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June 26, 2003

Ms. Sara Kyle, Chairman
Tennessee Regulatory Authority
460 James Robertson Parkway
Nashville, TN 37243

Re: Petition of Tennessee American Water Company to Change and Increase Certain Rates and Charges So As to Permit It to Earn a Fair and Adequate Rate of Return on Its Property Used and Useful In Furnishing Water Service to Its Customers, Docket No. 03-00118.

Dear Chairman Kyle:

Enclosed for filing are the original and thirteen (13) copies of the Tennessee American Water Company's Supplemental Responses to the Second Discovery Requests of the Consumer Advocate and Protection Division of the Office of the Attorney General for filing in the above-styled matter.

Should you have any questions with respect to this filing, please do not hesitate to contact me at the telephone number listed above.

Best regards.

Very truly yours,

R. Dale Grimes

RDG/ts
Enclosures

cc: Certificate of Service List (with enclosures)
Mr. William F. L'Ecuyer (via facsimile)
Mr. Michael Miller (via facsimile)
Mr. Roy Ferrell (via facsimile)

Interrogatories and Requests for Production Of Documents by the Attorney General (Second Set Supplemental) To Tennessee-American Water Company Rate Case No. 03-00118

1. Q. Identify each person whom you expect to call as an expert witness at any hearing in this docket, and for each such expert witness:

(a) identify the field in which the witness is to be offered as an expert;
(b) provide complete background information, including the expert's current employer as well as his or her educational, professional and employment history, and qualifications within the field in which the witness is expected to testify, and identify all publications written or presentations presented in whole or in part by the witness;
(c) provide the grounds (including without limitation any factual basis) for the opinions to which the witness is expected to testify, and provide a summary of the grounds for each such opinion;
(d) identify any matter in which the expert has testified (through deposition or otherwise) by specifying the name, docket number and forum of each case, the dates of the prior testimony and the subject of the prior testimony, and identify the transcripts of any such testimony;
(e) identify for each such expert any person whom the expert consulted or otherwise communicated with in connection with his expected testimony;
(f) identify the terms of the retention or engagement of each expert including but not limited to the terms of any retention or engagement letters or agreements relating to his/her engagement, testimony, and opinions as well as the compensation to be paid for the testimony and opinions;
(g) identify all documents or things shown to, delivered to, received from, relied upon, or prepared by any expert witness, which are related to the witness(es)' expected testimony in this case, whether or not such documents are supportive of such testimony, including without limitation all documents or things provided to that expert for review in connection with testimony and opinions; and
(h) identify any exhibits to be used as a summary of or support for the testimony or opinions provided by the expert.

Response:

(a) Dr. Christopher Klein will address the rates to be charged to the City of Chattanooga for fire hydrants and public fire protection service.

(b) Dr. Klein has entered rebuttal testimony that details his background information, including his employment, professional, and educational background. He also referenced publications written and presentations made.

(c) The information requested has been addressed in the rebuttal testimony of the Company's expert witness listed above in response to item 1 (a).

(d) Dr. Klein testified in the 1987 Tennessee American Rate Case, Docket No. U-87-7534. See attached testimony. Dr. Klein does no have a list of all other testimony but it is on file at the Tennessee Regulatory Authority as a matter of public record.

(e) The Company's experts have communicated directly with and requested information through Roy L. Ferrell, Director or Rates and Planning for the Southeast Region Service Company.

(f) Dr. Klein is contracted at a rate of $200 per hour plus expenses during the timeframe of processing the Tennessee American Water Company rate case.

(g) See attached

(h) None

Before The

PUBLIC SERVICE COMMISSION

Of The

STATE OF TENNESSEE

in re:

TENNESSEE AMERICAN WATER COMPANY

(Docket U-87-7534)

****

Prefiled Testimony of

Dr. Christopher C. Klein

****

February, 1988

Attachment D

Q. Would you state your name for the record please?

A. My name is Christopher C. Klein.

Q. By whom are you employed and what is your position?

A. I am the Economist for the Tennessee Public Service Commission.

Q. How long have you been employed by the Commission?

A. Since the first of July, 1986.

Q. What is your educational background?

A. I received a B. A. in Economics from the University of Alabama in 1976 and a Ph. D. in Economics from the University of North Carolina at Chapel Hill in 1980. My field of concentration at Chapel Hill was Industrial Organization and Regulation.

Q. Have you been employed as a professional Economist prior to accepting your current position?

A. Yes. I was continuously employed as an Economist in the Bureau of Economics at the Federal Trade Commission in Washington, D. C. from the completion of my dissertation in September 1980 until the end of June 1986.

