STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

VERIFIED PETITION OF CITIZENS WATER OF WESTFIELD, LLC FOR (1) AUTHORITY TO INCREASE RATES AND CHARGES FOR WATER UTILITY SERVICE AND APPROVAL OF A NEW SCHEDULE OF RATES AND CHARGES; (2) AUTHORITY TO IMPLEMENT AND APPROVAL OF A SYSTEM DEVELOPMENT CHARGE; AND (3) APPROVAL OF CERTAIN REVISIONS TO ITS TERMS AND CONDITIONS APPLICABLE TO WATER UTILITY SERVICE.))))))))))))))	**CAUSE NO. 46020**

PUBLIC'S EXHIBIT NO. 3

TESTIMONY OF SHAWN DELLINGER

ON BEHALF OF

THE INDIANA OFFICE OF UTILITY CONSUMER COUNSELOR

June 21, 2024

Respectfully submitted,

INDIANA OFFICE OF UTILITY CONSUMER COUNSELOR

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CERTIFICATE OF SERVICE

This is to certify that a copy of the ***Public's Exhibit No. 3 – Testimony of Shawn Dellinger on behalf of the OUCC*** has been served upon the following captioned proceeding by electronic service on June 21, 2024.

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TESTIMONY OF OUCC WITNESS SHAWN DELLINGER, CRRA
CAUSE NO. 46020
CITIZENS WATER OF WESTFIELD, LLC

I. INTRODUCTION

1 **Q: Please state your name and business address.**

2 A: My name is Shawn Dellinger, and my business address is 115 West Washington Street,

3 Suite 1500 South, Indianapolis, Indiana 46204.

4 **Q: By whom are you employed and in what capacity?**

5 A: I am employed by the Indiana Office of Utility Consumer Counselor ("OUCC") as a Senior

6 Utility Analyst. I primarily work with the OUCC's Water/Wastewater Division. My focus

7 is on financial issues, including rates of return and financing.

8 **Q: Please describe your educational background and experience.**

9 A: My educational background and experience are described in Appendix A. I am a Certified

10 Rate of Return Analyst (CRRA designation), which is a professional designation awarded

11 from the Society of Utility and Regulatory Financial Analysts.

12 **Q: What is the purpose of your testimony?**

13 A: I recommend a return on equity of 9.3%. I note that Citizens Water of Westfield, LLC's

14 ("Petitioner" or "CWW") proposed return on equity is based on a cost of equity value of

15 9.43% enhanced with a 1.48% liquidity adjustment. I oppose Petitioner's proposed

16 liquidity adjustment. I point out that Petitioner's proposed WACC applied to its proposed

17 fair value rate base has the effect of double-counting inflation, and I recommend a WACC

18 that has been appropriately adjusted to remove that effect in accordance with Commission

19 practice.

1 **Q:** **What did you do to prepare your testimony?**

2 A: I reviewed the verified direct testimony of CWW witness R. Jeffrey Malinak, prepared

3 discovery questions, and analyzed Petitioner's discovery responses. I reviewed and

4 incorporated the documents referenced throughout my testimony regarding equity

5 valuations, interest rates, growth rates, and general economic conditions. I reviewed

6 Orders wherein the Commission addressed the weighted average cost of capital to apply to

7 a fair value rate base not based simply on original cost.

8 **Q:** **Do you have any attachments included with your testimony?**

9 A: Yes. My list of attachments is found on Appendix B.

10 **Q:** **If you do not address a specific topic in your testimony, does that mean you agree**
11 **with or endorse Petitioner's request or position?**

12 A: No. It is neither practical nor reasonable for me or the OUCC's other witnesses to testify

13 on every issue, item, or adjustment presented in Petitioner's testimony, exhibits, work

14 papers, or discovery responses. Petitioner's case-in-chief addresses a broad and significant

15 number of issues, while my testimony addresses a subset of the issues. Its scope is strictly

16 limited to the specific items I address. My silence in response to any actions, decisions, or

17 positions stated or implied by Petitioner should not be construed as an endorsement.

18 **Q:** **How is your testimony organized?**

19 A: After briefly summarizing my recommendations and addressing preliminary matters, I

20 describe methods and models that may be used to calculate a Return on Equity ("ROE")

21 such as the Discounted Cash Flow Model ("DCF") and the Capital Asset Pricing Model

22 ("CAPM"), including the role of proxy groups. Thereafter, I discuss the inappropriateness

23 of Petitioner's application of a "Liquidity Premium" to enhance its proposed ROE. Also I

24 discuss CWW's deviation from Commission practice and policy to remove the duplicating

1   effect of inflation from its Weighted Average Cost of Capital ("WACC") when relying on

2   a fair value rate established through an RCNLD study. I end my testimony by

3   recommending an ROE of 9.3% and avoid duplicating the effects of inflation embedded in

4   Petitioner's proposal by recommending a reduction to the equity and debt components of

5   CWW's WACC. Appendices A and B state my qualifications and list of my attachments,

6   respectively, and Appendices C through I afford additional technical testimony and

7   analyses applicable to this case.

II.   SUMMARY OF MY RECOMMENDATIONS

8   **Q:**   **Please summarize your recommendations for ROE.**

9   **A:**   To analyze the ROE component of CWW's weighted average cost of capital, I ran multiple

10   models to arrive at a recommendation of 9.3%. The types and results of these models are

11   shown on Table SD-1 below.

12   **Q:**   **What are your recommendations for the cost of capital as applied to Petitioner's**
13   **proposed rate base?**

14   **A:**   I recommend a 3.56% reduction to the weighted average cost of capital when applied to

15   the non-original cost-based portion of the rate base to avoid double counting of the inflation

16   component in both rate base and the cost of capital.[1] This adjustment would not be

17   appropriate for that portion of the rate base that is simply based on original cost.

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[1] Technically, original cost rate base used to set rates is also a fair value rate base. However, in this testimony I typically use "fair value rate base" to refer to that part Petitioner's rate base that is not based on original cost.

Table SD-1

Summary of ROE Results
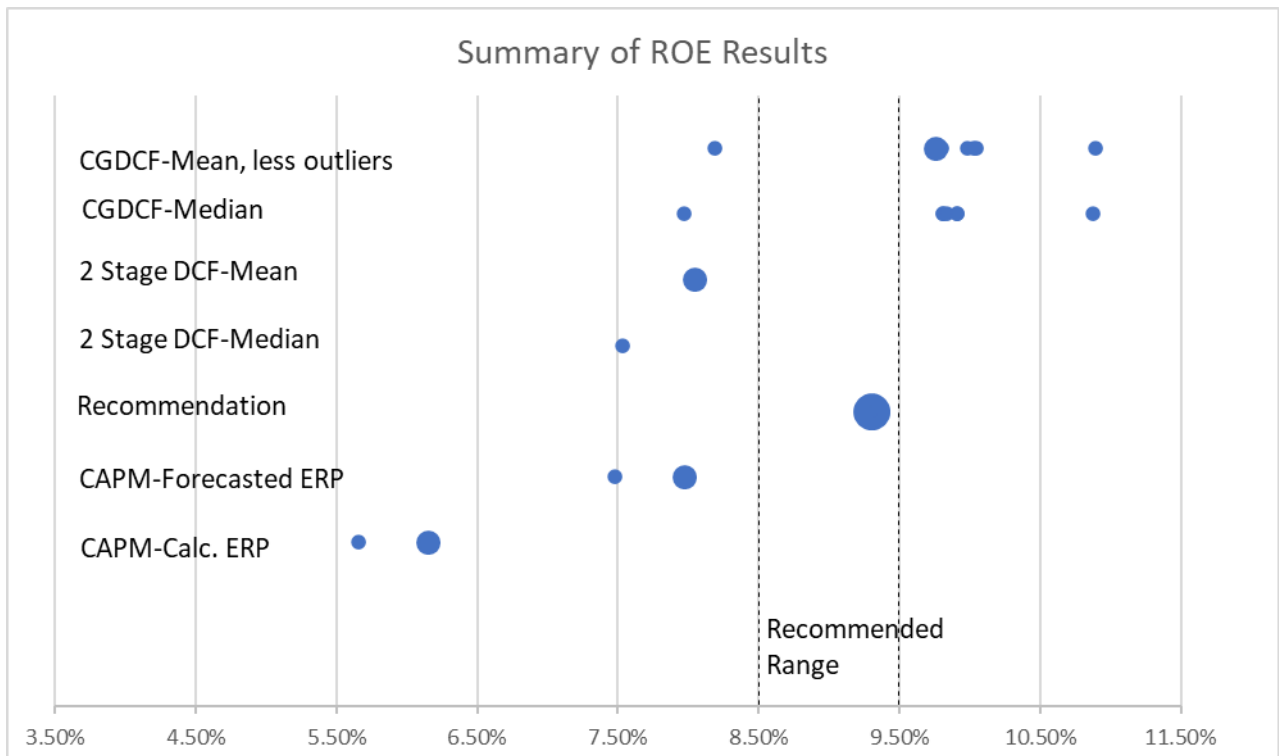
III. **AFFORDABILITY AND RISK**

1 **Q:** **How will your proposed ROE affect affordability of service for CWW's ratepayers?**

2 **A:** Application of my proposed ROE of 9.3% compared to Petitioner's proposed ROE of

3 10.9% will result in lower rates, therefore making them more affordable for customers.

4 Application of the 9.3% ROE will more appropriately align customer bills with the costs

5 that must be incurred to attract investment for CWW, while ensuring a reliable and resilient

6 water supply for Petitioner's customers. Petitioner's case-in-chief requests an authorized

7 ROE that is higher than needed to attract investment and ensure reliability.

8 **Q:** **Do public utilities in Indiana incur significant risk and uncertainty?**

9 **A:** Mr. Malinak lists many risks that CWW potentially faces, but he does not recognize that

10 Indiana is generally less risky from an investors' standpoint than the average jurisdiction.

1   He does not account for the *reduced* risk public utilities enjoy in Indiana as a result of

2   multiple tracking mechanisms. The Commission has acknowledged the reduced risk

3   associated with increased use of tracking mechanisms, a future/forecasted test year, and

4   the potential for the preapproval of major capital projects.[2] Mr. Malinak, however, makes

5   no adjustment recognizing the effect of these on CWW's risk. Furthermore, the rapid level

6   of customer growth in Westfield further reduces Petitioner's risk.

7   Mr. Malinak overlooks that from an investor standpoint, Indiana is more favorable

8   for public utilities than the average jurisdiction according to S&P Global. These are

9   compelling reasons to recommend an ROE toward the low-end of my range. Mr. Malinak's

10   failure to incorporate Indiana's favorable regulatory climate or follow previous

11   Commission guidance on the treatment of historic inflation while calculating an

12   appropriate Weighted Average Cost of Capital would lead to significant increases in

13   ratepayer bills and an increase in profits for CWW.

IV. METHODS, MODELS, AND REQUIRED INPUTS FOR CALCULATING COE

14 **Q: What is the relationship between a cost of equity ("COE") and a return on equity
15   ("ROE")?**

16 A: A *return on equity* ("ROE") refers to the profits that will accrue to the owners of a utility.

17   A *cost of equity* ("COE") is a cost to the utility (and, therefore, ratepayers), just as is the

18   cost of debt. A *return* on equity ("ROE") is a term used from the investor's perspective; a

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[2] *In re Indiana-American Water Company*, Cause No. 45870, Order, p. 43 (Ind. Util. Reg. Comm'n, February 14, 2024), "Our determination should also appropriately consider Petitioner's specific risk characteristics, such as the *mitigation of risk* associated with Petitioner's use of regulatory mechanisms, including a forecasted test year in this proceeding and the trackers approved for INAWC … . The effect of these tracking mechanisms is to reduce the uncertainty of the earnings that an investor can expect. *See* Ind. Mich. Power Co., Cause No. 44075 at 42-43 (IURC Feb. 13, 2013." (emphasis added)). *See also* Indiana Utility Regulatory Commission Orders in Cause Nos. 44910, 45564, 45847, 45052 ECA 4, and 44909 CECA 1.

1   *cost* of equity ("COE") is the corresponding term from the utility's perspective. According

2   to National Association of Regulatory Utility Commissioners ("NARUC") standards, the

3   awarded ROE should be equal to the estimated COE, although this may not always be the

4   case as is shown later in my testimony.[3]

5 **Q:**   **What models are available for calculating COE?**

6 A: In addition to the DCF, CAPM, and their derivatives discussed below, other methods for

7   calculating COE sometimes used in utility proceedings include comparable earnings, risk

8   premium, arbitrage pricing, market-to-book, and earnings price ratio analysis. Mr. Malinak

9   limited his analysis to the constant growth DCF ("CGDCF"), the multi-stage DCF

10   ("MSDCF"), and the CAPM.

11 **Q:**   **What models did you use to evaluate Petitioner's COE?**

12 A: Since the COE cannot be measured directly, like a cost of debt, the use of multiple models

13   has the advantage of offering different approaches and results for the analyst's

14   consideration in determining the recommended ROE. I calculated a result for the Constant

15   Growth DCF, a two-stage DCF ("2SDCF"), and a CAPM. I consider these the three most

16   useful models to determine the COE for CWW. Petitioner used those same three models

17   with the exception that witness Malinak used a multi-stage version of the two-stage DCF

18   model.

19 **Q:**   **In basic terms, what is the difference between a DCF model and the CAPM?**

20 A: The DCF model takes the dividends a company, or a group of companies, is currently

21   paying and increases this amount by a certain percentage each future year.[4] The CAPM

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[3] *See* John D. Quackenbush, *Cost of Capital and Capital Markets: A Primer for Utility Regulators*, National Association of Regulatory Utility Commissioners (2019).
[4] There are many different sorts of DCF models. In utility regulation, dividends are generally looked at, rather than overall cash flows for the cash flow portion of the model.

1   takes the risk-free interest rate and adds a percentage (a premium or return due to risk)

2   based on the overall equity market excess return, modified by the riskiness of the individual

3   company (or group of companies).

4   **Q: What are the inputs to each model?**

5   A: Each model requires a group of reasonably comparable companies to use as a proxy for

6   the utility (proxy group). As used in utility regulation, the Constant Growth DCF has two

7   inputs - the current dividend rate and the prospective growth rate. The two-stage DCF

8   requires two additional inputs - a termination date for the initial growth rate (establishing

9   the first stage of growth) and an appropriate growth rate for the second stage of growth.

10   The CAPM relies on the risk-free interest rate, the riskiness (*Beta*) of the company or

11   companies being reviewed, and the equity risk premium (i.e., the excess return an investor

12   receives for investing in equities rather than risk-free bonds).

13   **Q: Do the model outputs result in a large difference in the cost of equities you and CWW**
14   **recommend?**

15   A: No. For purposes of discussing the results of these models, Petitioner ultimately

16   recommends a 9.43%, which is the result of its full sample CAPM model with all Beta

17   measures included. Therefore, despite significant disagreement on individual factors, the

18   total difference is only 13 basis points on what are considered the model outputs and the

19   most reasonable recommendation. However, Mr. Malinak, nonetheless, recommends a

20   10.9% ROE and a range of 10.2%-10.90%, while I recommend a 9.3% ROE based on these

21   models.[5] Importantly, this difference is not the result of the outputs of our models such as

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[5] My recommendation is not a simple mathematical average of different components but is more holistic in that it incorporates the models, the macroeconomic environment, and returns from similar companies.

1   the DCF or CAPM, but rather, the difference is primarily the result of Petitioner's witness

2   inappropriately adding a 1.48% liquidity premium.

A. Proxy Group

3   **Q:**   **What is the purpose of a proxy group in determining an appropriate COE?**

4   A: A proxy group is a collection of similar companies that can be used to benchmark features

5   of the company being analyzed, such as growth, dividends, riskiness, and valuations. Proxy

6   groups also provide inputs for dividend yields, growth rates, and Betas (risk).

7   **Q:**   **How is a proxy group selected?**

8   A: To make the best matches to the company being analyzed, publicly traded companies are

9   filtered by industry, portion of that industry, size, geographic location, financial leverage,

10   structure, and potentially other factors. The payment of dividends should also be

11   considered. It is generally better to have more companies in the proxy group than fewer,

12   although the robustness of the data set gained by adding more companies must be balanced

13   by the loss of focus and similarity caused by expanding the proxy group to include less

14   comparable companies.

15   **Q:**   **How do you select an appropriate proxy group?**

16   A: Ideally, I would start with a very large list of similar companies and apply filters to target

17   the best matches to the company analyzed. Companies in the proxy group should be as

18   similar as possible to the company being analyzed, with due consideration to the industry,

19   portion of that industry, size, geographic location, financial leverage, structure, and

20   potentially other factors. Generally, only publicly traded companies will have information

1   available for analysis, which is a limiting factor.[6] For some models, the presence of

2   dividends should be a factor to consider. In this case I started with the universe of water

3   utilities that are publicly traded, and I accept Petitioner's inclusion of gas distribution

4   utilities as a reasonable trade-off to add robustness of data by expanding the limited proxy

5   group at the expense of including companies that are not as comparable as would be the

6   case in a more ideal environment.

7   **Q: Does your proxy group only include water utilities?**

8   A: No. As indicated above, I included some gas distribution utilities to provide a more robust

9   and more meaningful proxy group, primarily because the number of public water utilities

10   to choose from is limited. CWW's consultant likewise used water and gas utilities in his

11   proxy group.

12 **Q: Which water utilities are in your proxy group?**

13 A: The six companies in my proxy group are listed in Table SD-2. There are a total of ten

14   companies in the Value Line Water Utility Industry universe. Of these, I did not include

15   the four smallest - Artesian Resources Corporation, Consolidated Water, Global Water

16   Resources, and York Water, due to their lack of robust analyst coverage, which is indirectly

17   due to their size.[7] I included the remaining six companies in my proxy group, one of which

18   is Essential Utilities, Inc. ("Essential"), which I included despite a large percentage of its

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[6] In this context, I mean information and reporting provided by market analysts like Value Line, Bloomberg, Zacks, etc., which provide data such as dividends, growth estimates, or Betas (riskiness). For practical purposes, no privately traded companies would have relevant information available in a case such as this. Not all publicly traded companies have this information available, especially the smallest ones.

[7] Analyst coverage is referring to companies such as Value Line, Zacks, S&P, etc. providing estimates on growth or Beta.

1   total stock value being derived from its gas utility business.[8]

2   **Q: Did you and Mr. Malinak use the same component water utilities in your proxy**
3   **groups?**

4   A: No. Moreover, Mr. Malinak used a different proxy group for his DCF analysis than for his

5   CAPM analysis.[9] I do not consider it appropriate to use different proxy groups for different

6   models. Thus, I did not include either Artesian or York in my proxy groups. In the

7   spreadsheet supporting my model results, the data for these two companies is provided, but

8   it is not included in my calculations. Since the practical effect of this decision is to remove

9   the Betas of these two companies from consideration, it should be noted that these two

10   companies had lower Betas than the rest of the proxy group, and their inclusion would have

11   resulted in a lower COE result from the CAPM analysis.

12   **Q: What gas utilities did you include in your proxy group and why?**

13   A: I included Chesapeake Utilities, ONE Gas Inc., Southwest Gas Holdings, and Spire Inc.

14   These companies were also all included in Mr. Malinak's proxy group. I began with the

15   component gas utilities in Mr. Malinak's preferred proxy group and removed some

16   companies for reasons I address below. I did not identify any additional suitable gas

17   utilities that were not included in Mr. Malinak's proxy group that I would consider

18   necessary or beneficial. I accepted the premise of including gas companies as suitable

19   proxy group members, because in my professional opinion, gas distribution utilities are the

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[8] I have not done a specific analysis of what percentage of the market cap of Essential (WTRG) is from the Aqua
operations and what is from the Peoples Gas operations. However, in 2023, the natural gas segment generated
generally equal revenues as the water segment ($863.8 million vs. $1.15 Billion). (https://www.essential.co/news-
releases/news-release-details/essential-utilities-reports-financial-results-full-year-2023-and)

[9] I assume Mr. Malinak did so because there is a lack of available analyst coverage and, thus, growth estimates for
Artesian and York (which he did include in his proxy group, and I do not), but there are still available Beta calculations
for these companies.

1   most similar to water utilities in their operations and structure (for instance, no generating

2   assets, same general regulatory framework, etc.) of any other industry. If there were

3   additional suitable water utilities that were publicly traded, I would have only included

4   water utilities.

5 **Q: What is your proxy group?**

6 A: Please find Table SD-2 below with my proxy group.

Table SD-2

Company	Ticker
American States Water Company	AWR
American Water Works	AWK
California Water Service Group	CWT
Essential Utilities	WTRG
Middlesex Water Company	MSEX
SJW Group	SJW
Chesapeake Utilities	CPK
ONE Gas Inc.	OGS
Southwest Gas Holding	SWX
Spire Inc.	SR

7 **Q: What gas distribution companies did Mr. Malinak include that you did not?**

8 A: Mr. Malinak's proxy group includes Atmos Energy, New Jersey Resources, NiSource Inc.,

9   and Northwest Natural Holding Company. My group does not include these companies.

10 **Q: Why did you not include those four companies in your proxy group?**

11 A: I excluded them primarily because of the small percentage of operating income derived

12   from regulated operations. I accept the premise that gas distribution companies may be

13   suitable proxy group members, in part because the operations are similar, and in large part

14   due to the regulatory umbrella they operate under. Mr. Malinak excluded "natural gas

15   distribution companies [that] derive less than 50% of their total operating income from

16   regulated operations." I believe this factor is too low.

Table SD-3

Company	Ticker	Operating Income Derived from Regulated Operations-DR-5-3	Accepted into Proxy Group	Ending Proxy Group
American States Water Company	AWR			Yes
American Water Works	AWK			Yes
California Water Service Group	CWT			Yes
Essential Utilities	WTRG			Yes
Middlesex Water Company	MSEX			Yes
SJW Group	SJW			Yes
Atmos Energy	ATO	65.60%	No	No
Chesapeake Utilities	CPK	80.70%	Yes	Yes
New Jersey Resources	NJR	53.90%	No	No
Nisource Inc.	NI	72.30%	No	No
Northwest Natural Holding Company	NWN	63.90%	No	No
ONE Gas Inc.	OGS	100%	Yes	Yes
Southwest Gas Holding	SWX	86.20%	Yes	Yes
Spire Inc.	SR	83.30%	Yes	Yes

1 **Q:** **Did CWW exclude any companies because of a low percentage of regulated**
2 **operations?**

3 A: Yes. Mr. Malinak excluded "natural gas distribution companies [that] derive less than 50%

4 of their total operating income from regulated operations." I consider 50% of operating

5 income too low to qualify for inclusion in the proxy group. I used 80% of total operating

6 income from regulated operations as the threshold. Based on discovery responses (included

7 as OUCC Attachment SD-3, data request response 5-3), these four companies had total

8 operating income from regulated operations of 53.9% to 72.3%. The companies that are

9 included in my proxy group have operating income from regulated operations of between

10 80.7% and 100%.[10]

11 **Q:** **Is the parent company of CWW of equivalent risk to the proxy group?**

12 A: There are compelling reasons to say no. Fundamentally the parent company of CWW,

13 Citizens Energy Group, is a public charitable trust and is technically a municipal entity.

14 From a risk standpoint, municipal utilities have less risk than investor-owned utilities with

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[10] I would also not include NiSource in the Proxy Group because it is not classified as a gas distribution company by S&P, but instead as a multi-utility.

1   a corporate structure. This is in addition to the general environment in Indiana which serves

2   to be broadly supportive of investor interests more than the average jurisdiction, which is

3   discussed in the Affordability and Risk section above.

V.   THE DCF MODEL

4 **Q:**   **Please briefly explain the constant growth DCF model.**

5 A: The constant growth DCF model takes dividends from the proxy group and increases those

6   payments by a fixed percentage in perpetuity.[11] Because a dollar in the future is worth less

7   than a dollar today, the DCF formula discounts those payments back to the present day by

8   using a discount rate, which in the context of a regulated utility is a ROE. In Appendix C,

9   I further discuss how the DCF works and is calculated.

10 **Q:**   **Is there more than one type of DCF model?**

11 A: I used two types: the Constant Growth DCF Model and a Two-Stage DCF model. There

12   are many other potential permutations of a DCF model that are not typically used in utility

13   rate cases.

14 **Q:**   **How does your Constant Growth DCF model result compare to Mr. Malinak's?**

15 A: My preferred result is 9.76%.[12] Mr. Malinak's results ranged from 8.82% (the mean result

16   of his water proxy group) to 10.12% (the mean result for his gas proxy group). For his

17   entire sample the mean result was 9.57%, and the median result was 9.75%. The similarity

18   of results between the respective constant growth DCF models is because there is relative

19   agreement on the major inputs for this model (dividend yield and growth) for this specific

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[11] This is a broad description of the DCF in the context of a utility rate case. Not all DCF models are structured in perpetuity, consider only dividends, involve growth only, etc.

[12] What I mean by my preferred result will be discussed later in testimony, but it involves decisions such as the time period to determine the dividend yield, the selection of the appropriate interest rate, and the presentation of the data. Many other results are presented in my accompanying attachments based on different assumptions.

1   model. Mr. Malinak and I are closer to agreement on this result than on any other model.

2   It is also the highest result of any of my models. However, in arriving at his ultimate

3   recommendation, Mr. Malinak appears to have given little or no weight to the results of

4   his Constant Growth DCF model.[13]

5   **Q: What is the biggest weakness of the Constant Growth DCF model, and how did you**
6   **compensate for that weakness?**

7   A: The primary issue when implementing the Constant Growth DCF model is selecting the

8   appropriate growth rate. First, there can be significant differences in the inputs used to

9   determine the current growth rate. Second, the "long-term" earnings estimates used are

10   intended by analysts to cover forecasts between three and five years. However, the model

11   projects those earnings estimates indefinitely. This constant growth is a simplifying

12   assumption, but it is obviously flawed if it forecasts a company to grow faster than the

13   entire U.S. economy in perpetuity.[14] I addressed this issue by using a two-stage model.[15]

14   **Q: Please explain the two-stage DCF model.**

15   A: A two-stage DCF model addresses the tension between the intermediate term analyst

16   projections and the long-term to which those projections are applied and which the model

17   uses to determine a value.[16] The model does this by using one growth rate for the initial

18   stage and a second growth rate for the terminal (or long-run) stage.

19   **Q: Did you run a two-stage DCF model?**

20   A: Yes. I calculated two different two-stage DCF models. I created two models with the

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[13] Petitioner's Exhibit No. 3, Direct Testimony of Mr. Malinak, pages 81-83.

[14] This is addressed in more detail later in my testimony. It is also inherently flawed to assume that at a specific point in the future, the growth will suddenly change to a different growth rate, that will be maintained exactly in perpetuity. Simplifying assumptions are present in each of these models, but the two-stage model is more reflective of reality than the constant growth model.

[15] Mr. Malinak also addressed this weakness by using a multi-stage model.

[16] By intermediate term, I am referring to the three- to five-year time these earnings forecasts are generally covering. Long-term means periods beyond that, but especially out beyond 15-20 years, to hundreds of years in the future.

1 assumptions described below, calculated with both mean and median inputs.

2 **Q:** **What assumptions did you make for the two-stage DCF model?**

3 A: I used the same initial dividends and growth inputs I used for the constant growth model,

4 based on appropriate inputs of dividends calculated over seven-day average stock prices,

5 the weighted growth rate incorporating forecasts, and historical data. I set the period of the

6 first (initial) phase for 15 years. I used the current estimates of nominal GDP growth for

7 growth in the second (terminal) phase. Appendix C offers further details.

Table SD-4

	Median OUCC Recommended Inputs	Mean OUCC Recommended Inputs	
Price	100.00	100.00	
Current DPS	2.56	2.99	Current Dividend percentage, based on one week average stock price
Growth rate, 1st Stage	6.82%	6.67%	Overall Weighted Growth Rate
Growth rate, 2nd Stage	3.81%	3.81%	Nominal GDP growth
Years in 1st stage	15	15	Number of Years the 1st Stage Growth Rate applies
COE	7.53%	8.04%	

8 **Q:** **Please summarize your disagreements with Mr. Malinak's multi-stage DCF analysis.**

9 A: Mr. Malinak ultimately arrives at a COE of 7.8% for his full sample, and I arrive at a result

10 of 8.04%.[17] We have many small differences that cause these divergent results, but the

11 overarching outcomes are fundamentally similar. Therefore, I will discuss the specific

12 differences in Appendix C, and focus on the major issues driving the radically different

13 ROE and WACC in my testimony.

14 **Q:** **What range of estimated COE does Mr. Malinak propose for his DCF models**
15 **and how does this contrast to your outputs?**

16 A: Mr. Malinak summarizes his results in Table 1, and the results he provides for the COE

17 before adding a liquidity premium (which I will address later in testimony) are 9.3% for

18 water companies for a constant growth DCF and 9.8% for his full proxy group. He also

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[17] Mr. Malinak also shows a result of 7.1% for the water utilities only. I did not break out my results in this way.

1   provides results of 7.1% for water companies for a multi-stage DCF approach and 7.8%

2   for his full proxy group. My results are 9.76% for the constant growth DCF and 8.04% for

3   the two-stage DCF. Mr. Malinak does not appear to place weight on the results of the

4   constant growth DCF, but he does use the Multi-Stage DCF results to support the low end

5   of his recommended range for an appropriate ROE. I afford more weight to the constant

6   growth DCF than Mr. Malinak does when determining my range of reasonableness and

7   ultimate recommendation.

B. Capital Asset Pricing Model

8 **Q:** **Please explain the Capital Asset Pricing Model.**

9 A: Briefly, the CAPM takes the current risk-free rate of interest and adds an amount based on

10   the expected additional return for holding equity versus risk-free debt. This excess return

11   is then modified by the riskiness of the equity (or equities) being examined versus the

12   market.

13 **Q:** **Do you have detailed discussions of the CAPM in your Appendices?**

14 A: Yes. Appendix G details the structure of the CAPM and the calculation of specific inputs.

15 **Q:** **What is the appropriate COE resulting from your CAPM?**

16 A: I provide two results, which are both based on the same interest rates and Betas but differ

17   in the equity risk premium. Using estimated market returns from over a dozen sources

18   results in a 6.15% estimated COE. Using an average estimate of the equity risk premium

19   directly results in a 7.97% estimated COE.

20 **Q:** **Are there significant differences between the outputs of your models and Mr.**
21   **Malinak's outputs when using the CAPM?**

22 A: Yes. Mr. Malinak provides four COE results from his CAPM analysis (not including the

23   liquidity adjustment, which I will address separately). These results include all his Beta

1   measures of 9.3% for water companies and 9.4% for his full proxy group. He also prepared

2   results incorporating only the Value Line Betas, which provided results of 10.0% for water

3   companies and 10.4% for his full proxy group. His results of between 9.3% and 10.4% are

4   materially higher than my results of 6.15%-7.97%. Since there are significant, material

5   differences in these calculations, I will focus on the CAPM in more detail in my primary

6   testimony rather than in an appendix.

7   **Q: There are three inputs into the CAPM, what are they?**

8   A: They are the risk-free interest rate, the riskiness of the assets (in this case, the Betas of each

9   individual company in the proxy group), and the equity risk premium, which is the excess

10   return an investor requires to invest in something risky rather than risk free.

11   **Q: How did you determine your risk-free interest rate?**

12   A: My preferred measure is a seven-day average yield of the 30-year U.S. Treasury (as of

13   April 26, 2024). I display other options in OUCC Attachment SD-1, specifically different

14   time frames, such as the spot price on April 26, 2024, as well as one-month, three-month,

15   and six-month results. I also provide the same information for the ten-year U.S. Treasury.

16   The seven-day average yield of the 30-year U.S. Treasury is 4.77% as of April 26, 2024.

17   The range of these different results is from 4.27% (for the six-month average yield of the

18   ten-year U.S. Treasury) to 4.78% (the spot yield of the 30-year U.S. Treasury), so my

19   preferred metric is very close to the highest result of the numbers I analyzed. I have used

20   this metric as my preferred risk-free rate in all cases in which I have prepared a full ROE

21   analysis. Higher risk-free rates increase the result of the CAPM on a direct basis, so higher

22   risk-free interest rates result in a higher output for the COE for the CAPM. The various

23   inputs are found in Table SD 5.

Table SD-5

		Average Yield Over			
	Spot	7-Day	1 Month	3 Month	6 Month
10 Year Treasury Yield	4.67%	4.65%	4.50%	4.30%	4.27%
30 Year Treasury Yield	4.78%	**4.77%**	4.62%	4.45%	4.42%

1 **Q:** **What did Mr. Malinak determine as his risk-free rate?**

2 A: He used a one-week average of the 20-year U.S. Treasury rate as of December 11, 2023.

3 His risk-free rate was 4.46%.

4 **Q:** **Does Mr. Malinak use the same date for all of his inputs?**

5 A: No. His risk-free rate of return was set as of December 11, 2023. His Bloomberg Betas

6 were set on October 25, 2023. His Value Line Betas are sourced from reports dated

7 August 25, 2023, and October 6, 2023 (Value Line Reports are released on a three-month

8 cycle, so the August 25, 2023 reports would have been updated approximately

9 November 25, 2023). This is concerning because all data should as of the same date, or as

10 close as practicable. Especially when using one year Beta calculations, having significant

11 discrepancies between the date of the interest rate used and the date of the Betas used

12 introduces discrepancies between what these numbers are reflecting. This result is

13 unpredictable, and it is best for the analyst to use the same date for all data inputs.[18]

14 **Q:** **How did you determine the appropriate Betas to use in your CAPM?**

15 A: I used a wide variety of sources, including Value Line, Yahoo!, Zacks, S&P, NYSE, and

16 all of Mr. Malinak's Bloomberg estimates.[19] These are my normal sources, plus the

17 Bloomberg sources that Mr. Malinak considered the best. I took all of these sources and

---

[18] It is for this reason that I chose April 26, 2024 because this date was on a Friday, which allowed me to collect my numbers as of the close of the market on Friday.

[19] For the Bloomberg estimates, this includes both adjusted and raw Betas for one-year daily, two-year weekly, and five-year monthly calculations.

1   produced an average result for each proxy group company, and this is what was used in

2   my calculation for the CAPM.

3   **Q: Do all the Betas reflect the same information?**

4   A: No. There is a very large variety of results of what would be considered an appropriate

5   beta. Betas simply measure the relationship between the market and an individual stock

6   price and the covariance between those numbers. If the market goes up by 1%, a stock

7   with a beta of 0.65 would be expected to go up by 0.65%, whereas if the market fell by

8   1%, a stock with a beta of .65 would be expected to fall by 0.65%. Different data providers

9   believe different inputs result in the "best" beta for their customers. You can look at daily,

10   weekly, monthly, or quarterly prices. Within those you could review the average price over

11   that timeframe or the closing price (for instance). You can also look at the data over a

12   longer or shorter time. You can also choose a different index to represent "the market."

13   Each choice provides a different beta.

1. Market Risk Premium

14   **Q: Please discuss how Mr. Malinak estimated a 7.17% market risk premium.**

15   A: In his Attachment RJM-9, Mr. Malinak provides a Market Risk Premium (Rm-Rf) of

16   7.17%. This is sourced from the 2023 SBBI Yearbook published by Kroll LLC.

17   **Q: Did you use multiple sources to determine the Equity Risk Premium?**

18   A: Yes. Some sources estimated the market return, and some estimated the equity risk

19   premium (ERP) directly, as described below.

20   **Q: What sources did you use to determine the estimated market return?**

21   A: I used 13 sources that provided information for an expected long-term market return. (*See*

22   OUCC Attachment SD-1, tab "Market Risk Premium".)

Table SD-6

Source:	Forecast
Blackrock	6.73%
BNY Mellon	6.50%
Damodaran	8.49%
Federal Reserve-Professional Forecasters	7.00%
Fidelity	6.60%
Horizon Actuarial Services	7.37%
INPRS	7.70%
Invesco	7.00%
JP Morgan	7.00%
Richmond Federal Reserve/CFO Survey	7.80%
Charles Schwab	6.20%
Vanguard	5.20%
Verus	6.30%
Average	6.91%

1 **Q: Did you ask CWW for a return estimate from the pension fund?**

2 A: Yes. In OUCC Data Request 3-34, CWW was asked for this information. The returns

3 estimated for CWW's pension fund broadly align with the results above. The overall

4 estimate of market return, including global equities, is 7.56% (and was 6.80% in 2022 and

5 2021). The source for this information is Callan Associates Capital Markets. Looking at

6 Callan's Capital Market Assumptions, the 10-year projected return for Large Cap U.S.

7 Equity is 7.5%.[20] [21]

8 **Q: How do you modify the above numbers to determine the equity risk premium?**

9 A: As previously described, to calculate an equity risk premium, the risk-free rate is subtracted

10 from the market return. For instance, if we use a risk-free rate based on the seven-day

11 average yield of the 30-year U.S. Treasury, which was 4.77% as of April 26, 2024, and

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[20] The supplemental discovery response may be found in OUCC Attachment SD-3.

[21] https://www.callan.com/capital-markets-assumptions/

1   subtract this from the OUCC's recommended estimated market return from Table SD-6 of

2   6.91%, this results in an equity risk premium of 2.14% (6.91%–4.77%). Mr. Malinak uses

3   an equity risk premium of 7.17%, which is more than three times higher. In fact, his equity

4   risk premium is higher than the general return assumption of the market forecasters shown

5   above. Applying the 4.77% risk free rate, Mr. Malinak's equity risk premium implicitly

6   requires a market return of 11.94%. This result is a full 3.45% higher than the highest result

7   found in Table SD-6 above. This overly inflated estimate drives the bulk of the different

8   results between the CAPM estimated in our respective testimonies and is easily rectified

9   by simply using reputable third-party sources.

10   **Q: Do informed sources project the equity risk premium directly?**

11   A: Yes. For instance, Kroll currently estimates the equity risk premium ("ERP") at 5.50% as

12   of February 8, 2024.[22] [23]   KPMG estimates the market risk premium ("MRP") at 5.0%,

13   updated March 31, 2024. Professor Aswath Damodaran at the New York University Stern

14   School of Business publishes well-known datasets, including updated ERPs. His update as

15   of May 1, 2024, listed an implied 4.40% ERP (based on the 12-month cash yield). *See*

16   OUCC Attachment SD-1, tab ERP, for a summary table.

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[22] On February 8, 2024, Kroll released an update confirming the MRP was 5.50%, although it did not update the report, which is dated June 8, 2023.

[23] Kroll lowered this recommendation to 5.0% on June 5, 2024 after I had finalized my numbers in this cause. The inclusion of this updated forecast from Kroll would have lowered my overall results. https://www.kroll.com/en/insights/publications/cost-of-capital/recommended-us-equity-risk-premium-and-corresponding-risk-free-rates

Table SD-7

Source	Estimate
KPMG	5.00%
Kroll	5.50%
Damodaran	4.40%
	4.97%

1 **Q: Did you use these three ERP estimates in your models?**

2 A: Yes, and they resulted in one of my preferred metrics. These current estimates are designed

3   specifically to answer what the ERP is right now. It is also a conservative estimate, insofar

4   as this method of relying on reputable, third-party estimates of this critical input results in

5   a higher ERP, and thus a higher COE than relying on the market forecasts. The results

6   relying on both methods of determining the ERP are found in Attachment SD-1 and my

7   summary graphs.

