BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In Re: Annual reestablishment) DOCKET NO. 930006-WS
of authorized range of returns) ORDER NO. PSC-93-1107-FOF-WS
on common equity for water and) ISSUED: July 29, 1993
wastewater utilities, pursuant)
to Section 367.081(4)(f), F.S.)
_____)

The following Commissioners participated in the disposition of
this matter:

J. TERRY DEASON, Chairman
THOMAS M. BEARD
SUSAN F. CLARK
JULIA L. JOHNSON
LUIS J. LAUREDO

NOTICE OF PROPOSED AGENCY ACTION

ORDER ESTABLISHING AUTHORIZED
RANGE OF RETURNS ON COMMON EQUITY

BY THE COMMISSION:

NOTICE IS HEREBY GIVEN by the Florida Public Service
Commission that the action proposed herein is preliminary in nature
and will become final unless a person whose interests are
substantially affected files a petition for a formal proceeding in
accordance with Rule 25-22.029, Florida Administrative Code.

Pursuant to Section 367.081(4)(f), Florida Statutes, this
Commission is authorized to establish, not less than once each
year, a leverage formula to calculate a reasonable range of returns
on common equity for water and wastewater utilities. We last
revised the leverage formula by Order No. PSC-92-0686-FOF-WS,
issued July 21, 1992, in Docket No. 920006-WS.

In order to calculate the current leverage formula, we have
utilized the same methodologies and assumptions utilized in
previous years, adjusted for changes in bond yields and required
rates of return. The basic assumptions are that: business risk is
similar for all water and wastewater utilities; the cost of equity
is an exponential function of the equity ratio; the marginal
weighted average cost of investor capital is constant over the 40

to 100 percent equity ratio range; and, given adequate management and effective regulation, a Moody's Baa bond rating is representative of the average marginal cost of debt for water and wastewater utilities with equity ratios of 40 to 100 percent.

Using the most current financial information, we have calculated a range of returns on common equity from 9.30 percent to 10.97 percent. Last year's leverage formula, 9.11 percent plus 1.33/equity ratio, produced a range of returns of 10.44 percent to 12.44 percent. The net change in the average return over the 40 percent to 100 percent equity ratio range is a decrease of 130 basis points, from 11.44 percent to 10.14 percent. This decrease in the average common equity return reflects the lowered bond yield and required rates of return.

We derived the range of returns on common equity by applying a discounted cash flow model to an index of publicly traded water and wastewater utilities, a risk premium model to an index of natural gas utilities, and a bond yield differential adjustment to reflect the difference in risk between the indices and an average Florida water and wastewater utility. Using the most recently available capital structure for the index of publicly traded water and wastewater companies as a proxy for the capital structure for an average Florida water and wastewater utility, we calculated the marginal cost of investor capital to be 9.30 percent, as shown below.

Marginal Cost of Investor Capital
Average Water/Wastewater Utility

Capital Component	Ratio	Cost Rate	Marginal Cost
Common Equity	40%	10.97%	4.40
Total Debt	60%	8.18%	4.90
	100%		9.30%

Our analyses are appended to this Order as Attachment 1.

Based upon the foregoing, we find that the appropriate formula for measuring returns on common equity for Florida water and wastewater utilities is as follows:

$$\text{Return on Common Equity} = 8.18\% + \frac{1.116}{\text{Equity Ratio}}$$

where:

$$\text{Equity Ratio} = \frac{\text{Common Equity}}{\text{Common Equity + Preferred Equity +}\atop\text{Long and Short-term Debt}}$$

Finally, in order to discourage imprudent financial risk, we find it appropriate to limit the authorized return on the midpoint of common equity to a maximum of 10.97 percent for all water and wastewater utilities with equity ratios of less than 40 percent.

It is therefore,

ORDERED by the Florida Public Service Commission that the provisions of this Order are issued as proposed agency action and will become final unless an appropriate petition is filed with the Division of Records and Reporting, 101 East Gaines Street, Tallahassee, Florida 32399-0870, by the close of business on the date indicated in the Notice of Further Proceedings or Judicial Review. It is further

ORDERED that the appropriate formula for measuring returns on common equity for water and wastewater utilities shall be as set forth in the body of this Order. It is further

ORDERED that returns on common equity are hereby capped at 10.97 percent for all water and wastewater utilities with equity ratios of less than 40 percent in order to discourage imprudent financial risk.

By ORDER of the Florida Public Service Commission this 29th day of July, 1993.