Q. Can you describe the nature of your work for the F.T.C.?

A. My primary responsibility was to perform the economic analysis in antitrust investigations. Over the course of my employment, I participated in investigations involving more than 20 industries. I developed the

economic theories of the investigations, gathered evidence relevant to these theories, and made recommendations to the Commissioners based on my economic analysis of the evidence. Much of my work concerned the likely economic effects of mergers and acquisitions.

I also contributed to several major staff reports or studies. Among these were a report on the effects of mergers in the petroleum industry, a study of the state of competition in grocery retailing, and a staff report on the economics of predatory litigation.

Q. Have you previously testified before public utility regulatory commissions?

A. Yes. I have testified before this Commission in rate hearings involving General Telephone of the South (Docket No. U-86-7437), United Cities Gas Company (Docket No. U-86-7442), Kingsport Power Company (Docket No. U-86-7472), Nashville Gas Company (Docket No. U-87-7499), and Claiborne Telephone Company (Docket No. U-87-7508).

Q. Are you a member of any professional organizations?

A. I am a member of the American Economic Association, the American Finance Association, the Southern Economic Association, the Industrial Organization Society, the Midsouth Academy of Economics and Finance, and Alpha Pi Mu, the Industrial Engineering

Honor Society.

Q. Are there any other aspects to your experience as an Economist?

A. Yes, I have undertaken independent research as my time allowed. This has resulted in several professional presentations, academic publications, and working papers on subjects as diverse as cost and production theory, antitrust market definition, and the incentives for strategic actions before government bodies.

PURPOSE OF TESTIMONY

Q. What is the purpose of your testimony?

A. I intend to estimate the cost of capital for Tennessee American Water Company (TAWC). By cost of capital, I mean the rate of return necessary to induce investors to hold the debt and stock of a company. According to modern finance theory, this must be equal to the rate of return available to investors on alternative investments of similar risk.

Q. How is the cost of capital related to the legal principles of determining the allowed rate of return for regulated utilities?

A. I am not qualified to make legal judgements on this question, but as an economist, I believe the cost of capital concept embodies the economic principles for determining the allowed rate of return voiced by the U. S. Supreme Court in Bluefield Water Works v. P.S.C. (262 U.S. 679, 1923) and F.P.C. v. Hope Natural Gas Co. (320 U.S. 591, 1944). For instance, the Court stated in Hope that,"...the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risk. That return, moreover, should be sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital." (320 U.S. 603)

In my opinion, the allowed rate of return on the capital employed by TAWC should be set equal to its cost of capital.

Q. What are the consequences of not setting the allowed rate of return equal to the cost of capital?

A. If the allowed rate of return is set below the cost of capital, then the company's credit rating will fall as its cost of debt rises and the price of its stock will decline to reflect a lower expected return. Eventually, the company may find it difficult to finance investment in new plant and equipment, causing the quality of its products and services to decline.

In the extreme, the company could be forced into bankruptcy. Such an event would harm the firm's consumers as well as its investors.

If the allowed rate of return is set above the cost of capital, then the firm's stockholders realize a capital gain as the value of the firm's stock rises to reflect the higher return. Moreover, this capital gain is paid for by the firm's customers through excessively high prices.

Prices in the economy as a whole may also be distorted if the allowed rate of return differs from the cost of capital. When the company earns an excessive return, for example, it may bid capital resources away from more productive enterprises. Simultaneously, consumers may purchase larger quantities of substitutes for the company's products than would be justified if prices accurately reflected relative costs. These possible effects act to reduce the productivity of the economy in general. Setting the rate of return below the cost of capital would produce undesirable economy-wide effects of a similar nature.

Q. What is your estimate of the cost of capital which you believe should be used as the allowed rate of return for TAWC?

A. I estimate TAWC's cost of capital to be

approximately 10.30%.

CAPITAL STRUCTURE AND COST OF DEBT

Q. How did you arrive at this estimate?

A. My first step was to determine the appropriate capital structure for TAWC. I have accepted as reasonable the company's proposed capital structure and the cost rates on debt of TAWC for September 30, 1988. This capital structure and the cost rates on debt and equity are shown on Klein Exhibit page 1. The resulting weighted average cost of capital is less than 20 basis points higher than that calculated from the year-end 1987 capital structure. This calculation is shown on page 2 of my Exhibit.

