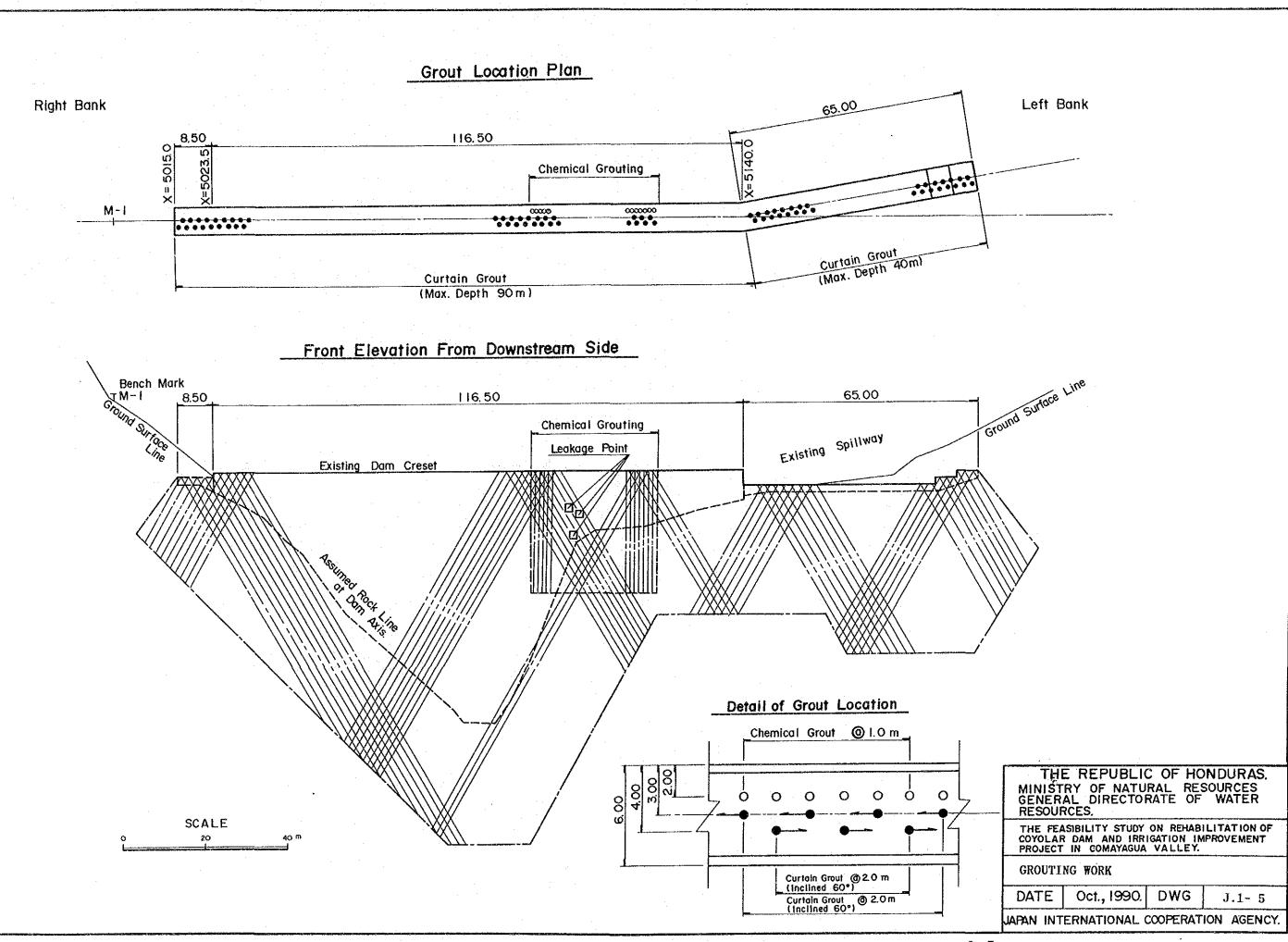
THE FEASIBILITY STUDY ON REHABILITATION OF COYOLAR DAM AND IRRIGATION IMPROVEMENT PROJECT IN COMAYAGUA VALLEY.