STEVE TRIBBLE, Director
Division of Records and Reporting

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NOTICE OF FURTHER PROCEEDINGS OR JUDICIAL REVIEW

The Florida Public Service Commission is required by Section 120.59(4), Florida Statutes, to notify parties of any administrative hearing or judicial review of Commission orders that is available under Sections 120.57 or 120.68, Florida Statutes, as well as the procedures and time limits that apply. This notice should not be construed to mean all requests for an administrative hearing or judicial review will be granted or result in the relief sought.

The action proposed herein is preliminary in nature and will not become effective or final, except as provided by Rule 25-22.029, Florida Administrative Code. Any person whose substantial interests are affected by the action proposed by this order may file a petition for a formal proceeding, as provided by Rule 25-22.029(4), Florida Administrative Code, in the form provided by Rule 25-22.036(7)(a) and (f), Florida Administrative Code. This petition must be received by the Director, Division of Records and Reporting at his office at 101 East Gaines Street, Tallahassee, Florida 32399-0870, by the close of business on August 19, 1993.

In the absence of such a petition, this order shall become effective on the day subsequent to the above date as provided by Rule 25-22.029(6), Florida Administrative Code.

Any objection or protest filed in this docket before the issuance date of this order is considered abandoned unless it satisfies the foregoing conditions and is renewed within the specified protest period.

If this order becomes final and effective on the date described above, any party adversely affected may request judicial review by the Florida Supreme Court in the case of an electric, gas or telephone utility or by the First District Court of Appeal in the case of a water or wastewater utility by filing a notice of appeal with the Director, Division of Records and Reporting and filing a copy of the notice of appeal and the filing fee with the appropriate court. This filing must be completed within thirty (30) days of the effective date of this order, pursuant to Rule 9.110, Florida Rules of Appellate Procedure. The notice of appeal must be in the form specified in Rule 9.900(a), Florida Rules of Appellate Procedure.

SUMMARY OF RESULTS

Leverage Formula Update

	1992	1993
DCF Cost of Equity for Water Index	11.20%	9.83%
Risk Premium Cost of Equity for Gas Index	11.82%	10.38%
AVERAGE	11.51%	10.11%
Bond Yield Differential	.44%	0.41%
Adjustment to Reflect Required Equity Return at a 40% Equity Ratio	.49%	.45%
Cost of Equity for Average Florida Water and Wastewater Utility at a 40% Equity Ratio	12.44%	10.97%

Existing Leverage Formula

Return on Common Equity	$=$	$9.11\% + 1.332/ER$
Range of Returns on Equity	$=$	$10.44\% - 12.44\%$

Updated Leverage Formula

Return on Common Equity	$=$	$8.18\% + 1.116/ER$
Range of Returns on Equity	$=$	$9.30\% - 10.97\%$

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1992 Equity Ratios of Index Companies
Natural Gas

	Common Equity	Total Debt
Atlanta Gas & Light	49.00%	51.00%
Bay State Gas	57.10%	42.90%
Brooklyn Union Gas	47.80%	52.20%
Indiana Energy	55.50%	44.50%
Laclede Gas	56.10%	44.70%
Northwest Natural Gas	45.00%	55.00%
Peoples Energy	55.11%	44.90%
Washington Gas & Light	57.30%	42.70%
Average	52.75%	47.25%

Source: Value Line Investment Survey
          Edition 3 April 2, 1993

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Equity Ratios of Index Companies
Water & Wastewater

	Common Equity	Total Debt
American Water Works	44.00%	56.00%
Aquarion Company	43.00%	57.00%
California Water Services Co.	49.00%	51.00%
Consumers Water Company	38.00%	62.00%
E'Town Corporation	38.00%	62.00%
Middlesex Water Company	42.00%	58.00%
Philadelphia Suburban Corp.	38.00%	62.00%
SJW Corporation	51.00%	51.00%
Southern California Water Co.	50.00%	51.00%
United Water Resources	35.00%	65.00%
Average	42.40%	57.20%

Source: C. A. Turner Utility Reports, June 1993 Edition

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BOND FIELD DIFFERENTIALS
Public Utility Bond Yield Averages
Source: Moody's Bond Survey

120 Month Average - 0.0939

YEAR	MON	A1 SPREAD		A2 SPREAD		A3 SPREAD		Baa1 SPREAD		Baa2

BOND YIELD DIFFERENTIALS
Public Utility Bond Yield Averages
Source: Moody's Bond Survey

