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Application No.	59351
Exhibit No.	138
Witness:	H. F. Chr
Date:	

SOUTHERN CALIFORNIA EDISON COMPANY

PREPARED TESTIMONY OF

H. F. CHRISTIE

Before the

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Rosemead, California

November 1980

8108110713

SOUTHERN CALIFORNIA EDISON COMPANY

Prepared Testimony of H. Fred Christie

Application No. 59351

1	Q.	Have you testified previously in this proceeding?
2	Α.	Yes, I have. I sponsored Exhibit No. 1 and pages HFC-1 through HFC-31
3		of Exhibit No. 4.
4	Q.	What is the purpose of your testimony?
5	Α.	The purpose of my testimony is to:
6		1. Extend pertinent tables of Exhibit No. 1 to reflect 1979
7		recorded financing costs.
8		2. Revise the projected 1980, 1981, and 1982 cost of debt and
9		preferred stock.
10	Q.	Which tables of Exhibit No. 1 have been expanded in Exhibit No. (HFC-1)
11		?
12	Α.	Tables 1 through 7 and 24 have been expanded to include recorded data
13		for 1979 and 1980 (through September) where appropriate. These tables
14		are included in Exhibit No. (HFC-1) as Tables 1A through 7A and
15		24A.
16	Q.	What is shown on Tables 1A and 2A?
17	Α.	Tables 1A and 2A reflect recorded 1979 construction expenditures,
18		refundings, and financings. The 1980-1983 estimates of construction
19		expenditures and financings have not been modified.
20	Q.	Why haven't the financing projections for the 1980-1983 period been
21		modified?
22	Α.	The Company has an urgent need for the rate relief which will be the
	HFC 01	248.AB

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subject of the decision in this case. The Commission notice setting the 1 date for the additional hearings limited the scope of the additional 2 hearings, apparently so the Commission can reach such a decision before 3 year-end 1980 with new rates to become effective January 1, 1981. 4 Therefore even though the Company currently estimates 1981-1982 financing 5 requirements will be higher than shown in Tables 1A and 2A, the Company 6 is limiting the financial changes in the updated forecasts to those 7 involving senior capital cost factors resulting from higher interest rates 8 and rates applicable to preferred issues without changing the size of 9 financings, the target capital structure, or the required return on common 10 equity. 11

12 Q. What is shown on Table 3A of Exhibit No. (HFC-1) ?

A. Table 3A shows the GNP Implicit Price Deflator, the Consumer Price Index
(CPI), and the Producer Price Index (PPI) for the 1969-1979 time period.
For the 1975-1979 period, the average annual trend rate of these price
change indicators ranged from 6.77% to 7.65%. This demonstrates a
persistent inflation rate of at least 7% per year over that period.
Q. What is your current projection of the GNP Implicit Price Deflator and

19 the CPI increases for 1980, 1981, and 1982?

A. Based on the November 1980 forecast of the U.S. Economy prepared by Data
Resources, Inc., we project the GNP Implicit Price Deflator to rise
approximately 9.5% in 1980, 10.2% in 1981 and 9.8% in 1982. We estimate
the CPI will increase 13.5% in 1980, and hopefully no more than an
additional 11.5% in 1981 and 10.0% in 1982. These indices indicate a high
basic inflation rate for the 1980-1982 period.

26 Q. What do Tables 4A, 5A, and 6A show?

A. Tables 4A, 5A, and 6A set forth the trends in short-term money rates,
 utility long-term interest rates, and utility preferred stock yields

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recorded through September 1980. The cost of funds peaked in March 1980,
 declined until June and then commenced to increase again. We project
 that our final 1980 bond financing scheduled for mid-November in the
 amount of \$150 million will cost at least 14.5% and the cost of 1981 and
 1982 bond issues will average at least 14% and 12%, respectively.

6 Costs for preferred and preference issues for 1981 and 1982 7 are expected to be slightly less. These costs are projected to be at 8 least 12% in 1981 and 11% in 1982.