8 **Q: Did Mr. Malinak rely on any of the above three sources for his estimate of the equity**
9 **risk premium?**

10 A: Yes. He relied on Kroll. However, he used the average historical risk premium as found in

11   the 2023 SBBI Yearbook from Kroll.[24] His estimate is calculated as of December 31, 2022,

12   based on data from 1926 through 2022. The Kroll estimate above is based upon Kroll's

13   current ERP estimate, rather than an historical period of almost one hundred years.[25]

14 **Q: Please summarize the results of your CAPM analyses.**

15 A: The results of my CAPM analyses are shown on OUCC Attachment SD-1. The COE based

16   on my CAPM analyses (using my preferred inputs of the seven-day average of 30-year

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[24] *See* note [B] in Mr. Malinak's MSFR Spreadsheet, tab 170 IAC 1-5-13 CAPM; also, response to OUCC Data Request 5-2, which is found in OUCC Attachment SD-3.

[25] This Kroll estimate was current as of the time I finalized my numbers, it has since been lowered to 5.0%. https://www.kroll.com/en/insights/publications/cost-of-capital/recommended-us-equity-risk-premium-and-corresponding-risk-free-rates

1   U.S. Treasury yields as the risk-free rate, the Forecasted ERP of 4.97%, the mean Beta

2   from all six sources, and removing outliers) is 7.97%. The results were significantly lower

3   when using the ERP generated by using the average forecasted market return of 6.91%,

4   less the risk-free rate of 4.77%, which results in an ROE of 6.15%.

5   **Q: What is your estimated COE based on the CAPM?**

6   A: My recommended CAPM COE is 7.97% calculated on the mean of the COEs for each

7   member of the proxy group. This is based on the seven-day average yield for the 30-year

8   U.S. Treasury of 4.77%, plus the product of the mean Beta from all six sources of 0.65,

9   multiplied by the ERP of 4.97%. As with the DCF model, the mean is a more appropriate

10   result to use and is my preferred result. Based on a market return of 6.91%, I also

11   recommend a CAPM result of 6.15%.

12 **Q: Please summarize your results for the CAPM calculations.**

13 A: For the CAPM, my result is 7.97% COE for the results obtained by using a directly

14   forecasted ERP and 6.15% for the results obtained by incorporating the forecasted market

15   return of 6.91%.

C. Summary of ROE Analysis Results and Resulting Recommended ROE

16 **Q: Please summarize the results of the Constant Growth DCF model, two-stage DCF**
17 **   model, and CAPM analyses.**

18 A: Table SD-8 below shows both the range and the recommendation based on the four models

19   to which I assign weight. This Table also shows the average of all the models:

Table SD-8

Model	Low	Recommendation	High
DCF-Constant Growth-Mean	8.19%	9.76%	10.89%
DCF-2 Stage-Mean		8.04%	
CAPM-Forecasted ERP	7.48%	7.97%	7.99%
CAPM-Calculated ERP	5.66%	6.15%	6.17%
Average:	7.11%	7.98%	8.35%

1   The results of each individual set of inputs can be seen below. This is the same

2 information presented in Table SD-8 above, but incorporating results attained by using

3 data other than my preferred inputs and models.

Table SD-9
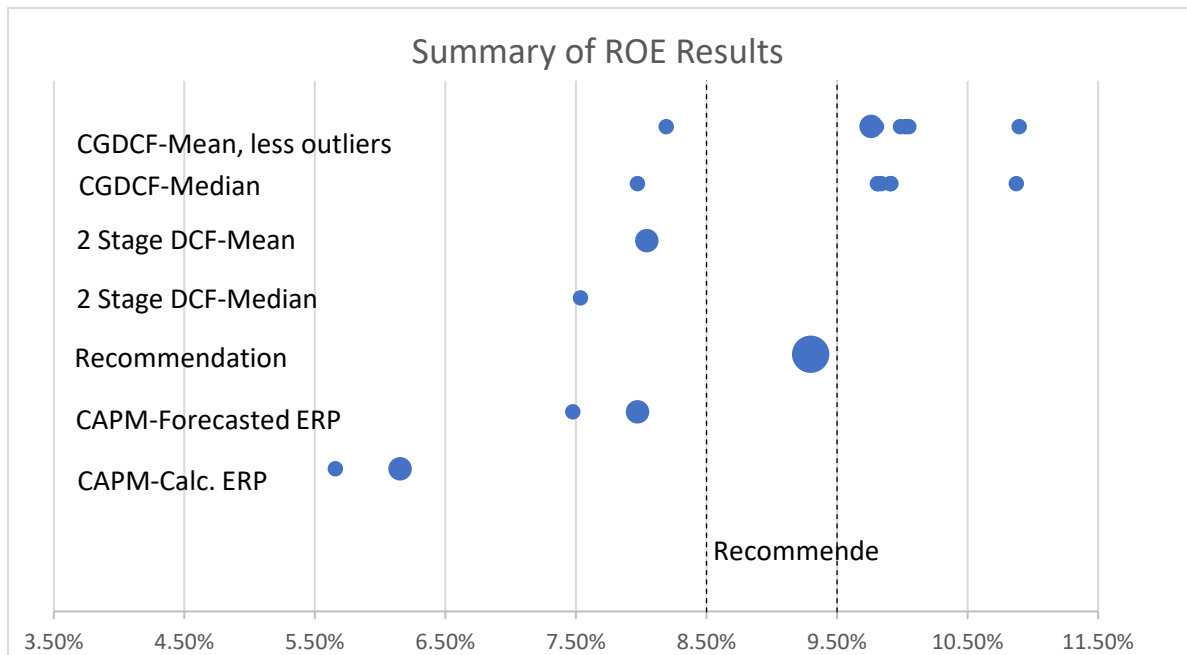
4 **Q:** **Is a 9.3% ROE reasonable in this case?**

5 A: Yes. First, the market-to-book ratio of the proxy group indicates the required risk adjusted

6 returns for that group are lower than the awarded ROE on a national basis. Second, there

7 is available academic research showing that returns on utilities are generally higher than

1   justified by the risk adjusted return standard.[26]

2   **Q: Please elaborate on your statement that the market-to-book ratio of the proxy group**
3   **indicates the required risk-adjusted returns for these companies is lower than what**
4   **is being awarded nationally regarding the ROE component.**

5   A: The basic theory behind an ROE in a regulatory framework is that an investor may invest

6   his or her money in a multitude of potential investments, and the return on a utility

7   investment should equal what that investor could get from an alternative investment of

8   similar risk.[27] Once that investment is made, the value of the investment is still $1.00,

9   meaning a dollar of equity is earning an appropriate risk-adjusted return. This is what the

10   market-to-book ratio measures - the market price compared to the book value of a

11   company. Generally, we make the simplifying assumption that the book value of a utility

12   stock is approximately equal to the equity component of its capital structure, so the market-

13   to-book ratio should be generally measuring the market price of a dollar of equity. Alfred

14   Kahn, the "Father of Airline Deregulation," wrote: "…the sharp appreciation in the prices

15   of utility stocks, to one and a half and then two times their book value…reflected a growing

16   recognition that the companies in question were in fact being permitted to earn

17   considerably more than their cost of capital," and

---

[26] A recent article entitled "Rate of Return Regulation Revisited" from Werner (of the U.S. Treasury) and Jarvis (of the London School of Economics) stated that estimated current (as of September 2022) average returns on equity could be around 0.5-5.5 percentage points higher than various benchmarks and historical relationships would suggest. Found at: https://haas.berkeley.edu/wp-content/uploads/WP329.pdf. *See also,* "Based on a database of U.S. electric utility rate cases spanning nearly four decades, the returns on equity authorized by regulators have exhibited a large and growing premium over the riskless rate of return. This growing premium does not appear to be explained by traditional asset-pricing models, often in direct contrast to regulators' stated intent. We suggest possible alternative explanations drawn from finance, public policy, public choice, and the behavioral economics literature. However, absent some normative justification for this premium, it would appear that regulators are authorizing excessive returns on equity to utility investors and that these excess returns translate into tangible profits for utility firms." "Regulated Equity Returns, a Puzzle" abstract, Rode and Fischbeck (Carnegie Mellon 2019), found at: https://www.sciencedirect.com/science/article/abs/pii/S0301421519304690.

[27] *See FPC v. Hope Natural Gas Co.*, 320 U.S. 591, 603, in which a fair return is defined as "commensurate with returns on investments in other enterprises having corresponding risks."

1   …the source of this discrepancy between the market and book value has
2   been that commissions have been allowing r's in excess of k; if instead they
3   had set r equal to k, or proceeded at some point to do so, both the
4   discrepancy between market to book value and the inconsistency would
5   have disappeared, or would never have arisen.[28]

6   In this context, k represents the cost of capital, and r represents the allowed ROE.

7 **Q:**   **What is the current market-to-book ratio of the proxy group you selected?**

8 A: The current market-to-book price of the proxy group I selected is 2.13.[29] This means the

9   market value of a dollar of equity investment in rate base is $2.13 for the "average" water

10   and gas distribution utility.[30] This implies that the risk-adjusted returns being enjoyed by

11   the average water/gas distribution utility are currently higher than necessary to compensate

12   the investors for the risk they are incurring, as shown by the value of a dollar of rate base

13   being valued by the market at 113% higher, or $2.13. A market-to-book value *in excess of*

14   *1.0* means that investors believe the return on investment, which is the awarded return on

15   equity in this context, *exceeds* the actual cost of capital (i.e., the ROE is higher than the

16   COE). This is shown by the fact that if an award of 9.3% (or 10.9%, 9.4%, or any other

17   number) is determined to be reasonable by the relevant commission, the return expected

18   by the investor must be less than half this amount, as they are paying over $2 for $1 of

19   assets. All the models I prepared estimate the COE; but the ROE in the context of a

---

[28] *See* The Economics of Regulation: Principles and Institutions, Alfred Kahn, 1970, pages 48 and 50.
[29] Based on S&P reports on April 26, 2024. These numbers may be found on Attachment SD-1, tab "S&P Data" and consists of the price/book ratio average of my proxy group.
[30] I acknowledge there may be subtleties in the holding company structure that result in discrepancies in the representation of the book value as equal to the rate base assumption, but those discrepancies should not be of the scale we are discussing here. Also, this is not really an analysis of the water and gas distribution utility industry as a whole, but rather just the proxy group that I am using. There is no reason to think this proxy group is materially different from that of the larger universe, but I did not do that analysis.

1   regulated utility ROE determination is a decision by the appropriate regulatory

2   commission, which is not necessarily based on the COE alone.

3   **Q: What is the implied return investors are actually anticipating based on awarded**
4   **ROEs and current market-to-book ratios?**

5   A: A simplified method of looking at this question is to remember what a stock price

6   represents from a net present value perspective.[31] It is the stream of cash flows over time,

7   presented as a present value (using a discount rate to convert all future cash flows into a

8   value today). Since the awarded ROE represents the return the investors will experience

9   on their equity investment, one can simply take this return divided by the market-to-book

10   ratio. If the return is anticipated to be 10%, and the market-to-book ratio is 2.0, this

11   indicates investors are anticipating a 5% return on their investment.[32] This is intuitively

12   true, in that the anticipated cash flows of the firm are not affected by changes in the stock

13   price; therefore, the higher price an investor pays for the same cash flows, the lower the

14   anticipated return. Accordingly, an investor who purchases a stock that has an ROE of

15   9.3% at a market-to-book value of greater than 1.0 anticipates a return *less than* 9.3%. In

16   such a case, the COE is necessarily less than the awarded ROE.

17 **Q: How would your proposed ROE affect CWW's ratepayers?**

18 A: CWW's ratepayers would receive the benefit of water bills that more appropriately align

19   with the costs incurred in providing the services. The decision on an ROE is one that

20   directly affects affordability and effectively determines if cash is better in the hands of

21   Petitioner's shareholders or CWW's ratepayers. Some contend investment decisions and

---

[31] The simplification assumes the actual return is the awarded return, and new equity is added over time. Those factors do not invalidate the overall point, however.

[32] This fact also explains, broadly, why anticipated longer-term market returns, as discussed elsewhere in my testimony, are around 7%, and utilities with a Beta under one would be assumed to be below that anticipated return.

1   economic growth depend on high ROEs to encourage investor-owned utilities to provide

2   safe and reliable service and encourage economic development,[33] but this argument is a

3   red herring. Utilities are obligated to serve in exchange for their government granted

4   monopoly. If there is growth to be had, these investments will be made. The market-to-

5   book analysis presented above shows the COE is below the ROE, otherwise this premium

6   for existing shareholders would not exist. As long as this is the case, utilities are incented

7   to invest capital and enjoy high returns that were adjusted for risk. This is especially so

8   when the company is in private hands, and new investors are not asked to spend $2 for $1

9   of equity.

10 **Q:**   **What is your recommendation for the authorized ROE for CWW?**

11 A: I recommend an ROE of 9.30%. The average result of my models using my preferred inputs

12   is 7.98%. My recommendation considers these results and leans toward the higher end of

13   the results (meaning well above the average), although it is not a result that flows only

14   from a mathematical average or a formulaic output. Considering the results of all the

15   models, giving appropriate weight to each model, considering the *Hope* and *Bluefield*

16   standards and ROE decisions in Indiana and other jurisdictions, and considering the general

17   economic environment, this is a reasonable return that balances investors' financial

18   concerns and affordability for ratepayers.

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[33] *See e.g.* Statement of Commissioner Ralph V. Yanora, Pennsylvania P.U.C. Docket No. M-2023-3042679 dated October 19, 2023.

VI.   LIQUIDITY PREMIUM

1 **Q: Did Petitioner request an increase in its awarded ROE due to a claimed liquidity**
2 **premium?**

3 A: Yes. Petitioner requested a 1.49% increase in its ROE due its lack of liquidity.[34]

4 **Q: Do you agree with this requested increase to Petitioner's ROE?**

5 A: No.

6 **Q: Why is a liquidity premium not suitable for CWW when calculating its ROE?**

7 A: Based on what Petitioner maintains qualifies it for this premium, every Indiana investor-

8   owned utility ("IOU") would also qualify for this same liquidity premium. To the best of

9   my knowledge, no IURC-regulated utilities are directly publicly traded.   All Indiana

10   regulated for-profit utilities are either privately held or are subsidiaries of publicly traded

11   parent companies. I am not aware of an instance in which the Commission has found a

12   liquidity premium should be quantified and added to an otherwise complete ROE

13   recommendation.

14 **Q: Has any company sold a portion of its subsidiary recently that would be a local**
15 **subsidiary?**

16 A: Yes.   Duke Energy recently sold 19.9% of its Indiana subsidiary to the Singapore

17   Sovereign Wealth Fund.[35] The sale was at a "significant premium to Duke Energy's

18   currently public equity valuation." This transaction shows that far from being a hinderance

19   to selling a portion of itself, Duke Indiana was able to secure a premium valuation over

20   what it was valued at as part of the Duke Energy Group. This entailed no change in

---

[34] Petitioner's Exhibit No. 3, Mr. Malinak direct testimony page 10, lines 5-6.
[35] This transaction was dated January 28, 2021. Please see article attached from S&P Global, as OUCC Attachment SD-4.

1   management, regulatory oversight, or anything else that would be expected to increase the

2   value of this subsidiary.

3   **Q: Did CWW assert previous Commission orders included a liquidity premium?**

4   A: Yes. Mr. Malinak claims there is precedent for this premium and referred to page 12 of

5   the final order in Cause No. 44880 (a Midwest Natural Gas Corp. rate case).[36] That portion

6   of the order, which I recite below beginning on page 11, does not establish precedent for a

7   *liquidity adjustment*:

8   Dr. Boquist explained that investors in equity securities face a number of
9   risks for which they expect to be compensated. Separate risks that investors
10   consider when deciding the return required to induce an investment in an
11   equity security include interest rate risk, inflation risk, financial risk,
12   liquidity risk, business risk, and regulatory risk. Dr. Boquist pointed to
13   specific business risks incurred by gas utilities in particular, which include
14   business cycles, weather conditions, conservation, and alternative sources
15   of energy supply. He also indicated that due to gas utilities' need for capital,
16   they are exposed to substantial interest rate risk, inflation risk, financial risk,
17   and regulatory risk. He explained that Midwest faces all of these risks.

18   Having considered the proxy group selected by the parties, we find
19   the utilities represented in the group are less than representative of
20   Petitioner's operations. All have financial operating characteristics
21   exceeding Midwest's size and scope, and all are publicly traded. As
22   previously found appropriate in such circumstances, we find an additional
23   risk premium is warranted in this case to account for the small size of
24   Midwest, its lack of publicly traded stock, and the difference in load served.
25   E.g. Midwest Natural Gas Corp., Cause No. 44063 at 22 (IURC Nov. 7,
26   2012); Lawrenceburg Gas Co., Cause No. 43090 at 9 (IURC June 20, 2007).

27   The Petitioner's witness in that case catalogued a laundry list of risks that the company

28   faced, and the Commission acknowledged those risks, but it made no finding of a distinct

29   liquidity premium such as what Petitioner has proposed in this case. Midwest Gas' lack

30   of publicly traded stock was merely one risk factor of many that in combination with others

---

[36] Petitioner's Exhibit 3, Mr. Malinak direct, page 78, footnote 111.

1   did not result in any articulated premium increasing its authorized rate of return. While

2   the order said an additional risk premium was warranted in that case to account for the

3   small size of Midwest, its lack of publicly traded stock, and the difference in load served,

4   a more complete reading of this section shows that the Commission never articulated a

5   premium but merely readopted Midwest Gas' existing rate of return articulating factors

6   other than the utility's liquidity. If the Commission's order had established a liquidity

7   premium for Midwest Gas, which it did not, it should then be noted that Midwest Gas does

8   not have a parent company of significant size, resources, and sophistication that may be

9   considered comparable to Citizens Energy Group.   I recommend the Commission reject

10   Petitioner's request to add a liquidity premium to its calculated cost of equity.

11 **Q: How should Petitioner's proposed return on equity be viewed?**

12 A: If it is relevant whether a utility is publicly traded, I consider that factor has already

13   implicitly been addressed in the Commission orders establishing the ROE. Petitioner has

14   requested a specific 1.48% liquidity premium to add to the 9.43% cost of equity its

15   consultant calculated using an appropriate methodology. Presumably, if Mr. Malinak had

16   not decided to recommend a liquidity adjustment, he might have proposed a higher cost of

17   equity than the 9.43% he proposed. I realize 9.43% is a marginally lower cost of equity

18   than what the Commission has typically authorized in recent years. If the Commission

19   believes the cost of equity should be higher than 9.43%, it can certainly do so without

20   finding there should be a liquidity premium.   Having said that, I continue to recommend

21   a 9.3% ROE as the most appropriate recommended ROE in this case.

VII. REMOVING INFLATION FROM THE WEIGHTED AVERAGE COST OF CAPITAL WHEN APPLIED TO A FAIR VALUE RATE BASE

1 **Q: What kind of rate base valuation has CWW proposed?**

2 A: CWW has requested its rates be based in large part on a valuation of its rate base, which

3 value was determined primarily through a Replacement Cost New Less Depreciation

4 ("RCNLD") study. An RCNLD study estimates what it would cost to construct a utility's

5 assets in today's dollars adjusted for depreciation. This may be informally described as a

6 fair value rate case, which is an alternative to a case where the valuation of the utilities'

7 assets for ratemaking purposes is based simply on original cost less depreciation.

8 **Q: In a traditional original cost rate case, where inflation is not considered within the**
9 **value of the assets, how is the fact of inflation recognized?**

10 A: The fact of inflation is recognized in the cost of capital. In the DCF model, for instance,

11 the growth estimates will reflect an inflation assumption by the market. For the CAPM,

12 the interest rates will incorporate an anticipated inflation factor. In both the DCF model

13 and CAPM, the cost of equity is increased by the inflation rate resulting in a higher return

14 that reflects the increased dollar value of the assets over time. The cost of debt *also*

15 incorporates an inflation factor; lenders incorporate inflation expectations into their

16 required return. This is illustrated most clearly with Treasury Inflation-Protected Securities

17 ("TIPS"), which do not include inflation in the interest rate component. TIPS are offered

18 in 30-year terms (as well as 5- and 10-year terms), and are issued by the US treasury, and

19 are considered risk-free securities for our purposes. However, on April 26, 2024 when

20 *standard* 30 year treasuries were priced at a yield of 4.78%, TIPS were priced at a yield of

21 only 2.38%. The differential is broadly the market's expectation of inflation.

1 **Q: Is a WACC that is appropriate to establish an authorized return for an original cost**
2 **rate base also appropriate to establish an authorized return on a fair value rate base**
3 **value derived on an RCNLD study?**

4 A: No. Because the value of dollars in the past was worth more than the value of dollars today,

5 in original cost ratemaking the cost of equity and the cost of debt is designed to address

6 this through the rate of return. In that manner, the fact of inflation is addressed in the

7 WACC. But in the case of a valuation based on an RCNLD, which reflects the current cost

8 of constructing the assets, the effect of inflation has already been addressed on the dollar

9 value of the utility's rate base. To avoid an inequitable result and double compensating for

10 inflation, inflation must be removed from the cost of capital. As the Commission explained

11 in the final order in Cause No. 42029, "If the fair value rate base is found to be other than

12 the original cost rate base, determining return by multiplying the cost of capital including

13 a consideration for inflation by a fair value rate base which also includes inflation would

14 overstate the required return by reflecting it redundant consideration of the anticipated

15 impact of inflation on the value of petitioners property."[37] The Commission further

16 explained that "In order to avoid over-compensating Petitioner for the effects of historical

17 inflation it is necessary to remove the historical inflation component from the costs of

18 capital to derive a fair return."[38]

19 **Q: Why is removing the historical inflation component from the costs of capital**
20 **necessary to derive a fair return?**

21 A: Any rate base valuation based on an RCNLD study will include an inflation component.

22 This may be explicit or implicit. The Handy Whitman index captures this inflationary

23 impact through increasing construction costs over time. There is also implicit inflation

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[37] Commission Discussion and Findings, Cause 42029, November 6, 2002. Page 28.

[38] Commission Discussion and Findings, Cause 42029, November 6, 2002. Page 28.

1   embedded in the Cost of Equity and Return on Equity calculations that these are based

2   upon, as well as the cost of debt calculations. Because markets acknowledge and anticipate

3   this fact, it is embedded in the required returns. That may be seen very explicitly in

4   securities like TIPS, which pays a lower interest rate but compensates the investor for

5   inflation.[39] Since both factors include an inflation component, if you use both in concert

6   (a nominal cost of capital and a nominal rate base) you are including inflation twice. This

7   would be as unreasonable as using an inflation adjusted cost of capital with an original cost

8   rate base, where inflation would not be considered. Inflation must be considered, but only

9   once.

10   **Q:**   **Has the Commission established the correct approach to remove inflation from the**
11   **cost of capital in the case of *fair value rate cases*?**

12   A: Yes. In many orders, the Commission has articulated that the appropriate approach is to

13   remove historic inflation from both debt and equity portions (i.e., the cost of capital) of the

14   weighted average cost of capital (WACC).   This means the removal occurs after the cost

15   of equity and cost of debt have been established and weighted to produce a WACC. I refer

16   that WACC for purposes of this testimony as an unadjusted WACC because that WACC

17   should next be *adjusted* to remove compensation for inflation inherent in the cost of equity

18   and the cost of debt (together the cost of capital). The *adjusted* WACC is the simple

19   WACC adjusted to avoid the double counting of inflation (inflation adjusted WACC) that

20   may be applied to the fair value rate base.

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[39] A Treasury Inflation-Protected Security is inflation protected by the face value being pegged to the CPI and adjusted in step with changes in the rate of inflation.

1 **Q: Do the Commission's orders in fair value rate cases consistently reinforce this**
2 **treatment?**

3 A: Yes. For instance, in a remand order in Cause No. 38996[40], a Gary-Hobart Water

4 Corporation rate case, the Commission expressed that it has long been understood that

5 where capital structure items contain the effects of historic inflation, those historic

6 inflationary effects should be removed from the overall weighted cost of capital so as not

7 to double count for the effects of historic inflation:

8   It has long been the position of this Commission that all capital structure
9   items, not solely the long-term imbedded debt rate, may potentially contain
10   the effects of historic inflation. Under the Commission's more commonly
11   used methodology findings are made on the cost of common equity and all
12   capital structure items such that an overall weighted cost of capital may be
13   determined. In this case the weighted cost of capital for Gary-Hobart was
14   determined to be 8.33%. Based on the rationale that virtually any capital
15   structure item when examined as of a given date contains the effects of
16   historic inflation, those historic inflationary effects are then removed from
17   the overall weighted cost of capital so as not to double count for the effects
18   of historic inflation which the Court has mandated be considered in the
19   determination of fair value rate base.

20   In Cause No. 37612[41], an Indianapolis Water Company rate case, the Commission

21 recognized the need to avoid applying an unadjusted WACC to a utility's rate base

22 valuation, where the fact of inflation had been incorporated:

23   Given the above findings, it is clear that we must determine an appropriate
24   return for the application to the fair value of the Petitioner's property that
25   will eliminate inflationary considerations to the extent that those
26   considerations have an effect in the determination of its fair value rate base.
27   Absent the isolation and appropriate preclusion from the return component,

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[40] Cause No. 38996, Order on Remand, Gary-Hobart Water Corporation, April 7, 1993, pages 8-9.
[41] Cause No. 37612, Order on Remand, Indianapolis Water Company, July 3, 1986, page 19.

1   to be applied to Petitioner's fair value rate base, there would clearly be a
2   redundant consideration of inflationary considerations.

3   In Cause Nos. 39713 and 39843[42] addressing the rate base of the same utility the

4 Commission said "We believe it is much simpler and generally more reflective of reality

5 to remove a reasonable quantification of the effects of historic inflation from the overall

6 weighted cost of capital when attempting to remove a historic inflation adjusted cost of

7 capital."

8   More recently in Cause No. 42029[43], an Indiana American Water Company rate

9 case, the Commission again addressed the need to take steps to avoid double counting

10 inflation:

11   It is clear that because the cost of capital and the fair value rate base are
12   derived in different manners the two may not be directly applied to each
13   other. If the fair value rate base is found to be other than the original cost
14   rate base, determining return by multiplying the cost of capital including a
15   consideration for inflation by a fair value rate base which also includes
16   inflation would overstate the required return by reflecting a redundant
17   consideration of the anticipated impact of inflation on the value of
18   Petitioner's property.

19   Furthermore, this Commission has asserted in previous rate cases that, since
20   the fair value rate base contains inflation that it is historic and not
21   prospective inflation, it should be removed from the debt component of the
22   cost of capital to estimate a fair rate of return. For example, in Indiana-
23   American Water Company, Cause No. 40103, May 30, 1996, p. 48, the
24   Commission explained as follows:

25   In order to avoid over-compensating Petitioner for the
26   effects of historical inflation it is necessary to remove the

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[42] Cause No. 39713/39843, Final Order, Indianapolis Water Company, August 10, 1994, page 21.

[43] Cause No. 42029, Final Order, Indiana-American Water Company, November 6, 2002, Section 12, Fair Rate of Return and NOI, subsection C-Commission Findings.

1   historical inflation component from the costs of capital to
2   derive a fair return.

3   In Cause No. 39314[44], addressing the fair value rate base of I&M the Commission

4   reflected that it has consistently noted that it is required by law to give weight to the effects

5   of historic inflation when determining the fair value of utility property.   The Commission

6   rejected the suggestion, as Petitioner's consultant has made in this case, that to calculate

7   an appropriate return that the weighted average cost of capital should simply be applied to

8   the utility's fair value rate base. The Commission declared such a proposal inappropriate

9   because the weighted cost of capital contains the accumulated historic levels of all capital

10 structure components.   The Commission explained that it had a lawful obligation to

11 consider those effects when fixing the fair value of utility property. The Commission stated

12 it could not apply the weighted cost of capital to the fair value rate base without the effects

13 of historic inflation being double counted. The Commission stated that the simplest course

14 to determine a historic adjusted cost of capital was to remove a reasonable quantification

15 of the effects of historic inflation from the overall weighted cost of capital. In other words,

16 the weighted cost of capital should be adjusted to remove historic inflation:

17   As we have repeatedly noted above, the Commission is required by
18   law to consider and give weight to the effects of historic inflation when
19   determining fair value of utility property. It has been suggested that we
20   might properly apply the weighted cost of capital to the fair value of utility
21   property in order to calculate an appropriate return. This, would be
22   inappropriate. We know from the evidence in this Cause that many, if not
23   all, of the elements of the capital structure contain the effects of historic
24   inflation. That is the amount of return which investors require to offset the
25   effects of past inflation. Thus, the weighted cost of capital contains the
26   accumulated historic effects of all capital structure components. Since we
27   must, by law, consider those effects when fixing the fair value of utility

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[44] Cause No. 39314, Final Order, Indiana-Michigan Power, November 12, 1993, pages 87-88.

1   property, we cannot apply the weighted cost of capital to the fair value rate
2   base less the effects of historic inflation would be double counted.

3   We believe it is much simpler and generally more reflective simply
4   to remove a reasonable quantification of the effects of historic inflation from
5   the overall weighted cost of capital when attempting to determine a historic
6   inflation adjusted cost of capital. We note there is little evidence on the
7   record on this point and none disputing our conclusion.

8   In Cause No. 39595[45], addressing Indiana American Water Company's rate base, the

9   Commission again determined it was appropriate to begin with the overall weighted cost

10 of capital and adjust it to eliminate the component of cost of capital that represents

11 historical inflation. The Commission explained that this step was appropriate because the

12 fair value method of evaluation attempts to capture the effects of historical inflation in the

13 value of the utility's rate base:

14   In determining a fair return to be applied to the fair value of
15   Petitioner's utility rate base, we have started with the overall cost of capital,
16   which in this case, is 8.69%. We have then adjusted the overall weighted
17   cost of capital to eliminate the component which represents the historical
18   inflation which is a component of traditional cost of capital estimations.
19   This adjustment is made because the fair value method of evaluation
20   attempts to capture the effects of historical inflation in the value of
21   Petitioner's rate base.

22 **Q: Has the Commission explained why historic inflation should be used to adjust the**
23 **weighted cost of capital and not prospective inflation?**

24 A: Yes. In Cause No. 43680[46], in which the Commission considered Indiana American Water

25   Company's rate base, the Commission explained that historic inflation should be removed

26   from the WACC because the fair value rate base contains historic inflation:

27   The Commission has asserted in previous rate cases, insofar as the
28   fair value rate base contains historical inflation, that it is historical inflation
29   and not the prospective inflation that should be removed from the cost of

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[45] Cause No. 39595, Final Order, Indiana American Water Company, February 2, 1994, page 39.

[46] Cause No. 43680, Final Order, Indiana American Water Company, April 30, 2010, page 58.

1   capital to estimate a fair rate of return. The Commission previously
2   explained that "[i]n order to avoid over-compensating Petitioner for the
3   effects of historical inflation, it is necessary to remove the historical
4   inflation component from the costs of capital to derive a fair return." 2004
5   Rate Order at 69. See also 2002 Rate Order at 39.

6 **Q:**   **What is the appropriate inflation rate that will prevent double counting of the**
7   **inflation component when determining the WACC suitable for application to non-**
8   **cost-based rate base?**

9 A: The appropriate interest rate is the historical interest rate that has been accounted for within

10   the adjustments to original cost (in this case, an RCNLD determined value of rate base).

11   That inflation should be measured from the time rate base began to be added through to

12   the present.   It is practical in this case to input the effect of inflation over that time on the

13   appropriate level of assets adjusted by the RCNLD study.   Since there is an agreement that

14   there are pre-2012 assets that are not subject to the RCNLD study (discussed by other

15   OUCC witnesses), the only assets that are subject to the RCNLD study were assets that

16   were placed in service after 2011 (post 2011 assets) and were in place before June 30, 2023

17   (the end of the base period). All other assets are being valued at original cost and therefore

18   we do not need to be concerned with double counting of the inflationary impacts. The

19   assets at issue are those added between 2012-2023, therefore the Commission should look

20   at inflation only in that period.

1 **Q:** **What is the average inflation rate from 2012-2023?**

2 A: Based on the Federal Reserve Economic Data (FRED), the average inflation rate for that

3 period is 2.58%.[47] (OUCC Attachment SD-2, "Weighted Inflation" tab).

4 **Q:** **Is 2.58% the inflation rate that should be used to avoid double counting inflation**
5 **when determining the appropriate WACC?**

6 A: No. A weighted average is more suitable. A weighted average inflation rate weights the

7 inflation rate in a given year by the percentage of assets that are in service in each year and

8 are thus being affected by the inflation in that year.

9 **Q:** **Why is a weighted average inflation rate more appropriate than a simple average**
10 **inflation rate?**

11 A: This is because of two factors. First, inflation has been volatile over this period (an annual

12 low of 0.12% in 2015 and an annual high of 7.99% in 2022). Second, from 2012 through

13 2023 CWW has significantly expanded its plant more than ten-fold from around $5 million

14 to more than $50 million. .[48] This means that the inflation rate that applied in 2015 when

15 the inflation rate was only 0.12% simply was not as impactful as the rate that applies in

16 2022 of 7.99%, because it affected only a fraction of CWW's current assets. Therefore, a

17 weighted inflation rate is more appropriate in this case. The significant change of inflation

18 rates over the past 11 years in a generally upward trajectory and the significant growth in

19 CWW's assets result in a significant difference between the weighted average and simple

20 average inflation rates. While the use of a simple average inflation rate may be practical in

21 other cases, a straight average is not appropriate based on the particular facts in this docket.

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[47] I am also placing in the record for the Commissions convenience monthly inflation rates since January 1, 1948 (which is as far as the FRED database tracks this specific metric). This may be found in OUCC Attachment SD-2, tab "Monthly Inflation-Historic".

[48] For the purposes of the weighted average inflation rate, only the assets that were determined by the RCNLD study are being considered.

1   **Q:**   **What is the weighted inflation rate that is suitable to apply to the non-cost based rate**
2   **base?**

3   A: The weighted average inflation rate is 3.56%. See Table SD-10.

Table SD-10

Year	Year End Rate Base*	Average Rate base	CPI	Weighting for Calculation	Inflation-Contribution By Year
2011	$ 4,726,232.45	n/a	n/a		
2012	$ 5,111,332.24	$ 4,918,782.35	2.07%	8.8%	0.18%
2013	$ 6,629,073.48	$ 5,870,202.86	1.47%	10.5%	0.15%
2014	$ 10,290,536.57	$ 8,459,805.03	1.62%	15.1%	0.24%
2015	$ 14,615,105.56	$ 12,452,821.07	0.12%	22.2%	0.03%
2016	$ 16,818,215.39	$ 15,716,660.48	1.27%	28.1%	0.36%
2017	$ 20,023,748.01	$ 18,420,981.70	2.13%	32.9%	0.70%
2018	$ 26,236,241.75	$ 23,129,994.88	2.44%	41.3%	1.01%
2019	$ 30,282,846.38	$ 28,259,544.07	1.81%	50.5%	0.92%
2020	$ 38,158,106.27	$ 34,220,476.33	1.25%	61.1%	0.76%
2021	$ 43,581,322.25	$ 40,869,714.26	4.68%	73.0%	3.42%
2022	$ 54,408,967.27	$ 48,995,144.76	7.99%	87.5%	7.00%
2023	$ 57,536,257.97	$ 55,972,612.62	4.13%	100.0%	4.13%
			2.58%	531.1%	3.56%
			Average	Total	Weighted Average

*-Sourced from OUCC Witness Carla Sullivan workpaper-RCNLD Assets

4   The above table shows how the years 2012-2017 especially have low levels of assets, so

5   the inflation that is applicable in those years does not have a large weighting in the final

6   calculation, but the numbers from 2022-2023 have a relatively very large asset base, so the

7   inflation impact is significant (by 2023, there is no weighting factor, as all of the assets are

8   being inflated by this same amount).

9   **Q:**   **Can you give an example how the weighted average inflation rate and the simple**
10   **average inflation rate can produce very different results?**

11 A: Yes. To make an extreme example to clarify the point, let's say the assets in year 1 were

12      $1 million, and inflation was 100%. For the next 9 years there were $11 million of assets

13   added per year, but the inflation rate was 0%. At the end of year 10, you would have $100

14   million in assets. In this case, the average inflation rate is 10%. Applying the inflation to

1   the assets in year 1would inflate the $1 million of assets to $2 million. But the $11 million

2   added in years 2-10 would all be "inflated" to the exact same value because the inflation

3   rate is 0%. The final value of a study that only incorporated the inflation rate on plant with

4   an original cost of $100 million would be only $101 million, and the average inflation rate

5   would be 10%. The weighted inflation rate would be only 0.2%. This would never happen,

6   but it illustrates that for a fast growing asset base, the effect of inflation on value is not

7   uniform.

8   **Q: Has the Commission ever used a weighted inflation rate for these calculations?**

9   A: To the best of my knowledge, no. However, in Cause No. 39713/39843 for Indianapolis

10   Water Company, the Commission did address this issue, and said it may be more

11   appropriate to use a weighted inflation rate, but that this approach has practical limitations

12   and that no analysis was in the record in that Cause.[49]   In this case, since we are only

13   dealing with 12 years of discrete data, and the growth rate is significant since the starting

14   point is close to zero, it is practical and appropriate to use weighted inflation.

VIII. SUMMARY AND RECOMMENDATIONS

15 **Q: Please summarize your testimony.**

16 A: I ran multiple models to determine an appropriate ROE. These models include a constant

17   growth DCF model, which resulted in a recommended ROE of 9.76%, a two-stage DCF

18   which resulted in a recommended ROE of 8.04%, and a CAPM that resulted in a

19   recommended ROE of 7.97% and 6.15%, depending on which measure of a market risk

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[49] Cause 39713/39843, Indianapolis Water Company, August 10, 1994. "Public's evidence contained such compilation of the rates of historic inflation from 1926 through 1992. An average of historic inflation over this time period is 3.1 %. This approach has been challenged by those who contend that such an average is not reflective of reality but rather a year-by year calculation of actual inflation to utility plant investment would be more appropriate. This may be true but such an approach has practical limitations. We have no such analysis in the record of this Cause."

1   premium is utilized. The average results of the preferred metrics of the models to which I

2   give weight are 7.98%, but accounting for other macroeconomic factors, as well as the

3   Hope and Bluefield standards, my final recommendation is 9.30%. This recommendation

4   is very close to the recommendation of Mr. Malinak, if you remove the liquidity premium

5   adjustment of 1.48% (range of 8.71%-9.41%, with a recommendation of 9.41%).

6 **Q:** **Please summarize your recommendations.**

7 A: I recommend the Commission authorize a return on equity of 9.30%.

8 **Q:** **Does this complete your testimony?**

9 A: Yes.

Appendix A

QUALIFICATIONS

1 **Q: Please describe your educational background.**

2 A: I graduated from Indiana University with a degree in Biology, a minor in Economics and

3 a certificate from the Liberal Arts and Management Program (LAMP) which is an honors

4 certificate program through the Kelley School of Business and the College of Arts and

5 Sciences. I received my MBA from Indiana University with a concentration in finance. I

6 am a member of Phi Beta Kappa honor society for my undergraduate studies and Beta

7 Gamma Sigma honor society for my master's program. I have a certificate from Stanford

8 University for the Energy Innovation and Emerging Technologies Program. I am a

9 certified rate of a return analyst (CRRA designation) from the Society of Utility Regulatory

10 Financial Analysts. Although not specifically related to my educational background, I am

11 a member of Mensa.