120 Month Average = 0.0939

YEAR	MON	Aa1 (291 AD)	A2 (291 AD)	A3 (291 AD)	Baa1 (291 AD)	Baa2
	MAY	7.29 0.07	7.26 0.11	7.37 0.11	8.07 0.11	8.19
	APR	7.25 0.06	7.31 0.10	7.31 0.10	8.01 0.10	8.11
	MAR	7.35 0.05	7.40 0.07	7.37 0.07	8.03 0.07	8.10
	FEB	8.00 0.04	8.04 0.09	8.10 0.09	8.22 0.09	8.21
1993	JAN	8.23 0.04	8.27 0.10	8.37 0.10	8.47 0.10	8.07
	DEC	8.19 0.04	8.10 0.29	8.50 0.29	8.78 0.28	8.96
	NOV	8.50 0.04	8.50 0.28	8.71 0.28	8.79 0.28	8.26
	OCT	8.50 0.04	8.54 0.07	8.61 0.07	8.69 0.07	8.84
	SEP	8.36 0.04	8.40 0.05	8.45 0.05	8.49 0.05	8.58
	AUG	8.39 0.05	8.44 0.05	8.49 0.05	8.53 0.05	8.58
	JUL	8.53 0.04	8.57 0.04	8.61 0.04	8.65 0.04	8.67
	JUN	8.73 0.05	8.78 0.04	8.82 0.04	8.86 0.04	8.82
	MAY	8.81 0.06	8.17 0.05	8.72 0.05	8.76 0.05	8.01
	APR	8.17 0.06	8.13 0.06	8.19 0.06	7.05 0.06	7.15
	MAR	8.92 0.05	8.17 0.06	7.03 0.06	7.10 0.05	7.03
	FEB	8.17 0.06	8.53 0.05	8.38 0.05	9.24 0.05	9.03
1992	JAN	8.77 0.07	8.34 0.05	9.39 0.05	9.30 0.05	9.28
	DEC	8.32 0.06	9.38 0.06	9.34 0.06	9.21 0.06	9.27
	NOV	8.99 0.06	9.05 0.08	9.13 0.08	9.20 0.08	9.28
	OCT	9.05 0.07	9.12 0.07	9.19 0.07	9.25 0.07	9.33
	SEP	9.09 0.07	9.16 0.06	9.22 0.06	9.45 0.06	9.47
	AUG	9.21 0.08	9.10 0.06	9.15 0.06	9.64 0.05	9.69
	JUL	9.45 0.10	9.55 0.05	9.60 0.05	9.72 0.07	9.79
	JUN	9.49 0.10	9.59 0.07	9.66 0.07	9.57 0.07	9.64
	MAY	9.35 0.09	9.44 0.07	9.51 0.07	9.58 0.06	9.64
	APR	9.35 0.11	9.45 0.06	9.52 0.06	9.58 0.06	9.64
	MAR	9.44 0.11	9.55 0.06	9.61 0.06	9.51 0.07	9.68
	FEB	9.37 0.10	9.47 0.07	9.54 0.07	9.88 0.08	9.95
1991	JAN	9.60 0.11	9.71 0.08	9.79 0.08	9.88 0.08	9.96
	DEC	9.63 0.10	7.73 0.09	9.81 0.09	10.05 0.04	10.02
	NOV	9.90 0.10	9.40 0.07	10.07 0.08	10.20 0.04	10.24
	OCT	9.96 0.09	10.05 0.08	10.13 0.08	10.20 0.07	10.22
	SEP	10.04 0.08	10.12 0.07	9.99 0.07	10.05 0.07	10.10
	AUG	9.87 0.05	9.92 0.06	9.81 0.06	9.86 0.06	9.92
	JUL	9.70 0.05	9.75 0.06	9.81 0.06	9.81 0.05	9.96
	JUN	9.73 0.07	9.80 0.05	9.85 0.05	9.91 0.05	10.04
	MAY	9.94 0.06	10.00 0.07	10.05 0.07	10.06 0.07	10.13
	APR	9.98 0.04	10.02 0.07	9.97 0.07	10.06 0.07	10.04
	MAR	9.97 0.05	9.05 0.07	9.42 0.07	9.49 0.07	9.56
	FEB	9.70 0.06	9.15 0.07	9.32 0.07	9.39 0.07	9.46
1990	JAN	9.50 0.06	9.56 0.06	9.52 0.06	9.58 0.04	9.60
	DEC	9.39 0.06	9.44 0.05	9.49 0.05	9.55 0.05	9.60
	NOV	9.42 0.09	9.51 0.04	9.55 0.04	9.60 0.04	9.64
	OCT	9.45 0.09	9.54 0.03	9.57 0.03	9.51 0.03	9.77
	SEP	9.49 0.08	9.58 0.04	9.62 0.04	9.66 0.04	9.74
	AUG	9.44 0.09	9.52 0.04	9.56 0.04	9.40 0.04	9.54
	JUL	9.41 0.09	9.50 0.05	9.55 0.05	9.70 0.05	9.80
	JUN	9.55 0.09	9.64 0.05	9.59 0.05	9.74 0.05	9.77
	MAY	9.92 0.07	9.99 0.10	10.09	10.14	
	APR	10.03 0.05	10.08 0.09	10.07	10.15	
	MAR	10.17 0.06	10.22		10.28	
	FEB	10.00 0.05	10.07 0.10	10.12		
1989	JAN	10.03 0.06	10.28 0.10	10.33		
	DEC	10.01 0.05	10.16 0.13	10.27		
	NOV	9.91 0.06	9.42	10.05		
	OCT	9.87 0.11	9.81	10.00		
	SEP	10.12 0.20	10.51 0.17	10.24	10.15	
	AUG	10.26				10.55
	JUL	10.05 0.09	10.24 0.16	10.29		10.25
	JUN	10.12 0.09	10.17	10.39		