The primary difference between the two structures is that the company's version accounts for an additional $5.3 million in long term debt, to be incurred later this year, at an interest rate of 10.65%, and the resulting elimination of short-term debt. The company also adjusted for increased retained earnings and retirements of debt and preferred stock projected for September 30, 1988.

Q. Is the rate of 10.65% on the proposed new debt reasonable?

A. Yes. In the past, TAWC has been able to obtain debt at interest rates about 2.0 percentage points above the comparable government bond rate. The current rate on 10-year U.S. Treasury bonds is about 8.3% (See: Wall Street Journal "Key Interest Rates" for the week ended Feb. 19, 1988). This suggests that TAWC should be able to secure debt of a similar term for about 10.3% at this time. These calculations and some additional information are summarized on Klein Exhibit Page 3.

Furthermore, the interest rate on 10-year government bonds has risen by as much as 60 basis points in as little as two-weeks time during the past year (See: Federal Reserve Bulletin, December 1987). If this were to occur between now and the time TAWC places the new debt, the estimated interest rate would rise to 10.9%. Thus, even though 10.65% is somewhat higher than the rate at which debt should be currently available, it is not unreasonably high when possible bond market fluctuations are taken into account.

I also examined the $26,500 in issuance cost calculated by the company. This cost amounts to 0.5% of the $5.3 million value of the debt. The issuance cost as a percent of the debt value for TAWC's general mortgage bonds averages 0.499%. I conclude that the issuance cost calculation for the new debt is also

reasonable.

DOUBLE LEVERAGE AND COST OF EQUITY

Q. What was your next step in estimating the cost of capital for TAWC?

A. The next step was to estimate the cost of equity for TAWC.

Q. How was that done?

A. I used the double leverage method.

This method utilizes the weighted average cost of capital of the parent company as the subsidiary's cost of equity. For TAWC, this requires estimating the cost of equity for American Water Works Company (AWWC), which owns all of TAWC's common stock. This estimated cost of equity is combined with the cost rates on the parent's debt, and the parent's capital structure, to arrive at the parent's weighted average cost of capital.

Q. Are there any specific advantages to the double-leverage approach?

A. Yes, there are at least two.

Double leverage recognizes that the parent has chosen a parent-subsidiary form rather than a consolidated form. A profit maximizing unregulated firm would make this choice only if there is some

cost-saving, such as financial economies of scale or management efficiencies, from the parent-subsidiary form. Double leverage shares these efficiencies with the rate payers, just as competition among unregulated firms tends to pass financial cost savings along to consumers. (For example, see: G.S. Roberts and J.A. Viscione, "Captive Finance Subsidiaries and the M-form Hypothesis," Bell Journal of Economics, Spring 1981.)

Furthermore, under conventional rate of return regulation, the regulated firm's capital structure can affect its cash flows by contributing to the determination of the allowed rate of return. This is not a factor for an unregulated firm; its capital structure does not affect the underlying cash flows that may occur in various states of the world. This means that regulated firms may have an incentive to manipulate their capital structures in order to raise their rate of return. Double leverage reduces the incentive for one particular form of manipulation: the shifting of debt from the subsidiary to the parent in order to raise the subsidiary's allowed return.

Q. Are you aware of any criticisms of the double leverage approach?

A. Yes, the primary criticism claims that double leverage erroneously equates the cost of capital with the source and cost of investable funds rather than the

opportunity cost of those funds. A recognition of the role of markets, however, proves this criticism false.

The key to the analysis is that these two kinds of "cost" are not disconnected. A profit maximizing firm will not undertake a project if the cost of funds to invest in the project exceeds the expected return on the project. The firm also will not undertake a project if the expected return is not at least as great as the return expected on other projects of similar risk. (This is the opportunity cost concept.) Competition among firms in both the capital markets and the product markets will tend to equate the firm's cost of funds with its opportunity cost.

In this way, double leverage actually accounts for the opportunity cost of funds. In addition, if the parent enjoys any particular advantages from diversification or economies of scale, these are shared with the rate payers. Thus, double leverage mimics the outcomes in competitive markets.

Q. How did you apply this approach to TAWC and AWWC?

A. I base my estimate of the parent's cost of equity primarily on the results of the discounted cash flow (DCF) method of estimating the return required by investors on the common stock of AWWC. I then use the capital structure and cost rates for AWWC as of December 31, 1987 to arrive at my recommended cost of

equity for TAWC. This process is summarized on Klein Exhibit page 1.