12 **Q: Please describe your work experience.**

13 A: Upon graduating college, I moved to New York and worked at Grant's Interest Rate

14 Observer, which is a financial newsletter and Lebenthal and Co., which was a municipal

15 bond brokerage. I moved back to Indianapolis and worked at RCI Sales in Indianapolis,

16 which was a manufacturer's representative/distributor in commercial and institutional

17 construction. I became an owner and left when I sold the company. I then worked at

18 Amazon as a financial analyst in its fulfillment division.

19 **Q: How long have you been at the OUCC?**

20 A: I started at the OUCC in the Water/Wastewater Division in December 2019 as a Utility

21 Analyst II and was promoted to a Senior Utility Analyst in May 2022. My focus is financial

1   issues, such as ROEs, Capital Structures, Debt Issuances, Cost of Debt, etc.

2 **Q:**   **Have you previously testified before the Indiana Utility Regulatory Commission?**

3 A: Yes, I have testified before the Commission regarding various aspects of finance in

4   multiple cases.

Appendix B

LIST OF ATTACHMENTS

SD-1   Spreadsheet with DCF, CAPM, and Inputs

SD-2   Spreadsheet regarding inflation

SD-3   Discovery

SD-4   Duke Indiana sale article

SD-5   Previous Commission Orders regarding Fair Value Cost of Capital

APPENDIX C

DISCOUNTED CASH FLOW ("DCF") ANALYSIS

A. Introduction to DCF Model

1 **Q:** **Please describe the Discounted Cash Flow Model.**

2 **A:** The DCF model is typically used by investors to determine the appropriate price to pay for

3 a security. This model assumes that the price of a security should be determined by its

4 expected cash flows, discounted by the company's cost of equity. On a one-year horizon,

5 the price of a stock (P_0) is equal to the anticipated dividends paid during the year (D_1)

6 plus the anticipated price of the stock at the end of the year (P_1) divided by one plus the

7 company's cost of equity (k). The year-end price (P_1) is determined by adding next year's

8 anticipated dividends (D_2) and next year's anticipated year-end price (P_2) divided by

9 one plus the company's cost of equity (k).

$$P_0 = \frac{(D_1 + P_1)}{(1 + k)} \quad \text{and} \quad P_1 = \frac{(D_2 + P_2)}{(1 + k)}$$

10 Because investors may plan to hold securities for many periods, the DCF equation can be

11 restated for an infinite or unknown number of periods as follows:

12 $$P_0 = D_1/(k\text{-}g)$$

13 (Where the price of a security (P_0) equals the anticipated dividends paid over the current

14 period (D_1) divided by the company's cost of equity (k) minus the expected growth rate of

1   dividends (g)). The company's cost of equity must be greater than its expected dividend

2   growth rate for this model to be valid. By rearranging the above formula, the DCF formula

3   regularly used in regulatory proceedings can be derived as follows:

$$k = (D_1/P_0) + g$$

4

5   This formula reflects the cost of equity (k) equals the forward dividend yield
6   (D_1/P_0) plus the expected growth rate in dividends per share (g). To estimate the
7   cost of equity (k), the forward yield (D_1/P_0) and the expected growth rate in
8   dividends (g) must be estimated).

B. <u>Dividend Yield</u>

9   **Q:**   **How did you calculate the forward yields (D_1/P_0)?**

10   **A:**   To calculate a forward yield (D_1/P_0), the current yield (D_0/P_0) must be calculated first. A

11   company's current yield equals its current annual dividends (D_0) divided by its current

12   stock price (P_0). The current annual dividend is calculated by multiplying the company's

13   most recent quarterly dividend by four.

14   **Q:**   **How do you convert current yields (D_0/P_0) into forward yields (D_1/P_0)?**

15   **A:**   The following equation is used to convert a current yield to a forward yield: (D_1/P_0) =

16      $(D_0/P_0) * (1 + .5g)$. For example, if Company X had a current dividend yield of 4.0% and

17   an expected growth rate of 6.0%, the formula multiplies the 4.0% current dividend yield

18   by 1 plus 3.0% or 1.03, (3.0% is one half of the 6.0% expected growth rate). This results

19   in a forward dividend yield of 4.12% or an increase of 12 basis points over the current

20   dividend yield. This is the method I used.

21   **Q:**   **Has the Commission supported the use of the one-half-year's growth methodology to**
22   **convert current yields to forward yields?**

23   **A:**   Yes. Although there is no universally accepted methodology, the one-half-year growth

1   methodology to convert current yields to forward yields has been regularly accepted by

2   this Commission:

3   We are well aware of the advantages and limitations of the various
4   approaches used by each of the witnesses. For example, the half-
5   year method used by the OUCC for calculating the forward dividend
6   yield is the most frequently used approach in this jurisdiction, and it
7   is rarely a point of contention in DCF analysis. We believe that it
8   fairly represents the dividend payments expected and received by
9   investors, while the full year method employed by Petitioner
10   overstates the dividend yield.
11
12   *In re Ind. Amer. Water*, Cause No. 40103, Final Order at 40 (Ind. Util. Regul. Comm'n

13   May 30, 1996.)

14   Mr. Malinak used a full year adjustment, which overstates his COE results slightly based

15   on the general approach used in Indiana. Generally, the use of the half-year method is not

16   controversial.

C. Dividend Growth Rate

17   **Q:**   **How did you estimate the long-run dividend growth component (g) of the DCF**
18   **model?**

19   A: The Constant Growth, or single stage, DCF model assumes investors expect cash flows to

20   grow at a constant rate into perpetuity. I relied on earnings growth estimates from various

21   sources including Value Line, Yahoo! Finance, Zacks and Standard and Poors. Also, I

22   incorporated historical data from Value Line for the last ten years and the last five years,

23   respectively, for earnings per share, dividends per share, and book value per share.

24   The formula relies on an estimate for future growth, so while historical results

25   provide a ballast to the estimates and inform the forecasts, the estimates of future growth

1   are more important for our purposes, which is estimating future growth.[50]

D. Case specific discussion of the DCF Model

2   **Q: What factors cause different Constant Growth DCF results from your analysis and**
3   **Mr. Malinak's analysis?**

4   A: In Attachment RJM-2, Mr. Malinak presented his results for the constant growth DCF as

5   six different numbers, with a mean and median presentation of his entire proxy group, just

6   his water companies, and just his gas companies.[51] From a presentation perspective, I

7   presented both a mean and median, and I also included multiple timeframes for the stock

8   prices and hence dividend yields. I also presented a single number as my preferred metric,

9   which Mr. Malinak did not express a specific preference within the range of numbers he

10   provided. Finally, I used an additional source to compute growth estimates, incorporated

11   historical results into my growth estimates, and used a half year growth factor when

12   determining the dividend yield. I also removed outliers from my results, which Mr.

13   Malinak did not do. These are all differences that will have some impact on the final

14   results, and the presentation of those results. However, Mr. Malinak and I fundamentally

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[50] In the long-run, dividends should mirror earnings growth. In the utility context, book value growth should also mirror earnings growth in the long run, since that is the ultimate source of profits for a regulated utility.

[51] For the summary of cost of equity results in table 1, Mr. Malinak reduced this to 2 numbers, with an additional column taking these two results and adding a liquidity premium that is independent of the DCF results.

1   do not have vast differences in our approaches to this model, nor in the results. Mr. Malinak

2   and I have different inputs in four primary areas.

3   First, as discussed above, we have different proxy groups. Using my proxy group

4   with Mr. Malinak's inputs decreases the ROE by 37 basis points.[52] Put another way, Mr.

5   Malinak inflated his resultant ROE for the CGDCF model by 37 basis points by including

6   unsuitable companies in his proxy group.

7   Second, we use different resources to determine our growth estimates. I add S&P,

8   in addition to Yahoo!, Zacks, and Value Line. This results in a more robust data set from

9   reputable resources, which serves to incorporate growth estimates from a wider range of

10   sources, reduces the effect of particularly high or low estimates, and should offer a better

11   proxy for the market expectation, since a broader survey of market expectations are being

12   incorporated. The additional source of growth estimates increases the ROE results by 48

13   basis points.[53] Put another way, if Mr. Malinak had included S&P growth forecasts in his

14   model as I did, his results would have been approximately 48 basis points higher.[54]

15   Third, I included historical growth factors including earnings, book value and

16   dividends growth over the past five and ten years and used a weighted average of the results

---

[52]This can be confirmed by removing ATO, NJR, NI, and NWN from Mr. Malinak's Attachment RJM-4. The resultant All Beta Cost of Equity on a mean/median basis changes from 9.57%/9.75% to 9.15%/9.38%. On the median basis (Mr. Malinak's preferred measure, this is a reduction of 37 basis points (9.75% minus 9.38%)

[53] Average Growth for my proxy group as found on the Constant Growth DCF tab of OUCC Attachment SD-1 is 6.30% for Value Line, 6.11% for Yahoo!, 6.22% for Zacks and 7.56% for S&P. Deleting the S&P data found in column V, while leaving all other inputs the same, reduces the ROE on my preferred metric from 9.76% less outliers, to 9.28%, or .48% (48 basis points).

[54] This is an estimate, because I am extrapolating from my results. I do not have all of the results at that date for Mr. Malinak's proxy group, so cannot recreate it exactly.

1   of the forecasted earnings growth and the historical earnings growth. Overall, this increases

2   the ROE by 44 basis points.[55]

3   Fourth, I use a half year convention when determining the expected dividend yield.

4   Mr. Malinak used a full year convention. A half year convention has been generally

5   utilized in cases I have been involved with before the Commission. However, Mr. Malinak

6   uses total dividends over the period November 15, 2023 to November 15, 2024 as his

7   baseline, whereas I use the quarterly dividend as of April 26, 2024 and use this as my

8   baseline. Although it would not be appropriate to use a full year growth on current

9   quarterly dividends, as long the source data is different, these two approaches should be

10   very similar, and not a significant point of disagreement.[56]

11   As a minor point of difference, I also note that even when Mr. Malinak and I used the

12   same sources, my sources are more current than Mr. Malinak because my testimony was

13   prepared later than his, resulting in slight differences in growth rates and dividend yields

14   overall.

15   I also focus on a seven-day average stock price rather than Mr. Malinak's preferred

16   spot price (although all the metrics are provided in my attachments). Timing is also a factor

---

[55] This is determined by changing the formula in column AJ to use the growth numbers from the future earnings growth rate in column W rather than the blended growth rate found in column AE in Attachment SD-1, tab Constant Growth DCF. This changes the ROE for my preferred metric from 9.76%% (Mean ROE-Less Outliers) to 9.32%%. In large part this is because the results from California Water Service Group at 12.43% is now outside of the 95% confidence interval and is considered an outlier and hence removed.

[56] Mr. Malinak does state the Dividends are from November 15, 2022 to November 15, 2023. If any dividends were posted on November 15, this would be problematic since it would double count those dividends.

1   in the growth estimates, as my estimates are more current than those relied upon by Mr.

2   Malinak, even when we use the same source.

Table SD-11[57]

Company	Ticker	Annualized Dividend	Stock Price-7 Days	Expected Dividend Yield-1 Week	Average Future Earnings Growth Rate	Average Historical Growth Rate	Overall Growth Rate (80% Future Earnings, 20% Historical)	Mean ROE-7 Day Stock Price
American States Water Company	AWR	$1.72	$70.03	2.55%	7.80%	7.58%	7.76%	10.31%
American Water Works	AWK	$2.83	$120.56	2.43%	6.56%	9.83%	7.22%	9.65%
California Water Service Group	CWT	$1.12	$46.85	2.50%	9.93%	6.25%	9.20%	11.70%
Essential Utilities	WTRG	$1.23	$36.27	3.50%	6.09%	8.67%	6.60%	10.11%
Middlesex Water Company	MSEX	$1.30	$48.66	2.74%	4.60%	7.00%	5.08%	7.82%
SJW Group	SJW	$1.17	$54.52	2.22%	7.13%	6.67%	7.03%	9.25%
Chesapeake Utilities	CPK	$2.36	$105.92	2.31%	6.89%	8.83%	7.28%	9.59%
ONE Gas Inc.	OGS	$2.64	$64.51	4.19%	4.25%	6.00%	4.60%	8.79%
Southwest Gas Holding	SWX	$2.48	$75.00	3.42%	6.58%	6.50%	6.56%	9.98%
Spire Inc.	SR	$3.02	$61.55	5.04%	5.59%	4.58%	5.39%	10.43%
Mean				3.09%	6.54%	7.19%	6.67%	9.76%
Median				2.65%	6.57%	6.83%	6.82%	9.81%
Mean-Less Outliers								9.76%

3 **Q:**   **In general, how does your DCF analysis differ from Mr. Malinak's DCF**
4   **analysis.**

5 **A:**   I disagree with Mr. Malinak on the computation of both inputs to the constant growth

6   DCF model. Also, the members of my proxy groups differ from Mr. Malinak's.

7   However, those differences result in only minor differences in our respective DCF

8   conclusions, and they have not been the driver of the differences in our ultimate

9   recommendations.

10 **Q:**   **More specifically, how does your DCF analysis differ from Mr. Malinak's DCF**
11   **analysis?**

12 **A:**   I use a seven-day average stock price and a half year growth adjustment for the first-

13   year dividend yield calculation, whereas Mr. Malinak uses a spot price and a full year

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[57] This table is simply information found on OUCC Attachment SD-1, tab Constant Growth DCF, with some columns hidden.

1   growth adjustment for the first year dividend calculation. I use additional estimates of

2   growth in my calculation, specifically including S&P forecasts and weighting

3   historical results by 20% in my calculations, whereas Mr. Malinak does not use S&P

4   forecasts nor does he use historical results in his calculations. My numbers are also

5   more recent than Mr. Malinak's, so even where we use the same sources, our results

6   may differ.

7   For the single phase DCF, a dividend yield based on a full week of stock prices,

8   which I use as my preferred metric, is more appropriate than a spot price, which Mr.

9   Malinak uses. My data is more recent than Mr. Malinak's data by approximately five

10   months.[58] Consistent with the efficient market hypothesis ("EMH"), a full week of stock

11   prices is sufficient to alleviate significant volatility and arrive at the market's best estimate

12   of the current yield. A spot price is subject to undue volatility vs. a one-week average. In

13   this case, the difference between the dividend yield calculated on the spot price on April

14   26, 2024 and the one-week average to that date is negligible.

15   While we both express a mean and median for the DCF, I prefer the mean, because

16   it is a more appropriate way to reflect the inputs. One purpose of using a median as opposed

17   to a mean is that it eliminates aberrations caused by outliers. For instance, if there is a very

18   significant outlier in the growth rate, the analyst can address that rather than simply accept

---

[58] Mr. Malinak's data was selected as of November 15, 2023, my numbers were all collected as of April 26, 2024. See notes for his Attachment RJM-4 and RJM-9 for support.

1   the median as the proper result. I address such outliers by applying an outlier screen on

2   the results.

3   Mr. Malinak did not use any historical growth rates in his calculation relying only

4   on earnings forecasts. The Commission has encouraged the use of historical inputs (as

5   shown in Appendix F). I used historical growth rates as 20% of the weight of my growth

6   estimate.

7 **Q: How did you determine the dividend yields you incorporated into your model?**

8 A: I sourced annual dividend information from Yahoo! Finance, and I used stock prices

9   on the spot market (on April 26, 2024) and the seven days prior to the spot price (the

10   market days of April 22, 2024 through April 26, 2024), the previous month, the

11   previous three months, and the previous six months. I adjusted the current dividend

12   yields for growth using the half-year model. Future (expected) yields are in the

13   calculation.

Table SD-12[59]

Company	Ticker	Annualized Dividend	Dividend Yield-Spot	Expected Dividend Yield-Spot	Dividend Yield-1 Week	**Expected Dividend Yield-1 Week**	Dividend Yield-1 Month	Expected Dividend Yield-1 Month	Dividend Yield-3 Months	Expected Dividend Yield-3 Months	Dividend Yield-6 Months	Expected Dividend Yield-6 Months
American States Water Company	AWR	$1.72	2.46%	2.56%	2.46%	**2.55%**	2.47%	2.57%	2.39%	2.48%	2.27%	2.35%
American Water Works	AWK	$2.83	2.34%	2.43%	2.35%	**2.43%**	2.38%	2.46%	2.36%	2.45%	2.27%	2.36%
California Water Service Group	CWT	$1.12	2.34%	2.44%	2.39%	**2.50%**	2.44%	2.56%	2.43%	2.54%	2.32%	2.43%
Essential Utilities	WTRG	$1.23	3.41%	3.52%	3.39%	**3.50%**	3.44%	3.55%	3.44%	3.56%	3.43%	3.54%
Middlesex Water Company	MSEX	$1.30	2.64%	2.71%	2.67%	**2.74%**	2.67%	2.74%	2.52%	2.59%	2.24%	2.29%
SJW Group	SJW	$1.17	2.19%	2.26%	2.15%	**2.22%**	2.15%	2.23%	2.07%	2.14%	1.93%	2.00%
Chesapeake Utilities	CPK	$2.36	2.24%	2.33%	2.23%	**2.31%**	2.27%	2.35%	2.28%	2.36%	2.34%	2.43%
ONE Gas Inc.	OGS	$2.64	4.13%	4.22%	4.09%	**4.19%**	4.16%	4.26%	4.26%	4.36%	4.27%	4.37%
Southwest Gas Holding	SWX	$2.48	3.31%	3.42%	3.31%	**3.42%**	3.33%	3.44%	3.60%	3.72%	3.83%	3.95%
Spire Inc.	SR	$3.02	4.92%	5.05%	4.91%	**5.04%**	5.02%	5.16%	5.06%	5.20%	5.02%	5.16%
Mean			3.00%	3.09%	2.99%	**3.09%**	3.03%	3.13%	3.04%	3.14%	2.99%	3.09%
Median			2.55%	2.63%	2.56%	**2.65%**	2.57%	2.65%	2.48%	2.56%	2.33%	2.43%

14   The expected dividend yields for my proxy group as a whole range from 3.09% (calculated

15   on the spot, 1-week, and 6-month average stock price) to 3.14% (calculated on the three

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[59] This table is a presentation of data on tab Constant Growth DCF in OUCC Attachment SD-1, with some columns hidden.

1   month stock prices) if calculated on a mean basis. Calculating on a median basis resulted

2   in a range of 2.43% (calculated on stock prices over the previous six months) to 2.65%

3   (calculated on the one week and the one month price).

4 **Q:**   **What are your inputs for your calculations of forecasted growth, historical**
5   **growth and overall growth?**

6 **A:**   My inputs for forecasted growth, historical growth are set forth in the three tables below:

Table SD-13

Company	Ticker	Value Line Earnings Growth	Yahoo! Finance Earnings Growth	Zacks Earnings Growth	S&P Earnings Growth (Mean)	**Average Future Earnings Growth Rate**
American States Water Company	AWR	6.50%	4.40%	6.30%	14.00%	**7.80%**
American Water Works	AWK	3.00%	7.50%	8.00%	7.75%	**6.56%**
California Water Service Group	CWT	10.00%	10.80%	-	9.00%	**9.93%**
Essential Utilities	WTRG	7.00%	5.20%	5.75%	6.40%	**6.09%**
Middlesex Water Company	MSEX	6.50%	2.70%	-	-	**4.60%**
SJW Group	SJW	6.50%	7.50%	7.50%	7.00%	**7.13%**
Chesapeake Utilities	CPK	5.00%	7.60%	-	8.07%	**6.89%**
ONE Gas Inc.	OGS	4.00%	5.00%	5.00%	3.00%	**4.25%**
Southwest Gas Holding	SWX	10.00%	4.00%	6.00%	6.30%	**6.58%**
Spire Inc.	SR	4.50%	6.36%	5.00%	6.50%	**5.59%**
Mean		6.30%	6.11%	6.22%	7.56%	**6.54%**
Median		6.50%	5.78%	6.00%	7.00%	6.57%

Table SD-14

Company	Ticker	Value Line-Earnings Growth-Last 5 Years	Value Line-Earnings Growth-Last 10 Years	Value Line-Book Value Growth-Last 5 Years	Value Line-Book Value Growth-Last 10 Years	Value Line-Dividend Growth-Last 5 Years	Value Line-Dividend Growth-Last 10 Years	**Average Historical Growth Rate**
American States Water Company	AWR	9.00%	7.00%	6.50%	5.00%	9.00%	9.00%	**7.58%**
American Water Works	AWK	15.00%	11.00%	7.50%	6.00%	9.50%	10.00%	**9.83%**
California Water Service Group	CWT	4.00%	5.00%	10.00%	7.50%	6.50%	4.50%	**6.25%**
Essential Utilities	WTRG	7.00%	6.50%	14.00%	10.00%	7.00%	7.50%	**8.67%**
Middlesex Water Company	MSEX	5.50%	8.50%	9.50%	7.00%	6.50%	5.00%	**7.00%**
SJW Group	SJW	-0.50%	7.50%	8.00%	9.50%	8.00%	7.50%	**6.67%**
Chesapeake Utilities	CPK	10.00%	9.00%	9.00%	9.50%	8.50%	7.00%	**8.83%**
ONE Gas Inc.	OGS	6.00%	-	4.00%	-	8.00%	-	**6.00%**
Southwest Gas Holding	SWX	4.50%	5.50%	7.00%	6.50%	7.00%	8.50%	**6.50%**
Spire Inc.	SR	3.00%	5.00%	3.50%	5.50%	5.50%	5.00%	**4.58%**
Mean		6.35%	7.22%	7.90%	7.39%	7.55%	7.11%	7.19%
Median		5.75%	7.00%	7.75%	7.00%	7.50%	7.50%	**6.83%**

Table SD-15

Company	Ticker	Average Future Earnings Growth Rate	Average Historical Growth Rate	Overall Growth Rate (80% Future Earnings, 20% Historical)
American States Water Company	AWR	7.80%	7.58%	7.76%
American Water Works	AWK	6.56%	9.83%	7.22%
California Water Service Group	CWT	9.93%	6.25%	9.20%
Essential Utilities	WTRG	6.09%	8.67%	6.60%
Middlesex Water Company	MSEX	4.60%	7.00%	5.08%
SJW Group	SJW	7.13%	6.67%	7.03%
Chesapeake Utilities	CPK	6.89%	8.83%	7.28%
ONE Gas Inc.	OGS	4.25%	6.00%	4.60%
Southwest Gas Holding	SWX	6.58%	6.50%	6.56%
Spire Inc.	SR	5.59%	4.58%	5.39%
Mean		6.54%	7.19%	6.67%
Median		6.57%	6.83%	6.82%

1 **Q:** **To estimate the dividend growth (g) for your DCF analysis, did you include negative**
2 **growth rates and unusually high growth rates?**

3 A: Yes. My inputs included only a single negative growth rate of -0.50% earnings growth

4 rate over the past five years for SJW Group, which I used in my historical growth rate

5 calculation. My inputs included two unusually large growth rates that are considered

6 outliers based upon my outlier screen. (Those inputs are shown in red in table SD-13

7 above.) The 10.8% from California Water Service group seems to be in line with the other

8 estimates available, and therefore I did not consider it an unreasonable outlier. The other

9 was the 14% growth rate for American States Water Company from S&P. This estimate

10 was more concerning, but because the other three estimates were for less than half this

11 growth (6.5%, 4.4% and 6.3%, for an average of 5.73%.), I did not remove either of these

1   results from my calculations, the outlier screen was applied to the end results, not to the

2   intermediate inputs.

3   **Q:**   **Has the Commission commented on what inputs parties should use in their analyses?**

4   A: Yes. In Cause No. 40103, the Commission encouraged parties to exercise sound judgment

5   when deciding which inputs to include in their analyses.[60] Instead of discouraging the use

6   of all negative growth rates, by encouraging the use of sound judgment, the Commission

7   discouraged cherry-picking inputs to reach a certain result. In this case, it is reasonable to

8   use negative forecasted growth numbers from one utility, where the overall average

9   remains positive. It is also my judgement that the unusually high estimate from S&P for

10   American States Water Company should be used.

11   **Q:**   **What inputs were removed through your screening process?**

12   A: When checking for outliers on the resultant ROEs for my preferred metric, the anticipated

13   95% confidence interval did result in my removing three results - the Spot and 3-Month

14   calculations for Middlesex Water and for American States Water Company for the Highest

15   ROE, which established the highest possible result from my inputs.

16   **Q:**   **Please explain your preferred inputs.**

17   A: I prefer using:

18   (1) a seven-day average price to determine the yield of a stock;

19   (2) all forecasted "long-term" earnings growth estimates on an equal weighting;

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[60] *In re Ind. Amer. Water Co.*, Cause No. 40103, Final Order, pp. 40 - 41 (Ind. Util. Regul. Comm'n May 30, 1996) ("In all cases, however, the Commission expects the parties to exercise sound judgment when deciding which inputs to include as part of their analysis. In this case, the inclusion of negative growth rates for certain earnings and book value per share data by the OUCC biased the derivation of its growth rates downward. On the other hand, the Petitioner's sole reliance on <u>Value Line's</u> 10-year dividend growth rate data had the opposite effect")(emphasis in the original).

1   (3) calculated historical growth measures equally weighted between dividends,

2   book values, and earnings for both five- and 10-year historical periods (i.e. giving

3   each factor a 1/6 weighting); and

4   (4) blended forecasted and historical growth figures at an 80%/20% weighting; and

5   (5) for the ROE calculations only, application of an outlier screen to remove results

6   outside of a 95% confidence interval (two standard deviations).

7   Moreover, the mean is a better approach to calculating the ROE, as the median is

8   more appropriate when outliers are present. Rather than relying on a median presentation

9   of the results, analysts should discard significant outliers, which I have done in this case.

10   Seven-day stock prices reflect the best balance between the current market price, while

11   addressing day to day volatility that may result from using only the spot (or current) price.

12   Using all analysts as equally valid sources of forecasted growth is appropriate and

13   alleviates potential bias concerns, and incorporating historical growth numbers is

14   consistent with past Commission practice and provides a grounding to the forecasts. A 20%

15   weighting of the historical numbers is appropriate because the purpose of this model is to

16   forecast future growth and historical results are useful to that purpose as the Commission

17   has indicated in its orders.

18   **Q: What are the results of your Constant Growth DCF model?**

19   A: After removing outliers, my DCF results in a recommended ROE of 9.76% on a mean

20   basis.[61] The overall range is 8.19%-10.89%. I arrived at this range by incorporating

21   extreme scenarios, i.e., taking only the lowest growth rate from any of the four sources for

22   each proxy company (so the lowest may be S&P for one company but Zacks for another).

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[61] This number also reflects the removal of outlier results in the data, as discussed elsewhere.

1   To determine the low end of the range, I then took the lowest dividend yield for all time

2   periods for each individual company, which may be the spot price, a one week, a one

3   month, a three month or a six month. The high and low ranges are the result of torturing

4   the data to arrive at the lowest or highest possible result regardless of consistency. A

5   breadth of results incorporating different assumptions on yields or interest rates may be

6   found in table SD-1, and the data on results other than my preferred metric may be found

7   in OUCC Attachment SD-1. *See* table SD-16 below.

Table SD-16

Company	Ticker	Annualized Dividend	Stock Price-7 Days	Expected Dividend Yield-1 Week	Average Future Earnings Growth Rate	Average Historical Growth Rate	Overall Growth Rate (80% Future Earnings, 20% Historical)	Mean ROE-7 Day Stock Price
American States Water Company	AWR	$1.72	$70.03	2.55%	7.80%	7.58%	7.76%	10.31%
American Water Works	AWK	$2.83	$120.56	2.43%	6.56%	9.83%	7.22%	9.65%
California Water Service Group	CWT	$1.12	$46.85	2.50%	9.93%	6.25%	9.20%	11.70%
Essential Utilities	WTRG	$1.23	$36.27	3.50%	6.09%	8.67%	6.60%	10.11%
Middlesex Water Company	MSEX	$1.30	$48.66	2.74%	4.60%	7.00%	5.08%	7.82%
SJW Group	SJW	$1.17	$54.52	2.22%	7.13%	6.67%	7.03%	9.25%
Chesapeake Utilities	CPK	$2.36	$105.92	2.31%	6.89%	8.83%	7.28%	9.59%
ONE Gas Inc.	OGS	$2.64	$64.51	4.19%	4.25%	6.00%	4.60%	8.79%
Southwest Gas Holding	SWX	$2.48	$75.00	3.42%	6.58%	6.50%	6.56%	9.98%
Spire Inc.	SR	$3.02	$61.55	5.04%	5.59%	4.58%	5.39%	10.43%
Mean				3.09%	6.54%	7.19%	6.67%	9.76%
Median				2.65%	6.57%	6.83%	6.82%	9.81%
Mean-Less Outliers								9.76%

E. Two-Stage DCF Model

8 **Q: Did you use a Two-stage DCF model in your analysis?**

9 A: Yes. Because the CGDCF uses the same growth rate into perpetuity, this can be

10   problematic if the growth rate is higher than the economy as a whole, as it leads to

1   nonsensical results. The two-stage DCF makes an allowance for a mathematically possible

2   growth rate into perpetuity.

3 **Q: Can short to intermediate-term forecasts lead to unreasonably high estimated growth**
4   **rates (g) in a DCF analysis?**

5 A: Yes. In fact, intermediate term forecasts are not long-term forecasts making it inappropriate

6   to mechanically incorporate them into a DCF analysis. The DCF model requires a growth

7   rate that is sustainable into perpetuity. Thus, even if intermediate term forecasts are

8   accurate, they are not meant to reflect growth beyond the time period the analysts who

9   created the estimates are considering. The long-term growth rates from different sources

10   in some cases may not even extend through the life of rates in a case before the

11   Commission.

12   By way of example, Value Line uses an estimate of long-term growth comparing

13   the average of earnings from 2021-2023 to the average of earnings from 2027-2029, or to

14   approximately four years in the future. Yahoo! Finance uses a long-term growth estimate

15   of the next five years, and Zacks and S&P use expected EPS Growth for a 3-5-year

16   period.[62]

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[62] From S&P Global, explanation of long-term growth rates. "Long Term Growth Rate (LTG) is a compound annual growth rate based on current and projected EPS values provided directly by the analysts. S&P Capital IQ does not calculate the growth rate based on available EPS Estimates. Most analysts define LTG as an estimated average rate of earnings growth for the next 3-5 years. The exact time frame differs from broker to broker. Since the analysts providing LTG may differ from the analysts providing fiscal year estimates and the variation in time periods of 3-5 years, it is not possible to reconcile LTG with fiscal year estimates." https://spglobal.my.site.com/s/article/10000747

1   Also, any growth rate above nominal GDP growth, applied in perpetuity, means

2   that the company, at some point, would be estimated to become larger than that economy's

3   GDP, since it would, at some point, surpass that economy.[63]

4   Finally, there are well documented findings that intermediate term forecasted

5   growth rates in EPS (forecasted by analysts) tend to be overly optimistic.

6 **Q: Are you aware of any financial articles that support your position that intermediate
7   term forecasted growth rates tend to be overly optimistic?**

8 A: Yes. I include these sources in my discussion on General Concerns with Analyst Forecasts

9   found in Appendix D.

10 **Q: How can intermediate-term forecasts in EPS be used while addressing concerns that
11   these growth rates are not sustainable to estimate cost of equity?**

12 A: Due to the methodology, using a two-stage DCF model can incorporate current forecasted

13   growth rates in the near term (over the forecasted period), while still using a sustainable

14   growth rate over the long term. A National Regulatory Research Institute ("NRRI") article

15   (discussed in Appendix D) explains long-term sustainable growth for the utility industry

16   cannot exceed the long-term sustainable growth rate in the US economy. Therefore,

17   applying a second stage to the DCF model and incorporating a forecasted growth rate of

18   the U.S. economy (as measured by growth in nominal GDP) as a long-term sustainable

19   growth rate for the second stage, can result in a more accurate estimate of the cost of equity

20   for the DCF model.

21 **Q: Explain the mechanics of the two-stage DCF Model.**

---

[63] Nominal long-term growth rates in excess of long-term nominal GDP growth imply that the business will eventually grow larger than the economy itself, even if that takes a number of years. A company with $10,000 annual revenue in the year 1882 (when CenterPoint was founded), could easily grow at 20% a year for some period of time. However, that growth rate over the intervening 142 years would result in current sales of $1,725, trillion, or approximately 69 times current GDP of around $25 trillion. This number would be increasing next year by an additional $345 trillion next year. This shows the absurdity of excessive growth rates over long periods of time. The formula is $10,000*(1.2).[142]

1   A: A two-stage DCF model is similar to the more traditional single-stage DCF model except

2   that it uses two growth rates (g) instead of a single growth rate. Because two growth rates

3   are used, the equation is more complex than the traditional single stage DCF model Po=

4   D_1 / (k- g). Instead, the equation for the two-stage DCF model is as follows:

$$P_0 = \frac{DPS_0(1+0.5g_1)(1-\frac{(1+g_1)^n}{(1+k)^n}}{k-g_1} + \frac{DPS_0+(1+g_1)^n(1+g_2)}{(k-g_2)(1+k)^n}$$

6   Where:

7   DPS_0 = expected dividends per share in year 0
8   k = required rate of return (cost of equity) during forecast period
9   Po = price of stock at year 0
10   g_1 = growth rate during the first stage
11   g_2= growth rate during the second stage
12   n = length of the first stage (in years)

13   Unlike the single-stage DCF model, due to its complexity, this equation cannot

14   simply be rearranged to solve for k (the cost of equity [k = (D_1/P_0) + g.]).

15   Instead, one must assume or pick a "target" price (Po) and, through "successive

16   iterations," determine (with given growth rates and a dividend yield) what cost of equity

17   (k) produces the assumed "target" price. In layman's terms, successive iterations mean

18   inserting different costs of equity into the equation until it produces the assumed "target"

19   price.

20   Hypothetically, assuming a price of $100.00 per share, with annual dividends of

21    $3.00 per share (a dividend yield of 3.0%), and a growth rate of 6.0% during the first stage,

22   (5 years), with a long run growth rate of 5.0% during the second stage, the rate of return

23   necessary to produce a price of $100.00 per share is 8.29%. Mechanically, this is done by

1   plugging in different rates of return (costs of equity or "k") into the above equation until it

2   calculates the cost of equity (k) that produces a price of $100.00 per share.

3   Fortunately, the "goal-seek" function in Excel can run the iterations and can be

4   used to determine what cost of equity produces a price of $100.00 share (a target price).

5   Therefore, I used the "goal-seek" function in Excel to calculate the result.

6 **Q: Why is it necessary to complete a two-Stage DCF analysis in a mature industry such**
7   **as the electric utility industry?**

8 A: Dealing with a mature industry does not, in any way, negate the benefits of completing a

9   two-Stage DCF model. No company, whether it be a high growth company like Apple,

10   Tesla, or Nvidia, or relatively low growth companies, such as utilities, can grow over the

11   long run at rates exceeding the growth rate of the economy as a whole. This would

12   ultimately result in nonsensical predictions that companies, which are merely participants

13   in an economy, are estimated to be larger than the economy itself. The higher the short-

14   term growth, the more dramatic the adjustment when growth rates in perpetuity are

15   adjusted downwards. Nominal GDP is a theoretical ceiling on growth in the long run.

16   Industries cannot realistically grow at that rate, since new industries come into existence

17   which make up some percentage of the economy in the future.

F. Case specific discussion of the two-stage DCF Model

1   **Q: Please explain the inputs in your two-stage DCF models.**

2   A: For the first calculation I used the mean dividend per share of 2.99% established in my

3   Constant Growth (single stage) DCF model. This was based upon the one-week

4   average stock price and the annualized current dividends sourced from Yahoo! Finance

5   for my proxy group.

6   I then used an overall growth rate of 6.67%, which is the overall growth rate I

7   used in the Constant Growth DCF model previously derived. The Constant Growth

8   DCF model was calculated with mean inputs from an 80% weighting of earnings

9   growth estimates from four different sources and a 20% weighting for historical

10   growth factors (five and 10 years, for earnings, book value, and dividends,

11   respectively) from Value Line.

12   I assumed the first phase of my two-stage model lasted for 15 years,

13   approximately three to four times as long as the time period the analysts covered. It is

14   reasonable to assume these estimates will not immediately fall to a lower rate;

15   therefore, 15 years would be reasonable and represents a substantial amount of time

16   for the first stage before the growth rates transition to the second stage. There is

17   research that shows the market treats these estimates as covering a period of

18   approximately five to 10 years, or approximately half the number of years I am

19   assuming, so the assumption of 15 years is longer than may be supported (and would

1   lead to a higher COE than a shorter first period).[64]

2   My long-term growth rate was assumed to be 3.81%, approximately the rate of

3   long-term nominal GDP growth, which serves as a theoretical growth ceiling in the

4   long-term for company growth.[65] The inputs resulted in a k value (COE) of 8.04%.

5   For the second calculation, the process was the same, except the inputs were based on

6   the median values for dividend yield (2.56%) and growth (6.82%). This results in a k

7   value (COE) of 7.53%.[66]

8   **Q: Is the two-stage DCF model the same as Mr. Malinak's multi-stage DCF model?**

9   A: No. However, they serve the same purpose and address the same concerns. A Multi-

10   Stage model addresses the problem with the assumption that at a certain point in the

11   future (in my model, 15 years), growth suddenly changes from 6.67% to 3.81%. This

12   is a simplifying assumption. The multi-stage approach addresses this concern by

13   blending the growth rate between the initial growth rate and the adjustment to a long-

14   term growth rate (nominal GDP). However, Mr. Malinak uses the long-term nominal

15   GDP as his intermediate term result for half of his proxy group. For the other half, he

16   has a median second stage growth rate of 5.07% (as opposed to 6.23% in his initial

17   growth and 3.98% for the terminal growth). This is over a 15-year period (so 5-20

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[64] "The estimated coefficients on consensus long-term growth forecasts suggest that the market applies these forecasts to an average horizon somewhere in the range of 5 to 10 years. Thus, these growth forecasts are more important for valuation than assumed in the many applications that treat them as 3-to-5 year forecasts, though far less influential than forecasts of growth into perpetuity." "How does the Market Interpret Analyst's Long-term Growth Forecasts?" p, 2, Steven Sharpe, Division of Research and Statistics of the Federal Reserve Board, April, 2004.

[65] The CBO estimates 3.8% nominal GDP growth from 2023-2052, in Long-Term Economic Projections, found here: https://www.cbo.gov/system/files/2023-06/59014-LTBO.pdf. The Federal Reserve estimates 3.8%, from figure 1 "Longer Run change in GDP" median estimate of 1.8% for real GDP and 2.0% for PCE longer run inflation, here : https://www.federalreserve.gov/monetarypolicy/files/fomcprojtabl20231213.pdf. The social security agency estimates as its intermediate projection a nominal growth rate of 4.08% in the 60 years from 2040-2100, found in Table VI.G4 in the 2023 OASDI Trustees Report, here: https://www.ssa.gov/OACT/TR/2023/tr2023.pdf. The average of these three estimates is 3.89%.

[66] Calculations may be found in Attachment SD-1, tab "Two-Stage DCF."