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ESTIMATED MONTHLY RISK PREMIUM (Continued)

YEAR	MONTH	Quarterly Cost of Equity	Risk Free Rate	Risk Premium
1990	JAN	10.778		2.778
	FEB	10.920		2.761
	MAR			2.622
	APR			
	MAY	10.920		2.660
	JUN			2.648
	JUL	11.048		2.770
	AUG	11.250	3.23	2.400
	SEP	11.250	3.08	2.860
	OCT			
	NOV			
	DEC			
1991	JAN		4.21	2.776
	FEB	11.126	3.97	2.681
	MAR		3.56	
	APR	10.564	3.25	
	MAY	10.310		
	JUN	10.370		
	JUL	10.793		
	AUG	10.793		
	SEP	10.640		2.778
	OCT	10.963		
	NOV	10.742		
	DEC	10.719		
1992	JAN	10.590		
	FEB	10.640		
	MAR	10.608		
	APR	10.584		
	MAY	10.319		2.770
	JUN	10.540		
	JUL	10.425		
	AUG	10.231		
	SEP	10.170		
		9.932		
	NOV	10.032		
	DEC	10.113		
1993	JAN	9.573		
	FEB	9.265		
	MAR	9.251		
	APR	9.241		
	MAY	9.254		
	JUN	9.349		

AVERAGE

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ESTIMATED MONTHLY RISK PREMIUM (cont'd)

YEAR	MONTH	Quarterly Cost of Equity Gas	Risk Free Rate	Risk Premium
1987	JAN	11.547	7.08	4.187
	FEB	11.542	7.52	4.022
	MAR	11.363	7.71	3.853
	APR	11.293	7.74	3.613
	MAY	11.759	8.35	3.409
	JUN	11.293	8.35	3.013
	JUL	11.706	8.67	3.068
	AUG	11.856	8.77	3.086
	SEP	11.376	9.96	2.798
	OCT	12.148	9.67	2.478
	NOV	12.025	9.13	3.09
	DEC	11.808	9.09	3.018
1988	JAN	11.225	8.12	3.045
	FEB	11.850	8.33	3.710
	MAR	12.015	8.48	3.979
	APR	12.196	8.84	3.976
	MAY	12.198	9.27	3.629
	JUN	12.176	9.02	3.714
	JUL	12.947	9.12	3.774
	AUG	12.927	9.18	3.717
	SEP	12.814	9.62	3.004
	OCT	12.370	9.04	3.743
	NOV	12.056	8.96	3.306
	DEC	12.288	9.13	3.358
1989	JAN	12.025	9.10	3.739
	FEB	12.010	9.15	3.081
	MAR	12.064	9.15	2.830
	APR	12.180	9.31	3.270
	MAY	12.180	9.17	3.710
	JUN	12.712	8.73	3.095
	JUL	12.071	8.37	3.101
	AUG	11.382	8.11	3.751
	SEP	11.748	8.23	3.595
	OCT	11.470	8.09	3.094
	NOV	11.462	8.02	3.542
	DEC	11.520	8.09	3.000

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ESTIMATED MONTHLY RISK PREMIUMS
MOODY'S NATURAL GAS DISTRIBUTION INDEX
JULY 1983 - JUNE 1993