I recommend a cost of equity for AWWC of 12.50%. This implies a cost rate on the common equity proportion of TAWC's capital structure of 11.84%

DCF ANALYSIS

Q. Please explain your calculation of the DCF estimate of AWWC's cost of equity.

A. The simplified DCF method calculates the cost of equity as the sum of the expected dividend yield on a share of common stock for the coming year plus the expected dividend growth rate for the indefinite future, assuming that investors value the stock in terms of the cash flows arising from the future dividend payments alone. The DCF method also assumes that the expected dividend growth rate is constant forever and that the required return on stocks of any risk class will not change.

Applying this approach to AWWC requires estimates of the dividend yield and the growth rate. The estimate of the dividend yield varies mainly because of fluctuations in the price of the stock. The growth rate is more difficult to estimate, because it should reflect investor expectations for the future. Some

estimates of dividend yields and growth rates for AWWC and some other regulated firms are shown on pages 4-6 of my Exhibit.

Q. What dividend yield is appropriate for AWWC?

A. Klein Exhibit, page 5, shows that AWWC's dividend yield has averaged about 3.0% for the past two years and is currently about 4.3%. Value Line is projecting a future dividend yield of about 4.0%. I conclude that a reasonable dividend yield for AWWC lies in the range of 3.0% to 4.0%.

Q. How did you select a growth rate for AWWC?

A. I first examined AWWC's historical growth rates in dividends and earnings, but these were much too high to be maintained in the long run. I then examined Value Line's projected growth rates in earnings and dividends and I calculated the average "sustainable" growth rate for 1983-87. The "sustainable growth rate" is also known as "the growth from retained earnings" and is calculated as the product of the retention ratio and the return on equity. These figures are shown on page 5 of my exhibit. They range from 7.5% to 9.5%.

I conclude that a reasonable range of growth rates for AWWC is 8.0% to 9.0%.

Q. What does this analysis say about AWWC's cost of equity?

A. The DCF estimate of the cost of equity is defined as the sum of the dividend yield and a growth rate. My analysis implies a reasonable range of equity cost for AWWC of 11.0% to 13.0%.

Q. How does AWWC's DCF cost of equity compare to that of other companies?

A. Page 4 of my Exhibit shows the results of a similar DCF analysis of the cost of equity for United Water Resources and for eleven regulated natural gas distribution companies.

United Water Resources is the only other water company covered by Value Line. Even though it is larger than the other water companies analyzed by Dr. O'Donnell, it is about one-third the size of AWWC in terms of total capital and net plant. Nevertheless, the DCF analysis for United yields a cost of equity range that overlaps that of AWWC. The mid-point of this range is 11.0%.

I selected the natural gas companies in an attempt to find regulated firms of comparable size and similar risk to AWWC. The eleven companies were selected from Value Line using $0.5-$1.5 billion as the range for 1986 total capital. AWWC's 1986 total capital exceeded $1.0 billion. The gas companies' average 1986 total capital was $773 million as shown on Klein Exhibit page 6.

Nevertheless, the gas companies are probably more risky than AWWC. Although natural gas distribution companies are in a similar business - delivering a commodity, whose demand is affected by weather variations, to diverse customers through a network of pipes - AWWC does not face risks comparable to the by-pass threats, changing regulatory environment, and competition with alternative fuels faced by the gas companies. For this reason, I expect the gas companies to require a return on equity at least as high as that required by AWWC.

The average DCF cost of equity estimates for the eleven regulated gas distribution companies range from 10.0% to 15.3% with a mid-point of 12.75%.

Q. What do you conclude is the appropriate cost of equity for AWWC?

A. Because AWWC is less risky than the gas companies, it's cost of equity should lie at or below 12.75%. Its current and projected dividend yields suggest a cost of equity in the 12.0-13.0% range. In my judgement, a reasonable cost of equity for AWWC is 12.5%.

RISK PREMIUM ANALYSIS

Q. Dr. O'Donnell, in his prefiled testimony for TAWC,

uses several risk premia of stock returns over the returns to various bonds in his estimation of the cost of equity. Do you think that risk premium analysis is useful in setting the allowed rate of return for a regulated utility?

A. The risk premium approach to cost of equity can be useful, so long as its limitations, and some necessary qualifications, are recognized. These points are both theoretical and practical in nature.

In theory, the risk premium associated with common stocks should be estimated relative to a risk-free asset, or at least an asset whose return is not correlated with the overall return on the stock market. It is widely recognized that short-term U. S. Treasury bills come closest to meeting these requirements (See: "Inflation and the Role of Bonds in Investor Portfolios," by Zvi Bodie, Alex Kane, and Robert McDonald in Corporate Capital Structures in the United States, NBER 1985). In this context, risk premium estimates using long-term government bonds and corporate bonds are inappropriate.