1   years from the present), so my version of the two-stage and Mr. Malinak's version of

2   the multi-stage DCF model would agree on the growth rate to use in years 20+. Mr.

3   Malinak would use a slightly higher growth rate of 5.07% over years 5-20 on half of

4   his proxy group as opposed to using the nominal GDP number for those years. Mr.

5   Malinak has more complexity in his formula, and more assumptions. Running Mr.

6   Malinak's inputs into my two-stage DCF model yields results of 7.85% based on a

7   mean vs. 7.85% for his multi-stage results, and 8.25% based on a median vs. 7.82%

8   for his multi-stage results. The large difference in mean and median results is because

9   of his treatment of using a higher growth rate in exactly half of his proxy group, which

10   makes the median much more volatile and, in my opinion, less reliable.

APPENDIX D

GENERAL CONCERNS WITH ANALYST ESTIMATES

1   On page 106 of his book, <u>The Equity Risk Premium-The Long Run Future of the Stock Market,</u>

2   Bradford Cornell states as follows:

3   The practical problem raised by relying on analysts' forecasts is that
4   such forecasts typically have short horizons. Services that aggregate
5   such forecasts, including those by IBES and Zack's Investment
6   Research, do not provide forecasts beyond 5 years. *From the*
7   *standpoint of the DCF model, which extends into perpetuity, this*
8   *horizon is too short.*

9   Emphasis added.

10   Mr. Cornell goes on to discuss the problems with assuming that the forecasted growth rate can

11   be maintained in perpetuity.

12   In most cases, the IBES forecasts are greater than the long-run
13   economic growth rates. Such growth rates clearly cannot be
14   maintained forever. Although it is possible that a company's
15   dividends can grow significantly faster than the general economy
16   for 5 years, if such a growth rate were maintained indefinitely, the
17   company would eventually engulf the entire economy.

18   Also, <u>Cost of Capital - Estimation and Application 2nd edition</u> by Shannon Pratt makes

19   the following assertions about using analyst forecasts to estimate cost of equity:

20   It is theoretically impossible for the sustainable perpetual growth
21   rate for a company to significantly exceed the growth rate in the
22   economy. Anything over a 6-7% perpetual growth rate should be
23   questioned carefully.

24   A common approach to deriving a perpetual growth rate is to obtain
25   stock analysts' estimates of earnings growth rates. The advantage of

1   using these growth estimates is that they are prepared by people who
2   follow these companies on an ongoing basis. These professional
3   stock analysts develop a great deal more insight on these companies
4   than a causal investor or valuation analyst not specializing in the
5   industry is likely to achieve.

6   There are however, three caveats when using this information:

7   1.   These earnings growth estimates typically are for only the
8   next three to five years; they are not perpetual. Therefore, any use
9   of these forecasts in a single-stage DCF model must be tempered
10   with a longer-term forecast.

11   2.   Most published analysts' estimates come from "sell-side"
12   stock analysts who work for firms that are in the business to sell
13   stocks. Thus, although their earnings forecasts fall within the range
14   of "reasonable" possibilities, they may be on the high end of the
15   range.

16   3.   Usually, these estimates are obtained from firms that provide
17   consensus earnings forecasts; that is, they aggregate forecasts from
18   a number of analysts and report certain summary statistics (mean,
19   median, etc.) on these forecasts. For a small publicly traded firm,
20   there may be only one or even no analyst following the company.
21   The potential for forecasting errors is greater when the forecasts are
22   obtained from a very small number of analysts. These services
23   typically report the number of analysts who have provided earnings
24   estimates, which should be considered in determining how much
25   reliance to place on forecasts of this type.

26   Many of the problems inherent in using a single-stage model to
27   estimate cost of capital are addressed by using a multistage model.

APPENDIX E

POTENTIAL BIAS IN ANALYST FORECASTS

1   The National Regulatory Research Institute (NRRI) Journal of Applied Regulation

2   supports both of my concerns about using unreasonably high growth rates in a DCF analysis

3   with the following:[67]

4   Financial research has made it clear that no company, especially a
5   utility, can sustain a growth rate over the long run that exceeds the
6   growth rate of the economy.[68] Since 1959 the long-term sustainable
7   real growth rate in the economy has been about 3.5%.[69] If long-
8   term inflation is expected to be about 2.5%, the maximum long-term
9   sustainable nominal growth for any company today is about 6.0%.
10   Since utilities are amongst the slowest growing firms in the
11   economy, a utility today would be expected to have a long-term
12   sustainable growth rate that is significantly below 6%.

13   The article also notes a tendency toward upside bias in analyst forecasts:

14   The other problem with using analyst forecasts as the long-term
15   growth rate in the DCF model is such forecasts are biased to the
16   upside. <u>The evidence on this issue is overwhelming</u>.[70] The forecast
17   bias persists year after year in large part due to the incentive
18   structures in place at many Wall Street firms that tend to reward
19   more optimistic projections and to discourage the incorporation of
20   potentially negative views in analysts' forecasts. (emphasis
21   added).[71]

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[67] <u>How improper risk assessment leads to overstated required returns for utility stocks,</u> by Steven G. Kihm NRRI Journal of Applied Regulation-Volume 1, June 2003, p. 98.

[68] Robert D. Arnott and Peter L. Bernstein "What Risk Premium is Normal? Financial Analysis Journal, 58 (2) March/April 2022; 64-85.

[69] Council of Economic Advisors, Economic Report of the President, 2002.

[70] See for example, Vijay Kumar Chopra, "Why so much error in analysts' Earning Forecasts?" Financial Analysts Journal, 54 (6) November/December 1998); 35-42.

[71] See Masakao N. Darrough and Thomas Russal, "A Positive Model of Earnings Forecasts: Top Down Versus Bottom Up." Journal of Business, 75 (1) (January 2002) 127-52.

1   The Wall Street Journal published an article on January 27, 2003, titled <u>Analysts: Still Coming up</u>

2   <u>Rosy</u>. The article discusses how, despite a $1.5 billion settlement pending with regulators over

3   stock research conflicts, analysts are unshaken in their optimism that most of the companies they

4   cover will have above average double-digit growth rates during the next several years. The article

5   asserts that such growth is unlikely:

6   Historically, growth in corporate earnings has slightly lagged
7   nominal growth in gross domestic product. In other words, profits
8   can only grow as fast as the economy. Right now, optimistic Wall
9   Street analysts expect earnings to defy history and grow far faster
10   than that.

11   And:

12   Those overly optimistic growth estimates also show that, even with
13   all regulatory forces on too-bullish analysts allegedly influenced by
14   their firms' investment-banking relationships, a lot of things haven't
15   changed: Research remains rosy and many believe it always will.

16   The concern regarding bias in intermediate term analyst forecasts, , is also mentioned in <u>The</u>

17   <u>Real Cost of Equity</u> by Marc H. Goedhart, Timothy M. Koller, and Zane D. Williams (McKinsey

18   Quarterly Autumn 2002):

19   Some theorists have attempted to meet this challenge by surveying
20   equity analysts, but since we know that analyst projections almost
21   always overstate the long-term growth of earnings or dividends,[72]
22   analyst objectivity is hardly beyond question.

23   In a more recent article, <u>Equity analysts: Still too bullish</u> by Marc H. Goedhart, Rishi Raj

24   and Abhishek Saxena (McKinsey Quarterly - April 2010) the authors reiterated the concern

25   regarding analyst forecast bias:

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[72] See Marc H. Goedhart, Brendan Russel and Zane Williams, "Prophets and profits?" McKinsey on Finance, Number 2, Autumn 2001.

No executive would dispute that analysts' forecasts serve as an important benchmark of the current and future health of companies. To better understand their accuracy, we undertook research nearly a decade ago that produced sobering results. Analysts, we found, were typically overoptimistic, slow to revise their forecasts to reflect new economic conditions, and prone to making increasingly inaccurate forecasts when economic growth declined.[73]

Alas, a recently completed update of our work only reinforces this view - despite a series of rules and regulations, dating to the last decade, that were intended to improve the quality of the analysts' long-term earnings forecasts, restore investor confidence in them, and prevent conflicts of interest.[74] For executives, many of whom go to great lengths to satisfy Wall Street's expectations in their financial reporting and long-term strategic moves, this is a cautionary tale worth remembering.

Also, the abstract of Do Analyst Conflicts Matter? Evidence from Stock Recommendations

by Anup Agrawal and Mark Chen (Journal of Law and Economics, 2008, V 51), includes

the following statement:

However, evidence from the response of stock prices and trading volumes to upgrades and downgrades suggests that the market recognizes analyst conflicts and properly discounts analyst options.

While it predates the October 31, 2003, final judgment in the Global Research Analyst

Settlement ("GRAS"), the following article: Stock Analysts Still Put Their Clients First,

Financial Analysts Journal, Volume 59 Issue 3, May 1, 2003, discusses the separation of

research and investment banking services and its influence on analyst estimates. The article

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[73] See Marc H. Goedhart, Brendan Russel and Zane Williams, "Prophets and profits?" McKinsey on Finance, Number 2, Autumn 2001.

[74] SEC Regulation Fair Disclosure (FD) passed in 2000, prohibits the selective disclosure of material information to some people but not others. The Sarbanes-Oxley Act of 2002 includes provisions specifically intended to help restore investor confidence in the reporting of securities analysts, including a code of conduct for them and a requirement to disclose knowable conflicts of interest. The Global Settlement of 2003 between regulators and ten of the largest US investment firms aimed to prevent conflicts of interest between their analyst and investment businesses.

1   concludes that the separation of research and investment banking services has not resolved

2   the concern that analyst forecasts are still upwardly biased.

3   The new requirements *imply* that independent research (brokerage
4   research without investment banking ties) is better for investors. But
5   why independent analysts will be less vulnerable than brokerage
6   firm analysts to the same pressures for optimism is unclear. Analysts
7   themselves have remarked that one source of strong pressure for
8   "optimism biases" in recommendations is the need to keep access to
9   the managers of the companies they cover; in other words, issue
10   positive research or expect to be cut off from management guidance.
11   Unfortunately, the Sarbanes-Oxley bill, which mandated many
12   improvements in corporate managers' financial practices, did
13   nothing to reduce the unethical practice by many managers of
14   communicating only with those analysts who "cooperate" with
15   management's implicit (and usually positive) forecasts of the future.
16   Finding a way to fix this blind spot may be more important than all
17   the other "sticks" regulating analysts combined.

18   Interestingly, the *Wall Street Journal* reported in April 2003 that
19   after reviewing disclosure reports issued as a result of the new
20   requirements, they concluded that the brokerage firms of the top
21   investment banks are still more likely to give optimistic research
22   recommendations to their own banking clients. Of course, the new
23   disclosure requirements attempt to protect investor clients by
24   making them aware of investment research's potential as an
25   advising medium, but the attempt works only if investors read and
26   understand the disclosures. Institutional investors are probably more
27   likely than retail investors to read, put into context, and fully
28   appreciate these new disclosures. (emphasis added)

29   While the GRAS may have reduced some of the causes of analyst bias, the problem of

30   optimistic analyst forecasts has not been eliminated. Moreover, the Equity Analysts: Still Too

31   Bullish article by Goedhart, Raj, and Saxena and Do Analyst Conflicts Matter? Evidence from

32   Stock Recommendations by Agrawal and Chen were both published several years after the GRAS.

33   Both articles support my professional viewpoint that concerns about analyst optimism still exist.

34   When using analyst forecasts of EPS to estimate growth (g) in a DCF analysis, both the

1   potential for analyst bias and the intermediate term nature of the forecasts may make these

2   estimates unreliable. Even assuming no analyst bias, unsustainable growth rates should be

3   adjusted or given reduced weight.

APPENDIX F

USE OF HISTORICAL GROWTH ESTIMATES

1 **Q:** **What data should the Commission use to estimate growth (g) in a DCF analysis?**

2 A: Just as this Commission has done in past cases, such as Cause No. 43860 (Indiana American

3 Water Co.), it should review and give weight to both historical and forecasted data of

4 growth rates in EPS, DPS, and BVPS.

5 **Q:** **Has the Commission supported the use of DPS, BVPS, and EPS data in estimating**
6 **the growth (g) component of the DCF calculation?**

7 A: Yes. In Gary-Hobart Water Corporation (acquired by Indiana American), Cause No.

8 39585, in its final order dated December 1, 1993, at page 17, this Commission stated

9 that "although we agree historical and projected dividend information are important

10 considerations when estimating future rates of growth for the DCF model, we do not

11 believe that book value and earnings data should be ignored." In Cause No. 42029, the

12 Commission stated that it "has consistently sanctioned the use of both historical and

13 forecasted per share data" and that it "continue[s] to believe that both historical and

14 forecasted earnings, dividends and book value per share data are useful when

15 employing the DCF model." *Ind. Amer. Water Co.,* Cause No. 42029, Final Order p.

16 32 (Ind. Util. Regul. Comm'n Nov. 6, 2002).

17 The Commission has more recently affirmed its determination that historical

18 and forecasted earnings and dividends and book value per share data are useful when

19 employing the DCF model in Cause No. 43680:

20 The Commission expects the parties to exercise sound judgment
21 when deciding which inputs to include as part of their analysis.

1   We have concerns regarding Mr. Moul's sole reliance on
2   analysts' intermediate-term forecasts in his DCF model. The
3   Commission believes that both historical and forecasted earnings
4   and dividends and book value per share data are useful when
5   employing the DCF Model. Although Mr. Gorman agreed with
6   Mr. Moul's forecasted growth rates, Mr. Gorman recommended
7   adjustments that modify Mr. Moul's outcomes to be much more
8   in line with Mr. Kaufman's and Mr. Gorman's results. We agree
9   with Mr. Kaufman that Mr. Moul's reliance on intermediate-term
10   forecasts result in a growth rate that is unrealistically high.

11   We also agree with Mr. Gorman that the constant growth DCF return
12   used by Mr. Moul for the Water Proxy Group is not reasonable
13   and represents an inflated return for Indiana-American at this
14   time. The constant growth DCF results for the Water Proxy
15   Group are based on growth rates of 7.29% (Mr. Gorman) and
16   7.5% (Mr. Moul). The Commission finds these growth rates to
17   be unsustainable for the long-term, which is required by the
18   constant growth model.

19   *Ind. Amer. Water Co.,* Cause No. 43680, Final Order, p. 47 (Ind. Util. Regul. Comm'n Apr.
20   30, 2010).

APPENDIX G

CAPITAL ASSET PRICING MODEL (CAPM) ANALYSIS

1 **Q:** **Does the CAPM give a better indication of the required returns than the DCF model?**

2 A: No. If the DCF is used with a reasonable estimated growth rate of dividends, it produces

3 results at least as reasonable as the CAPM. The CAPM is typically more controversial and

4 less reliable than the DCF model.

5 Brigham and Davis comment on the lack of precision in the CAPM on page 89 of

6 their text Intermediate Financial Management (7th Edition):

7 When applied in practice, the CAPM appears to provide neat,
8 precise answers to important questions about risk and required rates
9 of return. However, the answers are less clear than they seem. The
10 simple truth is that we do not know precisely how to measure any of
11 the inputs required to implement the CAPM. These inputs should
12 all be ex ante, yet only ex post data are available. Further, historical
13 data on kN, kRF, and betas vary greatly depending on the time
14 period studied and the methods used to estimate them. Thus,
15 although the CAPM appears precise, estimates of Ki found through
16 its use are subject to potentially large errors.

17 **Q:** **Please describe your CAPM analysis.**

18 A: The Capital Asset Pricing Model, or CAPM, is a form of risk premium analysis used to

19 estimate the cost of capital. The CAPM is based on the premise that investors require a

20 higher return for assuming additional risk. Total risk is divisible into two categories:

21 systematic risk and unsystematic risk. Systematic risk is risk that affects the entire market,

22 including inflation, monetary policy, fiscal policy, or politics. Unsystematic risk is risk

23 unique to the company and may include the characteristics of the industry in which the

24 company operates as well as factors involving the individual company being examined,

1   such as strikes, management errors or ability, merger activity, or individual financing

2   policy.

3   Investors can mitigate unsystematic risk through diversification. Because returns

4   of individual securities of a portfolio do not usually move in the same direction at the same

5   time, the total risk of a portfolio is less than the risk of the individual securities that make

6   up the portfolio. Because investors can eliminate unsystematic risk through diversification,

7   the market does not compensate investors for assuming unsystematic risk. Conversely,

8   systematic risk, sometimes referred to as market risk, cannot be eliminated through

9   diversification. However, because investments will move with different relationships to

10   the market, investors can form a portfolio to assume the amount of market risk they wish.

11   An investor's required return depends on the market risk that the investor assumes.

12   **Q: How is systematic (market) risk measured?**

13   A: Beta is the measurement of an investment's relationship to the market. More specifically,

14   Beta measures an asset's price volatility compared to the market. By definition, the market

15   has a Beta of one. The market refers to the returns on all assets. Because it is very difficult

16   to measure the return on all assets, analysts typically rely on a market index, such as the

17   Standard & Poor's 500 Index, as a proxy for the market. Assets more volatile than the

18   market will have a Beta greater than one and, thus, they are considered riskier than the

19   market. Similarly, assets that are less volatile will have a Beta less than one and are

20   considered less risky than the market. Utility stocks would be considered low-risk, and

21   almost always have a Beta less than one, and that is true in the present cause.

22   The CAPM formula can be stated as follows:

1	**K**	**=**	**Rfc + β*(Rm-Rf) where,**
2	K	=	Cost of Equity
3	Rfc	=	Current Risk-Free Rate of Return
4	β	=	Beta
5	Rm-Rf=		Expected Market Equity Risk Premium
6	Rm	=	Market Equity Return
7	Rf	=	Risk-Free Rate of Return

8 The return on an asset (K) equals the risk-free rate of return (Rfc) plus its Beta (β)

9 multiplied by the market equity risk premium (Rm - Rf). The market equity risk premium

10 equals the market equity return minus the risk-free rate of return.[75]

11 **Q:** **What is your expert opinion of the CAPM?**

12 A: The CAPM is a model to which I give weight. In the initial introduction to the CAPM in

13 <u>Cost of Capital</u>,[76] this textbook quotes the following from Michael Dempsey:

14 "[n]evertheless, we consider that in choosing to attribute CAPM rationality to the markets,

15 we are imposing a model of rationality that is firmly contradicted by the empirical evidence

16 of academic research." As an introduction to the model, this is not a full-throated

17 endorsement. However, the very next sentence states "[d]espite its many criticisms, the

18 CAPM in its pure form is still one of the most widely used models for estimating the cost

19 of equity capital[.]"[77] The CAPM is typically more controversial and less reliable than the

20 DCF model. Different applications of CAPM may result in vastly different cost of equity

21 estimates. For example, the source of Beta can influence the results of a CAPM analysis.

22 If a market risk premium of 5.0% is used, a difference in Beta of only 0.10 changes the

23 results of a CAPM analysis by 50 basis points.

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[75] I refer to the Market Risk Premium or the Equity Risk Premium as interchangeable concepts throughout my testimony, the difference between the two concepts is not relevant for purposes of establishing a Utility ROE, since there is a general understanding that by "market" we mean the stock market and not other investable assets.
[76] <u>Cost of Capital, Applications and Examples</u>, Fifth Edition. Shannon P. Pratt and Roger J. Grabowski, page 190.
[77] *Id*.

A. Forecasted Equity Risk Premium

1 **Q: Do you propose to use forecasted information to determine the equity risk premium?**

2 A: Yes. Both historical and forecasted equity risk premiums provide relevant insight to

3 estimate cost of equity.

4 A hard to dismiss critique came from Roger Ibbotson's dissertation advisor, Eugene
5 Fama. In a series of papers written with Dartmouth College's Kenneth French,
6 Fama has argued that the capital asset pricing model, or at least its 1970s corollary,
7 that the risk premium is constant doesn't match the facts. "My own view is that the
8 risk premium has gone down over time basically because we have convinced
9 people that it's there[,] Fama says. Ibbotson's stock market forecasting model is
10 thus a victim of its own success. Ibbotson agrees that Fama has a point, and that he
11 can no longer bank on the historical equity premium to predict the future. [78]

12 Importantly, even Dr. Ibbotson has now expressed concerns about using historical data to

13 estimate the risk premium. At the time of this article (2005), Dr. Ibbotson had forecasted a

14 long-run equity-return forecast of 9.27% compared to an annual return on stocks from 1925

15 to the (then) present day of 10.31%.

B. Risk-free rate of return

16 **Q: Is the risk-free rate of return also controversial?**

17 A: Aside from the market risk premium controversy, financial analysts do not agree on the

18 determination of the risk-free rate. Theoretically, the risk-free rate is the rate of return on

19 a completely risk-free asset. In practice, analysts typically use yields on United States

20 Treasury Securities as a proxy for the risk-free rate. An analyst could use the yield on very

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[78] Fox, J. (2005) *9% forever?*, *CNNMoney*. Available at:
https://money.cnn.com/magazines/fortune/fortune_archive/2005/12/26/8364640/index.htm (Accessed: 04
March 2024).

1   short term 91-day Treasury Bills as a proxy for the theoretical risk-free rate of return.

2   However, the volatility of 91-day Treasury Bill rates has led many analysts to use longer

3   term Treasury instruments as an estimate of the risk-free rate.

4 **Q: How did you estimate the risk-free rate?**

5 A: I analyzed the 10-year and 30-year Treasury long-term yields from both a current and a

6   forecasted time frame. For the current results, I calculated yields based on the spot yield

7   (as of the date I selected to procure my data), the 7-day average yield (prior the date

8   selected), and 1-month, 3-month and 6-month average yields.

9 **Q: What metric do you use?**

10 A: My preferred metric is the 30-year 7-day average yield because at this point in time, the

11   30-year yield is the most reliable (meaning the most market driven and the least influenced

12   by the short-term gyrations and manipulations of the Federal Reserve). Further, the

13   Treasury market is so deep and robust that the market will have minimal volatility from

14   day to day that is not explained by relevant information, and since the purpose of using

15   longer time frames for calculation of current yields is to remove this volatility, this is of

16   minimal value in the treasury market.

C. Beta

17 **Q: What source did you review to estimate Beta?**

18 A: Like Mr. Malinak, I relied on Value Line and Bloomberg as two sources of Beta. In

19   addition to those two sources, I used Yahoo! Finance, Zacks, NYSE, and Standard and

20   Poor's (S&P).

21 **Q: Is there a difference in the Betas calculated from different sources?**

1   A: Yes. Although Beta is a mathematical construct, the choice of time frames, data points,

2   and indexes can result in a significant difference of calculated Betas. Further, Value Line

3   uses adjusted Betas, and some of the Betas Mr. Malinak used from Bloomberg were

4   adjusted, meaning that the mathematical results are adjusted towards one. For utilities

5   which are low risk (a Beta below one) this means that both Value Line and Bloomberg will

6   result in an increased Beta (and hence a higher resultant ROE when inputted into the

7   CAPM formula). None of the other sources of Beta are adjusted. The adjustment results in

8   a very significant difference in Beta between the adjusted and the unadjusted sources.

9   **Q: Do Betas trend toward one over time?**

10   A: I am aware of academic literature that shows Betas move toward 1.0 over time; however,

11   that does not necessarily apply to utilities. From my perspective, it is important to step back

12   and realize what an ever-increasing Beta implies about future risk for utilities specifically.

13   Since Beta is used as a proxy for risk, the assumption that utility Betas are going to

14   eventually be at 1.0 means that at some point in the relatively near future, regulation will

15   produce utilities that are as risky as the average non-utility company. This seems unlikely

16   given the long-standing regulatory system in which utilities operate. The utility industry is

17   inherently different due to its regulatory environment. An entire regulatory regime is in

18   place, in large part, to ensure utilities do not become too risky.

19   **Q: Do you know of academic research supporting the position that adjusted Betas are
20   not applicable to utilities?**

21   A: Yes. An article in the Electricity Journal from 2013 addressed this specific issue.[79] The

22   conclusion stated, "We have shown empirically that public utility betas do not have a

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[79] Public Utility Beta Adjustment and Biased Costs of Capital in Public Utility Rate Proceedings, Richard A. Michelfelder from Rutgers University and Panayiotis Theodossiou of Cyprus University of Technology. This article is included in my workpapers.

1   tendency to converge to 1."[80] The article further stated: "The single significant equation

2   implies a long-term convergence of beta to approximately 0.59," and "Therefore the Blume

3   equation overpredicts utility betas and Blume-adjustments of utility betas are not

4   appropriate."[81] The chart below is from this article, and shows the boxplots of utility stock

5   betas using four-year periods data.[82] This chart clearly shows that Betas are not converging

6   toward one over time.

Table SD-17

Boxes give the 25th and 75th percentiles; line in the boxes is for the median; whiskers give the 10th and 90th Percentiles
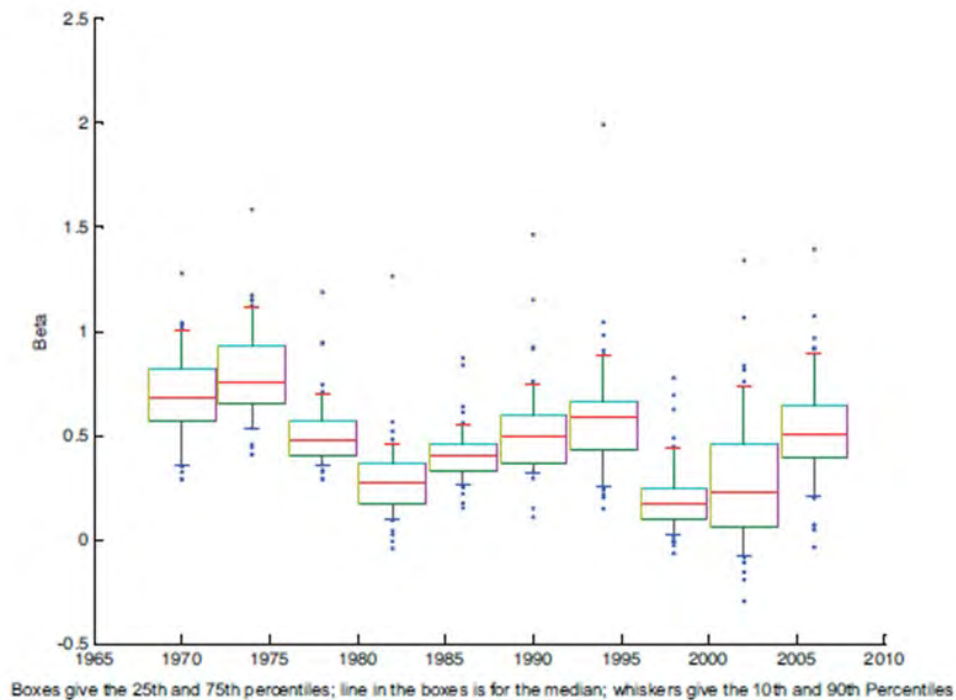
Figure 1: Boxplots of Utility Stock Betas Using 4 Year Periods Data

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[80] *Id.*, page 67.
[81] *Id.*, page 67.
[82] Figure 1 may be found on page 66 of this issue. Public Utility Beta Adjustment and Biased Costs of Capital in Public Utility Rate Proceedings, Richard A. Michelfelder from Rutgers University and Panayiotis Theodossiou of Cyprus University of Technology.

D. **Case specific discussion of the DCF Model**

1 **Q:** **What inputs are required for the CAPM?**

2 A: The CAPM relies on (1) a determination of the risk-free rate of interest; (2) the equity risk

3 premium (i.e., the amount of excess returns an investor expects investing in equities instead

4 of risk-free bonds), and (3) Beta, which is a measure of risk relative to the market as a

5 whole.[83]

6 **Q:** **How did you determine the risk-free rate of interest?**

7 A: I calculated the risk-free rate of interest for a variety of time periods and for both ten-year

8 and thirty-year maturities.

Table SD-18

Interest Rates-as of April 26, 2024

	Average Yield Over				
	Spot	7-Day	1 Month	3 Month	6 Month
10 Year Treasury Yield	4.67%	4.65%	4.50%	4.30%	4.27%
30 Year Treasury Yield	4.78%	**4.77%**	4.62%	4.45%	4.42%

9 **Q:** **What is your preferred risk-free rate?**

10 A: Although it is one of the highest interest rates in Table SD-X7, I prefer the 7-day average

11 yield on the 30-year U.S. treasury because it captures the market's best price of a long-

12 term risk-free rate, and due to other reasons discussed elsewhere in my testimony. This is

13 4.77% currently.[84]

14 **Q:** **How did you calculate Beta?**

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[83] As stated earlier I am using the Market Risk Premium and the Equity Risk Premium as interchangeable, however the CAPM actually uses the market risk premium, which includes things like real estate, precious metals, private companies, basically the entire potential universe of investments. I am using the S&P 500 as a proxy from this investible universe when we use the Equity Risk Premium.

[84] Currently means the 7 days prior to April 26, 2024. There is always a tension of getting the most up to data information vs. having enough time to prepare testimony after having fixed numbers. Mr. Malinak used numbers from December 11, 2023, which was about 5 ½ months before the date I used.

1   A: I used six different sources for Beta: Value Line, Bloomberg, Yahoo! Finance, Zacks, S&P,

2   and NYSE. Mr. Malinak used the majority of these same sources for his inputs (Value

3   Line, Yahoo! Finance, and Zacks for growth estimates, Value Line and Bloomberg for

4   Beta estimates). Mr. Malinak used only Value Line and Bloomberg for Betas. Mr. Malinak

5   highlighted as particularly trustworthy and highly credible the Value Line results, which

6   are the highest of all the results (resulting in the highest estimated cost of equity).[85]   I

7   include the Value Line results, but I am giving equal weight to all the results.

Table SD-19

Company	Ticker	Value LineBeta (β)	Bloomberg Beta (β) 1-Year Daily Raw Beta	Bloomberg Beta (β) 1-Year Daily Adjusted Beta	Bloomberg Beta(β) 2-Year Weekly Raw Beta	Bloomberg Beta(β) 2-Year Weekly Adjusted Beta	Bloomberg Beta (β) 5-Year Monthly Raw Beta	Bloomberg Beta (β) 5-Year Monthly Adjusted Beta	Yahoo! Beta (β)	Zacks Beta (β)	S&P Beta (β)	NYSE Beta (β)	Mean Beta
American States Water Company	AWR	0.70	0.52	0.68	0.54	0.69	0.43	0.62	0.43	0.43	0.52	0.43	0.54
American Water Works	AWK	0.95	0.68	0.78	0.96	0.97	0.62	0.75	0.62	0.63	0.67	0.63	0.75
California Water Service Group	CWT	0.75	0.57	0.72	0.57	0.72	0.50	0.67	0.50	0.49	0.57	0.48	0.59
Essential Utilities	WTRG	1.00	0.68	0.79	0.67	0.78	0.81	0.87	0.81	0.82	0.66	0.81	0.79
Middlesex Water Company	MSEX	0.75	0.63	0.76	0.57	0.71	0.74	0.83	0.74	0.74	0.58	0.75	0.71
SJW Group	SJW	0.85	0.64	0.76	0.47	0.65	0.58	0.72	0.58	0.58	0.45	0.58	0.62
Chesapeake Utilities	CPK	0.80	0.60	0.73	0.57	0.71	0.61	0.74	0.61	0.60	0.49	0.60	0.64
ONE Gas Inc.	OGS	0.85	0.48	0.66	0.45	0.63	0.65	0.77	0.65	0.65	0.46	0.65	0.63
Southwest Gas Holding	SWX	0.90	0.71	0.81	0.54	0.69	0.36	0.57	0.36	0.36	0.50	0.37	0.56
Spire Inc.	SR	0.85	0.54	0.69	0.66	0.77	0.52	0.68	0.52	0.51	0.48	0.51	0.61
Mean		0.84	0.61	0.74	0.60	0.73	0.58	0.72	0.58	0.58	0.54	0.58	0.65
Median		0.85	0.62	0.75	0.57	0.71	0.60	0.73	0.60	0.59	0.51	0.59	0.63

8   **Q:**   **Why did you use multiple Bloomberg's Beta in your analysis?**

9   A: Because multiple Bloomberg's Beta is what Mr. Malinak used, and I accept his inclusion

10   of this variety of Betas for this analysis.

11   **Q:**   **Do you agree with Mr. Malinak's use of Value Line and Bloomberg as sources of a**
12   **reasonable Beta calculation?**

13   A: I accept these sources, but additional sources should also be used. Other sources I used

14   (S&P, NYSE, Zacks, and Yahoo! Finance) also provide Betas. These are as valid as the

---

[85] Petitioner's Exhibit 3, Direct Testimony of Mr. Malinak, page 10, lines 7-14.

1   Betas provided by Value Line- otherwise, these reputable sources would not publish these

2   results - and they should be used as well. I am using these sources in addition to Value

3   Line because they are publicly available (i.e., Yahoo!, Zacks and NYSE), or because the

4   OUCC has a subscription to the source (i.e., S&P). I did not eliminate any reputable,

5   publicly available sources that I am aware of. I accept Mr. Malinak's inclusion of both

6   raw and adjusted Betas from Bloomberg for the same reason, Mr. Malinak considers them

7   valid, and in this case I do not quarrel with his judgement on this issue.

8   **Q: Are all sources of Beta equally valid?**

9   A: There are many different methods of calculating Betas with almost unlimited inputs -

10   frequency (daily, weekly, monthly, annual); time period (a week, a month, a year, three

11   years, five years, ten years, etc.); and the index you are comparing the stock price to (the

12   S&P 500, the NYSE composite, the NASDAQ, etc.). Once those decisions are made, finer

13   distinctions are often still required. For instance, a monthly data point could be determined

14   in the middle of the month, the end of the month, the average of the entire month, etc. The

15   sources upon which I relied (Value Line, Bloomberg, Yahoo!, Zacks, S&P, and NYSE)

16   are all nationally recognized and reputable. These sources have determined that the Beta

17   they publish is "the best" – if they did not, they would choose a "better" model.[86] If the

18   data was all sourced from a third party, the results would be identical, which they are not.

19   Given that this is the case, all of these sources are equally valid, and should be given equal

20   weight in any average.

---

[86] For purposes of the Betas sourced from Bloomberg, this decision is actually Mr. Malinak's, rather than Bloomberg's.

1   **Q:**   **If Betas are not converging towards one over time, what practical impact would that**
2   **have on your analysis?**

3   A: If this adjustment is not appropriate, then adjusted Betas should not be used, and only raw

4   Betas should be used when calculating the COE with a CAPM analysis. I used both raw

5   and adjusted Betas in my analysis, as does Mr. Malinak. The majority of the Betas I

6   ultimately used are raw (or unadjusted).[87] Since we both agree on the use of both adjusted

7   and unadjusted Betas, this decision should not be controversial, although of course there

8   could be disagreements on which sources are appropriate to use, and Mr. Malinak could

9   disagree that NYSE or Zacks is not a reputable source of Betas, for instance.

10   **Q:**   **Are there differences in the Betas Mr. Malinak and you used in your calculations in**
11   **addition to the providers of the Betas?**

12   A: Yes. Betas will differ because of the composition of our respective proxy groups.[88]

13   Because Mr. Malinak and I presented our data differently, we used Beta in different ways.

14   Specifically, Mr. Malinak presented calculations on just the water members of his proxy

15   group, just the gas members of the proxy group, and his full proxy group, he also split out

16   just the Value Line results. My analysis uses average Betas. Using multiple sources of

17   Beta is advantageous, but the presentation of the results and how those are incorporated is

18   the choice of the analyst.

19   **Q:**   **Please explain the Equity Risk Premium ("ERP").**

20   A: The Equity Risk Premium is the excess return an investor expects by investing in equities

21   rather than a risk-free investment. In other words, the equity risk premium would be the

22   expected return on "the stock market" (the market rate of return), less the return on a

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[87] Four out the eleven Betas that are used in my analysis are adjusted, so 64% of the Betas used in my analysis are unadjusted.

[88] My Betas will also be slightly more updated, although that difference should be very minimal.

1   treasury bond (the risk-free rate).

2   **Q:**   **How did Mr. Malinak calculate the ERP?**

3   A: Mr. Malinak used a historical risk premium sourced from the 2023 SBBI Yearbook,

4   published by Kroll.

5   **Q:**   **Do you agree with using the historical risk premium sourced from the 2023 SBBI**
6   **Yearbook as the optimal approach to determining the current equity risk premium?**

7   A: No. I disagree for two primary reasons.

8   First, estimates of long-term market returns are readily available from multiple

9   reputable, national sources that invest considerable expertise and effort in creating this

10   forecast.[89] This is representative of the current opinion of the market as far as what the

11   future returns are being expected, and thus what the appropriate equity risk premium is.

12   The expectations of the market is represented explicitly by this forecast, not by what the

13   market returned vs. interest rates in the 1920's or the 1970's. The current market return

14   forecasts are surely influenced by this historical knowledge, as the market participants are

15   not blind or unaware of these historical precedents, however in what appears to be a

16   universal judgement, these forecasts expect the market to return significantly less in the

17   next 10-20 years that is has over the previous 100 years. To emphasize this point, I did not

18   remove estimates that I was able to find publicly, the returns the market is expecting going

19   forward are simply lower than what is reflected in the historical returns over the previous

20   100 years.[90]

21   Second, even the source of Mr. Malinak's equity risk premium disagrees with this

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[89] These estimates are not in perpetuity but are significantly longer than the intermediate term forecasts provided by
Value Line, Zacks, S&P or Bloomberg.
[90] The actual number of years is slightly less than 100, from 1926-2023.

1   being the best current estimate. This may be seen by the publisher, Kroll, having a current

2   estimate of 5.50% (see table SD-7, or see OUCC Attachment SD-1, tab "ERP", Kroll report

3   dated February 8, 2024). This is significantly different from Mr. Malinak's use of a 7.17%

4   ERP calculated from the information provided by Kroll. The estimate from Kroll, as well

5   as KPMG and Professor Damodaran of Stern Business School, is used to calculate and

6   alternative set of potential ERP's to use when calculating the CAPM. In fact, Kroll is the

7   highest of these three sources, and their report dated February 8, 2024, states the following

8   in the executive summary on page 1 "The Kroll Recommended U.S. ERP is being

9   reaffirmed at 5.5% when developing USD-denominated discount rates, but it could be

10   lowered in the near future." When using this ERP, Kroll recommends a normalized risk-

11   free rate of 3.5% or the spot 20-year treasury rate. Mr. Malinak used the 20 year one-week

12   treasury rate but chose to use a materially higher estimate for the ERP than Kroll

13   recommends.

APPENDIX H

FORECASTED INFLATION

1 **Q: Have you incorporated inflation projections as an input in any of your models?**

2 A: Yes. Most of the estimates are implied. This portion of testimony is distinct from any

3 calculation of historical inflation, which is required to determine a fair value WACC

4 adjustment. This information is provided as well to help the reader better understand the

5 macroeconomic environment that currently exists, and the projected path of this critical

6 input.

7 **Q: Where would projected inflation be implied within your projections and models?**

8 A: The most obvious place is as a component of interest rates. For instance, a 10-year Treasury

9 yield implicitly includes the markets estimates of inflation over the next ten years. There

10 are readily available interest rates without this component, specifically a security called a

11 TIPS (Treasury Inflation-Protected Securities). A standard 10-year Treasury yield would

12 be considered a nominal interest rate, as opposed to a real rate (which is a nominal rate of

13 interest less the inflation rate). Since interest rates indirectly affect stock prices changes in

14 implied inflation forecasts also affect stock prices. General inflation may also affect

15 equities more directly, if inflation impacts are uneven, or as equities respond to the

16 depreciation of the currency in which they are denominated.[91] Also, the anticipated

---

[91] This is just another definition of inflation, that inflation instead of measuring the increase in prices measures the decrease in value of the currency in which those prices are being measured. They are two sides of the same coin.