9 Q. What do Tables 7A and 24A show?

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10 A. Table 7A shows the recorded 1979 imbedded costs of debt and preferred
11 stock and current estimates of the imbedded costs of debt and preferred
12 stock for 1980, 1981, and 1982 on both an average year and year-end basis.
13 Unless the Company's cost factors are applied and an <u>adequate</u> attrition
14 allowance is authorized, we believe year-end imbedded costs should be
15 user'.

Table 24A shows the weighted cost of capital using the current estimates of both the year-end and average year imbedded costs. Excluding any provision for attrition, an 11.30% rate of return is required in 1981. This return reflects a 15% return on equity. It should be realized that an 11.30% rate of return will provide interest coverage of only 2.67 times.

Q. What impact would the higher estimated 1982 imbedded cost of senior
 capital have on a step attrition allowance?

A. Assuming that the required return on common equity remained at 15%, the
 rate of return on rate base authorized for test year 1981 would have to
 be increased for 1982 to provide for financial attrition resulting from
 increases in imbedded costs. If a step attrition allowance were adopted
 using year-end cost factors, the authorized rate of return on rate base

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for 1982 would have to be at least 11.51%. It is estimated such a return
would only provide coverage of 2.6 times interest. If a step attrition
allowance were adopted using average cost factors, the authorized rate
of return on rate base for 1982 would have to be at least 11.40%. Such
a return would only provide coverage of 2.64 times interest, if such
coverage was calculated on an average year basis.
Does this conclude your prepared testimony?

8 A. Yes, it does.

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Southern	California	Edison	

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Application	No. 59351
	(HFC-1) 139
	Fred Christie
Date:	

SOUTHERN CALIFORNIA EDISON COMPANY

CURRENT FINANCIAL DATA

Before the

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Rosemead, California November 1980

SCE	FUNDS REQUIR	ED FOR
CONSTRUCTION	EXPENDITURES	AND REFUNDINGS

Line		Funds Required (millions Construction			Mill.	ions	Perc	ent
	Year	Refundings	Expenditure				Internal	Externa
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	A. <u>R</u>	ecorded Peri	od					
1.	1974	\$	\$320.7	\$320.7	\$140.2	\$180.5		56.3%
2.	1975			381.1	52.8	328.3		86.2
3.	1976	80.8	500.3	581.1	344.9 55.2	236.2	59.4	40.6
4.	1977		500.3	500.3	55.2	445.1	11.0	89.0
5.	1978	35.5	567.8	603.3	410.4	192.9	68.0	32.0
6.	1979	33.7	674.1	707.8	(37.6)	745.4	(5.3)	105.3
7.	Total	\$150.0	\$2,944.3	\$3,094.3	\$965.9	\$2,128.4		
8	AVPTACE	25.0	490.7	515.7	161.0	354.7	31.8%	68.2%
9.	Percent	4.8%	95.2%	100.0%	31.2%	68.8%		
	B. <u>F</u>	orecast Peri	od Without R	ate Relie	f			
10.	1980	\$ 84.6	\$670.2	\$754.8	\$ 85.9	\$668.9	11.4%	88.6%
11.	1981	143.7	516.2	659.9	63.2	596.7	9.6	90.4
12.	1982	121.0	478.2	599.2	145.6	453.6	24.3	75.7
13.	1983	53.2	581.7	634.9	157.7	477.2	24.8	75.2
14.	Total	\$402.5	\$2,246.3	\$2,648.8	\$452.4	\$2,196.4		
		100.6	561.6	662.2	113.1	549.1	17.5%	82.5%
16.	Percent	15.2%	84.8%	100.0%	17.1%	82.9%		
	C. <u>F</u>	orecast Peri	od With Rate	Reliof				
17.	1980	\$ 84.6	\$670.2	\$754.8	\$ 85.9	\$668.9	11.4%	88.6%
18.	1981	143.7	516.2	659.9	263.8	396.1	40.0	60.0
19.	1982	121.0	478.2	599.2	257.4	341.8	43.0	57.0
20.	1983	53.2	581.7	634.9	412.5	222.4	65.0	35.0
21.	Total	\$402.5	\$2,246.3	\$2,648.8	\$1019.6	\$1,629.2		
	Average	100.6	561.6	662.2	254.9	407.3	39.9%	60.1%
	Percent	15.2%				61.5%		