In practice, the calculation of the risk premium is not straight-forward. Many analysts use the Ibbotson estimates covering the period from 1926-1986. The premium of common stocks over short-term bills for this period is 8.6%. There are reasons, however, to

question this figure.

Recent attempts to extend the data series into the 19th century have found the inflation-adjusted return on common stocks for a 115 year period is about 6.6% compared to Ibbotson's 9.0% for 1926-1986 (See: "A Comparison of Annual Common Stock Returns, 1871-1925 and 1926-1985," by Jack Wilson and Charles Jones, Journal of Business, April 1987). One can infer a risk premium of stocks over bills of 6.2% for this long period. Similarly, the risk premia for the past 30 to 35 years - what one might say is the modern era in financial markets - lie in the 5.2% to 7.8% range with a midpoint of 6.5% (Klein Exhibit, page 8).

I conclude that the appropriate risk premium of stocks over bills is much closer to 6.5% than 8.6%.

Q. What does this imply for the risk premium analysis?

A. The current rate on 3-month Treasury bills is about 5.8% and we have risk premium estimates ranging from 6.2% to 8.6%. This implies estimates of the current return on a broad portfolio of stocks ranging from 12.0% to 14.4%. The best estimate is most likely to fall in the area of 12.30%. This is consistent with my DCF cost of equity estimates and is significantly lower than Dr. O'Donnell's comparable range of 14.46% to 17.18% (Exhibit JLOD, Schedule 2, page 1).

"COMPARABLE" UNREGULATED FIRMS

Q. Did you examine any comparable unregulated firms?

A. No. It is my opinion that unregulated firms are not generally comparable to regulated utilities. Unregulated firms have opportunities to gain or lose customers through competition with other firms producing the same product or service. Similar opportunities for both good and ill results are simply not available to regulated firms. Hence, even though the average outcomes for unregulated firms at a point in time might be similar to outcomes for regulated utilities at the same point in time, the range of possibilities - and the attendant risks - are much larger for unregulated firms.

This may be especially true in the case of AWWC. For example, Value Line ("Ratings and Reports," 23 October 1988) states: "This equity's current yield is far below the utility group average. That's partly due to the greater stability inherent in the water utility business, versus electric and telephone. For American Water Works, that stability is enhanced by the wide geographic diversity of its operating subsidiaries. That diversity protects the company from adverse weather or regulations in any one area."

Similar language appears in Value Line's 8 January 1988 assessment of AWWC. AWWC's best avenue for earnings growth, in Value Line's opinion, derives from real estate and land development - unregulated areas separate from the water business.

Q. Did you investigate Dr. O'Donnell's 12 unregulated firms?

A. Yes. Some of the results of my inquiry are shown on page 7 of my Exhibit. I have classified the firms by industry group and I updated and augmented some of the data presented by Dr. O'Donnell.

Several items deserve special mention. The six industry groups have no obvious characteristics in common with water utilities, except for Dr. O'Donnell's criteria. Yet, only one firm in the group still meets Dr. O'Donnell's Beta criterion of 0.60-0.75. Even if this criterion is updated to reflect AWWC's current Beta of 0.85, only 5 of the 12 could qualify. In addition, none of the firms are even close to the size of AWWC and 4 are not much larger than TAWC.

The diversity within this group as well as the disparity between the group and AWWC are highlighted by the DCF estimates. The midpoint of the group average range of DCF cost of equity estimates is 14.5%. This is 200 basis points higher than my

estimate for AWWC. The overall range of individual estimates, however, is huge, 4.8% to 21.8%, compared to the 7.4% to 18.7% for my eleven regulated firms (Klein Exhibit page 6).

For these reasons, I can give no weight to the analysis of "comparable" unregulated firms.

COST OF CAPITAL

Q. What cost of equity for TAWC is produced by your analysis?

A. Inserting the cost rate of 12.5% on equity in AWWC's capital structure leads to a cost rate for the equity proportion of TAWC's capital structure of 11.84%. The calculation of TAWC's overall weighted cost of capital using the double-leveraged capital structure, as shown on page 1 of my Exhibit, is consistent with this figure.