1   inflation rate is incorporated into a market return forecast, which is one of the primary

2   inputs into the Capital Asset Pricing Model.

3 **Q: Are explicit inflation projections available?**

4 A: Yes. There are long-term inflation forecasts provided by the Federal Reserve and the

5   Congressional Budget Office. There are inflation estimates included with the projections

6   that the Indiana Public Retirement System ("INPRS") uses as part of its market return

7   estimates. There are multiple other sources from companies to surveys of professional

8   forecasters. Please find (12) separate projections for long-term inflation assumptions

9   below. These are all nationally recognized, well-respected sources.[92]
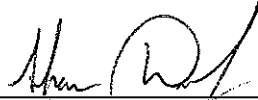
Table SD-20

Source:	Forecast
Blue Chip	2.20%
BNY Mellon	2.20%
Congressional Budget Office	2.30%
Federal Reserve	2.00%
Fidelity	2.70%
Horizon Actuarial Services	2.46%
INPRS	2.00%
JP Morgan	2.50%
Philadelphia Fed-Survey of Professional Fo	2.33%
Schwab	2.30%
Verus	2.50%
Verus	2.40%
Average	2.32%

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[92] Notes, Dates and Links may be found in OUCC Attachment SD-2, tab "Forecasted Inflation".

AFFIRMATION

I affirm the representations I made in the foregoing testimony are true to the best of my knowledge, information, and belief.

By: Shawn Dellinger
Cause No. 46020
Office of Utility Consumer Counselor (OUCC)

Date: _____ June 19, 2024

OUCC ATTACHMENT SD-1
IS FILED AS AN EXCEL DOCUMENT

OUCC ATTACHMENT SD-2
IS FILED AS AN EXCEL DOCUMENT

Cause No. 46020
Responses of Citizens Water of Westfield
Office of Utility Consumer Counselor's
Third Set of Data Requests

DATA REQUEST NO. 34:

For the portion of each pension fund's investments that are invested in equities, please state the rate of return assumed each will earn in each of the last 3 years. Please also explain why that rate of return was used. Please provide a breakdown of the components of this total return (i.e. return on large cap domestic equities, small cap domestic equities, international equities) if available.

RESPONSE:

Petitioner intends to supplement this response.

Cause No. 46020
Supplemental Responses of Citizens Water of Westfield
Office of Utility Consumer Counselor's
Third Set of Data Requests

DATA REQUEST NO. 34:

For the portion of each pension fund's investments that are invested in equities, please state the rate of return assumed each will earn in each of the last 3 years. Please also explain why that rate of return was used. Please provide a breakdown of the components of this total return (i.e. return on large cap domestic equities, small cap domestic equities, international equities) if available.

OBJECTION:

Petitioner objects to the foregoing Data Request on grounds set forth in General Objection No. 9 to the extent it requests Citizens Water of Westfield to perform a study, conduct an analysis or otherwise prepare information that does not currently exist. Subject to and without waiving the foregoing specific and general objections, Petitioner submits the following response.

SUPPLEMENTAL RESPONSE:

Equity Portfolio Allocation %	2023	2022	2021
Broad US Equity	75%	75%	75%
Global Ex-US Equity	25%	25%	25%
Mean Return Assumption	7.56%	6.80%	6.80%

The return percentages were developed by the pension plan's investment advisor using assumptions provided from Callan Associates Capital Markets. Mean return assumptions used are 10-year geo-metric return assumptions which are long-term in nature and encompass associated risk assumptions such as standard deviation. Callan develops these assumptions, across asset classes, using an econometric method, based on advanced modeling at the individual asset class level, estimating a path for interest rates and inflation, determining a cohesive economic outlook and encompassing Callan's beliefs about the long-term operation and efficiencies of the capital markets.

WITNESS:

N/A

Cause No. 46020
Responses of Citizens Water of Westfield
Office of Utility Consumer Counselor's
Fifth Set of Data Requests

DATA REQUESTS

DATA REQUEST NO. 1:

Please reference Mr. Malinak attachment RJM, found in MSFR sheet 170IAC1-5- 13
(b) Malinak.xlsm, tab "170 IAC 1-5-13 Liquidity Prem." Note [B] cites as a source
Attachment RJM-19.

    a. Please provide RJM -19 or advise where RJM-19 may be found in
Mr. Malinak's testimony or workpapers.
    b. Please provide attachments RJM-12 through RJM-18.
    c. If this is a typographical error, please so state and provide the
correct reference.

RESPONSE:

    a.   See response to sub-part c, below.
    b.   See response to sub-part c, below.
    c.   The referenced note citation is a typographical error. The correct
reference is Attachment RJM-9.

WITNESS:

R. Jeffrey Malinak

Cause No. 46020
Responses of Citizens Water of Westfield
Office of Utility Consumer Counselor's
Fifth Set of Data Requests

DATA REQUEST NO. 2:
Please reference Mr. Malinak attachment RJM-9, found in MSFR sheet 170IAC1- 5-13 (b) Malinak.xlsm, tab "170 IAC 1-5-13 CAPM." Note [B] cites a source of 2023 SBBI Yearbook, Kroll LLC.

  a. Please indicate and provide the document used as a source for this citation.
  b. Please state the date the Market Risk premium of 7.17% was determined?

RESPONSE:

  a. The source is Kroll's 2023 SBBI Yearbook and the relevant pages from the document are identified as OUCC DR 5-2(a).

  b. The market risk premium of 7.17% is calculated as of December 31, 2022 based on data from 1926 through 2022.

WITNESS:

R. Jeffrey Malinak

Cause No. 46020
Responses of Citizens Water of Westfield
Office of Utility Consumer Counselor's
Fifth Set of Data Requests

DATA REQUEST NO. 3:
Please reference Mr. Malinak Attachment RJM-1, note [1] and in particular subsection (4), which lists as a criteria "have greater or equal to 50% of their operating income derived from regulated operations in FY2022." Please provide the percentage of operating income derived from regulated operations in FY2022 for each gas utility analyzed. Please also provide the relevant pages for the "most recently available Form 10-K's of each company prior to October 10, 2023" for all gas utilities considered.

RESPONSE:

The table below provides the percentage of operating income for each gas utility analyzed. The relevant pages for the most recently available Form 10-K's of each company as of October 10, 2023 are provided in the file folder identified as OUCC DR 5-3. For Southwest Gas the year 2021 is used due to large impairment taken in 2022.

Company Name	**Ticker**	**Operating Income Derived from Regulated Operations**
Atmos Energy Corp	ATO	65.6%
Chesapeake Utilities	CPK	80.7%
NiSource Inc	NI	72.3%
New Jersey Resources Corp	NJR	53.9%
Northwest Natural	NWN	63.9%
ONE Gas Inc.	OGS	100.0%
Spire Inc.	SR	83.3%
Southwest Gas	SWX	86.2%
UGI Corp	UGI	19.6%

WITNESS:

R. Jeffrey Malinak

Cause No. 46020
Responses of Citizens Water of Westfield
Office of Utility Consumer Counselor's
Eleventh Set of Data Requests

DATA REQUEST NO. 2:
Has Mr. Malinak testified in any utility rate cases with respect to cost of equity or rate of return on behalf of any consumer party or party representing consumer interests. If so, list all such cases indicating year when the testimony was provided, case number and jurisdiction.

RESPONSE:

Mr. Malinak has not been retained as a testifying expert by counsel for a customer or customers of a utility to evaluate the cost of equity or rate of return for the utility.

WITNESS:

R. Jeffrey Malinak

Cause No. 46020
Responses of Citizens Water of Westfield
Office of Utility Consumer Counselor's
Eleventh Set of Data Requests

DATA REQUEST NO. 3:

When has Mr. Malinak testified in any utility rate cases involving water or wastewater utilities with respect to cost of equity or rate of return. List all such cases indicating year when the testimony was provided, case number and justisdiction.

RESPONSE:

Mr. Malinak has not been retained, before the present Cause, as a testifying expert on cost of equity or rate of return issues in the water/wastewater sector.

WITNESS:

R. Jeffrey Malinak

Cause No. 46020
Responses of Citizens Water of Westfield
Office of Utility Consumer Counselor's
Fourteenth Set of Data Requests

DATA REQUESTS

DATA REQUEST NO. 1:

Please identify all causes in any state wherein Mr. Malinak testified as to cost of equity, rate of return or weighted cost of capital to be applied to a fair value rate base. For each, please supply Mr. Malinak's testimony and the final order.

RESPONSE:

Mr. Malinak has not testified on cost of equity, rate of return or weighted cost of capital to be applied to a fair value rate base.

WITNESS:

R. Jeffrey Malinak

Cause No. 46020
Responses of Citizens Water of Westfield
Office of Utility Consumer Counselor's
Fourteenth Set of Data Requests

DATA REQUEST NO. 2:

Please identify all causes in which Mr. Malinak testified about cost of equity, rate of return or weighted cost of capital where a for-profit utility was owned by a public charitable trust. For each, please supply Mr. Malinak's testimony and the final order.

RESPONSE:

Mr. Malinak has not testified on cost of equity, rate of return or weighted cost of capital in a cause where a for-profit utility was owned by a public charitable trust.

WITNESS:

R. Jeffrey Malinak

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DATA REQUEST NO. 3:
Please identify all causes in which Mr. Malinak testified about cost of equity, rate of return or weighted cost of capital where the for-profit utility was owned by a municipality or not-for-profit entity.

RESPONSE:

Mr. Malinak has not testified on cost of equity, rate of return or weighted cost of capital in a cause where a for-profit utility was owned by a municipality or not-for-profit entity.

WITNESS:

R. Jeffrey Malinak

Cause No. 46020
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DATA REQUEST NO. 4:
On page 16, Mr. Malinak stated that "While a historical cost approach can provide reasonable economic investment incentives to firms, a fair value paradigm, if administered effectively, -*+theoretically can produce more economically efficient investment incentives because it more closely mimics the results that they would obtain in an unregulated market.

     a. Please explain how an effectively administered fair value paradigm can produce more economically efficient investment incentives.

     b. In what ways does an effectively administered fair value paradigm more economically efficient investment incentives?

     c. In what ways does an effectively administered fair value paradigm can produce more closely mimics the results that they would obtain in an unregulated market?

     d. Please identify to what results Mr. Malinak refers.

     e. Each of the foregoing subparts, identify the authority on which Mr. Malinak relied to form his answer.

RESPONSE:

     a. Please see p. 93 of Mr. Malinak's testimony.

     b. Please see p. 93 of Mr. Malinak's testimony.

     c. Please see pp. 91-93 of Mr. Malinak's testimony.

     d. Please see pp. 91-93 of Mr. Malinak's testimony.

     e. Please see footnotes 134-144 on pp. 91-93 of Mr. Malinak's testimony.

WITNESS:

R. Jeffrey Malinak

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DATA REQUEST NO. 5:

Please refer to page 2 of Mr. Malinak's resume (Appendix A) Please identify the jurisdiction and the water utility referenced under the heading Water Utility Rate Case. Please state whether that case has been filed and if so, state the cause number.

RESPONSE:

The Cause referenced in Mr. Malinak's resume is the current Water Utility Rate Case for Citizens Water of Westfield, LLC.

WITNESS:

R. Jeffrey Malinak

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DATA REQUEST NO. 6:
See page 3-4 of Mr. Malinak's testimony where he stated:

> My testimony has two purposes. First, Citizens Water of Westfield, LLC, the Petitioner in this proceeding ("Westfield Water"), has asked me to provide an estimate of its cost of equity capital to use in determining its allowed rate of return following this proceeding. Second, I have been asked to review and opine on the economic principles underlying the "fair value" utility ratemaking paradigm, including the roles of the utility cost of equity capital, and both historical and future inflation, in setting a fair allowed rate of return on a fair value rate base.

     a. Please state the date when Citizens Water of Westfield, LLC, asked Mr. Malinak or Analysis Group, Inc. to "provide an estimate of its cost of equity capital to use in determining its allowed rate of return following this proceeding."

     b. Please state the date when Citizens Water of Westfield, LLC, asked Mr. Malinak or Analysis Group, Inc. to review and opine on the economic principles underlying the "fair value utility ratemaking paradigm, including the roles of the utility cost of equity capital, and both historical and future inflation, in setting a fair allowed rate of return on a fair value rate base.

     c. Please provide all written communication and describe all unwritten communication between Petitioner and Mr. Malinak or Analysis Group, Inc. discussing the scope and nature of services to be provided to Petitioner.

OBJECTION:

Petitioner objects to this Data Request on grounds set forth in General Objection No. 4 to the extent it infringes upon the attorney client privilege or the work-product doctrine. Petitioner further objects to subpart (c) of the foregoing Data Request for the separate and independent grounds set forth in General Objection No. 7 to the extent that it is vague and ambiguous, and potentially overly broad and unduly burdensome. Subject to and without waiver of any objections, Petitioner responds as follows.

RESPONSE:

     a. Petitioner has not identified a specific date responsive to this request. Petitioner advised Mr. Malinak that Analysis Group was selected as a consultant for Petitioner in this Cause on July 20, 2023. See the document identified as OUCC DR 14-6a.

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RESPONSE TO DATA REQUEST NO. 6 (CONT'D):

b. See Petitioner's response to subpart (a) above.

c. Non-privileged written communications that Petitioner has identified establishing the scope and nature of services to be provided by the Analysis Group to Petitioner consists of the proposal dated June 29, 2023, see the document identified OUCC DR 14-6c, and the engagement agreement provided in response to Data Request No. 3-57.

WITNESS:

N/A

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DATA REQUEST NO. 7:
In a footnote on 4, Mr. Malinak said "I understand that Westfield Water is a for-profit, investor-owned utility and that it is appropriate to analyze it on a stand-alone basis." Please explain how Mr. Malinak came to the understanding that "it is appropriate to analyze [Westfield Water] on a stand-alone basis."

RESPONSE:

The basis for Mr. Malinak's understanding in this regard includes, but is not limited to, (a) his discussions with Citizens Energy Group employees including, but not limited to, Mr. Alejandro Valle and Mr. Craig Jackson, (b) the description of Westfield Water provided to the Commission (*see, e.g.,* Citizens Water of Westfield, Annual Report, Indiana Utility Regulatory Commission, for the year ended December 31, 2022), and (c) the fact that Westfield Water is a separately regulated entity that has always been recognized as a stand-alone, for-profit company by the Commission (*see, e.g.,* Indiana Utility Regulatory Commission Order in Cause No. 44273, November 25, 2013 at pp. 2-3).

WITNESS:

R. Jeffrey Malinak

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DATA REQUEST NO. 8:

Please explain how Petitioner came to know of Analysis Group's and Mr. Malinak's expertise and availability to provide services in this cause.

OBJECTION:

Petitioner objects to the foregoing Data Request on grounds set forth in General Objection No. 5 to the extent that it seeks information that is not relevant to the pending proceeding, and which is not reasonably calculated to lead to the discovery of admissible evidence. The manner in which Petitioner came to know of Analysis Group has no bearing on the relief requested in this proceeding or Mr. Malinak's testimony. Subject to and without waiving the foregoing objection, Petitioner submits the response set forth below.

RESPONSE:

Mr. Malinak served as an external expert witness for The Dayton Power & Light Company during the time Petitioner's Witness Jackson worked for Dayton Power & Light and AES US Services.

WITNESS:

N/A

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DATA REQUEST NO. 9:
Mr. Malinak testified he reviewed and analyzed relevant information from a variety of sources including "prior decisions by the Indiana Utility Regulatory Commission." Please identify those decisions by Cause Number and date of issuance.

RESPONSE:

- IURC Order in Cause No. 39314, November 12, 1993
- IURC Order in Cause No. 39595, February 2, 1994
- IURC Order in Cause No. 42029, November 6, 2002
- IURC Order in Cause No. 43680, April 30, 2010
- IURC Order in Cause No. 44273, November 25, 2013
- IURC Order in Cause No. 44880, August 16, 2017
- IURC Order in Cause No. 45039, December 27, 2018

WITNESS:

R. Jeffrey Malinak

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DATA REQUEST NO. 10:

On page 4, Mr. Malinak testified he reviewed and analyzed relevant information from a variety of sources including "prior decisions by the Indiana Utility Regulatory Commission." Please identify those decisions by Cause Number and date of issuance.

RESPONSE:

See Response to Data Request No. 9 above.

WITNESS:

R. Jeffrey Malinak

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DATA REQUEST NO. 11:
On page 4, Mr. Malinak testified his economic analysis of the fair value public utility framework is based on decades of published economic and finance literature, and statutory and regulatory precedent, including Indiana."

> a.   Please identify the published economic and finance literature to which Mr. Malinak referred.
> b.   Please identify the statutory and regulatory precedent to which Mr. Malinak referred.

RESPONSE:

a. Please see footnotes 127-144 of Mr. Malinak's testimony for examples of relevant economic and finance literature. For ease of review, the relevant citations are listed below:
  - Giacchino, L.R. and J.A. Lesser, *Principles of Utility Corporate Finance*, Public Utilities Reports, Inc., (2011).
  - Joskow, P., "Regulation of Natural Monopoly," *Handbook of Law and Economics*, Vol. 2, (2007).
  - Anderson, E. R. and D. E. Mead, "A Comparison of Original Cost and Trended Original Cost Ratemaking Methods," *The Energy Journal*, Vol. 4, No. 2 (April 1983).
  - Greenwald, B., "Rate Base Selection and the Structure of Regulation," *The RAND Journal of Economics*, Vol. 15, No. 1 (Spring, 1984), pp. 85-95.
  - Myers, S., "The application of finance theory to public utility rate cases," *The Bell Journal of Economics and Management Science*, Vol. 3, No. 1 (Spring, 1972).
  - Brealey, R., S. Myers, and A. Marcus, *Fundamentals of Corporate Finance*, 8th ed., McGraw Hill, (2015).
  - Averch, H. and L.L. Johnson, "Behavior of the Firm under Regulatory Constraint," *American Economic Review*, Vol. 52.

b. Please see footnotes 116-126, 133, 156-159, and 163 of Mr. Malinak's testimony for relevant examples of statutory and regulatory precedent. For ease of review, the relevant citations are listed below:
  - Indiana Code Sections 8-1-2-6 & 8-1-2-42.5
  - *PSC v. City of Indianapolis*, 131 N.E.2d 308, 317 (Ind. 1956)
  - *Smyth v. Ames*, 169 U.S. 466 (1898).
  - *FPC v. Hope Nat. Gas Co.,* 320 U.S. 591 (1944).
  - *Southwestern Bell Telephone Company v. Public Service Commission of Missouri*, 262 U.S. 276 (1923).
  - *Williams Pipe Line Company*, Opinion No. 154-B, June 28, 1985, 31 FERC ¶ 61,377 (1985).

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RESPONSE TO DATA REQUEST NO. 11 (CONT'D):

- See also response to Data Request No. 9, above.

WITNESS:

R. Jeffrey Malinak

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DATA REQUEST NO. 12:
On page 7, Mr. Malinak indicated Citizens Water of Westfield is a "small, privately owned regulated utility."

a. For purposes of that statement, what is Mr. Malinak's definition of a "*small* utility"?

b. For purposes of that statement, what does Mr. Malinak mean by "privately owned"?

RESPONSE:

a. Mr. Malinak does not offer a precise definition of the term "small utility." However, in this statement Mr. Malinak means a small utility company when compared to the market capitalization of publicly traded water utility companies reported in Petitioner's Exhibit No. 3, Attachment RJM-3. Please also note that Petitioner's Exhibit No. 3, Attachment RJM-3, row 12, which provides data on Citizens Water of Westfield, shows values expressed in dollars, not ($000).

b. Not publicly traded.

WITNESS:

R. Jeffrey Malinak

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DATA REQUEST NO. 13:

Is Mr. Malinak aware of any Indiana water utilities roughly the size of Citizens Water of Westfield that have received a small company risk adjustment based on a lack of liquidity? If so, please identify that determination?

OBJECTION:

Petitioner objects to the foregoing Data Request on grounds set forth in General Objection No. 7 to the extent that it is vague and ambiguous, and potentially overly broad and unduly burdensome. Petitioner further objects to the foregoing Data Request on the separate and independent grounds that it assumes facts not in evidence. Petitioner further objects to the foregoing Data Request on the separate and independent grounds that it mischaracterizes the liquidity premium described in Petitioner's Case-in-Chief. Petitioner further objects to the foregoing Data Request on the separate and independent grounds that it calls for Petitioner to do legal research on behalf of the OUCC. Subject to and without waiver of any objections, Petitioner responds as follows.

RESPONSE:

Mr. Malinak has not proposed that a "small company risk adjustment" be applied in this Cause. He has proposed a liquidity premium that applies independently of company size.

WITNESS:

R. Jeffrey Malinak

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DATA REQUEST NO. 14:
Mr. Malinak indicated on page 7 that an adjustment for differences of liquidity "has strong theoretical and empirical support in economics research, including recent empirical work."

   a.   Please identify the economics research to which Mr. Malinak referred.
   b.   Please identify the recent empirical work to which Mr. Malinak referred.
   c.   Please provide the source material supporting Mr. Malinak's statements in a. and b.

RESPONSE:

Economic research, including empirical work, to which Mr. Malinak refers is summarized below. Mr. Malinak's testimony includes details on how such studies support an adjustment for differences in liquidity. The underlined studies are directly used in the empirical estimation of Mr. Malinak's liquidity adjustment (see Petitioner's Exhibit No. 3, Attachment RJM-10).

   a.   Economic Research

- Ritter, J., "The Cost of Going Public," *Journal of Financial Economics*, Vol. 19, No. 2 (1987), pp. 269-281.
- Koeplin, J., A. Sarin, and A. C. Shapiro, "The Private Company Discount," *Journal of Applied Corporate Finance,* Vol. 12, No. 4 (2000), pp. 94-101.
- Ang, J. S., and Brau, J. C., "Firm Transparency and the Costs of Going Public," *The Journal of Financial Research*, Vol. XXV, No. 1 (2002), pp. 1-17.
- Amihud, Y., H. Mendelson, and L. H. Pedersen, "Liquidity and Asset Prices," *Foundations and Trends in Finance*, Vol. 1, No. 4 (2005), pp. 269-346
- Liu, W., "A liquidity-augmented capital asset pricing model," *Journal of Financial Economics*, Vol. 82, No. 3 (2006), pp. 631-671, at pp. 657-661.
- Officer, M. S., "The price of corporate liquidity: Acquisition discounts for unlisted targets," *Journal of Financial Economics*, Vol. 83 (2007), pp. 571-598.
- Pratt, S. P. and R. J. Grabowski, *Cost of Capital: Applications and Examples*, John Wiley & Sons (2014), at p. 662.
- Alquist, R., R. Israel, and T. Moskowitz, "Fact, Fiction, and the Size Effect," *The Journal of Portfolio Management*, Vol. 45, No. 1 (2018).

   b.   Recent Empirical Work (based on work from 2010 onward)

- De Franco, G., I. Gavious, J. Y. Jin, and G. D. Richardson, "Do Private Company Targets that Hire Big 4 Auditors Receive Higher Proceeds?" *Contemporary Accounting Research,* Vol. 28, No. 1 (2011), pp. 215-262.
- Longstaff, F.A., "Valuing Thinly Traded Assets," *Management Studies - Articles in Advance*, Vol. 64, No. 8 (2017), pp 1-11.

RESPONSE TO DATA REQUEST NO. 14:

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- <u>Chaplinsky, S., Weiss Hanley, K., and Moon, S. K., "The JOBS Act and the Costs of Going Public"</u>, *Journal of Accounting Research*, Vol. 55, No. 4 (2017), pp. 795-836.
- Saad, M. and A. Samet, "Liquidity and the Implied Cost of Capital," *Journal of International Financial Markets, Institutions and. Money*, Vol. 51 (2017), pp. 15-38.

      c. See the documents provided in the folder identified as OUCC DR 14-14.

<u>WITNESS:</u>

R. Jeffrey Malinak

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DATA REQUEST NO. 15:

Is Mr. Malinak aware of any Indiana water utilities roughly the size of Citizens Water of Westfield that have received a small company risk adjustment? If so, please identify that determination?

OBJECTION:

Petitioner objects to the foregoing Data Request on grounds set forth in General Objection No. 7 to the extent that it is vague and ambiguous, and potentially overly broad and unduly burdensome. Petitioner further objects to the foregoing Data Request on the separate and independent grounds that it assumes facts not in evidence. Petitioner further objects to the foregoing Data Request on the separate and independent grounds that it mischaracterizes the liquidity premium described in Petitioner's Case-in-Chief. Subject to and without waiver of any objections, Petitioner responds as follows.

RESPONSE:

Mr. Malinak has not proposed that a "small company risk adjustment" be applied in this Cause. He has proposed a liquidity premium that applies independently of company size.

WITNESS:

R. Jeffrey Malinak

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PETITIONER'S RESPONSE TO INFORMAL DATA REQUEST FROM OUCC

As an Addendum to its responses for OUCC's Fourteenth Set of Data Requests, Petitioner notes as follows.

On April 12, 2024, OUCC, through its counsel, asked in an email to Petitioner's counsel whether Mr. Malinak would be able provide "the Bloomberg betas for his proxy group as of the 26th of April[, 2024]."

In response to the OUCC's informal data request from April 12, 2024, copied above, Petitioner states as follows. (The witness for this response is R. Jeffrey Malinak.)

Bloomberg Betas as of April 26, 2024

Company	Ticker	1-Year Daily Raw Beta	1-Year Daily Adjusted Beta	2-Year Weekly Raw Beta	2-Year Weekly Adjusted Beta	5-Year Monthly Raw Beta	5-Year Monthly Adjusted Beta
Panel A: Water Companies							
American States Water Company	AWR	0.52	0.68	0.54	0.69	0.43	0.62
American Water Works	AWK	0.68	0.78	0.96	0.97	0.62	0.75
Artesian Resources Corporation	ARTNA	0.53	0.69	0.45	0.63	0.18	0.46
California Water Service Group	CWT	0.58	0.72	0.57	0.72	0.50	0.67
Essential Utilities	WTRG	0.68	0.79	0.67	0.78	0.81	0.87
Middlesex Water Company	MSEX	0.63	0.76	0.57	0.71	0.74	0.83
SJW Group	SJW	0.64	0.76	0.47	0.65	0.58	0.72
York Water Company	YORW	0.50	0.66	0.41	0.60	0.61	0.74
Mean		0.59	0.73	0.58	0.72	0.56	0.71
Median		0.61	0.74	0.55	0.70	0.60	0.73
Panel B: Gas Distribution Companies							
Atmos Energy	ATO	0.39	0.59	0.65	0.76	0.66	0.78
Chesapeake Utilities	CPK	0.60	0.73	0.57	0.71	0.61	0.74
New Jersey Resources	NJR	0.47	0.65	0.57	0.71	0.65	0.77
Nisource Inc.	NI	0.44	0.63	0.62	0.75	0.49	0.66
Northwest Natural Holding Company	NWN	0.46	0.64	0.42	0.62	0.55	0.70
ONE Gas Inc.	OGS	0.48	0.66	0.45	0.63	0.65	0.77
Southwest Gas Holding	SWX	0.71	0.81	0.54	0.69	0.36	0.57
Spire Inc.	SR	0.54	0.69	0.66	0.77	0.52	0.68
Mean		0.51	0.67	0.56	0.71	0.56	0.71
Median		0.48	0.65	0.57	0.71	0.58	0.72
Panel C: Full Sample							
Mean:		0.55	0.70	0.57	0.71	0.56	0.71
Median:		0.54	0.69	0.57	0.71	0.60	0.73

Source:
Bloomberg.com.

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DATA REQUEST NO. 12:
Please refer to Mr. Malinak's testimony, page 30, figure 1. Please provide the source for information in this figure. Please provide the source article or data in addition to a citation. Please also provide the same information for Figure 2 on page 31, Figure 3 on page 34, and Figure 4 on page 34 of Mr. Malinak's testimony.

RESPONSE:

Figure 1 relies on the ratio of capital expenditures (Capex) for water companies available in S&P Global Market Intelligence, "Utility Capital Expenditures update – H1 2023: 2012-2027F," March 14, 2023 and the Consumer Price Index for All Urban Consumers (CPI-U) series provided by the Bureau of Labor Statistics.

Figure 2 relies on the ratio of Capex to depreciation and amortization (D&A) available in S&P Global Market Intelligence, "Utility Capital Expenditures update – H1 2023: 2012-2027F," March 14, 2023.

Data and calculations for Figures 1 and 2 are presented in the document identified as OUCC DR 16-12 - Capex and provided in the file folder identified as OUCC DR 16-12.

Figure 3 relies on the "number of customers" and "rate base" data available in the 2018 - 2022 Citizens Water of Westfield annual reports to the IURC.

Figure 4 relies on the "O&M Expenses", "Average Thousand Gallons per Day", and "Feet of Distribution Main" data available in the 2018 - 2022 Citizens Water of Westfield annual reports to the IURC. The series "Water O&M/100 Miles of Main" is obtained by converting feet to 100 miles of distribution main and dividing O&M Expenses by the converted value. The series "Water O&M/Million Gallons" is obtained by converting Average Thousand Gallons per Day to Million Gallons per Year and dividing O&M Expenses by the converted value.

The 2018 - 2022 Citizens Water of Westfield annual reports containing highlights indicating the numbers Mr. Malinak used from each report are provided in the file folder identified as OUCC DR 16-12.

WITNESS:

R. Jeffrey Malinak

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DATA REQUEST NO. 13:

Please refer to Mr. Malinak's testimony. Please provide the article referenced in each of the following footnotes:

21 Myers, S., "The application of finance theory to public utility rate cases," *The Bell Journal of Economics and Management Science*, Vol. 3, No. 1, (1972), pp. 58-97.

36 Wharton, Joe, Villadsen, Benta, Bishop, Heidi "Alternative Regulation and Ratemaking Approaches for Water Companies," *The Brattle Group*, September 23, 2013, available at: https://www.brattle.com/wpcontent/uploads/2017/10/6135_alternative_regulation_and_ratemaking_approaches_for_water_companies_wharton_villadsen_bishop_nawc_sep_23_2013.pdf.

40 S&P Global Market Intelligence, "Utility Capital Expenditures update – H1 2023: 2012-2027F," March 14, 2023

51 American Water Works Association, "AWWA Utility Benchmarking: Performance Management for Water and Wastewater 2022," 2022

114 Graham, J. R., and C. R. Harvey, "The Theory and Practice of Corporate Finance: Evidence from the Field," *Journal of Financial Economics,* Vol. 60, (2001), pp. 187–243, at p. 201.

130 Anderson, E. R. and D. E. Mead, "A Comparison of Original Cost and Trended Original Cost Ratemaking Methods," *The Energy Journal*, Vol. 4, No. 2 (April 1983), pp. 151-158.

135 *See, e.g.,* Myers, S., "The application of finance theory to public utility rate cases," *The Bell Journal of Economics and Management Science*, Vol. 3, No. 1 (Spring, 1972), pp. 58-97.

140 *See, e.g.,* Brealey, R., S. Myers, and A. Marcus, *Fundamentals of Corporate Finance*, 8th ed., McGraw Hill, (2015), at p. 60.

143 *See* Averch, H. and L.L. Johnson, "Behavior of the Firm under Regulatory Constraint," *American Economic Review*, Vol. 52, pp. 1052-1069.

159 *Williams Pipe Line Company*, Opinion No. 154-B, June 28, 1985, 31 FERC ¶ 61,377 (1985)

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RESPONSE TO DATA REQUEST NO. 13:

The requested articles are provided in the file folder identified as OUCC DR 16-13.

WITNESS:

R. Jeffrey Malinak

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DATA REQUEST NO. 14:
Please refer to Mr. Malinak's testimony, page 36, Table 2, line for Daily Water Demand per FTE Employees. Please also see Mr. Malinak Direct Testimony, page 37, lines 7-10. Please provide the number of FTE employees Mr. Malinak assumed in this calculation. Please identify and provide the source for this assumption.

RESPONSE:

The "Total number of Full-Time Employee Equivalents" is sourced from the 2018-2022 Citizens Water of Westfield Annual Reports to the IURC. The 2018 - 2022 Citizens Water of Westfield annual reports containing highlights indicating the numbers Mr. Malinak used from each report are provided in the file folder identified in response to Data Request No. 12, above as OUCC DR 16-12.

WITNESS:

R. Jeffrey Malinak

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DATA REQUEST NO. 15:
Please refer to Mr. Malinak's testimony, Attachment RJM-1, Proxy Group.

    a. Has Mr. Malinak determined whether any of these proxy group members have determined their rate base through something other than an historical cost paradigm?

    b. Please indicate the methodology used to establish rate base for each member of the proxy group.

    c. For any member of the proxy group that has had rate base determined through a combination of methodologies, indicate the proxy group member and state the various methods employed and the value of rate base for each.

RESPONSE:

    a. Mr. Malinak has not investigated the specific attributes of the ratemaking regimes of the companies included in the proxy group.

    b. See response to sub-part (a), above.

    c. See response to sub-part (a), above.

WITNESS:

R. Jeffrey Malinak

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DATA REQUEST NO. 16:
Please refer to Mr. Malinak's testimony, Attachment RJM-9. Please provide all Bloomberg Betas used for the Proxy Group as shown in Attachment RJM-9 updated to April 26, 2024.

RESPONSE:

See "Petitioner's response to informal data request from OUCC" on page 21 of the Responses to OUCC's 014 Set of Data Requests.

WITNESS:

R. Jeffrey Malinak

28 Jan, 2021

Duke Energy sells 19.9% stake in Ind. utility to Singapore fund GIC for $2.05B

Author   **Darren Sweeney**

Theme   **Energy**

Duke Energy Corp. on Jan. 28 announced it will sell a nearly 20% interest in subsidiary Duke Energy Indiana LLC to an affiliate of Singapore sovereign wealth fund GIC Pte. Ltd. in an all-cash deal valued at $2.05 billion.

Duke Energy will remain the majority owner of Duke Energy Indiana, or D[   ] and sole operator of the utility, the company said in a news release issue[   ] after market hours.

Under the terms of the agreement, GIC affiliate EPSOM Investment Pte. Ltd. will acquire a 19.9% indirect minority interest in DEI, which the company called "a significant premium to Duke Energy's current public equity valuation."

The transaction is expected to close in two phases, Duke Energy said, which aligns with the company's capital needs, and will allow Duke to forgo previous plans to raise $1 billion in common equity. The first closing, expected to occur in the second quarter of 2021, will see GIC acquire an approximately 11% interest in DEI, and the second closing, to occur by January 2023, will transfer the remaining approximately 8.9% interest. Payments will be evenly split.

In conjunction with the transaction announcement, Duke Energy announced a $5.00 to $5.30 adjusted earnings per share guidance range for 2021 and increased its long-term adjusted EPS growth rate to 5% to 7% through 2025, up from 4% to 6%.

Duke Energy also said proceeds from the transaction will fund an increased $58 billion to $60 billion five-year capital plan. To reflect near-term investment potential, Duke Energy previously increased its five-year capital plan to $58 billion from $56 billion for 2020 through 2024.

The deal is subject to approval by the Federal Energy Regulatory Commission and completion of a review by the Committee on Foreign Investments in the United States.

GIC has other holdings in North American utilities. In 2016 the Singapore sovereign wealth fund acquired an indirect 19.9% equity stake in ITC Holdings Corp. from Fortis Inc. for $1.23 billion. The same year, Epsom Investment boosted its stake to 44.39% from 31.01% in DQE Holdings LLC, the parent of Duquesne Light Co. and Duquesne Power LLC.

ORIGINAL

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

PETITION OF GARY-HOBART WATER)
CORPORATION FOR AUTHORITY TO)   CAUSE NO. 38996
INCREASE ITS RATES AND CHARGES)   (ON REMAND)
FOR WATER SERVICE AND FOR   )
APPROVAL OF NEW SCHEDULES OF)   APPROVED:
RATES AND CHARGES.   )

APR   7 1993

BY THE COMMISSION:
G. Richard Klein, Commissioner
Mark W. Cooper, Chief Administrative Law Judge

On May 17, 1990, Gary-Hobart Water Corporation ("Petitioner" or "Gary-Hobart") filed with the Commission its Petition for approval of new schedules of rates and charges, which Petition was amended and restated by Petitioner by the filing of its Amended and Restated Petition for approval of new schedules of rates and charges on August 7, 1990.

Pursuant to the Prehearing Conference Orders dated July 18, 1990, and September 19, 1990, and notices of hearings given as provided by law, public hearings in this Cause were held on October 29, 1990, January 15, 1991 and January 16, 1991. At the hearings, testimony and exhibits offered by Petitioner and the Office of the Utility Consumer Counselor ("UCC") were admitted into evidence. The Commission issued its Order in this Cause on April 3, 1991. Petitioner was granted an approximate 2.9% across-the-board increase in its rates and charges for water utility service. In the Order, the Commission made rulings on three issues which were appealed by Gary-Hobart to the Indiana Court of Appeals. The three issues are as follows: first, whether the Commission erred when it concluded 5.35% is a fair rate of return on the fair value of Gary-Hobart's utility property ("Fair Rate of Return Issue"); second, whether the advances for construction in the calculation of synchronized interest were properly excluded in determining Gary-Hobart's federal income tax expense ("Synchronized Interest Issue"); and third, whether the Commission erred when it did not adjust Gary-Hobart's property tax expenses for the 1989 test year when the 1991 expenses, which were over 10% higher, were made available to the Commission before it issued its Final Order ("Property Tax Issue").

Gary-Hobart appealed these three issues to the Indiana Court of Appeals. The Court of Appeals issued its opinion in <u>Gary-Hobart Water Corporation v. Indiana Utility Regulatory Commission</u>, Cause No. 93A02-9106-EX-274, on May 20, 1992 ("Opinion"). The Court of Appeals ruled in Gary-Hobart's favor on all three issues and reversed and remanded the Commission's April 3, 1991 Order with respect to the three issues.

Specifically, as to the Fair Rate of Return Issue, the Court of Appeals stated, "We remand to the Commission with instructions to formulate specific findings explaining why it selected a 5.35% fair rate of return." The Court of Appeals further held that the Commission should authorize Gary-Hobart to recover the fair rate of return on its fair value rate base, which is in the undisputed amount of $62 million.

As to the Synchronized Interest Issue, the Court of Appeals held that the Commission erred when it excluded customer advances for construction from Gary-Hobart's capital structure for interest synchronization purposes, resulting in an understatement of Gary-Hobart's federal taxable income by $72,415. The Court of Appeals instructed the Commission on remand to include customer advances for construction in Gary-Hobart's capital structure when calculating synchronized interest.

Finally, with respect to the Property Tax Issue, the Court of Appeals held that the Commission was in error when it concluded that there was insufficient evidence of record to justify an adjustment to Gary-Hobart's 1989 test year property tax expense of $927,908. The Court of Appeals instructed the Commission on remand to adjust Gary-Hobart's test year property tax expense to reflect the $96,799 increase of actual property tax expense to be incurred in 1991.