Sources: Annual Reports Plant Construction Budget and Forecast, Second Quarter, 1979

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SCE FINANCINGS (Millions)

			Long-Te	170					
ine		Long-Term	Preferred	Common			Short-Term		Total
No.	Year	Debt	Stock	Stock	Subtotal	Investment		Change	the second s
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(6)	(9)
	A. Reco	rded Period							
1.	1973	\$	\$	\$	\$	\$	\$ 92.5	\$	\$
2.	1974	222.5	50.0	67.2	339.7	66.7		(159.2)	180.5
3.	1975	161.6	50.0		211.6		50.0	116.7	328.3
4.	1976	126.3		123.9	250.2		36.0	(14.0)	236.2
5.	1977	200.0	102.4 ^(a)	43.30			135.4	99.4	445.1
6.	1978	200.0	(14.5)(a)			80.5	20.0	(195.9)	192.9
7.	1979	305.0	113.7	62.0	480.7		204.2	264.7	745.4
8.	Total	\$1,215.4	\$301.6	\$499.7	\$2,016.7			\$111.7	\$2,128.4
9.	Average	202.6	50.3	83.3	336.1			18.6	354.7
10.	Percent	57.1%	14.2%	23.5%				5.2%	100.0%
	B. Fore	cast Period	Without Ra	te Relie	f				
11	1980	\$ 400.0	\$ 63.0(b)	\$231.0			\$179.1	\$(25.1)	
	1981	300.0	63.0 ^(b)	220.8	583.8		192.0	12.9	596.7
13.	1982	300.0	45.1(b)	155.0	500.1		145.5	(46.5)	
14.	1983	300.0	50.0	120.0	470.0		152.7	7.2	477.2
15.	Total	\$1,300.0	\$221.1	\$726.8	\$2,247.9	· · · · ·		\$(31.5)	\$2,196.4
16.	erage	325.0	55.3	181.7	562.0			(12.9)	549.1
17.	Percent	59.2%	10.0%	33.1%	102.3%			(2.3)	100.0%
	C. Fore	cast Period	With Rate	Relief					
18.	1980	\$ 400.0	\$ 63.0(b)	\$231.0	\$ 694.0		\$179.1		\$ 668.9
19.	1981	300.0	63.0(b)	80.0	443.5		132.5	(47.4)	396.1
20.	1982	300.0	45.1(b)	85.3	430.4		43.9	(88.6)	
21.	1983	250.0	50.0	94.3	394.3	\$128.0		(171.9)	222.4
22.	Total	\$1,250.0	\$221.1	\$491.1	\$1,962.2			\$(333.0)	\$1,629.2
23.	Average	312.5	55.3	122.8	490.6			(83.3)	
24.	Percent	76.7%	13.6%	30.1%				(20.4)	

(a)Convertible preference stock was converted to common stock; \$19.6 million in 1977, and \$14.5 million in 1978.

b) Convertible preference stock is projected to be converted to common stock through 1982; \$12 million in 1979, 1980, and 1981; and \$4.9 million in 1982.

'ces: Financial & Statistical Report, 1978 Financial Simulation, July, 1979

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Table 3A

PRICE INDICES

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Line No.	Year	Implicit Price Deflator (1969 = 100)	Percent Change	Consumer Price Index United States (1969 = 100)	Percent Change	Producer Price Index (1969 = 100)	Percent Change
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.	1969	100.00		100.00		100.00	
2.	1970	105.35	5.35%	105.92	5.92%	103.66	3.66%
3.	1971	110.72	5.10	110.47	4.30	106.95	3.17
4.	1972	115.31	4.15	114.12	3.30	111.83	4.56
5.	1973	122.00	5.80	121.22	6.22	126.48	13.10
6.	1974	133.79	9.66	134.52	10.97	150.33	18.86
7.	1975	146.62	9.59	146.81	9.14	164.23	9.25
8.	1976	154.24	5.20	155.28	5.77	171.83	4.63
9.	1977	163.30	5.87	165.30	6.45	182.35	6.12
10.	1978	175.38	7.40	177.87(a)	7.60	196.53	7.78
11.	1979	190.80	8.79	198.27(a)	11.47	221.22	12.56