Q. Taking all of this into account, what is your estimate of the cost of capital for TAWC?

A. My estimate of the overall cost of capital for TAWC is 10.30% as shown on Klein Exhibit page 1.

Q. Is 10.30% your recommended rate of return for TAWC?

A. Yes.

Q. Does this conclude your testimony?

A. Yes, it does.

Before The

PUBLIC SERVICE COMMISSION

Of The

STATE OF TENNESSEE

in re:

TENNESSEE AMERICAN WATER COMPANY

(Docket U-87-7534)

****

Prefiled Exhibit of

Dr. Christopher C. Klein

****

February, 1988

TENNESSEE AMERICAN WATER COMPANY
COST OF CAPITAL

Component	%	Cost Rate	Weighted Cost
Long Term Debt	59.49	9.80%	5.83%
Preferred Stock	6.98	7.22%	0.50%
Common Equity	33.53		
Parent Debt*	3.00	7.66%	0.23%
Parent Pref. Stock*	1.00	5.01%	0.05%
Parent Equity*	29.53	12.50%	3.69%
Total			10.30%

Source: TAWC Capital Structure: Company Accounting Exhibit No. 3, Schedule 1; Parent Components of Subsidiary Equity and their cost rates calculated from Response to Staff Request Nos. 56 and 57, reflecting American Water Works (Parent Only) capital structure as of December 31, 1987.

* Parent component proportions of subsidiary equity rounded to reflect trend toward higher equity proportion in capital structure of American Water Works.

TENNESSEE AMERICAN WATER COMPANY
COST OF CAPITAL
December 31, 1987

Component	%	Cost Rate	Weighted Cost
Long Term Debt	53.26	9.63%	5.13%
Short Term Debt	4.58	8.25%	0.38%
Preferred Stock	7.53	7.23%	0.54%
Common Equity	34.63		
Parent Debt	3.29	7.64%	0.25%
Parent Pref. Stock	1.10	5.01%	0.05%
Parent Equity	30.24	12.50%	3.78%
Total			10.13%

Source: Response to Staff Request Nos. 56 and 57.

TENNESSEE AMERICAN WATER COMPANY
INTEREST RATES ON BONDS

Past TAWC General Mortgage Bond Issues

Issue Date	TAWC	A Corp	Aaa Utility	10-yr Gov	TAWC-Gov
April 1982	15.5%	15.7%	15.24%	13.62%	1.88%
Jan. 1983	12.6%	13.52%	12.09%	10.46%	2.14%
Average					2.01%

Current Rates
Bonds of 1 to 10 Year Terms

	Feb. 19, 1988	52 week High	52 week Low
Corp.(Medium Qlty: A-Baa) 1-10 year Composite	9.48%	10.80%	8.74%
U.S. Gov. 1-10yr. Composite	7.51%	9.57%	6.58%
U.S. Gov. 10 year only	8.29%		
TAWC (Estimate)	10.30%		

Sources: Company submissions; Federal Reserve Bulletin, various issues; 23 Feb. 1988 Wall Street Journal, "Key Interest Rates" and "Yield Comparisons."

TENNESSEE AMERICAN WATER COMPANY
DCF COST OF EQUITY

Dividend Yield	Dividend Growth	Equity Cost
	American Water Works	
3.0% - 4.0%	8.0% - 9.0%	11.0% - 13.0%
	United Water Resources	
4.0% - 5.0%	5.0% - 8.0%	9.0% - 13.0%
	Eleven Natural Gas Distribution Companies	
6.8% - 7.4%	3.2% - 7.9%	10.0% - 15.3%

TENNESSEE AMERICAN WATER COMPANY
DIVIDEND YIELDS AND GROWTH RATES
WATER COMPANIES

Dividend Yields (%)

	Average 1986	Average 1987	Current	Projected 1988	Projected 5-Years
American Water Wks.	3.1	3.2	4.3	4.0	3.9
United Water Res.	4.8	4.2	4.9	4.9	5.0

Growth Rates (%)

	Dividends 5-yr.	Dividends Proj.	Earnings 5-yr.	Earnings Proj.	Sustainable 1983-87
American Water Wks.	15.0	9.5	18.0	7.5	8.4
United Water Res.	7.0	5.5	8.5	8.0	2.2

Other Data

	Size($mil.)	Beta
American Water Wrks.	1032	0.85
United Water Res.	341	0.75

Source: Value Line "Ratings and Reports," 22 Jan. 1988, and "Index and Summary," 5 Feb. 1988. Size is 1986 total capital.