The UCC applied to the Court of Appeals for a rehearing of the Property Tax Issue, but the Court of Appeals denied the petition for a rehearing by order dated July 27, 1992. The UCC petitioned the Indiana Supreme Court for transfer with respect to the Property Tax Issue, but the Supreme Court denied this petition for transfer by order dated October 26, 1992.

On November 10, 1992, Gary-Hobart filed a "Motion to Proceed on Remand". In that Petition, Gary-Hobart moved the Commission to proceed with the remand of this Cause pursuant to the Order issued by the Court of Appeals of Indiana. On December 22, 1992, Gary-Hobart and the UCC executed a Joint Motion to Proceed and Stipulation of Parties, whereby Gary-Hobart and the UCC stipulated and agreed to the issues and procedures on remand and jointly submitted a proposed Partial Order on Remand resolving the Synchronized Interest Issue and the Property Tax Issue. The Motion to Proceed on Remand requested that the Commission bifurcate the actions ordered by the Court of Appeals with respect to the

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Synchronized Interest and Property Tax Issues on the one hand, and the Fair Rate of Return issue on the other. Gary-Hobart proposed that there was no dispute as to the treatment of these two issues on remand and that the Commission could act expeditiously with respect to these two issues. On January 27, 1993 the Commission entered an Order in this Cause which granted the requested bifurcation and disposed of the synchronized interest and property tax issues. That Order also established a separate briefing schedule for the Fair Rate of Return Issue.

On November 18, 1992, Gary-Hobart filed its proposed Final Order on Remand and Brief in Support of Proposed Order, on January 8, 1993, UCC filed its exceptions in the form of Public's Proposed Final Order on Remand: Fair Rate of Return, and on January 19, 1993, Gary-Hobart filed its Reply to Public's Proposed Final Order on Remand, which filings appear in the following words and figures, to-wit:

(H.I.)

Based upon the applicable law, the evidence herein and the filings of the parties, the Commission now finds:

1. **Commission Jurisdiction.** By our previous Orders in this Cause the Commission found that it had jurisdiction over the parties and the subject matter of this Cause. On appeal no party challenged the Commission's jurisdiction herein. The Indiana Court of Appeals has concluded its review of matters raised on appeal and has issued its Order remanding certain issues to the Commission. The Commission has reacquired jurisdiction of the parties and the subject matter of this Cause.

2. **Commission Discussions and Findings.** The Court's directives to the Commission with regard to the fair return issue are simple. The Court states in the Opinion at page 7, "We remand to the Commission with instructions to formulate specific findings explaining why its selected a 5.35% fair rate of return." The Court went on to set aside an erroneous Commission statement which found that a 5.35% return on the fair value of Petitioner's property exceeded the net operating income level sought by Petitioner. The Court gave a final instruction to the Commission on the fair return issue at page 9 of the Opinion where the Court stated, "The Commission is also instructed to authorize Gary-Hobart to recover the fair rate of return on the fair value rate base, which base is undisputed to be $62,000,000."

The parties have offered considerable argument as to the proper action to be taken by the Commission in pursuit of the Court's directives. Gary-Hobart takes the position that the Commission must find a new and different fair rate of return. Central to this position is Gary-Hobart's contention that the 5.35% fair rate of return initially determined by the Commission cannot

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be supported by the evidence of record. Public takes the position that the Commission need only set forth specific findings to support the 5.35% fair rate of return and contends there is substantial evidence of record upon which to make those findings. We believe that we must read the Court's instructions literally and abide by them specifically. Therefore we should carefully examine the evidentiary record in this Cause and if we conclude the 5.35% fair rate of return is adequately supported by the evidence we must set forth the specific underlying findings. If, after review of the record, we conclude that there is insufficient evidentiary basis for that finding we must, consistent with Gary-Hobart's position, calculate a new fair rate of return supported by the evidence. Once a fair rate of return has been established consistent with the evidence we may then accomplish the Court's final directive and calculate Gary-Hobart's allowed net operating income by an application of that fair rate of return to the fair value of its property which has been found to be $62,000,000.

The Public contends that the 5.35% fair rate of return found by the Commission is supported by the evidence. Public points out that the evidence sponsored by Petitioner's witness Mulle shows forecasts of inflation rates from the consumer price index and gross national product index which range between 3.2% to 6.1%. Public contends an inflation rate from this range should be used to reduce the weighted cost of capital in arriving at a fair rate of return. The weighted cost of capital was determined to be 8.33%. Thus, Public concludes the Commission could have justified a fair rate of return anywhere between 2.23% and 5.13% all of which are below the 5.35% fair rate of return authorized for Gary-Hobart.

Gary-Hobart contends that Public's rationale fails to take into account several factors and is seriously flawed. Gary-Hobart agrees with the Public that a utility's fair value rate base should include the effects of inflation and so as not to "double count" for inflation, inflation included in the fair value rate base should be deflated from the calculation of the utility's overall weighted cost of capital to arrive at a fair rate of return. Gary-Hobart contends that Public's rationale failed because inflation was not fully considered in determining the fair value of Gary-Hobart's property. Gary-Hobart's witness Mulle by his direct testimony recommended a fair value rate base of $62,000,000 which the Commission found appropriate. Mr. Mulle offered additional analysis as to the calculation of the fair value of Gary-Hobart's property on rebuttal. This is somewhat curious given a finding set forth at page 7 of the Final Order which reads, "Nowhere in the record in this proceeding is there any evidence presented by the UCC with regard to fair value rate base." Yet Mr. Mulle offers additional analysis of his $62,000,000 fair value rate base proposal by his rebuttal evidence. Mr. Mulle postulates that the reproduction cost new less depreciation value of Gary-Hobart's property proposed by Gary-Hobart's witness Richardson of $179,547,184 represents an amount which properly quantifies 100%

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of the historical inflation on Gary-Hobart's property. The Commission did not make a finding upon the propriety of Mr. Mulle's postulation. In fact, a review of the record in this Cause discloses that the evidence does not support a finding that Mr. Richardson's reproduction cost new less depreciation figure of $179,547,184 precisely equates to the value of Petitioner's property solely considering 100% of historic inflationary affects. Given Mr. Richardson's methodology it is likely that the $179,547,184 amount very substantially overstates the effects of historic inflation. Mr. Mulle, assuming that Mr. Richardson's figure precisely quantifies the net value of Petitioner's property accounting for all historic inflation, then proceeds with a calculation allegedly demonstrating that his proposed fair value rate base of $62,000,000 accounts for only 15.89% of historic inflation. Using this calculation Gary-Hobart goes on to argue that since only 15.89% of historic inflation is included in Mr. Mulle's recommended fair value rate base that only 15.89% of the prospective inflation of 5%, or 0.79%, should be removed from the common equity cost rate to derive a fair rate of return. Gary-Hobart contends that the Commission, by the Final Order, agreed with Mr. Mulle's 5% quantification of prospective inflation. Gary-Hobart also cites the Final Order wherein the Commission states "The Commission concurs that it is proper to "deflate" the common equity cost rate to the extent that its finding on fair value rate base has a commensurate element of historic inflation." Thus, Gary-Hobart concludes that the Commission <u>must</u> now accept its calculation and deflate common equity cost rate by only .79% for prospective inflation. Gary-Hobart finally concludes that the Commission must authorize a fair return of 7.75%.

The entirety of Gary-Hobart's argument is based upon the validity of its contention that only 15.89% of historical inflation is included in the fair value rate base. As described earlier, Mr. Mulle derived that number by assuming that the reproduction cost new less depreciation of Gary-Hobart's property accounts for 100% of historical inflation and nothing more. It is generally known that reproduction cost new studies calculated using indeces fail to consider many practical matters. For example, the studies do not consider how, if the plant were reproduced today it might be designed differently, or built of different materials. Thus, these types of studies often tend to inflate the reproduction cost new value. As mentioned earlier there was no finding that reproduction cost new less depreciation properly quantifies 100% of historic inflation and nothing more and we believe this value is substantially higher than a mere recognition of the effects of historic inflation.

This Commission in determining the fair value of a utility's property is bound by the directives set forth by the Court in <u>Indianapolis Water Company v. Public Service Comm'n</u>, (Ind.App. 1985), 484 N.E.2d 635. In that decision the Court directed that the Commission must consider the effects of past inflation in

calculating the fair value of a utility's used and useful property. In this Cause the Commission found Mr. Mulle's recommendation through his direct testimony to be the most credible evidence of an appropriate fair value rate base which was $62,000,000. Had the Commission found his testimony on rebuttal that only 15.89% of historic inflationary effects were considered in the $62,000,000 fair value rate base to be credible, it could not have accepted the $62,000,000 figure. This is true because the Court has directed that we consider the effects of past inflation, and we presume this to mean 100% of past inflation, when calculating a fair value rate base. Thus, as a matter of law, the $62,000,000 fair value rate base proposed by Mr. Mulle must reflect and account for 100% of historic inflation in order to be accepted by the Commission.

Gary-Hobart's position is somewhat perplexing. Gary-Hobart proposed a fair value rate base of $62,000,000 and offered substantial evidence in support of that proposal. The Public offered no evidence of an alternative fair value rate base for Gary-Hobart through its direct case. Gary-Hobart then appears to offer rebuttal to its own direct case. By its "rebuttal" it indicates that its proposed fair value rate base amount does not fully account for historic inflation and implies instead that its calculation of reproduction costs new less depreciation is the amount which fully reflects historic inflation. Gary-Hobart's evidentiary presentation presented an unusual evidentiary quandary for the Commission. Through its direct case Gary-Hobart had presented evidence of an appropriate fair value rate base of $62,000,000. Through its rebuttal presentation it offered evidence indicating that its $62,000,000 proposal was deficient because it did not fully account for the effects of past inflation as required by the Indianapolis Water Company Court. Gary-Hobart clearly presented no evidence that its proposal of reproduction cost new less depreciation represented an appropriate fair value rate base which accounted solely for historic inflation. Had the Commission found that Gary-Hobart's direct evidence and rebuttal evidence were equally credible it would have been compelled to reject the $62,000,000 fair value rate base proposal on the grounds that it did not properly account for historic inflation and since no other credible evidence existed the Commission could not have made a fair value rate base finding. The Commission quite properly gave little weight to the rebuttal evidence and accepted the reasonable $62,000,000 fair value rate base proposal which quantified 100% of historic inflation and those other factors properly considered when determining fair value, and which was not challenged on appeal.

Since the Commission gave little weight to Gary-Hobart's rebuttal testimony in the area of fair value and fair return, we must look to the other evidence of record for the methodology and inputs to the calculation of a fair return. This evidence is found in the direct testimony of Gary-Hobart's witness Mulle.

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The Commission adopted both Mr. Mulle's suggested methodology and valuations in deriving a fair return for Gary-Hobart. Mr. Mulle's methodology consisted of modifying certain elements of Gary-Hobart's capital structure to remove the effects of inflation which were properly considered as a part of the valuation of Gary-Hobart's utility property. These adjustments were performed to the capital structure which was found appropriate by the Final Order at page 14 and is as follows:

Capital	Amount	Ratio	Cost	Weighted Cost
Long-Term Debt	$ 8,960,000	24.561%	8.860%	2.176%
Common Equity	16,645,347	45.628%	12.500%	5.704%
Deferred Taxes	6,427,441	17.619%	0.000%	0.000%
Cust Dep Act	543,120	1.489%	6.000%	0.089%
Cust Dep Inact	6,925	0.019%	0.000%	0.000%
Post-70 ITC	1,173,674	3.217%	11.226%	0.361%
Pre-71 ITC	192,226	0.527%	0.000%	0.000%
Cust Advances	2,531,615	6.940%	0.000%	0.000%
Total	$36,480,348	100.000%		8.330%

This capital structure was not challenged on appeal.

The Commission accepted four adjustments to the capital structure suggested by Mr. Mulle's evidence. Mr. Mulle presented 3 1/2 years of inflation data based on the CPI to quantify historic inflation. Of Mr. Mulle's data the Commission has chosen the most current year for which a full year of information was available. This was the period July, 1988 through June, 1989 for which the rate was 5.02%.The long term imbedded debt rate of 8.86% was reduced by the weighing factor of 59.80% of the 1989 CPI inflation factor of 5.02%. (Mulle Direct Testimony Schedule 2, p. 1.) This was done to remove a portion of the historic inflationary effects from the imbedded long-term debt rate. The common equity rate of 12.5% was reduced by the prospective inflation rate of 4.5% (Mulle, Direct Testimony, Schedule 1, p. 1.) The customer deposit rate of 6.0% was reduced by the prospective inflation rate of 4.5%. (Mulle, Direct Testimony, Schedule 1, p. 1.) The equity portion of the post-1970 ITC rate in the computation of the JDIC was reduced by the prospective inflation rate of 4.5%. (Mulle, Direct Testimony, Schedule 1, p. 1.) As noted we have concluded that the $62,000,000 fair value rate base must include 100% of the effects of historic inflation as a matter of law. We have followed Gary-Hobart's recommendation and the finding of the final Order which held that "...it is proper to 'deflate' the common equity cost rate to the extent that its finding on fair value rate base has a commensurate element of historic inflation."

These calculations are set forth in the following tables. The JDIC cost rate was computed as follows:

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Capital	Amount	Ratio	Cost	Weighted Cost
Com'n Equity	$16,645,347	65.007%	8.000%	5.201%
Prefer'd Eqty	0	0.000%	0.000%	0.000%
Long-Term Debt	8,960,000	34.993%	5.860%	2.051%
Short-Term Dbt	0	0.000%	0.000%	0.000%
Total	$25,605,347	100.000%		7.251%

The result of 5.345% should be rounded to 5.35% which is a proper fair return on the fair value of Gary-Hobart's used and useful property.

After making the adjustments to the capital structure discussed above the computation results in a fair return of 5.345% and is set forth as follows:

Capital	Amount	Ratio	Cost	Weighted Cost
Long-Term Debt	$ 8,960,000	24.561%	5.860%	1.439%
Common Eqty	16,645,347	45.628%	8.000%	3.650%
Deferred Taxes	6,427,441	17.619%	0.000%	0.000%
Cust Dep Act	543,120	1.489%	1.500%	0.022%
Cust Dep inact	6,925	0.019%	0.000%	0.000%
Post-70 ITC	1,173,674	3.217%	7.251%	0.233%
Pre-71 ITC	192,226	0.527%	0.000%	0.000%
Cust Advances	2,531,615	6.940%	0.000%	0.000%
Total	$36,480,348	100.000%		5.345%

This methodology as set forth in the calculation above was that used by the Commission to calculate Gary-Hobart's fair rate of return relying solely on Mr. Mulle's evidence. As we have noted Gary-Hobart's was the only evidence of record which supported the determination of a fair value rate base and fair value return. The Commission adopted this calculation as being supported by the evidence of record although we believe it is unnecessary complicated and overly generous in its results. It is readily noted that this methodology removes only 59.8% of the historic inflation from the long-term debt rate and removes no historic inflation from the common equity rate. The methodology generally utilized by the Commission is much simpler and more directly addresses the directives of the Indianapolis Water Company Court.

It has long been the position of this Commission that all capital structure items, not solely the long-term imbedded debt rate, may potentially contain the effects of historic inflation. Under the Commission's more commonly used methodology findings are made on the cost of common equity and all capital structure items such that an overall weighted cost of capital may be determined.

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In this case the weighted cost of capital for Gary-Hobart was determined to be 8.33%. Based on the rationale that virtually any capital structure item when examined as of a given date contains the effects of historic inflation, those historic inflationary effects are then removed from the overall weighted cost of capital so as not to double count for the effects of historic inflation which the Court has mandated be considered in the determination of fair value rate base. The Commission generally makes no adjustment to the overall weighted cost of capital to remove prospective inflation. This adjustment is not made for two reasons. The Court did not mandate that prospective inflation be considered in the calculation of fair value rate base and the prospective inflationary effects considered by investors which may occur during the life of any given utility rate are more easily quantified as a part of their expected return. Reviewing Gary-Hobart's evidence as to historic inflation we determined that 5.02% best quantified the effects of historic inflation. Having made that finding we would simply reduce the overall weighted cost of capital of 8.33% by the historic inflation element of 5.02% to result in a fair return value of 3.31%. This fair return figure would then act as a benchmark number generally representing the lower end of a range in which a fair return might fall. This particular calculation is not necessarily compelling within the context of this case because the evidence quantifying historical and prospective return presented by Gary-Hobart was prepared for use with and tailored to the methodology proposed by them. However, even giving considerable latitude to the evidence quantifying historic inflation it appears clear that the 5.35% fair return found herein is reasonable, if not excessive, by any recognized standard.

Having made the findings and conclusions set forth above and determined the 5.35% fair rate of return to be supported by the evidence, the Commission may pursue the Court's final directive and authorize Gary-Hobart to recover the fair rate of return on its fair value rate base. As previously mentioned, Gary-Hobart's fair value rate base is $62,000,000, an amount which was not challenged on appeal. Applying the fair return of 5.35% to the $62,000,000 fair value rate base results in a net operating income of $3,317,000. This represents an increase of $2,621 over the net operating income of $3,314,379 authorized Gary-Hobart by the Commission's Final Order in this Cause of April 3, 1991. Based upon the Court's directives we find that Gary-Hobart should be authorized to increase its rates and charges for service so as to produce net operating income in the amount of $3,317,000.

IT IS THEREFORE ORDERED BY THE INDIANA UTILITY REGULATORY COMMISSION that:

1. Gary-Hobart shall be, and hereby is, authorized to earn a net operating income derived by the application of its fair return of 5.35% to the fair value of its used and useful utility property of $62,000,000 which equates to an authorized net

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operating income in the amount of $3,317,000. Gary-Hobart is authorized to increase its rates and charges for utility service so as to produce net operating income in the amount of $3,317,000.

2. Petitioner shall file with the Engineering Division of the Commission, prior to placing into effect the rates and charges approved herein, a tariff schedule in accordance with the Commission's rules for the filing of utility tariffs. Such tariffs, when filed and approved by this Commission shall cancel all present and prior schedules of rates and charges.

3. Upon the Commission's approval and adoption of this Order on the Fair Rate of Return Issue, along with the Commission's January 27, 1993 Order on the Synchronized Interest Issue and the Property Tax Issue, the Commission has complied with and executed the directives of the Court of Appeals of Indiana as set forth in its Opinion of May 20, 1992.

4. This Order shall be effective on and after the date of its approval.

BAILEY, CORBAN, KLEIN AND ZIEGNER CONCUR; MONK ABSENT:
APPROVED:

I hereby certify that the above is a true and correct copy of the order as approved.

APR 7 1993

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Ruth Ann Townsend, Secretary

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JUN 09 1994

SCANNED

STATE OF INDIANA

PUBLIC SERVICE COMMISSION OF INDIANA

IN THE MATTER OF THE PETITION   )   CAUSE NO. 37612
OF INDIANAPOLIS WATER COMPANY   )
FOR THE APPROVAL OF NEW SCHEDULES)   APPROVED: JUL 3 1986
OF RATES AND CHARGES FOR WATER   )
UTILITY SERVICE AND RELATED   )   ORDER ON REMAND
SERVICES.   )

BY THE COMMISSION:
Willis N. Zagrovich, Commissioner
Mark W. Cooper, Administrative Law Judge

On September 14, 1984, Indianapolis Water Company
("Petitioner") filed a Petition with the Public Service
Commission of Indiana for the approval of new schedules of rates
and charges for water utility service.

On October 15, 1984, a Prehearing Conference was held in this
Cause at which the Petitioner and the Office of the Utility
Consumer Counselor ("Public") were represented. The Commission
issued its Prehearing Conference Order in this Cause on October
31, 1984. In addition to the resolution of certain procedural
matters, that Order set forth certain stipulations of the
parties.

The hearings in this Cause were concluded on January 29,
1985. The Commission issued its final Order in this Cause on
March 20, 1985.

From the Commission's final Order in this Cause, the
Petitioner appealed. On October 31, 1985, the Indiana Court of
Appeals ("Court"), under Cause No. 2-485 A 117, rendered its
decision on Petitioner's appeal. That decision was published at
484 N.E.2d 635. That decision was certified to the Commission on
or about December 2, 1985. By its decision in this Cause the
Court reversed the Commission's decision and remanded this case
for reconsideration of the valuation issue.

On November 22, 1985, Petitioner filed with the Commission
its Motion of Indianapolis Water Company for Entry of Order on
Remand. By Docket Entry of December 11, 1985, the Commission
denied Petitioner's Motion for Entry of Order on Remand. That
Docket Entry also directed the parties to advise the Commission,
within thirty (30) days, of the evidence of record which the
parties considered to be probative on the issue of valuation of
Petitioner's property. Also, on December 11, 1985, the Public
filed its Motion in Opposition to Motion of Indianapolis Water

Company for Entry of Order on Remand. The Public's Motion was rendered moot by the Commission's Docket Entry of that same date.

On January 9, 1986, the Petitioner filed its Joint Motion for Extension of Time by which Motion the Petitioner and the Public requested the Commission to extend to January 14, 1986 the date for filing responses to the Docket Entry of December 11, 1985. The Commission, by Docket Entry, granted the Joint Motion for Extension of Time.

On January 14, 1986, the Petitioner filed its Response of Indianapolis Water Company to Commission Docket Entry of December 11, 1985. Also, on January 14, 1986, the Public filed its Response to Docket Entry of December 11, 1985 and its Motion for Permission to File Brief. By Docket Entry of January 15, 1986, the Commission granted the Public's Motion for Permission to File Brief and directed that the parties should file such Briefs within twenty (20) days of the date of the Commission entry. On February 4, 1986, the Petitioner filed its Brief of Indianapolis Water Company in the form of Order in response to Commission Docket Entry of January 15, 1986. On February 5, 1986, the Public filed its Brief of the Office of the Utility Consumer Counselor on the issue of fair value and rate base valuation and appropriate level of revenue. On February 7, 1986, the Petitioner filed its Response of Indianapolis Water Company to Brief of Utility Consumer Counselor.

After a review of the filings of the parties and the evidentiary record in this Cause, the Commission determined that additional evidence would be required to accomplish the directives of the Court. On March 12, 1986, the Commission issued an Order in this Cause directing the parties to submit certain evidence and setting an evidentiary hearing at which to receive such evidence on April 14, 1986.

A public hearing was held in this Cause on April 14, 1986 at 9:30 A.M., Local Time, in Room 907, State Office Building, Indianapolis, Indiana. At that hearing, the Commission received the evidence of Petitioner and the Public, and certain Commission Staff Reports were accepted into the record in this Cause. The direct and cross-examination of the witnesses of the parties was conducted and completed. The Commission Staff members offering Reports under IC 8-1-1-5 were made available for cross-examination and that cross-examination was completed.

Based upon the Court's Decision, the applicable law and the evidence herein, the Commission now finds:

1. <u>Commission Jurisdiction.</u> The Commission found that it had jurisdiction of the subject matter and the parties to this Cause by its Order of March 20, 1985. The Commission's jurisdiction in this matter was not at issue before the Court of Appeals nor was it found deficient by the Court. The Court had remanded this Cause to the Commission, with instructions. Proper

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notice of the April 14, 1986, hearing in this Cause was given as required by law. The Commission, therefore, retains and has jurisdiction over the parties and the subject matter herein.

2. <u>Basis for Remand.</u> The Court states that "The sole issue presented for our review is whether the Commission erred in using, for rate base purposes, the original cost of the company's used and useful property instead of the current fair value of the property." 484 N.E.2d 635 at 636. The Court's Decision provides the Commission with guidance and direction on several areas pertinent to the issue presented for the Court's review.

The Court, quoting from the Commission's final Order in this Cause, noted that the Commission found that "the fair value of Petitioner's utility plant in service as of September 30, 1984 exclusive of materials and supplies [and] Petitioner's cash working capital requirements is not less than $380,113,625." The Commission also found that the original cost of Petitioner's used and useful utility plant in service, less accumulated depreciation and contributions in aid of construction, was $130,527,035 and that this figure was the Petitioner's "original cost rate base upon which it should be allowed to earn a return..." <u>Id.</u> at 637.

In discussing the standard of review on appeal from Orders of the Commission the Court stated:

In addition to the limited review imposed by the substantial evidence test, the Court may always properly inquire into whether the Commission's Order was contrary to law – that is, was the Order the result of considering or failing to consider some factor or element which improperly influenced the final decision? The Commission must remain within its jurisdiction and conform to all relevant statutes, standards and legal principles. <u>Public Service Commission v. City of Indianapolis</u> (1956), 235 Ind. 70, 131 N.E.2d 308, 312-313. <u>Id.</u> at 638.

In discussing the Commission's finding on fair value the Court decision states that rate base is determined by valuing the utility's property in accordance with the guidelines in IC 8-1-2-6. <u>Id.</u> After discussing certain excerpts from the Commission's Order in this Cause of March 20, 1985, the Court decision stated "We think it is clear that the 'fair value' referred to in the statute is the figure which constitutes the rate base upon which a utility should be allowed to earn a return." <u>Id.</u> The Court then stated "Therefore, it is improper for the Commission to find the fair value of the company's property is $380,113,625 and to also find that the rate base upon which it should be allowed to earn a rate of return is the original cost of the property or $130,527,035." <u>Id.</u> The Court then recognized the Commission's error regarding the statement of the company's fair value stating, "The use of the terms 'fair value' in reference to

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reproduction costs new was, perhaps, a misleading choice of words." Id.

The Court quoted a portion of the Commission's March 20, 1985 Order, which read as follows:

> The property included in the 'rate base' may be valued by one of two standard methods: (1) The 'original cost' method, which is based upon book value 'the cost of an asset when first devoted to public service', or (2) The 'fair value' method, which takes into account the declining purchasing power of the dollar through 'reproduction costs new' studies utilizing price indices and other measurements of an investments current value. The Indiana statutory scheme authorizes the use of either valuation method. Bethlehem Steel v. Northern Indiana Public Service, (1979) Ind.App., _____ 397 N.E.2d 623, 629, L.S. Ayres & Company v. Indianapolis Power and Light Company, (1976), Ind.App., _____ 351 N.E.2d 814, City of Evansville v. Southern Indiana Gas & Electric Company, (1979), Ind.App., _____ 339 N.E.2d 562.

The Court's decision states "to the extent that that passage equates fair value with reproduction costs new or suggest that valuation of utility property is an either/or choice between original costs and reproduction costs, we wish to clarify the record. Id. The Court decision quoted the Supreme Court in Public Service Commission v. City of Indianapolis, supra, at 318 which stated "fair value is a conclusion or final figure drawn from all the various 'values' of factors to be weighed in accordance with the statute by the Commission." The Court again quoted from Public Service Commission v. City of Indianapolis in which the Supreme Court stated:

> The courts will not limit the Commission to any one or more methods of valuation, be it prudent investment, original cost, present value, or cost of reproduction. This Court has held that cost of reproduction depreciated is a proper item to be considered under the statute in arriving at a fair value figure. Public Service Commission v. Indianapolis Rys., supra, 1948, 225 Ind. 656, 76 N.E.2d 841. The ratemaking process involves a balancing of all these factors and probably others; the balancing of the owners or investors' interest with the consumers' interest. On the one side, the rates may not be so low as to confiscate the investors' interest or property; on the other side rates may not be so high as to injure the consumer by charging an exorbitant price for service and at the same time giving the utility owner an unreasonable or excessive profit.

Following the above quotation the Court decision stated, "Although it is clear from the statute and from the case law that the Commission has discretion in determining the fair value of utility property, it is also clear that the Commission may not

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ignore the commonly known and recognized fact of inflation.... It follows that while original cost is <u>one</u> of the factors which the Commission should consider in arriving at a fair value figure, it is not necessarily in and of itself, an accurate reflection of the fair value of the company's property upon which today's investors should be allowed to earn a return. This is especially so where existing plant amounts to nearly three times the original cost figure." <u>Id</u>.

In conclusion the Court decision stated, "It is not our function to make the ultimate determination of the fair value of the company's property, that is the task of the Commission; however, it is within the scope of our review to insure that the Commission has given appropriate consideration to all relevant factors in making their determination. Since it is evident that the Commission's original cost rate base determination is inconsistent with its fair value finding, we remand this case for reconsideration of the valuation issue in light of the principles discussed in our Opinion." <u>Id</u>.

3.   <u>Directives of the Court Decision</u>. The Court has given the Commission four basic directives in its reconsideration of the valuation of Petitioner's property. In summary, these directives are as follows:

(A)   That it is upon the statutory "fair value" of its used and useful property that a utility should be allowed to earn a return.

(B)   That "fair value" is not an either/or situation as to original cost or reproduction cost new, but fair value is a conclusion or final figure, drawn from all the various values or factors to be weighed in accordance with the statute by the Commission.

(C)   That in its determination of "fair value" the Commission may not ignore the commonly known and recognized fact of inflation.

(D)   That while original cost is one of the factors which the Commission should consider in arriving at a fair value figure, it is not necessarily, in and of itself, an accurate reflection of the fair value of the company's property.

4.   <u>Concerns of the Court on Remand</u>. The Court's initial, and most obvious, concern is that the Commission found the "fair value" of Petitioner's property to be $380,113,625 but allowed the Petitioner to earn a return only upon the original cost of Petitioner's property of $130,527,035. This was in contradiction with the Court's finding that a utility should be allowed to earn a return upon the "fair value" of its property. In determining the value of the Petitioner's property, upon which it should earn a return, the Court expressed concern as to whether the Commission had considered all of the appropriate methods of

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valuation. The Court stated:

> It is not our function to make the ultimate determination of
> the fair value of the company's property, that is the task of
> the commission; however, it is within the scope of our review
> to ensure that the commission has given appropriate
> consideration to all relevant factors in making their
> determination. Id. at 640.

The Court has given the Commission considerable direction
regarding the appropriate factors for consideration. As cited
supra, the Court quoted portions of Public Service Commission v.
City of Indianapolis in providing this direction. The Court
expressed considerable concern that the Commission may not have
considered the effects of inflation in determining the
appropriate fair value of Petitioner's property to be used in the
calculation of rate of return (i.e. the ratio of return to "rate
base") to be allowed the Petitioner.

After a review of the existing record in this Cause, we
determined that additional evidence would be required in order to.
properly follow the guidelines and abide the directives set forth
in the Court's decision. In furtherance of this goal we issued
our Order in this Cause of March 12, 1986 which directed the
parties to present certain limited evidence at a hearing
scheduled for that purpose. The evidence requested by that Order
was, as follows:

        A.   An appropriate fair value amount for the
Petitioner's used and useful property.

        B.   An appropriate rate of return to be applied to the
fair value of Petitioner's used and useful property.

        C.   The elements considered in the computation and
application of the Petitioner's weighted cost of capital as
determined by the Commission's Order of March 20, 1985.

        D.   The Petitioner's financial condition relevant to
the relationship of the risk perception of Petitioner's investors
and the relative rate burden upon Petitioner's customers.

A public hearing was held in this Cause on April 14, 1986 at
9:30 A.M., EST, in Room 907, State Office Building, Indianapolis,
Indiana at which to receive the evidence submitted by the
parties.

        5.   Evidence Submitted on Remand. At the hearing on remand,
the Petitioner updated the appraisal of its utility property,
exclusive of land, to September 30, 1984, the cutoff date
established in this case by the Prehearing Conference Order. The
Petitioner offered the testimony of its President, Mr. Dale B.
Luther. Mr. Luther testified that the fair value of Petitioner's
utility plant, as of September 30, 1984, is not less than

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$418,058,400. Mr. Luther stated that by fair value, he means a rate base which reflects the current value of the Petitioner's utility plant, that being what it would cost to build that plant today in its current condition. Therefore Mr. Luther stated that the current value of the Petitioner's utility property should be considered its fair value.

Mr. J. Norman Scott, a Project Manager with the firm of Black & Veatch, consulting engineers of Kansas City, Missouri, testified on behalf of the Petitioner. Mr. Scott testified that he had performed varying studies and inspections of Petitioner's utility plant in service. Mr. Scott further stated that he had conducted several comparison and consulted various reference material regarding the appropriate reproduction cost of Petitioner's utility plant. Mr. Scott stated that as a result of his investigation he had determined that the reproduction cost new of Petitioner's utility plant as of September 30, 1984, is $546,821,390. He further stated that the reproduction cost new, less depreciation, of that plant is $395,673,853. Mr. Scott's testimony indicated that this reproduction cost new is indicative of the current fair value of Petitioner's plant. His testimony notes that there is some concern that the Petitioner would not build its plant the same way today, and thus its reproduction cost, less depreciation, is not a true indication of its current value. Mr. Scott states Petitioner's plant was efficiently planned and engineered and there is no reason to believe that could the land be acquired, that the plant would be constructed any differently today. He notes that any changes in construction techniques from the early system construction have been properly reflected in the trending process and the value of some facilities whose function has been altered has been reduced by functional depreciation. Therefore, he concludes that the reproduction cost new of Petitioner's property, less depreciation, is an accurate reflection of its current value.

Petitioner's witness, Mr. Henry G. Mulle, suggested that the possibility of a "compromise" fair value rate base of $205,403,013, that being weighted 30% for current value (reflecting the percentage of common equity in the company's capital structure) and 70% for original cost, depreciated.

Mr. Mulle also testified regarding the return to be applied to the fair value of Petitioner's property.

He testified that the rate of return to be applied to Petitioner's fair value rate base should be the Petitioner's weighted overall cost of capital of 8.92%. The question of inclusion of inflationary factors in Petitioner's weighted cost of capital was addressed by Mr. Mulle. Mr. Mulle testified that if Petitioner's 8.92% weighted cost of capital were applied to the fair value of Petitioner's property that no "double counting" of inflation would occur. Mr. Mulle stated that a fair value rate base reflects the effects of historic inflation in asset values. However, he contends that it takes no account of

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anticipated or prospective inflation. He further testified that
the cost of capital, to the extent that current capital costs, as
distinguised from imbedded costs, are used, reflects only
anticipated inflation in those capital costs. Mr. Mulle stated
that these two types of inflation would not result in a "double
counting" of inflation if the weighted cost of capital were
applied to the fair value of the Petitioner's property. Mr.
Mulle testified that if prospective inflation were to be removed
from the Petitioner's cost of capital, as determined in this
case, that the resulting rate of return would be 7.59%.

Upon cross-examination by the Public, Mr. Mulle testified
that the returns allowed utilities are generally different in
states recognizing a fair value valuation method as opposed to a
original cost valuation method. Mr. Mulle further testified that
in those states which recognize a fair value method of valuing
utility property the returns are generally lower the utility's
weighted cost of capital.

Upon direct examination, Mr. Mulle testified that the
Petitioner's rates are a "minor burden" on its ratepayers. He
explained that water rates generally are a small percentage of
the ratepayers total utility bill. In support of this statement
he noted that even under the Petitioner's proposed rates, the
average residential ratepayer would pay only $13.25 per month.

Upon questioning from the Bench, Mr. Mulle testified that he
believed the Petitioner to be very healthy financially. He
further testified, that in his opinion, the Petitioner should be
rated AA and would be, were it not for the rating agencies
prejudice against companies of the Petitioner's size.

Mr. Charles R. Carvin, of the Commission's Accounting
Department, testified on behalf of the Public. Witness Carvin,
by his prefiled testimony contained in Public's Exhibit 1-Remand,
testified regarding computation of Petitioner's weighted cost of
capital as determined by the Commission's Order in this Cause of
March 20, 1985. Mr. Carvin stated that the weighted cost of
capital calculation contained the following items: long term
debt; preferred stock; common equity; deferred taxes; pre-1971
and post-1970 investment tax credits; customer advances and
customer meter deposits. Mr. Carvin then went on to explain the
rationale behind the inclusion of these various elements.

Mr. Carvin also discussed the applicability of the weighted
cost of capital in the determination of an allowed return for the
Petitioner. Mr. Carvin testified that debt costs include
issuance costs, risk costs, inflationary expectations and other
costs at the time of issuance. He stated that equity costs
include the above items but are generally higher than debt costs
since the level of risk assumed by the equity holders is
greater. The weighted cost of capital calculation, when derived
properly, reflects the cost of debt and equity items in their
relative proportion. He stated that the weighted cost of capital

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calculation gives an overall percentage cost of capital that must be earned to recognize the cost of the liability and the equity items on the balance sheet. Mr. Carvin stated that the total weighted cost, when applied to a net original cost rate base, renders an amount of return that must be earned or recovered from assets to pay for the cost of items supporting those assets. Mr. Carvin stated that the total overall weighted cost of capital is equivalent to what the rate of return should be, but only when the "per book" capitalization amounts and the related net original cost rate base are used in the calculation.

Mr. Carvin stated that a fair value rate base may be the net original cost rate base, or it may be affected by changes in the economy such as inflation and the cost of materials and labor committed to providing a given item of used and useful utility property. The fair value factor used to adjust net original cost rate base to a higher level represents inflation or different replacement costs. Mr. Carvin states, it should be clear that because the weighted cost of capital and fair value rate base both contain a return for inflation, the two cannot be applied against each other without redundancy. A combination of these elements would overstate the results, since inflation would be considered through both the weighted cost of capital structure and the fair value rate base. Mr. Carvin testified that in order to avoid the possible redundant consideration of inflation when using a fair value rate base it would be necessary to make a downward adjustment to the overall cost of capital in arriving at a reasonable rate of return. Mr. Carvin states that using the net original cost rate base and the weighted cost of capital calculation, inflation is appropriately considered. Mr. Carvin notes that the original cost rate base and the cost of debt can be determined by looking at the "per book" figures.

In summary, Mr. Carvin testified that the weighted cost of capital calculation considers inflation not only at the time of debt issuance, on a current basis in the calculation of the cost of equity. To establish a fair rate of return on a fair value rate base, the weighted cost of capital cannot be used, because when the two are multiplied the result compounds the effect of inflation. Mr. Carvin suggests that to eliminate this problem, the weighted cost of capital methodology and the net original cost rate base should be used to determine the appropriate dollar return. In the instance of a fair value rate base being greater than the net original cost rate base, the dollar return should be divided by the fair value rate base to yield the fair rate of return. Mr. Carvin notes that this method has the advantage of objectivity. The net original cost rate base in certain capital items have "per book" costs that can be objectively determined. However, the fair value rate base and a fair return on that rate base cannot be objectively verified by any means.

Upon cross-examination by the Petitioner Mr. Carvin stated that it was his position that the dollar return to the utility should be the same using either an original cost rate base or a

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fair value rate base. Mr. Carvin agreed that the determination
of a utility's cost of equity, used in the computation of the
weighted cost of capital, is, like the fair value amount, also
somewhat subjective.