Average Annual Trend Rate(b)

12.	1970-1979	6.96%	7.32%	9.21%
13.	1970-1974	5.92	5.88	9.54
14.	1975-1979	6.77	7.65	7.57

(a) CPI revised in 1978; hence not directly comparable to prior years. (b) Exponential Curve Fit $(y = ae^{bx})$

Sources: Col. 2, lines 1-11: Survey of Current Business Cols. 4 and 6, lines 1-11: Monthly Labor Review, Bureau of Labor Statistics

SHORT-TERM MONEY RATES (a)

Line No.	<u>Year</u> (1)	Prime(a) (2)	Commercial Paper <u>3-months(b)</u> (3)	Banker's Acceptance 90 Day (4)	Treasury Bills <u>90 Day(c)</u> (5)
1.	1970	7.91%	7.72%	7.31%	6.39%
2.	1971	5.72	5.11	4.85	4.33
3.	1972	5.25	4.69	4.47	4.07
4.	1973	8.03	8.15	8.08	7.03
5.	1974	10.81	9.87	9.92	7.84
6.	1975	7.86	6.33	6.30	5.80
7.	1976	6.84	5.35	5.19	4.98
8.	1977	6.83	5.60	5.59	5.27
9.	1978	9.06	7.99	8.11	7.19
10.	1979	12.67	10.98	11.04	10.07
11.	Average	8.10%	7.18%	7.09%	6.30%
		1	1979 Monthly	<u> - 1999 - 1999 -</u>	
12.	January	11.75%	10.32%	10.29%	9.35%
13.	February	11.75	10.01	10.01	9.32
14.	March	11.75	9.96	9.94	9.48
15.	April	11.75	9.87	9.90	9.46
16.	May	11.75	9.98	9.98	9.61
17.	June	11.65	9.71	9.79	9.06
18.	July	11.54	9.82	9.99	9.24
19.	August	11.91	10.39	10.62	9.52
20.	September	12.90	11.60	11.70	10.26
21.	October	14.39	13.23	13.44	11.70
22.	November	15.55	13.57	13.53	11.79
23.	December	15.30	13.24	13.31	12.04
			1980 Monthly		
24 .	January	15.25%	13.04%	13.15%	12.00%
25.	February	15.63	13.78	14.01	12.86
26.	March	18.31	16.81	17.10	15.20
27.	April	19.77	15.78	15.63	13.20
28.	May	16.57	9.49	9.60	8.58
29.	June	12.63	8.27	8.31	7.07
30.	July	11.48	8.41	8.58	8.06
31.	August	11.12	9.57	9.85	9.13
32.	September	12.23	10.97	11.13	10.21

(a) Average of daily effective rates.

(b)Prior to 11/79 the Federal Reserve reported 4-6 Month Commercial Paper which closely follows the 3-month rate.

(c) Average market yields.

Sources: Federal Reserve Bulletins Federal Reserve Statistical Release G-13.