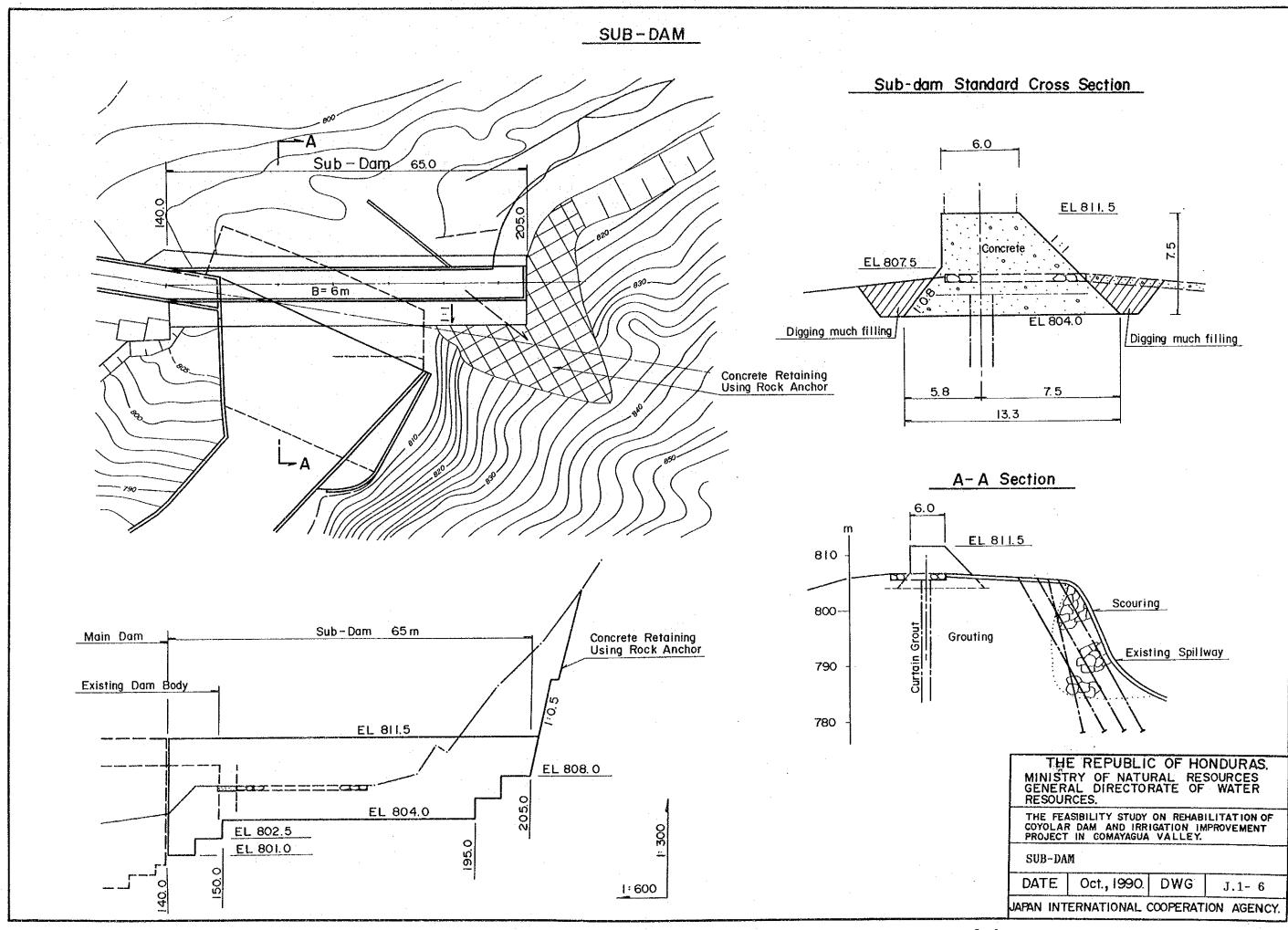
CROSS SECTION OF DAM REHABILITATION

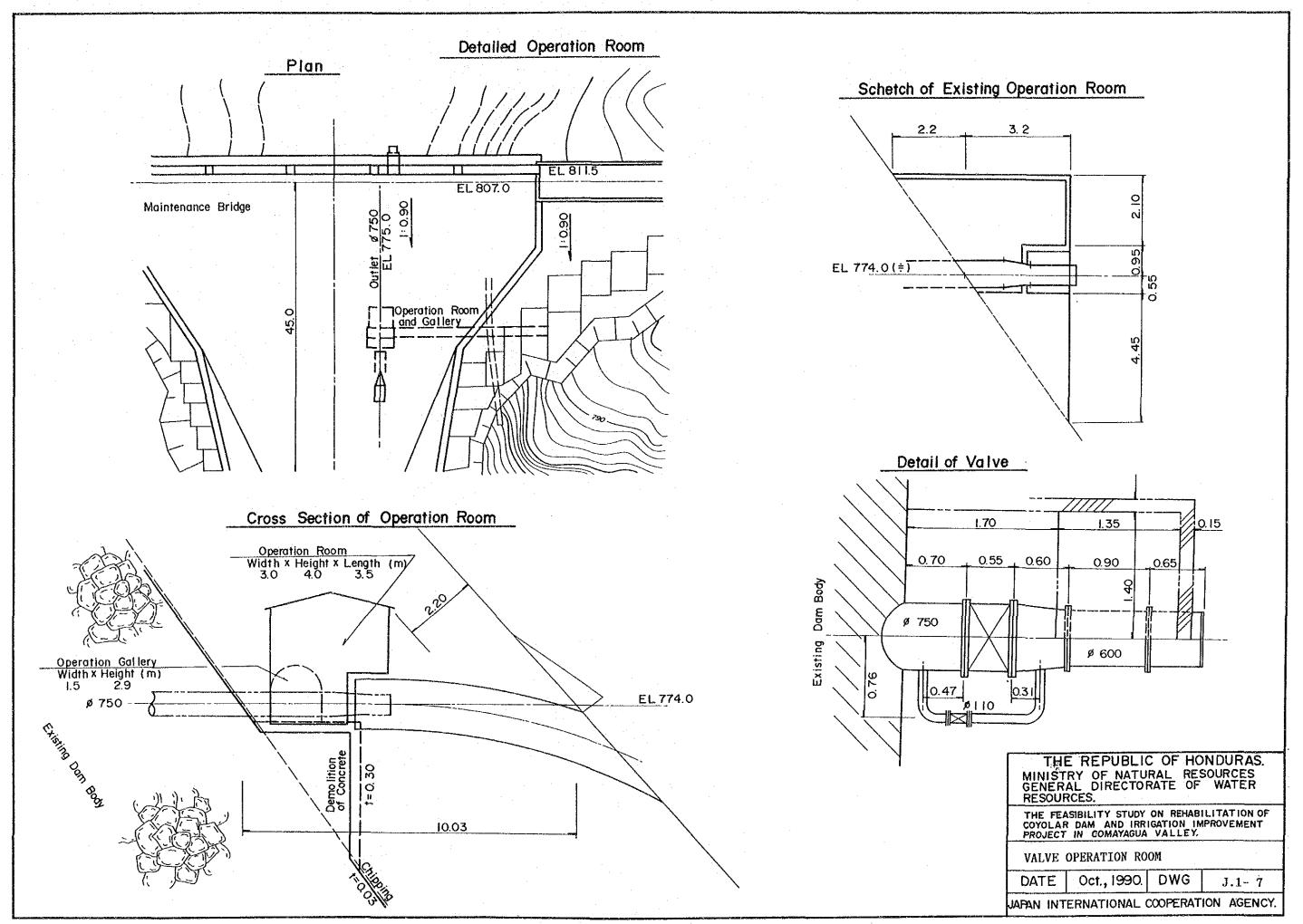
DATE | Oct., 1990 | DWG | J.1- 3

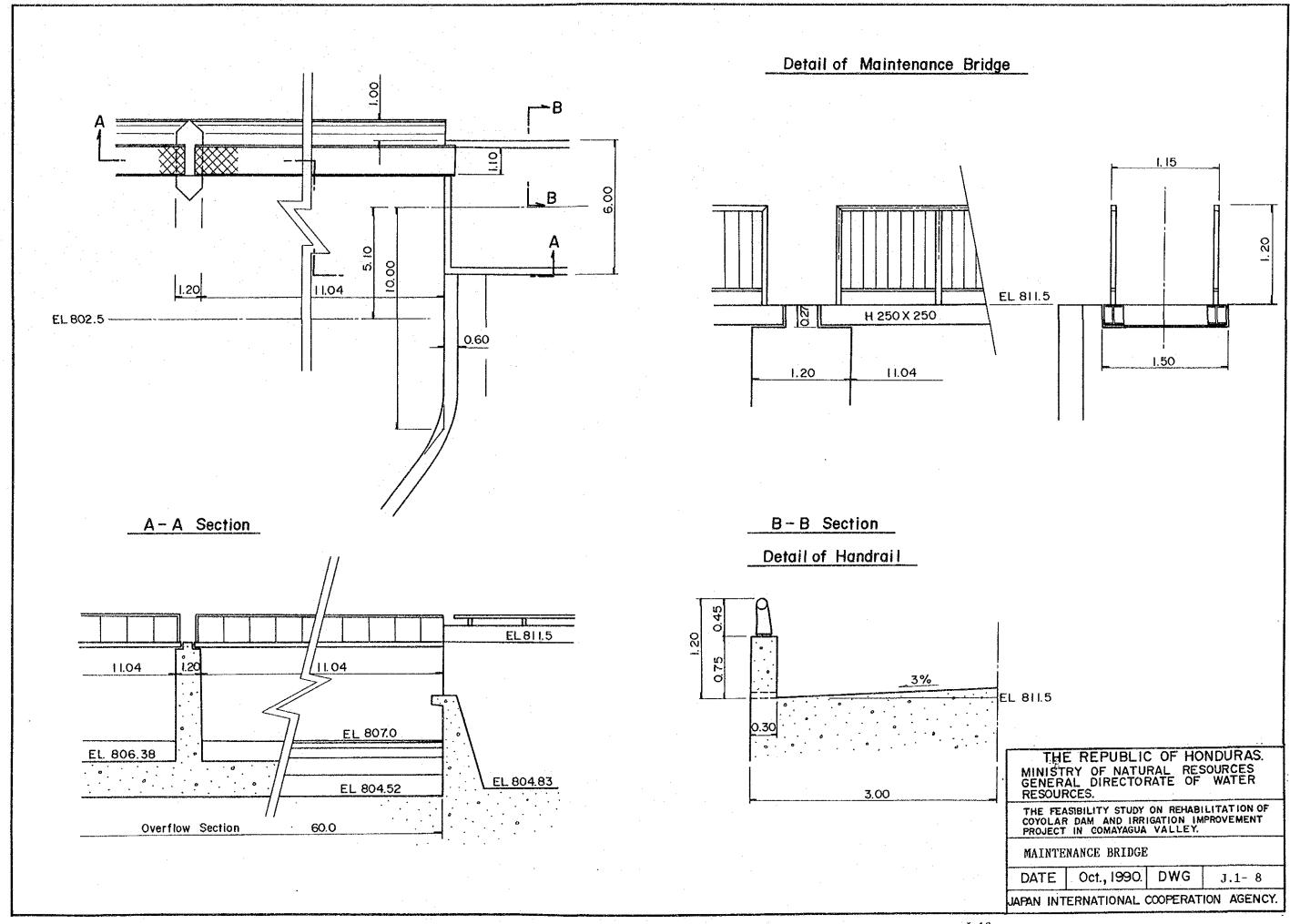