Mr. Douglas T. Harrison, of the Office of the Utility
Consumer Counselor's technical staff, testified on behalf of the
Public. Mr. Harrison testified by his prefiled testimony,
Public's Exhibit 2-Remand, that it would be impossible to make an
appropriate fair value finding if the fair value issue is
isolated and viewed as if it existed in a vacuum. Mr. Harrison
testified that all inputs utilized in determining the appropriate
revenue level are inextricably intertwined, and the rate base and
rate of return elements are the two which are the most clearly
and closely intertwined. Mr. Harrison testified that to isolate
one of these elements without considering the other would make a
farce of the entire ratemaking process. Mr. Harrision testified
that a rate of return applied to the utility's original cost rate
base provides a pool of dollars from which the investors are
compensated and rewarded for their participation in the
process. He states that to make an arbitrary adjustment to rate ·
base without considering the effect of that adjustment on utility
operating income is completely illogical and would result in an
unwarranted additional return to the utility's investors at the
expense and the detriment of the ratepayer. Mr. Harrison states
that the customary method of determining the amount of that pool
of dollars is to value rate base at original cost, since that
amount represents the actual dollars of capital employed, and to
derive a rate of return to be applied to the original cost rate
base on the basis of the utility's cost of capital. Mr.
Harrision concludes that since a utility's cost of capital is
synonymous with the investors' required rate of return which
includes an inflation premium, it is obvious that no confiscation
of investors' interests will take place. Due to the economic
relationship between rate base and rate of return, it is
imperative that rate of return be adjusted downward if rate base
is to be adjusted upward for a fair value increment. Mr.
Harrision states that he believes the evidence in this Cause
supports a finding that the value of Petitioner's original cost
rate base is the fair value of its utility property. However, he
states, that if the Comission chooses a fair value rate base that
is something greater than the original cost rate base that the
return applied to that fair value rate base should be adjusted
downward to produce the same return as Petitioner's weighted cost
of capital applied to its original cost rate base. Mr. Harrision
testified that to increase the amount of return to the utility by
increasing Petitioner's rate base by an arbitrary fair value
increment, which has absolutely no economic justification, would
result in an "unbalancing" of owners and consumers' interests.
Mr. Harrison went on to testify that he believes that
Petitioner's weighted cost of capital should actually be computed
to be 7.89% or at a very maximum of 8.23%. In support of this
contention Mr. Harrison referred to Schedule 19 of the UCC's
Staff Report previously offered in this Cause and the large

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increase in the price per share of Petitioner's common stock
since the Commission's Order in this Cause of March 20, 1985.

Mr. Harrison stated that Petitioner's rates are presently
unduly burdensome to its ratepayers. He testified that
Petitioner's ratepayers are presently paying more for their water
service than they should. He notes that Petitioner's rates are
higher than other water utilities. Mr. Harrison states that if
Petitioner's customers are paying one penny more for water
service than the true cost of service (O&M, interest, taxes, fair
return, etc.), then Petitioner's rates are unduly burdensome and
the customers are subsidizing the stockholders.

Upon cross-examination by the Petitioner, Mr. Harrision
testified that the cost of equity component, in the weighted cost
of capital computation, includes an inflation premium. He
further testified that whether a fair value rate base or an
original cost rate base is used the net operating income allowed
the Petitioner should remain the same. Mr. Harrison stated that
the fair value adjustmental increment should be the common equity
component in the Petitioner's capital structure. During Mr.
Harrison's cross-examination, there was questioning as to whether
the common stockholders of a utility are entitled to a gain in
value of the utility property. Mr. Harrison contended that any
gain in value of the utility's property should be shared by the
common stockholders and the utility's ratepayers. Also on cross-
examination, Mr. Harrison stated that Petitioner's stock was
proportionately higher than that of other water utilities. Mr.
Harrison contends that this is because the Petitioner's return on
equity is too high.

On redirect examination of Mr. Harrison by the Public, the
Bench requested that the Public late-file an exhibit supporting
Mr. Harrison's contention that gain in utility property should be
shared by the common stockholders and the ratepayers. That
exhibit was so filed.

Mr. Timothy N. Thomas, Principal Utility Analyst for the
Economics and Finance Department of the Commission, submitted the
report prepared by him as Staff Report 1-Remand, which was not
sponsored by the Public. The Report of the Commission Economics
and Finance Department, Staff Report No. 1-Remand, was accepted
into the record pursuant to IC 8-1-1-5. That Report discussed
the Petitioner's weighted cost of capital. The Report noted that
the Staff had originally recommended a cost of equity for
Petitioner of between 13% and 14%. The Report also discussed the
Staff's position regarding post-1970 investment tax credit
("ITC"). The Report states that Staff's position is that post-
1970 ITC should be entered into the capital structure at the
overall weighted cost, and not at the cost of equity. For the
rationale behind this treatment the Report cites In the Matter of
the Petition of Indiana Bell, Cause No. 37686. The Report notes
that the Federal Energy Regulatory Commission follows the ITC at
the weighted cost practice and that numerous federal court

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decisions have upheld that procedure. The Report urges the
Commission to revise the Petitioner's weighted cost of capital
using a cost of equity of 14% and a cost of post-1970 ITC at the
overall weighted cost of capital.

The Economics and Finance Department Report discusses the
fair return on the Petitioner's property. The Report states that
to determine a level of rates which are neither confiscatory nor
excessive requires a previous determination of two other
issues. One is the value of plant which is used and useful for
providing utility service, and the other is the return which
should be earned on that property. The Report states that it is
important to note that those two issues are distinctly related
and cannot be completely divorced one from the other. This does
not mean that one must first determine the rate base before the
fair rate of return can be evaluated, or vice versa. However,
the methodologies must be consistent so that inflationary
considerations are neither double counted nor omitted.

The Report advocates the derivation of a return for
Petitioner by multiplying the weighted cost of capital times the
net original cost rate base. The Report states that there is
considerable economic justification for basing the fair return
determinations solely on the return which is derived in that
fashion. The Report notes that no jurisdiction in the United
States, either state or federal, determines the fair return by
applying the weighted cost of capital to a rate base valued at
its replacement cost. The Report further states that those
states that require utility property be valued at its "fair
value" adjust the fair return, when expressed as a percentage,
downward from the weighted cost of capital. The Report states
that in every case examined, the magnitude of that adjustment has
been determined by the application of the weighted cost of
capital to the net original cost rate base.

The Report also discusses the relationship between fair
return and the cost of capital. The Report states that the fair
return which should be authorized on the fair value rate base can
be most accurately determined by the application by the weighted
cost of capital to the original cost rate base, i.e., the
weighted cost of capital, times the original cost rate base,
yields the fair return in dollars.

The Report states that the reasoning behind this methodology
follows from the regulatory goal of cost based pricing. That
goal is to allow utility rates to recover the actual cost of
service, including the cost of capital, but no more. The Report
contends that since there is a one to one relationship between
utility plant and the invested funds, authorizing a cost of
capital return on the net utility plant will allow for the
complete recovery of the cost of those funds invested, without
double recovering for the effects of inflation. The Report then
sets forth a numerical example. The example consists of a
simplified balance sheet and cost of capital table. The example

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demonstrates that the application of the weighted cost of capital to the original cost rate base will yield a return that is exactly enough to pay the cost of capital. The Report states that this will always be true when rate base equals capitalization. The Report states that when capitalization is greater than rate base the assumption must be made that the excess capital has been invested in nonutility plant, and that those investments will yield a nonoperating income return. The numerical example is then used to illustrate what occurs when the rate base is inflated to some value greater than the amount of invested capital, but the weighted cost of capital is still used as the return. Under this scenario an excess profit remains. That excess return is not necessary to pay cost of capital, nor is it necessary to attract new capital. The Report contends that to apply the weighted cost of capital to a rate base greater than the net original cost rate base is contrary to cost based rates. Cost based rates have been acknowleged by this Commission, and other regulatory bodies, as a desirous result of the ratemaking process.

The Report discusses the consideration of inflation relevant to Petitioner's rates. The Report states that sound regulatory practice requires an appropriate consideration of the effects of inflation in the ratemaking process. The Report further states that the effects of inflation should not be recovered more than once, as to do so would result in an excessive return. The Report contends that the effects of inflation are counted for both in a "fair valued" rate base and in the cost of capital funds. Therefore, the application of the weighted cost of capital to any rate base inflated above the net original cost would double count the inflation required return. The Report states that determining the fair dollar return by applying the weighted cost of capital to the net original cost rate base does allow for a return which includes inflationary costs once and only once. In that calculation, inflationary returns are incorporated into the costs of all capital items. The Report states that this methodology allows for recovery of the return which is required due to inflation, as calculated by the capital markets which require that return. The Report contends that it is clear that the various costs of capital include expected inflation premiums. The magnitude of those premiums are, however, difficult to quantify. This is especially true for such items as embedded cost of debt, preferred stock, etc.

The Report discussed Petitioner's current financial condition in reasonableness of current rates. The Report discusses Petitioner's financial condition subsequent to the issue into the Order in this Cause of May 20, 1985.

Mr. Thomas also sponsored the Commission Economics and Finance Department Rebuttal Exhibit, Staff Report #2-Remand. That Report discussed, among other things, the application of Petitioner's weighted cost of capital to the current value of the rate base. The Report addresses Petitioner's contention that the

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application of the weighted cost of capital to the current value
of the rate base is proper since the current value rate base
reflects only historical inflation, and the current cost of
capital reflects only prospective inflation. The Report contends
that the fallacy in Petitioner's analysis is that it uses capital
costs which assume that the value of the investment will not be
periodically increased to adjust for inflationary pressures.
That is, the cost of capital does include a factor for
prospective inflation. The value of a typical investment is not
increased over time except by the reinvestment of past
earnings. The Report states that this assumption is prevalent in
financial theory. Were the value of the investment known to be
subject to increase for inflation, past or future, the required
return would be less. The Report states that double counting of
inflation does occur in the long run through the process of
multiple rate cases. If only one rate case were ever held then
Petitioner's contention would be correct. However, the reality
of multiple rate cases over time changes the equation
significantly and makes Petitioner's contention invalid over
time. The Report sets forth an example which demonstrates that
if a rate base is continually valued at current value and a
return were allowed that takes into effect inflationary
considerations, such as the weighted cost of capital, after the
second and any subsequent rates cases of the utility inflationary
considerations are double counted.

The Report also discusses the Petitioner's rate of return
and inflationary considerations. The Report commented on two
cost of capital calculations presented by the Petitioner, one
purporting to include no prospective inflation, and the other
claiming to reflect capital costs inclusive of inflation.
Regarding Petitioner's calculation for cost of capital exclusive
of inflation the Report states that the equity costs has been
reduced by four percent. The Report contains a similiar
calculation that all non-zero cost items have been reduced for
their implicit inflation-related returns. The Report contends
that Petitioner's position that the cost of debt does not contain
any allowance for future inflation is erroneous. The Report
states that investors who lend that capital do expect some level
of inflation in the future, and do account for it in their
required rate of return. The Report asserts that just because a
particular item is an embedded cost does not mean that it ignores
future inflation. The Report notes that it is difficult to
estimate the inflation-based return which is inherent in debt
costs. The Report stated that the Commission Staff used the data
presented by Ibbotson and Sinquefield in their book, Stocks,
Bonds, Bills, and Inflation: The Past and the Future. According
to that reference, the historical return on debt capital, above
inflation has been 0.6%. The Staff used that value in their
estimated non-inflationary cost of debt. The Report contends
that the weighted cost of capital containing no perspective
return for inflation can be estimated at 2.77%. The Report notes
that if the Commission elects to reflect the effects of inflation
in the rate base, rather than in the return, this value may be

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used. The Report does not advocate this calculation to determine Petitioner's return.

The Report comments upon the Petitioner's cost of capital calculation, including inflationary considerations. The Report notes that the Petitioner utilized the cost of equity as found in the Commission's Order in this Cause of March 20, 1985 and has increased the cost of debt and preferred stock to their margin levels. The Report contends that the use of the 13.95% cost of debt and the 13.33% cost of equity is erroneous because these are not actual costs of those capital items, whether or not they include a prospective inflationary consideration. The Report contends that the investors who provided the Petitioner with debt capital knew that the stated return would be in force for 20 or more years, and they included their estimation of prospective inflations for that entire period in their required return. The Report states that the actual cost of capital as found in the original Order in this Cause included perspective inflation, in that inflation was included in the returns required by the suppliers of Petitioner's capital. The Report concludes that to include a greater return for inflation than is required by the actual cost of capital is to authorize a return greater than the true cost.

As noted, the Commission Economics and Finance Department Report and its Rebuttal Exhibit were admitted into the record pursuant to IC 8-1-1-5. The parties were allowed an opportunity to cross-examine Mr. Thomas, the author of those exhibits, pursuant to IC 8-1-1-5. On cross-examination by the Petitioner Mr. Thomas restated his position that the fair return on the fair value rate base should be adjusted downward from the weighted cost of capital. Mr. Thomas also stated to apply the weighted cost of capital to the fair value rate base would produce rates above costs. It was also noted upon cross-examination that three of the alternative investments mentioned as comparable return items in the Staff Report, were all debt items. Mr. Thomas agreed that some utility stocks maintain considerably higher risks than the debt items mentioned.

Regarding Staff Report #2-Remand Mr. Thomas was questioned regarding Appendix 1 to that report. Appendix 1 was the Staff's computation removing all inflationary effects inherent in calculations determining the Petitioner's weighted cost of capital. Mr. Thomas testified that according to his 1982 reference material by Ibbotson and Sinquefield the historical return on debt capital, above inflation, has been 0.6% and that that value was used in Staff's estimated non-inflationary cost of debt. Petitioner pointed out that the same reference series, by the same authors, of a more current, 1985 date would have suggested a different adjustment factor. Petitioner also pointed out the inflation adjustment for a long-term corporate bond of 2.1% should have been used in Staff's calculation. Petitioner's Exhibit #6-Remand demonstrated the more current information. Mr. Thomas stated that the use of the updated material could raise

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the Staff's estimated weighted cost of capital containing no
prospective return for inflation from Staff's estimate of 2.77%
to 3.44%. Mr. Thomas pointed out however, that certain of the
updated information suggested by Petitioner was considered to be
applicable only in the long-run situation. And that such long-
run information was not necessarily appropriate to the time frame
of a rate proceeding.

Mr. Thomas was also cross-examined regarding his estimate of
the appropriate reduction to remove inflationary effects from
Petitioner's cost of equity.

Mr. Thomas also stated that in adjusting the Company's cost
of common equity downward for the removal of an inflation
premium, he had subtracted from the 15.5% return allowed an
inflation rate of 7.5% -- that predicted for 1985 by the
Company's witness Henry Mulle. Mr. Thomas said that he used that
7.5% rate from Petitioner's Exhibit 4A, because he did not have
an Ibbotson & Sinquefield predicted rate for 1985. Petitioner's
Exhibit 4A, however, set forth Ibbotson & Sinquefield's predicted
inflation rate for 1985 of 5.4%. See Petitioner's Exhibit 4A,
Sch. 10. On cross-examination, Mr. Thomas conceded that had he
used Ibbotson & Sinquefield's 5.4% rate for 1985, to go with the
historical inflation-adjusted bond and preferred stock rates he
used from Ibbotson & Sinquefield, his estimated "no prospective
inflation" return on common equity would have been 10.1%, rather
than 8%. This correction would add another 63 basis points (2.1%
times the Company's 30% common equity ratio), to Mr. Thomas'
overall rate, increasing it to 4.07%.

Witness Thomas further conceded that if he had reduced the
15.5% allowed equity return by the actual inflation rate in 1985,
of 3.77%, his resulting "no prospective inflation" return on
common equity would have been 11.73%. This would have added 112
basis points (3.73 times 30%) to his 2.77% overall rate.

Mr. Thomas was also cross-examined by the Public. In
response to questioning by the Public, Mr. Thomas restated his
position that removing inflationary considerations from the
weighted cost of capital to reach a fair return for application
to a fair value rate base is clearly not the preferred method of
determining a return. The preferred method, according to Mr.
Thomas, is to apply the weighted cost of capital to the original
cost rate base. Mr. Thomas again stated, that applying the
weighted cost of capital to the fair value rate base is not
proper in that this double counts the effects of inflation. He
further stated that both debt and preferred stock contain a
prospective inflation factor.

6. Commission Discussion and Findings. It is clear that
the Court has directed the Commission to reconsider its finding
as to the value of Petitioner's used and useful property. The
Commission must also determine what other, if any, matters must
be reviewed in connection with that reconsideration. The Court

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decision has given the Commission considerable guidance in accomplishing its directives. One of those matters of concern to the Court was that the Commission may not have given appropriate consideration to the commonly known fact of inflation. The Commission through its administrative knowledge and expertise recognizes that certain inflationary considerations are accounted for in determining the cost of equity elements which is a prominent component in the weighted cost of capital calculation. It is clear by our Order in this Cause of March 20, 1985, that we failed to discuss or acknowledge the inflationary effects that were considered in determining the Petitioner's weighted cost of capital. In light of our failure to discuss our consideration of these inflationary effects, the Court's concern in this regard is most understandable. The Public has offered substantial evidence on remand that inflationary considerations were, and in fact must be, considered in determining the Petitioner's weighted cost of capital. This substantial evidence coupled with the long recognized expertise of the Commission in rate making matters leads to the conclusion that inflationary considerations have been, and were properly considered in determining the Petitioner's weighted cost of capital by our Order of March 20, 1985.

The Court has made clear by its direction that it is the fair value of a utility's property upon which should be allowed to earn a return. The Court has also made clear that it is in the determination of that fair value of a utility's property that the effects of inflation are properly considered. It was upon this valuation issue that the Court remanded this Cause for our consideration.

Although the court has given us considerable guidance as to all matters regarding the determination of the fair value of a utility's property and the return thereon, its sole affirmative direction relates to the valuation issue. We now know that it is upon the fair value of Petitioner's property, which includes inflationary consideration, that Petitioner should be allowed a return. We have concluded that Petitioner's weighted cost of capital includes inflationary consideration as a component element. Staff's evidence, Public's evidence and simple logic tell us that to apply the weighted cost of capital to the fair value of Petitioner's property would clearly double account for the effects of inflation. The Court gave the Commission no mandatory directive regarding the percentage return to be applied to the fair value of the Petitioner's property. As the Court noted, it would not attempt to determine that return as that determination is statutorily the task of the Commission. To have done so would have infringed upon the Commission's responsibility to ultimately determine the actual dollar return allowed to the Petitioner.

The Petitioner contended both in its post remand filings and at the hearing of April 14, 1985, that the weighted cost of capital should be applied to fair value of its property to

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determine its dollar return. This position is not supported by
the evidence of record or by logic. All of Public's and Staff's
witnesses testified that to apply the weighted cost of capital to
a fair value rate base would double account for the effects of
inflation. Those witnesses also testified that the Commission
could not consider any element of the return equation in a
vacuum. This, they stated, is because the derivation and
application of those elements are clearly interrelated. In
addition to the inflationary inconsistencies of applying the
weighted cost of capital to the fair value rate base, Public's
witness Carvin pointed out a theoretical concern. He stated that
the application of the book derived weighted cost of capital to
the subjectively determined fair value would have only the
slightest chance of resulting in other than a meaningless
result. Petitioner's witness Mulle testified that those states
which allow a return on the fair value of a utility's property
apply a percentage less than that utility's weighted cost of
capital to find the dollar return. Further, Mr. Mulle testified
as to the appropriate reduction in the weighted cost of capital
to remove inflationary considerations there from. Petitioner
also argued that the Court, by its remand Order, affirmed the
application of the weighted cost of capital to its fair value
rate case in determining a dollar return. The Court's remand
Order does not support this contention. The Order clearly stated
that the sole issue presented for its determination was whether
the Commission had erred in determining Petitioner's return based
upon an original cost rate base. The Court noted that a
utility's weighted cost of capital is a proper factor for
consideration, among others, in finding a fair return but clearly
gave no mandatory direction. Based upon the foregoing, we find
that it may be inappropriate to apply the Petitioner's weighted
cost of capital to the fair value of its property to determine a
dollar return and that the Court has given us no directive to the
contrary.

The Public and Staff contend that the appropriate method for
determining Petitioner's dollar return is the application of the
weighted cost of capital to Petitioner's original cost rate
base. This position was supported by the testimony of all of the
Staff's and Public's witnesses at the April 14, 1986 hearing.
Both the Public's argument and evidence on this issue are
substantially inappropriate in this proceeding. The question as
to the appropriatness of the application of Petitioner's weighted
cost of capital to its original cost rate base for purposes of
ultimately determining Petitioner's dollar return has been
decided by the court and thus precluded to the Commission.
Therefore we reject the contention of the Public and the Staff
that Petitioner's dollar return should be determined by the
application of Petitioner's weighted cost of capital to its
original cost rate base.

In the alternative, the Public argues that if Petitioner's
dollar return should be determined based upon a fair value rate
base; the dollar return should equal the return found by the

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application of Petitioner's weighted cost of capital to its
original cost rate base. The evidence offered by all of the
Staff's and Public's witnesses at the April 14, 1986 hearing,
support that contention. As found above, we have determined that
inflationary effects are considered in determining Petitioner's
weighted cost capital. It would therefore seem, if rate making
and its attendant methodologies represent an exact science, that
the Public's contention should be true. The Public's contention
further assumes that inflationary considerations would have
precisely the same effect upon rate base and the weighted cost of
capital elements to the return equation. We know from our
expertise and long experience in rate making, that both the
determination of the fair value of the utility's property and the
determination of the cost of equity element in a utility's
weighted cost of capital computation are not exact sciences but
are both subjective and imprecise. While, given the findings and
conclusions above, we might strive for a situation in which the
inflationary effects would bear equally upon a fair value rate
base and weighted cost of capital elements, we realize that this
may not always be the case. The Public's evidence does, however,
support the importance of the consideration of the weighted cost
of capital application to the original cost rate base as an
element in determining a utility's return. We therefore find
that the application of Petitioner's weighted cost of capital to
its original cost rate base does not necessarily yield the
appropriate return for the Petitioner.

Given the above findings, it is clear that we must determine
an appropriate return for the application to the fair value of
the Petitioner's property that will eliminate inflationary
considerations to the extent that those considerations have an
effect in the determination of its fair value rate base. Absent
the isolation and appropriate preclusion from the return
component, to be applied to Petitioner's fair value rate base,
there would clearly be a redundant consideration of inflationary
considerations.

Having determined that an appropriate reduction must be made
to the weighted cost of capital to adjust out the effects of
inflation, we must look to the evidence of record to determine
that appropriate reduction. A reduction to the weighted cost of
capital for application to a utility's fair value rate base is
well supported by the evidence. Petitioner's witness Mulle
testified that in those jurisdictions where a utility's return is
determined on the basis of a fair value rate base, the returns
applied to that rate base are lower than those applied in
jurisdictions using an original cost rate base. On direct
examination, Mr. Mulle testified that if prospective inflation
were to be removed from the Petitioner's cost of capital as
determined in the case, that the resulting rate of return would
be 7.59%. Mr. Mulle stated that to determine that rate he used
Petitioner's capital costs, as determined by the Commission but
eliminated the 4% anticipated future growth element from the
15.5% cost of equity, which removes whatever consideration the

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Commission gave to inflation in capital costs. Mr. Mulle
explained his determination of the 4% growth rate. He stated
that his estimate of the Petitioner's cost of common equity in
the main case was 17%. The Commission's Economics and Finance
Department had recommended 14%. He noted that the Commission
used 15.5%, a number half way between the two recommendations.
Mr. Mulle stated that the growth rate he had used in determining
his recommendations for the Petitioner's cost of equity capital
was 5%, while the Commission's Economics and Finance Department
had used 3% in their recommendations in the main case. He stated
that splitting the difference would suggest that a 4% growth rate
was recognized by the Commission at the time of its determination
in the main case. He suggested that some of the anticipated
growth may have been do to other factors other than inflation,
such as increased productivity. Mr. Mulle testified, however,
that if the entire 4% is removed from the equity costs, that he
is certain that all anticipated inflation has been removed from
the then current equity cost rate which the Commission used.

The Commission Economics and Finance Staff Report, Staff
Report #2-Remand, states that Mr. Mulle has testified that the
cost of debt does not include any allowance for future
inflation. The Staff Report contends that this is incorrect.
The Report states that investors who lend debt capital do expect
some level of inflation in the future, and account for it in
their required rate of return. The Report concludes that just
because the cost of a particular item is an embedded cost that
does not mean that it ignores future inflation. The Report
states that Staff reduced all non-zero cost items for their
implicit inflation related return to determine the Petitioner's
weighted cost of capital, exclusive of inflationary
consideration. The Staff Report states that the inflationary
consideration contained in both the debt capital and the
preferred stock are difficult to estimate. The Staff Report
states that in general, the cost of debt and preferred stock are
close to the same, so therefore the Staff has used the same
adjustment factor for preferred stock as for debt. According to
Staff's reference, the historical return on debt capital, above
inflation, has been 0.6%. And that value was used in Staff's
estimation of both the non-inflationary cost of debt and
preferred stock. The Staff Report states that the non-
inflationary cost of equity was estimated by subtracting the
"market estimate of the expected rates of inflation", as taken
from Schedule 11 to Petitioner's Exhibit 4A, from the authorized
15.5% return on equity. The Staff Report states that the return
for customer deposits was reduced by 4% since there was no data
available concerning the component returns on that item and 4% is
the current level for inflation. Based on Staff's adjustments
the Report concludes that the weighted cost of capital containing
no prospective return from inflation can be estimated to be
2.77%.

As previously discussed, the appropriateness of Staff's
figure of 0.6% reflect the historical return on debt capital,

above inflation, was seriously challenged by the Petitioner upon cross-examination of Staff witness Timothy Thomas. That figure was taken from the Ibbotson and Sinquefield book, Stocks, Bonds, Bills and Inflation: The Past and the Future. Upon cross-examination it was disclosed that staff had used a 1982 edition of that reference book. Petitioner pointed out on cross-examination, referring to a 1985 edition of the same reference book that Staff's information was considerably outdated. Mr. Thomas stated, upon cross-examination, that had he used the data from the more current reference book that his recommendations for Petitioner inflation adjusted cost of capital would have been considerably higher.

We are persuaded by the position taken by Staff that components of the Petitioner's capital structure, in addition to the cost of equity, contain inflationary considerations. We further agree that to determine a true inflation adjusted weighted cost of capital that all of the effects of inflation should be removed from all components of the capital structure. The proper amount at which to reduce these components, other than the cost of equity, is difficult to determine. The creditability of data used by Staff in making this adjustment was seriously and effectively challenged by the Petitioner. Accordingly, we find that little weight should be given the estimation of inflation adjusted cost of capital offered by Staff in so far as the 0.6% historical return on debt capital, above inflation, figure was used. Again, while we agree with Staff's methodology, we must question again the use of stale or inappropriate input data.

A review of Petitioner's evidence indicates that Petitioner adjusted only the cost of equity component of the Petitioner's capital structure to remove inflationary considerations. The effect of not adjusting to remove the inflationary consideration contained in other components of Petitioner's capital structure such as the cost of debt capital and preferred stock, will clearly have the result of overstating the inflation adjusted cost of capital. While this overstatement of Petitioner's inflation adjusted weighted cost of capital is not desirable we have no reliable evidence of record upon which to base the appropriate reductions to the non-cost-of-equity components to Petitioner's capital structure. We know that Petitioner's proposed inflation adjusted weighted cost of capital of 7.59% is overstated. However, to arbitrarily reduce that amount by a factor which is not administratively known to us or supported by substantial evidence of record would be inappropriate. Therefore, we find that Petitioner's proposed, inflation adjusted, weighted cost of capital of 7.59% is supported by the evidence and should be accepted.

In light of the foregoing findings and conclusions we find that Petitioner's, inflation adjusted, weighted cost of capital of 7.59% is appropriate for application to the fair value of Petitioner's property for determining Petitioner's allowed return. This finding should be subject to the Commission's

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ultimate duty to balance the interest of Petitioner's investors
and Petitioner's ratepayers as directed by the Court.

Petitioner's witness, Mr. Luther, testified that the current
value of Petitioner's property in service on September 30, 1984
was $418,058,400. Mr. Luther stated that in his opinion this
amount is the fair value of Petitioner's property. Mr. J. Norman
Scott, Project Manager with the firm of Black & Veatch,
Consulting Engineers of Kansas City, Missouri, testified on
behalf of the Petitioner. Mr. Scott testified that he had
conducted a study to determine the reproduction cost of
Petitioner's utility property. Mr. Scott explained the study
that he had conducted to make an estimation of the reproduction
cost new of Petitioner's property. Mr. Scott concluded that as
of September 30, 1984 the reproduction cost new of Petitioner's
property is $546,821,390. He also concluded that the
reproduction cost new, less depreciation, of Petitioner's
property is $395,973,853 as of that date. Mr. Scott went on to
state that based on his experience and studies that the total
reproduction cost less depreciation is a reasonable measure of
cost of reproducing the property in its present condition, after
allowance for wear, tear, obsolescence and depreciation. Mr.
Scott testified that his estimate of reproduction cost and
reproduction cost less depreciation were exclusive of land.
Responding to the concern that Petitioner would not build the
plant the same way today as it had been built Mr. Scott stated
that in his opinion Petitioner's system is well planned and
thought out and would be constructed in the same fashion today if
the land could be acquired. Petitioner's witness Mulle suggests,
by Petitioner's Remand Exhibit No. 3A, a "compromise" fair value
rate base. Mr. Mulle suggests that a weighting factor of 70% be
applied to the original cost of Petitioner's property of
$130,527,035 and a weighting factor of 30% be applied to the
reproduction cost new amount of $380,113,625 which result in a
proposed fair value rate base of $205,403,013. Mr. Mulle states
that these percentage ratios were taken from the capital
structure as set forth in the Commission's Order in this Cause of
March 20, 1985.

As part of the record in the main case the parties stipulated
that the current fair market value of Petitioner's utility plant
consisting of land used and useful in rendering utility service
was not less than $18,291,850. The parties also stipulated that
the reproduction cost new, less depreciation, of Petitioner's
utility plant consisting of property other than land was not less
than $361,821,775. We must assume that the difference in the
values stipulated by the parties and the evidence offered by
Petitioner at the hearing on remand as to reproduction cost new
of Petitioner's property was a result of an agreement in the
stipulation process or that certain updated information was not
available to the Petitioner at the time of the stipulation in the
main case. Although Petitioner's evidence as to reproduction
cost new and the current value of Petitioner's property is
uncontroverted we have been given no justification for accepting

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Petitioner's evidence on remand, as to reproduction cost new, to the exclusion of the stipulation of the parties already accepted by the Commission. We therefore reaffirm our acceptance of the stipulation of the parties as to the reproduction cost new of Petitioner's used and useful utility property of not less than $380,113,625. Our Order in this Cause of March 20, 1985, found that the original cost of the Petitioner's used and useful utility plant in service, less accumulated depreciation and aids in construction, was $130,527,035. Having received no evidence to the contrary, we reaffirm that finding. Petitioner's witness, Mr. Luther, offered testimony as to the value of Petitioner's utility property as of September 30, 1984. It is difficult to discern from Mr. Luther's testimony whether he is offering an opinion as to what the fair value of Petitioner's property should be or whether he is offering a factual statement as to the current value of Petitioner's property. This Commission must, in large part, disregard testimony as to a witness' opinion as the fair value of a utility's property as this is an ultimate conclusion which is reserved exclusively to the Commission. However, a careful review of Mr. Luther's testimony tends to indicate that along with his opinion regarding what the fair value of Petitioner's property should be he also offers factual evidence as to the current value of Petitioner's property. Mr. Luther states that the current value of Petitioner's utility property in service on September 30, 1984, is $418,058,400. While this evidence as to the current value of Petitioner's property is uncontroverted, it is subject to some question of credibility as it is intermingled with the witness' opinion of what the fair value of Petitioner's property should be. Giving appropriate weight to this evidence, we find that there is some evidence of record that the current value of Petitioner's property is $418,058,400. We find that the evidence presented by Mr. Luther's testimony as to the current value of Petitioner's property is not substantial and therefore insufficient to sustain a finding as to the current value of Petitioner's property. However, we do find this evidence sufficient to support a finding that the current value of Petitioner's property is something less than the reproduction cost new of that property. Petitioner's witness Mulle has suggested in his testimony a "compromise" fair value rate base determined by a weighting of the original cost and reproduction cost of Petitioner's property. By this processs he proposes a fair value rate base for Petitioner of $205,403,013. Again, we must reject a specific proposal or opinion as to the amount of a utility's fair value rate base as this is an ultimate conclusion reserved to the Commission. However, we may consider the methodology proposed by Mr. Mulle in determining a proposed fair value amount.

The Court has advised us that it is upon the fair value of a utility's property that a utility should be allowed to earn a return. 484 N.E.2d at 639. As stated, it is upon the issue of the valuation of the Petitioner's used and useful property that the Court remanded this Cause to the Commission. The Court's decision provides the Commission with considerable guidance and

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direction in its task of determining the fair value of Petitioner's property. The Court noted that there exist a misperception that fair value is an either/or choice between original cost and reproduction cost. In providing guidance to correct this misconception the Court quoted from the Supreme Court in Public Service Commission v. City of Indianapolis, 235 Ind. 70, 131 N.E.2d at 318 (1956) where the Supreme Court stated:

[t]he Courts will not limit the commission to any one or more methods of valuation, be it prudent investment, original cost, present value, or reproduction costs. This Court has held that the cost of reproduction depreciated is a proper item to be considered under the statute in arriving at a fair value figure. Public Service Commission v. Indianapolis Rys., supra, 1948, 225 Ind. 656, 76 N.E.2d 841. The ratemaking process involves a balancing of all these factors and probably others; a balancing of the owner's or investor's interest with the consumer's interest. On the one side, the rates may not be so low as to confiscate the investors interests or properties; on the other side rates may not be so high as to injure the consumer by charging an exorbitant price for service and at the same time giving the utility owner an unreasonable or excessive profit.

The Court stated, "Although it is clear from the statute and from the case law that the Commission has discretion in determining the fair value of utility property, it is also clear that the Commission may not ignore the commonly known and recognized fact of inflation. Id. at 639-640. The Court then quoted from Judge Emmert's concurring opinion in Public Service Commission v. City of Indianapolis, which stated:

We judicially know there has been an inflation in value since 1939. A utility corporation and its stockholders take the gain from an increase in values of its property, and they stand the loss when values depreciate during a time of falling prices or a depression, just the same as many other corporation and its stockholders may benefit or lose when the value of corporate property goes up or down. If the state condemns a shack in shanty town the owner is compensated according to its value when taken, and not according to what it cost him. The Federal Constitution and the Indiana Constitution both protect him, and they protect corporate enterprise with equal fairness by prohibiting confiscation of its property either directly or indirectly. Utilities are not bought and sold in a market place or as a market value can be thus established, and in an area like Indianapolis, with its growth or population and industry, reproduction cost new less depreciation cannot be disregarded in fixing valuation for ratemaking purposes.

We have found by our March 20, 1985 Order, that the original cost of Petitioner's property, less depreciation, to be $130,527,035. We also accepted the stipulation of the parties

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that the reproduction cost new, less depreciation, of Petitioner's property to be not less than $380,113,625. We also have evidence of record that indicates that the current value of Petitioner's property should be some amount less than the reproduction cost new of Petitioner's property. We also have evidence to support a weighting methodology for determining a fair value of Petitioner's property. Mr. Mulle explained that his proposed weightings for the original cost and reproduction cost elements of his calculation are based upon Petitioner's capital structure. Mr. Mulle offered no explanation for this rationale. We fail to see the correlation between the weighting amounts from Petitioner's capital structure and the determination of fair value of Petitioner's property. We will consider Mr. Mulle's weighting methodology, however, there is no persuasive evidence to support his proposed weighting factors. This weighting methodology proposed by Petitioner's witness Mulle supports a fair value amount for Petitioner's property in an amount greater than the original cost, less depreciation, and less than the current value of Petitioner's property. Petitioner's witnesses Scott, Mulle and Luther have all testified to rate base amounts which apply dollar values to reflect the effects of inflation on Petitioner's rate base. The Commission must consider the effects of inflation in determining the fair value of Petitioner's property. While we will do this, we note, as stated above, the 7.59% return, found herein, does contain certain inflationary effects which could not be removed. As stated, the record did not sufficiently isolate these effects to allow for their removal. Therefore, we realize that considering all inflationary effects in the determination of the fair value of Petitioner's property must double account for the effects of inflation. Understanding that this double accounting for inflation must, to some extent, occur, we must narrowly consider inflationary effects in the determination of the fair value of Petitioner's property.

In sum, this evidence indicates that Petitioner's fair value rate base should be greater than the original cost of Petitioner's property, less depreciation. Further, it is within our special ratemaking expertise and administrative knowledge to be aware of inflationary considerations and the effects thereof. After having considered all of the evidence of record pertinent to the factors set forth by statute and the courts, we find that the fair value of Petitioner's used and useful property for furnishing service to the public as of September 30, 1984 should be $155,000,000.

After having determined both the fair value of Petitioner's property, upon which it should earn a return, and the appropriate return thereon, we must consider the balancing of the interests of Petitioner's ratepayers and investors as directed by the courts. Petitioner's witness Mulle testified regarding the burden upon Petitioner's ratepayers of Petitioner's proposed rates. He stated that water rates generally are a small percentage of the homeowners total utility bills. Mr. Mulle

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stated that at Petitioner's proposed rates the average residential water utility bill would be only $13.25 per month. Petitioner's witness Luther also testified as to the balancing of interests of Petitioner's ratepayers and investors. Mr. Luther states that Petitioner's rate request is reasonable, modest and far less than Petitioner can support. He testified that the return sought by Petitioner is not really adequate for Petitioner's investors. However, he stated that the company sought less of an increase than it was entitled so as to limit the already minimal burden of rates to Petitioner's ratepayers and yet achieve a result that was not confiscatory of the stockholders investment. Mr. Luther pointed out that Petitioner's proposed rates are among the lowest of any investor-owned water utility in the state. He also stated that a monthly water bill of $13.25 for an average residential consumer is the lowest of any utility bill that that consumer might receive. Public's witness Mr. Douglas Harrision, by his prefiled testimony stated that Petitioner's current rates are unduly burdensome to the Petitioner's ratepayers. When asked to explain what he meant by "unduly burdensome" Mr. Harrison stated that the Petitioner's ratepayers are paying more for their water service than they should. He stated that it is true that Petitioner's service is not as costly as that of some other water utilities. However, he stated that that fact is irrelevant and that each utility must be analyzed individually. In summary, Mr. Harrision stated the following:

> If the IWC customer is paying one penny more for water service than the true cost of service (O&M, interest, taxes, fair return, etc.), then the IWC rates are unduly burdensome and the customers are subsidizing the stockholders.

Both the Public and the Staff offered evidence of the Petitioner's financial health for Commission consideration relevant to the interests of Petitioner's shareholders in the balancing test. This evidence was substantially based on current market information. To the extent that this information reflected changes in the value of Petitioner's stock after the cutoff date of this Cause, this evidence should be discounted as inappropriate for consideration by the Commission. However, we do have evidence of record as offered by Petitioner's witness Mulle that indicates that Petitioner is a very healthy company that is in fact underrated by the various rating bureaus.

The Petitioner argued at the April 14, 1986, hearing, that Petitioner's rates were clearly not burdensome to Petitioner's ratepayers. Petitioner argued that at Petitioner's proposed rates the average residential customer would experience only a 60¢ per month increase in his or her water bill. Petitioner's evidence establishes that the average residential water service bill at Petitioner's proposed rates would amount to only $13.25 per month. Petitioner's witnesses contend that the bills paid by Petitioner's customers represent only a very minimal burden at Petitioner's proposed rates. The Public through its witness

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Harrison contends that the amount of the rate increase is
immaterial and that any increase over Petitioner's expenses and a
fair return is a burden to the Petitioner's ratepayers.