LONG TERM BOND YIELDS

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		Moody's Public Utilities			ies(a)		U.S. Government Long-Term		
ine		Bon	d Rating		Diffe	rence		Differenc	
No.	Year	Aa	A	Baa	A-Aa	Baa-A	Yield	From AA	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
1.	1970	8.52%	8.69%	9.18%	.17	.49	6.86%	(1.66)	
2.	1971	8.00	8.16	8.63	.16	.47	6.12	(1.88)	
3.	1972	7.60	7.72	8.17	.12	.45	6.01	(1.59)	
1.	1973	7.72	7.84	8.17	.12	. 33	7.12	(0.60)	
; .	1974	9.04	9.50	9.84	.46	. 34	8.05	(0.99)	
	1975	9.44	10.09	10.96	.65	.87	8.19	(1.25)	
1.	1976	8.92	9.29	9.82	.37	.53	7.86	(1.06)	
3.	1977	8.43	8.61	9.06	.18	.45	7.67	(0.76)	
	1978	9.10	9.29	9.62	.19	.33	8.48	(0.62)	
	1979	10.22	10.49	10.96	.27	.47	9.32	(0.90)	
				and in the	Aver	ages			
1.	1970-1979	8.70%	8.97%	9.44%	.27	.47	7.57%	(1.13)%	
2.	1975-1979	9.22	9.55	10.08	.33	.53	8.30	(0.92)	
	1979 Mon:	hly Yiel	ds						
3.	January	9.70%	9.90%	10.29%	.20	. 39	8.98%	(0.72)%	
1.	February	9.74	9.84	10.27	.10	.43	9.03	(0.71)	
	March	9.89	10.04	10.53	.15	.49	9.08	(0.81)	
5.	April	9.92	10.10	10.56	.18	.46	9.12	(0.80)	
7.	May	10.19	10.30	10.70	.11	.40	9.21	(0.98)	
3.	June	9.95	10.14	10.56	. 19	.42	8.91	(1.04)	
	July	9.72	9.98	10.48	.26	.50	8.92	(0.80)	
).	August	9.75	10.14	10.50	. 39	. 36	8.97	(0.78)	
1.	September	9.94	10.36	10.78	.42	.42	9.21	(0.73)	
2.	October	10.85	11.40	11.89	.55	.49	9.91	(0.94)	
3	November	11.57	11.89	12.48	. 32	.59	10.37	(1.20)	
	December	11.47	11.79	12.51	. 32	.72	10.18	(1.29)	
	1980 Month	hly Yiel	ds						
5.	January	11.95%	12.27%	12.92%	. 32	.65	10.65%	(1.30)%	
5.	February	13.19	13.55	14.42	. 36	.87	12.21	(0.98)	
7.	March	14.09	14.65	15.26	.56	.61	12.49	(1.60)	
8.	April	13.49	13.87	14.35	. 38	.48	11.42	(2.07)	
).	May	11.99	12.53	12.93	.54	.40	10.44	(1.55)	
).	June	11.73	12.21	12.63	.48	.42	9.89	(1.84)	
1.	July	11.96	12.26	12.75	. 30	.49	10.32	(1.64)	
2.	August	12.73	12.96	13.50	.23	.54	11.07	(1.66)	
3.	September	13.18	13.43	14.07	.25	.64	11.47	(1.71)	

(a) Yields are based on prices for the last Friday of each month. Series began 1975.

Sources: Moody's Bond Record Moody's Public Utility Manual PREFERRED STOCK YIELDS

Table 6A

		Mandur	s Rating	-c (a)	Differ from	
Line	0		S Rating	baa	a	baa
No.	Quarter (1)	(2)	(3)	(4)	(5)	(6)
	1977					
1.	March	8.21%	8.75%	9.01%	0.58%	0.80%
2.	June	8.03	8.47	8.92	0.44	0.89
3.	September	7.95	8.32	8.87	0.37	0.92
4.	December	8.14	8.59	9.03	0.45	0.89
5.	Average	8.12%	8.55%	8.93%	0.43%	0.81%
	1978					
6.	March	8.35%	8 79%	9.34%	0.44%	0.99%
7.	June	8.84	9.39	9.81	0.55	0.97
8.	September	8.43	8.82	9.62	0.39	1.19
9.	December	8.94	9.65	10.48	0.71	1.54
10.	Average	8.59%	9.06%	9.61%	0.47%	1.02%
	1979 - Mont	thly				
11.	January	9.051	9.61%	10.42%	0.56%	1.37%
12.	February	9.11	9.66	10.37	0.55	1.26
13.	March	9.10	9.63	10.33	0.53	1.23
14.	April	9.14	9.71	10.43	0.57	1.29
15.	May	9.19	9.91	10.82	0.72	1.63
16.	June	9.03	9.55	10.49	0.52	1.46
17.	July	8.98	9.60	10.33	0.67	1.42
18.	August	9.07	9.74	10.49	0.74	1.37
19.		9.60	10.34	11.94	0.76	1.32
20.	October	10.66	11.23	12.18	0.57	1.52
21.	November December	10.86	11.49	12.75	0.63	1.89
	Average	9.53%			0.62%	1.43%
*3.	1980 - Mon					
				12 745	0.978	1.78%
	January	10.96%			0.83%	
		11.62 13.09	12.92 14.74		1.65	2.13
	March		12.22	13.13	0.55	
27.		11.67 10.80	11.69	12.29	0.89	
28.		10.59	10.97		0.38	
29.		10.98	11.49	12.32	0.51	
30. 31.		11.47	12.15	13.05	0.68	
32.			12.92	13.76	0.90	
33.	Average ^(b)	11.47	12.32	13.18	0.85	1.72
(a)	Yields are b	ased on	prices	for the la	st Friday	of eac