TENNESSEE AMERICAN WATER COMPANY
ELEVEN NATURAL GAS DISTRIBUTION COMPANIES

Company	Size ($mil.)	Beta	Dividend Yield(%)	Growth Rate (%)	DCF Range (%)
Arkla	1294	0.90	5.7-6.0	1.7-8.5	7.4-14.5
Atlanta G.L.	590	0.70	7.3-8.4	3.6-8.5	10.9-16.9
Brooklyn Union	779	0.55	7.6-8.3	2.5-4.0	10.1-12.3
Eastern Gas	746	0.80	5.7-5.9	2.8-10.0	8.5-15.9
Nat. Fuel Gas	611	0.75	6.8	1.5-9.0	8.3-15.8
NICOR	1069	0.65	7.6-7.9	4.5-7.5	12.1-15.4
Peoples Energy	844	0.80	8.3-9.9	4.9-6.5	13.3-16.4
Primark	741	0.80	6.6-7.7	4.5-11.0	11.1-18.7
Questar	630	0.75	5.7-5.9	5.4-7.5	11.1-13.4
Southwest Gas	643	0.75	6.1-6.7	2.8-11.0	8.9-17.7
Washington G.L.	555	0.60	8.0-8.4	1.0-3.4	9.0-11.8
Average	773	0.73	6.8-7.4	3.2-7.9	10.0-15.3

Overall Ranges

Size: 555-1294 Beta: 0.55-0.90 DCF: 7.4-18.7

Source: Value Line "Ratings and Reports," 8 Jan. 1988 and "Summary and Index," 5 Feb. 1988. Size is 1986 Total Capital; Dividend Yield is the range of current and projected current year yields; Growth Rate is the range of 1983-87 sustainable, and projected dividend and earnings growth rates.

TENNESSEE AMERICAN WATER COMPANY
O'DONNELL'S 12 UNREGULATED FIRMS
BY INDUSTRY GROUP

Industry/Firm	Size ($mil.)	Beta	Dividend Yield(%)	Growth Rate (%)	DCF Range(%)
Banking:					
BayBanks, Inc.	420	0.90	3.1-4.7	10.5-11.5	13.6-16.2
Dominion Bankshr.	340	0.80	3.2-5.1	6.0-10.5	9.2-15.6
U.S. Trust	174	1.05	2.4-3.3	7.0-18.5	9.4-21.8
Zions Bancorp	200	0.95	2.7-6.5	4.5-12.5	7.2-19.0
Business Forms:					
Am. Bus. Products	82	0.75	2.5-4.4	7.0-17.0	9.5-21.4
New England Bus.	69	0.95	1.7-2.7	16.0-19.0	17.7-21.7
Food Industries:					
Fleming Co.	473	1.00	2.6-3.7	9.5-17.5	12.1-21.2
McCormick & Co.	272	0.85	1.9-3.1	7.5-17.5	9.4-20.6
Insurance:					
Crawford & Co.	77	0.80	2.4-4.2	7.0-13.5	9.4-17.7
Janitorial/Maintenance:					
Am. Bldg. Maint.	68	0.80	2.3-4.8	2.5-13.0	4.8-17.8
Newspapers & TV:					
Lee Enterprises	128	0.90	1.7-2.8	9.5-17.5	11.2-20.3
Media General*	314	1.00	0.9-1.4	4.5-14.5	5.4-15.9
Average	204	0.90	2.3-3.9	7.6-15.2	9.9-19.1

Overall Ranges
Size: 67.7 - 340.3 Beta: 0.75 - 1.05 DCF: 4.8 - 21.8

Sources:

Size: 1986 net worth, Value Line "Ratings and Reports."

Beta: Value Line "Summary and Index," 5 Feb. 1988.

Div. Yield: Range of 1986 average, 5 year projected, current year projected, and current yields from Value Line "Ratings and Reports" and 5 Feb. 1988 "Summary and Index."

Growth Rate: Range of past 5 years and projected growth in dividends and earnings, Value Line "Ratings and Reports."

* Voting control (71% of class B stock) held by D. T. Bryan, Chairman, and family.