JAPAN INTERNATIONAL COOPERATION AGENCY.

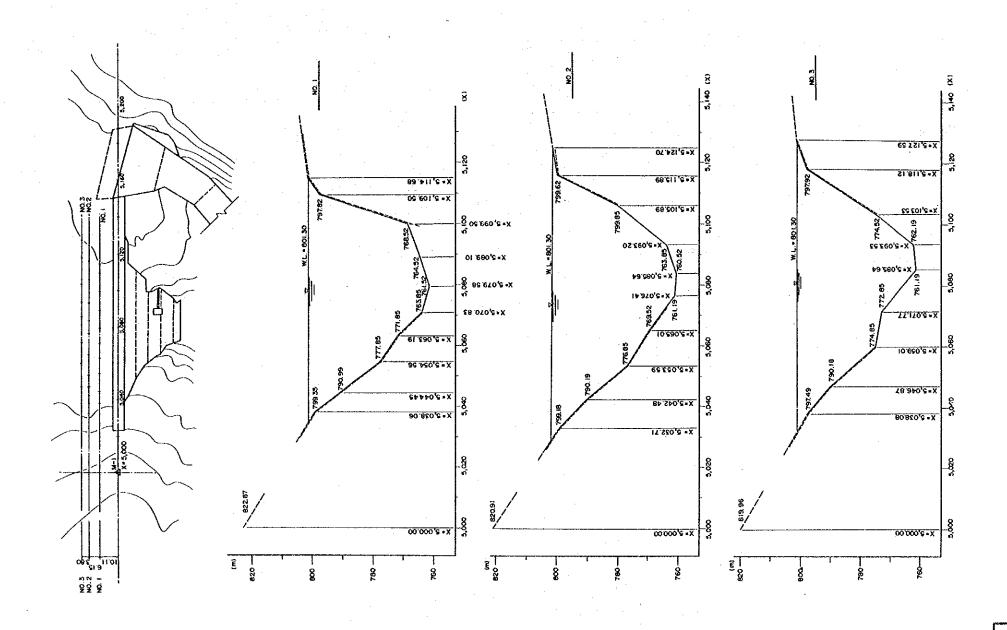












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THE FEASIBILITY STUDY ON REHABILITATION OF COYOLAR DAM AND IRRIGATION IMPROVEMENT PROJECT IN COMAYAGUA VALLEY.

RESULTS OF ECHO SOUNDING

DATE | Oct., 1990 | DWG | J.1- 9

JAPAN INTERNATIONAL COOPERATION AGENCY.