YEAR	MONTH	Quarterly Cost of Equity Gas	Risk Free Rate	Risk Premium
1983	JUL	16.495	10.97	
	AUG	16.429	11.44	4.383
	SEP	16.473	11.78	4.712
	OCT	16.225	11.92	
	NOV	15.893	11.65	4.213
	DEC	15.972	11.48	4.192
1984	JAN	15.352	11.31	4.072
	FEB	15.410	11.47	
	MAR	15.525	11.31	
	APR	15.736	12.23	3.476
	MAY	15.527	12.55	3.067
	JUN	15.776	12.52	2.456
	JUL	16.024	13.43	2.604
	AUG	16.429	13.01	
	SEP	16.457	12.42	
	OCT	15.708	12.34	
	NOV	15.727	12.50	
	DEC	15.640	11.70	4.590
1985	JAN	15.290	11.51	
	FEB	15.351	11.46	
	MAR	15.237	11.70	
	APR	15.073	11.72	
	MAY	14.394	11.55	3.104
	JUN	14.558	11.38	3.208
	JUL	14.386	10.48	4.060
	AUG	14.317	10.62	4.197
	SEP	15.604	10.70	4.254
	OCT	15.030	10.78	
	NOV	15.122	10.69	
	DEC	15.023	10.29	
1986	JAN	13.857	9.58	4.100
	FEB	13.780	9.59	4.184
	MAR	13.644	9.26	
	APR	13.344	8.15	
	MAY	12.884	7.58	
	JUN	12.376	8.17	
	JUL	11.414	8.17	
	AUG	11.453	7.58	3.493
	SEP	11.453	7.74	
	OCT	11.458	8.10	
	NOV	11.517	8.06	
	DEC	11.750	7.62	

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Risk Premium Cost of Equity for Moody's Natural Gas
Distribution Index

Estimated Monthly Risk Premium   3.164 %

Blue Chip Forecast for 30-Year Treasury Bond   7.013 %

                                                 10.131 %

* Blue Chip Financial Forecasts, June 1, 1993

DCF Analysis of Water Index

	1986	1987	1988	1989	1990	1991	1992	Arithmetic Average Growth Rate	Current Dividend	Current Average Stock Price
American Water Works	0.56	0.64	0.69	0.74	0.80	0.86	0.93	8.75%	1.00	26.06
Aquarion Company	1.39	1.44	1.51	1.57	1.60	1.62	1.62	2.50%	1.62	34.50
California Water Services Co.	1.40	1.47	1.64	1.68	1.74	1.80	1.86	4.7%	1.92	18.13
Consumers Water Company	0.94	0.90	0.98	1.05	1.05	1.11	1.13	5.03%	1.14	30.19
E'town Corporation	1.83	1.88	1.93	1.95	1.98	2.00	2.00	1.5%	2.00	17.25
Middlesex Water Company	0.89	0.94	0.92	0.93	0.93	0.95	0.97	2.2%	1.00	17.63
Philadelphia Suburban Corp.	0.91	0.94	1.16	1.62	1.00	1.04	1.04	1.4%	1.08	27.63
S.W. Corporation	1.55	1.53	1.76	2.07	1.96	1.92	1.96	3.05%	2.04	46.75
South Florida Water	1.88	1.93	2.02	2.07	2.14	2.20	2.20	3.4%	2.40	15.38
United Water Resources	0.70	0.77	0.84	0.88	0.88	0.91	0.92	4.5%	0.92	
Average								1.3%	1.51	27.01

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Marginal Cost of Investor Capital
Average Index Water and Wastewater Utility

Capital Component	Ratio	Marginal Cost Rate	Weighted Marginal Cost Rate
Common Equity	47.78%	10.52%	5.02%
Total Debt	52.22%	8.18% *	4.27%
	100%		9.29%

Return on Common Equity = 8.18% − 1.116 / ER**

Use leverage formula to compute required common equity
return at 40% common equity ratio. Required return at 40%
equity ratio is the ceiling for allowed common equity returns.

Return on Common Equity = 8.18% − 1.116 / .40 = 10.97%

Marginal Cost of Investor Capital
Average Water and Wastewater Utility

Capital Component	Ratio	Marginal Cost Rate	Weighted Marginal Cost Rate
Common Equity	40.00%	10.97%	4.39%
Total Debt	60.00%	8.18% **	4.91%
	100%		9.30%

* Average Baa rate for May 1993
  Source: Moody's Bond Survey, 6/21/93

** Where:
  Equity Ratio = Common Equity / Common Equity + Preferred Equity +
  Long and Short Term Debt