ch month. Series began 1975. (b)Year-end, September, 1980. Sources: Moody's Bond Record

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SCE IMBEDDED COST OF DEBT AND PREFERRED STOCK

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	Long-Term Debt					Preferred and Preference Stock			
Line		Proceeds	Annual Cost	Effective Rate		Proceeds	Annual Dividends	Liffective Rate	
No.	Year	(000)	(000)	Year-Ind	Average	(000)	(000)	Year-End	Average
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	A. <u>R</u>	ecorded Peri	od						
1.	1975	\$2,088,218	\$128,030	6.13%	6.02%	\$602,106	\$41,751	6.931	6.82%
2.	1976	2,130,512	136,899	6.43	6.28	602,106	41,751	6.93	6.93
3.	1977	2,328,243	152,795	6.56	6.50	704,431	49,985	7.10	7.02
4.	1978	2,490,007	171,067	6.87	6.72	690,257	49,230	7.13	7.12
5.	1979	2,756,831	204,154	7.41	7.14	805,062	59,579	7.40	7.27
	в. <u></u>	orecast Peri	od						
6.	1980	\$3,066,241	\$258,515	8.43%	7.92%	\$867,675	\$67,955	7.83%	7.62%
7.	1981	3,222,453	289,655	8.99	8.71	930,288	76,331	8.21	8.02
8.	1982	3,399,430	320,032	9.41	9.20	975,062	81,576	8.37	8.29

Table 24A

WEIGHTED AVERAGE COST OF CAPITAL

Line No.		Capital Ratio	Year-End Cost Factor	Weighted Cost	After Tax Interest Coverage	Cost Factor	Weighted Cost	After Tax Interest Coverage
	A. Projected Rate o	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	A. Projected Rate o	i ketum w	11n 156 Re	turn on co	mmon equity	lest fear 198	<u>so</u>	
1.	Long-term Debt	47.00%	8.43%	3.96%		7.92%	3.72%	
2.	Preferred Stock	13.00	7.83	1.02		7.62	.99	
3.	Senior Capital	60.00%	8.30	4.98%	10.98%	7.85	4.71%	10.71%
4.	Common Equity	40.00	15.00	6.00	+3.96	15.00	6.00	+3.72
5.	Total Equity	100.00%		10.98%	2.77x		10.71%	2.88x
	B. Test Year 1981							
6.	Long-term Debt	47.00%	8.99%	4.23%		8.71%	4.09%	
7.	Preferred Stock	13.00	8.21	1.07		8.02	1.04	
8.	Senior Capital	60.00%	8.83	5.30%	11.30%	8.55	5.13%	11.13%
9.	Common Equity	40.00	15.00	6.00	+4.23	15.00	6.00	+4.09
10.	Total Equity	100.00		11.30°	2.67x		11.13%	2.72x
	C. Test Year 1982							
11.	Long-term Debt	47.00%	9.41%	4.42%		9.20%	4.32%	
13.	Preferred Stock	13.00	8.37	1.09		8.29	1.08	
14.	Senior Capital	60.00%	9.18	5.51%	11.51%	9.00	5.40%	11.40%
15.	Common Equity	40.00	15.00	6.00	+4.42	15.00	6.00	+4.32
16.	Total Equity	100.00%		11.51%	2.60x		11.40%	2.64x