TENNESSEE AMERICAN WATER COMPANY
EQUITY RISK PREMIA*
FIVE YEAR MOVING** AND ONE YEAR AVERAGES
1952 - 1986

	5-Year	1-Year		5-year	1-Year
1986	11.54%	12.3%	1968	6.46%	5.9%
1985	5.16	24.4	1967	9.22	19.8
1984	4.52	- 3.6	1966	2.96	-14.8
1983	6.86	13.7	1965	10.88	8.5
1982	4.00	10.9	1964	8.74	12.9
1981	-0.64	-19.6	1963	7.96	19.7
1980	7.04	21.2	1962	12.38	-11.5
1979	9.08	8.1	1961	11.90	24.8
1978	0.56	- 0.6	1960	7.76	- 2.2
1977	-3.64	-12.3	1959	14.20	9.0
1976	1.84	18.8	1958	22.76	41.8
1975	0.06	31.4	1957	13.84	-13.9
1974	-6.72	-34.5	1956	19.96	4.1
1973	-2.84	-21.6	1955	23.64	30.0
1972	2.66	15.1	1954	23.74	51.8
1971	3.60	9.9	1953	16.92	- 2.8
1970	-1.34	- 2.5	1952	18.42	16.7
1969	0.86	-15.1			

	5-year	1-year
1977-1986 average:	4.45	5.45
1972-1986 average:	2.63	4.25
1967-1986 average:	2.91	4.08
1962-1986 average:	4.05	3.86
1957-1986 average:	5.72	5.20
1952-1986 average:	7.84	7.31

* Return on common stocks less return on short term government bills. Ibbotson Associates, "Stocks, Bonds, Bills, and Inflation: 1987 Yearbook."

** Average of data for year shown and four immediately preceeding years.

Grimes, Dale

From: RFerrell@wvawater.com
Sent: Thursday, June 26, 2003 10:08 AM
To: Grimes, Dale
Cc: Pappas, T.G.
Subject: Public Fire Protection

Attachment to item g! One more being sent!
----- Forwarded by Roy Ferrell/WVAWC/AWWSC on 06/26/2003 11:06 AM -----

Pam Cummings

06/13/2003 02:39 PM

To: cklein@mtsu.edu
cc: Roy Ferrell/WVAWC/AWWSC@AWW
Subject: Public Fire Protection

Dr. Klein,

I've left messages for several individuals at Memphis Light & Gas and Metro Water Service in Nashville. I will forward the information as soon as I receive it.

Elithe Carnes at the Knoxville Utilities Board provided the following information for 2004:
7,280 public hydrants
costs recovered through rates
$2,200,000 public hydrant revenue for 2004

Thanks,
Pam

---------- Forwarded by Pam Cummings/TAWC/AWWSC on 06/13/2003 02:30 PM ----------

From: Roy Ferrell on 06/13/2003 08:43 AM

To: Pam Cummings/TAWC/AWWSC@AWW
cc: "Chris Klein" <cklein@mtsu.edu>

Subject:

Pam, I will be attending a meeting at the WVA Commission starting at 11:00 am this morning-- will probably last until 4:00 or 4:30!

Please provide the information I requested on public fire protection directly to Dr. Klein, e mail address noted above, with a copy to me --- thanks!

Attachment G

Grimes, Dale

From: RFerrell@wvawater.com
Sent: Thursday, June 26, 2003 10:09 AM
To: Grimes, Dale
Cc: Pappas, T.G.
Subject: Public Fire Protection

Last attachment to item g!
----- Forwarded by Roy Ferrell/WVAWC/AWWSC on 06/26/2003 11:07 AM -----

Pam Cummings

06/13/2003 04:01 PM

To: cklein@mtsu.edu
cc: Roy Ferrell/WVAWC/AWWSC@AWW
Subject: Public Fire Protection

Brian Walters from Memphis Light, Gas & Water provided the following tariffs for public hydrants:

$130.66/year for 2 1/2" with 1 opening
$207.64/year for 2 1/2" with 2 openings

Metro Water Services in Nashville does not charge for public fire protection. I spoke with Bowman Gerald in the Engineering Department and he told me the costs for maintaining the hydrants are absorbed as part of the overall O&M expenses for the water department. Most all new hydrants are installed and paid for by developers and then deeded to Metro Water Service.

STATE OF WEST VIRGINIA

COUNTY OF KANAWHA, TO-WIT:

AFFIDAVIT

I, Roy L. Ferrell, Director Rates & Planning, being first duly sworn, do hereby certify that the foregoing responses to the Data Request from the Attorney General's Office were prepared by me or under my supervision and are true and accurate to the best of my knowledge and information.

Roy L. Ferrell

Taken, subscribed and sworn to before me this 26th day of June, 2003.

My commission expires July 6, 2012.

OFFICIAL SEAL
NOTARY PUBLIC
STATE OF WEST VIRGINIA
VANESSA S. TURNER
96 Oakwood Drive
Madison, WV 25130
My Commission Expires July 6, 2012

Notary Public