We are persuaded by the Public's position. The statute
specified the appropriate elements for consideration in fixing a
utility's rates. Any amount in excess of the statutory
requirements clearly represents an undue burden to Petitioner's
ratepayers. The actual dollar amount of the increase to be paid
by Petitioner's ratepayers, under Petitioner's proposed rates, is
substantially immaterial in considering the balance of
ratepayers' and investors' interests. Clearly, any utility rates
represent some burden to that utility's ratepayers. If those
rates are in excess of that required by statute those rates are
excessive and therefore unduly burdensome. As stated, there is
evidence to indicate that the Petitioner is a very financially
healthy company. We have no evidence to indicate that if
Petitioner's rates and charges are fixed in a manner consistent
with the statute and the court's directives that Petitioner's
investors will suffer a confiscation of their property. Further,
we have no evidence to indicate that if Petitioner's rates are so
fixed that Petitioner's ratepayers will be unduly burdened.
Therefore, we find that Petitioner's rates and charges, to be
determined by the application of the fair return of Petitioner's
property, as found herein, to be an appropriate return for the
Petitioner.

The Commission finds that the return of 7.59% should be
applied to the fair value of Petitioner's used and useful
property of $155,000,000, as found herein, which will yield for
the Petitioner net operating income in the amount of
$11,764,500. The Commission finds the Petitioner should be
authorized to increase its rates and charges for water utility
service so as to produce total annual revenues in the amount of
$44,378,222 which with total annual expenses in the amount of
$32,613,722 will yield total annual net operating income in the
amount of $11,764,500.

IT IS THEREFORE ORDERED BY THE PUBLIC SERVICE COMMISSION OF
INDIANA that:

1.   The Petitioner shall be, and hereby is, authorized to
increase its rates and charges for water utility service so as to
produce total annual revenues in the amount of $44,378,222 with
total annual expenses in the amount $32,613,722 which shall yield
total annual net operating income in the amount of $11,764,500.

2.   The Petitioner shall file with the Engineering
Department of this Commission, prior to placing into effect the
rates and charges approved herein, a tariff schedule set out in
accordance with the Commission's rules for filing utility
tariffs. Said tariff, when filed by Petitioner shall cancal all
present and prior rates and charges concurrently when the herein
approved rates and charges are placed in effect by the

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Petitioner.

3.   This Order shall be effective on and after the date of its approval.

DUVALL, CORBAN, BAILEY, ZAGROVICH AND O'LESSKER CONCUR:

APPROVED: JUL 3 1986

I hereby certify that the above is a true and correct copy of the Order as approved.

D Philpott
Secretary

ORIGINAL

APR 08 1994

STATE OF INDIANA

SCANNED

INDIANA UTILITY REGULATORY COMMISSION

IN THE MATTER OF THE PETITION OF) CAUSE NO. 39713
INDIANAPOLIS WATER COMPANY AND)
ZIONSVILLE WATER CORPORATION FOR THE)
APPROVAL OF THE MERGER OF THE TWO)
CORPORATIONS AND NEW SCHEDULES OF RATES) $8-10-94$
AND CHARGES FOR WATER UTILITY SERVICE)

IN THE MATTER OF THE INVESTIGATION UPON) CAUSE NO. 39843
COMPLAINT BY THE OFFICE OF UTILITY)
CONSUMER COUNSELOR OF INDIANAPOLIS WATER)
COMPANY AND ZIONSVILLE WATER CORPORATION) APPROVED:

BY THE COMMISSION:
David E. Ziegner, Commissioner
Abby R. Edwards, Administrative Law Judge

ORIGINAL

On May 17, 1993, Indianapolis Water Company ("IWC") and Zionsville Water Corporation ("ZWC") (collectively referred to herein as "Petitioner") filed with the Commission their petition for approval of the merger of the two utility corporations and new schedules of water utility rates and charges. Pursuant to notice duly given, a prehearing conference was held on June 10, 1993, in Room E306 of the Indiana Government Center South, Indianapolis, Indiana, at 1:30 P.M., EST. At that conference, pursuant to agreement of the parties, the Commission set prefiling dates for prepared testimony and exhibits, hearing dates and determined other matters, including the use of the 12 months ended March 31, 1993, for the test year in this Cause, with adjustments thereto limited to items that are representative of utility operations, are known, fixed and measurable at the time of the hearing and will be in effect within 12 months following the close of the test year.

On November 10, 1993, the Office of the Utility Consumer Counselor ("OUCC") filed a complaint and investigation into the rates of Indianapolis Water Company, seeking a reduction in Petitioner's rates and requesting that such case be consolidated with this case. On December 8, 1993, the Commission consolidated the two cases, which consolidated cases shall hereinafter be referred to as "this Cause".

Pursuant to notice given and published as required by law, evidentiary hearings in this Cause were held on October 12, 1993, and December 15-17, 1993, in Room TC10, Indiana Government Center South, Indianapolis, Indiana. There were no intervenors. The OUCC represented Petitioner's customers, as a matter of law pursuant to I.C. 8-1-1.1-4. In conformity with I.C. 8-1-2-61(b), and pursuant to notice given and published as required by law, a field hearing

This is consistent with the methodology adopted by the Commission in Indianapolis Power and Light Company (PSCI August 6, 1986), Cause No. 37837 at Page 18.

Fair Return

Having found the fair value of Petitioner's property and considered the cost of equity evidence and the resulting overall cost of capital, we must determine an appropriate fair return. In this critical endeavor the courts have provided the Commission with considerable guidance over the years.

In Public Service Comm. v. Indiana Bell Telephone Co. (1955), 235 Ind. 1, 130 N.E.2d 467, 473, 481, the Court stated the following rule in Indiana:

> Proper rates are those which produce a fair and nonconfiscatory return, and such as will enable the company, under efficient management, to maintain its utility property and service to the public, and provide a reasonable return upon the fair value of its used and useful property. Public Serv. Comm. v. Indianapolis Rys., 1948, 225 Ind. 656, 76 N.E. 2d 841: Columbus Gaslight Co. v. Public Service Comm., 1923, 193 Ind. 399, 140 N.E. 538: McCardle v. Indianapolis Water Co., 1926, 272 U.S. 400, 47 S. Ct. 144, 71 L. Ed. 316.

> ******

> [T]he power to regulate is not the power to destroy, and the limitation which the Public Service Commission may impose upon public utilities in the fixing of rates and charges is not the equivalent of confiscation. The Public Service Commission, acting within the scope of its delegated powers, cannot require appellee to furnish telephone service to the public without just and reasonable compensation, nor can it enforce an order which results in a piecemeal confiscation of private property for public use.

The Indiana Bell decision further established that a rate level which is sufficient merely to keep the company's capital intact (cost of capital at original cost) and cover expenses or merely produce some return over that amount is not equivalent to a fair return. The Supreme Court's decision upheld the opinion of the trial court below in Indiana Bell Teleph. Co. v. Public Service Comm. (Ind. Cir. Ct. 1952), 93 PUR (NS) 480, which held as follows:

> The intervenor has argued that since the company's capital is intact and it is earning at least its expenses, it is entitled to no relief. In Public Service Commission v. Indianapolis Railways (1947) 225 Ind. 30, at P. 40, 70 PUR NS 480, 72 N.E.2d 434, it was argued that the true test of the company's right to relief was whether its revenues would cover its expenses until a permanent rate schedule could be fixed. The argument was

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rejected and the court held that the test was whether the Company was being compelled to operate under a confiscatory rate. <u>A rate is confiscatory if it does not provide a reasonable return on value even though it provides some return. In other words an unreasonably low rate is a confiscatory rate</u>. (<u>Public Utility Commissioners v. New York Teleph. Co.</u> 271 US 23, 31, 70 L. Ed. 808, 812, PUR 1926C 740, 744, 46 S. Ct. 363) *** (93 PUR (NS) at 486) (Emphasis added).

The Court in <u>Public Service Commission of Indiana et al. Indianapolis Water Company v. City of Indianapolis</u> (1956), 235 Ind. 70, 131 N.E.2d 308, held that the Legislature may not enact a law providing for valuation of utility property for ratemaking purposes other than its full fair value. That case involved an appeal from an action brought by the City in the Superior Court of Marion County to set aside an order of the Public Service Commission of Indiana in accordance with the governing appeal procedure prior to the present direct appeal to the Court of Appeals. The trial court had valued the utility's land on the basis of its assessment for tax purposes as provided by the valuation statute. The Court struck down as invalid this portion of the statute with the following holding:

> [T]he finding of the trial court is contrary to law, in that it attempts to use for rate-making purposes a value for land fixed for tax purposes, which, by statute, is one-third of its market or sale value in 1949. The Acts of 1949, Ch. 225, § 5, P. 724, being §64-1019 note, provides:
>
> 'The rate of assessment on lands shall not exceed thirty-three and one-third per cent of the market or sale value as of March 1, 1949.'
>
> <u>No legislature may enact a law providing for a valuation of utility property for rate-making purposes at other than its full fair value</u>. The provisions of §54-203, Burns' 1951 Replacement, with respect to any requirement based on the Acts of 1949 are no longer effective or applicable. To construe it otherwise would result in its unconstitutionality. (235 Ind. at 92-93; 131 N.E. 2d at 317) (Emphasis added).

Nor can the present statutory authorization to consider reproduction cost new less depreciation, be ignored by the Commission in a period such as the present when current construction costs greatly exceed the original cost of Petitioner's property installed in prior years. The Indiana Court in the <u>Indiana Bell</u> case, *supra.*, cited with approval the decision in <u>McCardle v. Indianapolis Water Co.</u>, 272 U.S. 400 (1926) as follows:

> It is well established that values of utility properties fluctuate, and that owners must bear the decline and are entitled to the increase. The decision of this court in <u>Smyth v. Ames</u>, 169 U.S. 466, 547, declares that to

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ascertain value 'the present as compared with the original cost of construction' are, among other things, matters for consideration. But this does not mean that the original cost or the present cost or some figure arbitrarily chosen between these two is to be taken as the measure. The weight to be given to such cost figures and other items or classes of evidence is to be determined in the light of the facts of the case in hand. By far the greater part of the company's land and plant was acquired and constructed long before the war. The present value of the land is much greater than its cost; and the present cost of construction of those parts of the plant is much more than their reasonable original cost. In fact, prices and values have so changed that the amount paid for land in the early years of the enterprise and the cost of plant elements constructed prior to the great rise of prices due to the war do not constitute any real indication of their value at the present time. <u>Standard Oil Co. v. So. Pacific Co.</u>, 268 U.S. 146, 157; <u>Georgia Ry. v. R. R. Comm.</u>, 262 U.S. 625, 630-631; <u>Bluefield Co. v. Pub. Serv. Comm.</u>, *supra.*, 691-692; <u>S.W. Tel. Co. v. Pub. Serv. Comm.</u>, *supra.*, 287.

We have abided by the Court's directive regarding the use of reproduction cost new evidence and given this evidence substantially greater weight than original cost evidence in finding fair value. However, we remain mindful of the shortcomings in attempting to equate reproduction cost new evidence to fair value without due consideration of many relevant factors.

<u>Columbus Gaslight Co. v. Public Service Co</u>. (1923), 193 Ind. 399, 140 N.E. 538, was decided under the original valuation Section 9 of the Indiana Public Utility Act of 1913 which specified no limitations as to factors to be considered in arriving at value. Nevertheless, the Court reversed a lower court's approval of the Commission's valuation based upon the original cost of the utility's property at the time of acquisition or installation, holding:

> In <u>Wilcox v. Consolidated Gas Co</u>., 212 U.S. 19, 29 Sup. Ct. 192, 53 L. Ed. 382, 15 Ann. Cas. 1034, 48 L.R.A. (N.S.) 1134, it was said:
>
> There must be a fair return upon the reasonable value of the property at the time it is being used for the public, . . . And we concur with the court below in holding that the value of the property is to be determined as of the time when the inquiry is made regarding the rates. If the property which legally enters into the consideration of the question of rates has increased in value since it was acquired, the company is entitled to the benefit of such increase.

193 Ind. at 402, 140 N.E. at 539.

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The above holding of the <u>Columbus Gaslight Co.</u> case was cited with approval in the <u>Indiana Bell</u> decision cited above. In the latter case the Court accepted the facts as found by the trial court which included Finding 28 which read as follows:

> Neither cost of reproduction or net book cost necessarily represents fair value, but each may be considered in arriving at fair value. Upon all the evidence, however, the court finds that <u>cost of reproduction should be given predominant weight in determining that issue.</u> Under the evidence a valuation approaching cost of reproduction is most realistic under the inflationary conditions shown in the record. Without undue or unfair effect upon the plaintiff's subscribers such a weighing affords a method of providing reasonable protection to the plaintiff and its investors against inflationary effects; it will materially assist plaintiff in attracting necessary additional capital on a sound basis; it will substantially protect the purchasing power of current and future income of plaintiff and its investors; and it will substantially avoid the necessity for consummating additional financing on unfair or unfavorable terms.

See 235 Ind. at 20; 93 PUR (NS) at 485-86.

Petitioner's Witness Mulle calculated a fair return for Petitioner. Mr. Mulle explained that after arriving at an overall cost of capital, he adjusted the cost of equity to remove the same degree of prospective 1993 inflation as the degree of accumulated historical inflation present in his recommended fair value rate base. He stated that he also removed the same degree of each year's prospective inflation from the debt and preferred stock cost rates achieved in each historic period of issue. He stated the resulting cost of capital, adjusted for inflation, is the minimum fair rate of return the Petitioner should have an opportunity to earn on the recommended fair value rate base of $285.5 million. Mr. Mulle's calculation results in a recommended 6.27% fair return for the Petitioner.

The Public also offered evidence as to the methodology of calculating a fair return for the Petitioner. The Public stated the Commission should remove an appropriate level of compensation for inflation from the overall cost of capital. Public's Witness Gillingham stated that failure to do this would result in the ratepayers' compensating the utility twice for inflation, once through the allowed return and a second time through the calculation of the fair value rate base. Mr. Gillingham concludes on the point by stating that to preserve the balance between shareholder and ratepayer interest, the amount of inflation included in the rate base should somehow relate to the amount of compensation for inflation removed from the cost of capital. He states it would be unfair to shareholders to remove a large amount of compensation for inflation from the cost of capital while including only a small amount of compensation for inflation in the rate base.

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Although cloaked in generality, we agree with the several points on this issue made by Public's Witness Gillingham. We have reviewed Mr. Mulle's methodology and disagree in part with its theoretical approach and in part with its practical application. Mr. Mulle proposes a methodology by which apparently certain historic inflationary effects are removed from Petitioner's capital structure elements and certain prospective inflationary effects are similarly removed. We believe it is inappropriate to remove prospective inflationary effects. Mr. Mulle appears to apply this selective removal of inflationary effects from Petitioner's capital structure elements according to certain weighting factors, the propriety of which we cannot determine. Our practical concerns arise when we examine the results of Mr. Mulle's efforts.

Our mandate to consider historic inflation when determining fair value does not require us to incorporate the effects of prospective inflation when determining the fair value of a utility's property. Thus, we do not believe it is necessary or appropriate to remove the effects of anticipated inflation from the utility's weighted cost of capital. Mr. Mulle's methodology appears to remove inflation from only certain elements of Petitioner's capital structure in weighted amounts. Yet clearly the effects of historic inflation have affected the embedded cost rate of most, if not all, of the capital structure components. We believe it is much simpler and generally more reflective of reality to remove a reasonable quantification of the effects of historic inflation from the overall weighted cost of capital when attempting to remove a historic inflation adjusted cost of capital. There is no compelling evidence of record disputing this conclusion.

The evidence of record concerning Petitioner's plant in service indicates that much of Petitioner's plant has been in service for many, many years. When attempting to determine a reasonable rate for historic inflation to be used in the determination of a historic-inflation-adjusted cost of capital, it is appropriate to consider the inflation rates that have borne on Petitioner's property through its years in service. Public's evidence contained such compilation of the rates of historic inflation from 1926 through 1992. An average of historic inflation over this time period is 3.1%. This approach has been challenged by those who contend that such an average is not reflective of reality but rather a year-by-year calculation of actual inflation to utility plant investment would be more appropriate. This may be true but such an approach has practical limitations. We have no such analysis in the record of this Cause. Mr. Mulle's weighting proposal does not appear to reasonably approximate such an analysis. Further, the higher inflation rates in more recent times applied to more current utility investments could tend to inappropriately skew the results of such an analysis against the utility. Therefore, generally, it is appropriate to use an average of historical inflation effects generally approximating the time frame of the existence of the utility's plant.

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We have previously determined herein that Petitioner's unadjusted weighted cost of capital is 6.68%. It is then a useful exercise when judging the reasonableness of a requested fair return to determine whether that requested return is unreasonably in excess of the historic inflation adjusted weighted cost of capital. Deducting the 3.1% average historic inflation rate from the weighted cost of capital provides us with 3.58%. It is also a useful exercise to examine the inflation adjusted rate for an investment which is commonly considered to be risk free such as U.S. Treasury bonds. The rate on 30 year U.S. Treasury bonds is often more appropriate because the time frame of the investment more closely matches the useful lives of capital utility assets. The record in this Cause demonstrates that as of September, 1993, 30 year U.S. Treasury bonds have a rate of 6.0%. This rate may generally be adjusted to remove the embedded effects of historic inflation by deducting the average historic inflation rate of 3.1% which yields a historic inflation adjusted risk free return of 2.9%. We may generally conclude that a reasonable return for the Petitioner should be no lower than 3.58% on the fair value of its used and useful property.

This then brings us to the consideration of the practical concerns of Mr. Mulle's methodology mentioned earlier. Mr. Mulle's methodology yielded a recommended return on the fair value of Petitioner's of 6.27% by means of his formulaic and ostensibly inflation adjusted analysis. There is no doubt that, after determining a rate below which Petitioner's fair return should not be, the Commission must apply considerable judgment and discretion concerning all of the evidence on Petitioner's specific situation. However, we are most dubious regarding the propriety of Mr. Mulle's formulaic approach which proports to consider all of these factors in a mathematically precise manner. Considering the many factors pertinent to Petitioner's financial situation including, but not limited to Petitioner's financial and business risk, the necessity of Petitioner being able to access debt and equity markets on reasonable terms, and balancing the interests of Petitioner's shareholders and its ratepayers, we find that an appropriate return on the fair value of Petitioner's used and useful property to be 6.14%.

Applying the return of 6.14% to the previously determined fair value of Petitioner's used and useful property of $246 million should reasonably provide the Petitioner an opportunity to earn a net operating income of $15,104,400. Therefore, we find and conclude that Petitioner's current rates and charges which provide it with an opportunity to earn a net operating income of $14,336,935 are unjust, unreasonable and insufficient. Petitioner should be authorized to increase its rates and charges such that when combined with the adjustments found herein appropriate will provide it with an opportunity to earn a net operating income of $15,104,400.

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ORIGINAL

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

PETITION OF INDIANA-AMERICAN   )
WATER COMPANY, INC. FOR   )
AUTHORITY TO INCREASE ITS   )
RATES AND CHARGES FOR   )
WATER AND SEWER SERVICE AND   )   CAUSE NO. 42029
FOR APPROVAL OF NEW   )
SCHEDULES OF RATES AND   )   APPROVED: NOV 0 6 2002
CHARGES APPLICABLE THERETO   )

BY THE COMMISSION:
Judith G. Ripley, Commissioner
Thomas Cobb, Administrative Law Judge

On June 29, 2001, Indiana-American Water Company, Inc. ("Petitioner," "Indiana-American" or "Company") filed its petition in this cause for authority to adjust its rates and charges for water and sewer service and for approval of new schedules of rates and charges applicable thereto. In the Petition, Petitioner provided notice of its intent to file in accordance with the Commission's rules on minimum standard filing requirements ("MSFRs"), 170 IAC 1-5-1 et seq., subject to certain modifications hereafter described.

Petitions to intervene were filed by Praxair, Inc., the Town of Schererville, the City of Crown Point and the City of Jeffersonville. These petitions were granted by docket entry, and these entities were made parties to this cause.

Pursuant to the Prehearing Conference on July 24, 2001, the Prehearing Conference Order dated August 1, 2001, and notice of hearing given as provided by law, proof of which was incorporated into the record by reference and placed in the official files of the Commission, public hearings in this cause were held on December 6-7, 2001 and February 19-21, 2002, in Indianapolis, Indiana. At the hearings, evidence offered by Petitioner, the Office of Utility Consumer Counselor (the "OUCC") and the Intervenors was admitted.

On February 11, 2002, the Commission issued a Docket Entry asking Petitioner to respond to a number of questions regarding the classification of certain expenses in Petitioner's miscellaneous expense account and provide additional detail as to certain expense items. At the hearing on February 20, 2002, Petitioner presented written responses to the Docket Entry which were admitted as Petitioner's Exhibit JLC-R7.

At the hearing on February 19, 2002, Petitioner and the OUCC presented to the Commission a proposal regarding the treatment of security costs incurred by Petitioner. At that time very limited

Capital	Amount	Ratio	Cost	Weighted Cost
Common Equity	$ 169,394,390	43.31%	10.50%	4.55%
Preferred Equity	$ 510,000	0.13%	6.00%	0.01%
Long-Term Debt	$ 221,236,755	56.56%	7.30%	4.13%
Total	$ 391,141,145	100.00%		8.69%

12. Fair Rate of Return and NOI.

A. **Petitioner's Position.** In its direct testimony Petitioner proposes to determine its NOI by multiplying its cost of capital by its original cost rate base plus its cost of capital by its proposed acquisition adjustments. Although Petitioner never asserts that its cost of capital is a fair rate of return, the clear implication from its testimony is that the Commission should directly apply Petitioner's cost of capital to determine the appropriate level of net operating income for Indiana American Water Company.

Dr. Boquist testified that the return of a utility should correspond to the return investors could earn on investments of comparable risk in the unregulated sector. If investors can earn a larger return and bear identical risks, or conversely earn identical returns with less risk, by investing in other industries, they will do so. Failure to recognize this fact would make it difficult for utilities to raise capital on a competitive basis. Dr. Boquist expressed the opinion that Petitioner should be allowed to earn a fair rate of return on the fair value of its property similar to the rate of return which unregulated companies of comparable risk earn on the fair value of their assets. Dr. Boquist performed a detailed study to determine that rate of return.

Dr. Boquist first identified a large group of comparable-risk unregulated companies by using the approach advocated by Fama and French in a 1992 study published in the Journal of Finance and in subsequent papers. Fama and French concluded that the size of a firm measured by the market value of its equity ("ME") and the ratio of a firm's book value of equity to a firm's market value of equity (book-to-market equity ratio or "BE/ME") are the two risk factors influencing common stock returns because they have strong ties to economic fundamentals such as profitability and the growth of earnings and assets that have long been associated with investment performance. Fama and French contend these factors explain stock returns better than beta.

Dr. Boquist replicated the Fama and French study approach by performing a computer analysis of nonregulated firms in the New York Stock Exchange, American Stock Exchange and NASDAQ return files from the Center for Research in Security Prices and the merged COMPUSTAT annual industrial files of income statement and balance sheet data. The time period covered by this study extended from 1963 through 2000. The companies were then partitioned into matrixes for each year based upon the two key Fama and French risk factors. Dr. Boquist then developed for each year a portfolio of comparable companies reflecting the range of ME and BE/ME values for his four proxy companies, the results which would be predicted by the Fama-French. Dr. Boquist then determined the pre-tax rate of return earned by the comparable companies on the

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depreciated replacement cost of their assets. To determine replacement cost, Dr. Boquist used the techniques described in the work of Lindenberg and Ross, published in the Journal of Business in 1981, which prescribes a methodology for estimating replacement cost of a firm's assets from its accounting statements. This method considers price level changes, technological change, real economic depreciation and investment in new plant and equipment. The same 1.34% technological change adjustment used by Dr. Boquist in his determination of Petitioner's depreciated replacement cost was used for the comparable companies. Dr. Boquist testified that he measured before income tax operating profit to eliminate the effects of leverage (the interest of which affects income taxes), the tax strategies some firms employ and tax loss carryforwards and carrybacks available to some companies. From this study Dr. Boquist determined that the average annual pre-tax rate of return on replacement cost for the comparable companies from 1965 through 2000 was 11.88%. (Petitioner's Ex. JAB, p. 55.) He concluded that a rate of return of 11.88% before income taxes on the depreciated replacement cost of Petitioner's property, would, therefore, be fair and reasonable.

B. **Public's Position.** As discussed above the Public used a similar process as Petitioner did to estimate an appropriate level of NOI for Indiana American Water Company. The key difference is that the Public did not believe it was appropriate for Petitioner to earn a return on its proposed acquisition adjustment from its merger with Northwest Water Company or its purchase of the United Water properties.

Through its witness Mr. Edward R. Kaufman the Public challenged Dr. Boquist's return on replacement cost analysis. Mr. Kaufman had several concerns regarding Dr. Boquist's Fama-French analysis. The key concerns expressed by Mr. Kaufman were: Dr. Boquist's return on replacement cost analysis does not react to changes in capital markets: Dr. Boquist's analysis is based on operating returns while the Fama-French analysis is based on market returns: and the results of Dr. Boquist's analysis are contrary to the model.

Specifically Mr. Kaufman asserted that Dr. Boquist's return on replacement cost analysis does not react to changes in market conditions. In models such as the DCF or CAPM, changes in investor expectations are quickly incorporated into expected returns. That is not the case in Dr. Boquist's return on replacement cost analysis. For example, a change in interest rates will impact investor expectations, and the results of both a CAPM or DCF analysis will, in turn, quickly react to reflect the change in investor expectations. The U.S. Federal Reserve cut interest rates eleven times in 2001. However, Dr. Boquist's return on replacement cost analysis fails to either react to or incorporate the change in interest rates over the last year into his return on replacement cost analysis.

Next Mr. Kaufman criticized Dr. Boquist's use of operating returns. The Fama-French analysis assumes that firms in the same grid location will earn similar market returns. Market returns refers to price appreciation plus dividends. Dr. Boquist's analysis is based on net operating profit. Dr. Boquist uses operating income before taxes as his measure of return in estimating his return on replacement cost. While Dr. Boquist's analysis assumes that firms in the same grid location will earn similar operating returns, he presents no evidence to support his opinion that the Fama-French analysis can be extended to include his assumption. Mr. Kaufman agreed that there will be some relationship between market returns and operating returns, but he stated that there were many other factors which will influence market returns that may have little or no impact on operating returns. Mr. Kaufman asserted that operating returns and market returns are distinct. Companies may have similar market returns yet have very different operating returns.

Mr. Kaufman demonstrated that the results of Dr. Boquist's return on replacement cost analysis produced results that were contrary to the model's predicted results. The Fama-French model predicts that: 1) smaller companies will earn a higher rate of return than larger companies and 2) companies with a higher book-to-market ratio will earn a higher rate of return than companies with a lower book-to-market ratio[2]. In his workpapers, Dr. Boquist provides a calculation of returns by grid location for each of the 25 grid locations on his 5 by 5 grid. He does this on a year-by-year basis for each year from 1965-2000 and on a composite basis for all years. Mr. Kaufman provided a schedule that replicates the composite or average results of Dr. Boquist's analysis for all years (Schedule 4, page 3). Mr. Kaufman also included a copy of Petitioner's workpaper (Schedule 4, page 4) that contains the data provided in Schedule 4, page 3. In his analysis Dr. Boquist separates the companies into quintiles, as measured by market equity, and get larger going left to right (grid locations 1 to 5). Companies are also separated into quintiles as measured by book-to-market ratio with an increasing book-to-market ratio going top to bottom (grid locations 1 to 5). Thus, companies in grid location (1,1), which are in the upper left hand corner have the smallest market equity and the lowest book-to-market ratio. Conversely, companies in grid location (5,5), which are in the lower right hand corner, have the largest market equity and have the highest book-to-market ratio. Under the Fama-French model smaller companies should earn higher rates of return than larger companies, therefore rates of return should increase as one moves horizontally from grid 5 to 1 (right to left). Likewise, under the Fama-French model, where firms with a lower book-to-market ratio should earn lower rates of returns, rates of return should increase as one moves vertically from grid 1 to grid 5 (top to bottom).

Mr. Kaufman then explained that figures in Dr. Boquist's analysis did not follow the theory put forth by the Fama-French model. In fact, grid location (5,1) which contains the largest companies with the smallest book-to-market ratio shows the highest rate of return (20.27%) when, in fact, the theory dictates it should have the lowest rate of return. Additionally, under the Fama-French model the highest rate of return should appear in grid location (1,5) which contains the smallest companies with the highest book-to-market ratio. But under Dr. Boquist's analysis grid location (1,5) has one of the lowest rates of return (8.57%).

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2. According to the Fama-French model a firm's book-to-market ratio is a measure of financial distress. Firms with a high book-to-market ratio (a low market-to-book ratio) are financially distressed and require a higher rate of return.

During rebuttal testimony and cross examination Dr. Boquist argued that his results were consistent with the Fama-French model and that one should expect small companies will simultaneously earn a lower operating rate of return on replacement cost while earning a higher market rate of return on market value than large companies with a similar book-to-market ratio.

Additionally Mr. Kaufman compared the final results of Dr. Boquist's analysis in this case to the results in his last case. This comparison caused Mr. Kaufman to question the validity of the study's results. Although Dr. Boquist and Mr. Kaufman disagreed on Indiana American's cost of equity, both of them estimated a cost of equity that was similar to what each witness estimated in Indiana American's last rate case, Cause No. 41320. Despite this fact Dr. Boquist's estimated return on replacement cost has increased from 7.58% in Petitioner's last rate case to 11.88% in Petitioner's current case.[3] Between Petitioner's last rate case and this case he had increased his estimate of Petitioner's cost of equity by 25 basis points and his estimated fair rate of return by 430 basis points. Yet, Dr. Boquist did not explain this dramatic increase in his estimated return on replacement cost during a period where capital costs have remained relatively stable.

Finally, Mr. Kaufman showed that Dr. Boquist performed no review or analysis of his results to test the validity of his study. For example, in his analysis there are approximately 27,370 return on replacement cost estimates from 1990-2000. This sample has an average return of 6.04% and a standard deviation of 17.12%. According to Mr. Kaufman such a high standard deviation raised concerns, in addition to the concerns he expressed earlier in his testimony, and should not be ignored. In his opinion, Dr. Boquist had not demonstrated the validity of his analysis and it should not be given any weight by this Commission.

C. **Commission Findings.** We agree that there are numerous concerns with the application of the Fama-French methodology. The use of operating returns while the Fama-French model is based on market returns is certainly one such difference. Beyond some of the mechanical deficiencies in the results of Dr. Boquist's model, any model that shows increasing rates of returns during periods of stable or declining capital costs raises questions.

In the past four cases where Dr. Boquist has filed a similar return on replacement cost analysis based on Fama-French model it has produced the following results. In three previous studies the results were clustered around 7.25%. The current study produces a usually higher result. This is particularly strange since the current study has overlapping years with the previous studies. The addition of a few years should not have this dramatic of an impact on the study's overall results.

Cause Nos. 40667 and 40703 (same study)	7.28%
Cause No. 40103	7.03%
Cause No. 41320	7.58%
Cause No. 42029	11.88%

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[3] Dr. Boquist recommend 11.25% COE in Petitioner's last case and 11.50% in Petitioner's current case.

Finally, the results of Dr. Boquist's analysis fail any test of reasonableness when compared to the results that would be generated under original cost ratemaking for the identical NOI. As we have stated in the past, although the Commission does not advocate using the OUCC's original cost test for determining the reasonableness of a fair value finding, the test can be performed to exclude results that are outside the range of reasonableness under any methodology. According to Dr. Boquist's analysis Indiana American could reasonably request a pre tax operating income of 11.88% times $763,952,972 or approximately $90.8 million. To produce a pre tax operating income would require us to authorize a cost of equity in excess of 25.0%.

Despite Petitioner's emphasis on fair value and fair rate of return, their case is essentially an original cost case plus a return on its proposed acquisition adjustments. Neither party's case-in-chief presented a single fair rate of return to be multiplied by a fair value rate base to determine a proposed NOI. Despite the lack of specific evidence the Commission must make a finding on fair rate of return. The record does in fact provide ample evidence to make a finding on fair rate of return. As discussed above we have rejected Petitioner's proposal to earn a return on its merger with Northwest Indiana Water Company or its acquisition of United Water properties; Cementville, Peoples, and Shorewood. Having considered the evidence on valuation, determined original cost and fair value, we must continue our efforts to balance the interests of Indiana American's owners and customers by determining what level of net operating income represents a reasonable return. This determination requires a balancing of the interests of the investors and the consumers. In Bethlehem Steel Corp. v. Northern Ind. Public Serv. Co. (1979), Ind. App., 397 N.E. 2d 623,630, the court explained that "[w]hat annual rate will constitute just compensation depends upon many circumstances and must be determined by the exercise of a fair and enlightened judgment, having regard to all relevant facts."

We will use the following standards and criteria to determine a fair rate of return on Petitioner's investment in its utility plant:

(i)   Return comparable to return on investments in other enterprises having corresponding risks;

(ii)   Return sufficient to ensure confidence in the financial integrity of the Petitioner;

(iii)   Return sufficient to maintain and support the Petitioner's credit;

(iv)   Return sufficient to attract capital as reasonably required by the Petitioner in its utility business.

One recognized method for evaluating the reasonableness of a utility's allowed return involves investigation of the utility's capital structure. From such investigation, we can develop the overall weighted cost of capital. This cost of capital may then be considered in determining a fair return

Having previously determined the Petitioner's fair value rate base is $562,680,669, it is our duty to determine a fair rate of return that can be used to calculate a fair dollar return for Petitioner's net operating income.

It is clear that because the cost of capital and the fair value rate base are derived in different manners the two may not be directly applied to each other. If the fair value rate base is found to be other than the original cost rate base, determining return by multiplying the cost of capital including a consideration for inflation by a fair value rate base which also includes inflation would overstate the required return by reflecting a redundant consideration of the anticipated impact of inflation on the value of Petitioner's property.

The ratemaking process involves a balancing of all these factors and others; especially a balancing of the owner's or investors' interest with the consumer's interest. On the one side, the rates may not be so low as to confiscate the investor's interest or property; but, on the other, the rates may not be so high as to injure the consumer by charging an exorbitant price for service and at the same time giving the utility owner an unreasonable or excessive profit. PSC v. City of Indianapolis, 235 Ind. 70, 131 NE2d 308, 318 (1956). Therefore, the results of any return computation will be tempered by the Commission's duty to balance the respective interests involved in ratemaking. Finally, the end result of this Commission's Orders must be measured as much by the success with which they protect broad public interest entrusted to our protection, as by the effectiveness with which they maintain credit and attract capital.

The Commission further finds that the foregoing is a proper application of relevant Indiana statutes as clarified by the courts. The return allowed to Petitioner is reasonable and just and in compliance with the October 31, 1985 decision of the Indiana Court of Appeals in Indianapolis Water Co. v. Public Service Commission of Indiana (1985) 484 NE2d 635.

Furthermore, this Commission has asserted in previous rate cases that, since the fair value rate base contains inflation that it is historic and not prospective inflation, it should be removed from the debt component of the cost of capital to estimate a fair rate of return. For example, in Indiana-American Water Company, Cause No. 40103, May 30, 1996, p. 48, the Commission explained as follows:

In order to avoid over-compensating Petitioner for the effects of historical inflation it is necessary to remove the historical inflation component from the costs of capital to derive a fair return.

The Commission, after deducting from the embedded cost of debt a historical inflation rate of 3.9%, (Petitioner's Exhibit JLC-1, Schedule 4), finds the adjusted cost of capital of 5.93%.

Based on the evidence of record, we believe that a fair rate of return of 5.93% will provide Petitioner with a fair and reasonable return on the fair value of its used and useful properties. When

applied to a fair value rate base of $562,680,669 a 5.93% fair rate of return will produce a required NOI of $33,368,321.

13.   Operating Results Under Present Rates. Pursuant to the Prehearing Conference Order, the test year to be used for determining Petitioner's actual and pro forma operating revenues, expenses and operating income under present and proposed rates is the 12 months ended March 31, 2001.

A.   **Uncontested Revenue Adjustments.** Petitioner's operating revenues during the test year were $116,277,954. Petitioner made adjustments to this figure for bill analysis reconciliation, removal of unbilled revenue, large customer consumption (except for Whiteland), and annualization of the acquisitions of Freeman Field and Prairieton, which adjustments were not contested. Petitioner accepted the OUCC's adjustment for residential and commercial customer growth.

B.   **Contested Revenue Adjustment Usage Normalization**. Both Petitioner and the OUCC proposed to adjust test year revenues to reflect the normalization of residential customer usage. A usage normalization adjustment is to account for potential unusual or unseasonable conditions during the test year which impact the demand for water. It is accomplished by comparing the test year usage to the average usage over an historical period. The difference between Petitioner's and the OUCC's adjustment is the historical period chosen over which average consumption is computed. Petitioner proposed to use a three-year average whereas the OUCC proposed a five-year average. Both adjustments have the effect of increasing revenues from the test year levels; however, the OUCC's adjustment would increase revenues to a greater extent. No other party took a position with respect to usage normalization.

OUCC witness Judy Gemmecke explained her objection to Petitioner's three-year average. She testified that in Cause No. 41320 Petitioner used a five-year average but has now switched to a three-year average in this case. In her opinion, this switch was made without justification. According to Ms. Gemmecke, Petitioner did not present any evidence that weather variations in Indiana changed dramatically over the last three-year period versus a five-year period to justify the use of a shorter period.

Petitioner's witness Duane D. Cole testified on rebuttal regarding why a three-year average is being proposed for this case. According to Mr. Cole, Petitioner's base consumption per customer (household usage exclusive of outside usage) has decreased over the past several years and all indications are that it will continue to decline. He explained that usage normalization based upon longer historical averages will overstate revenues since the recent trend in base consumption reflects a more severe decline. If an adjustment is to be made at all, Mr. Cole explained that the period over which the average is to be computed should be shorter rather than longer to avoid including years where the base consumption per customer is higher than it is anticipated to be again, thus overstating normal usage. Mr. Cole presented graphs which show the residential consumption per customer during the 6 winter months of the past 5 years. He states that he chose the wintertime, so as to eliminate variables such as lawn sprinkling, car washing and other outside water uses, thus reflecting

ORIGINAL

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

PETITION OF INDIANA MICHIGAN POWER	)	
COMPANY, AN INDIANA CORPORATION, FOR	)	
AUTHORITY TO INCREASE ITS RATES AND	)	CAUSE NO. 39314
CHARGES FOR ELECTRIC SERVICE, FOR	)	
APPROVAL OF NEW SCHEDULES OF RATES, AND	)	
RULES AND REGULATIONS, FOR APPROVAL OF	)	APPROVED:
REVISED DEPRECIATION RATES AND FOR	)	
APPROVAL TO ESTABLISH AND IMPLEMENT A	)	
SYSTEM SALES TRACKING PROVISION.	)	NOV 1 2 1993

BY THE COMMISSION:
G. Richard Klein, Commissioner
Mark W. Cooper, Chief Administrative Law Judge

On November 12, 1991, Indiana Michigan Power Company, ("I&M", "Company" or "Petitioner"), an Indiana Corporation, filed, pursuant to IC 8-1-2-42(a), the above captioned Petition with the Indiana Utility Regulatory Commission ("IURC" or "Commission").

Subsequent to the filing of the Petition, Petitions to Intervene were filed by I/N Tek and I/N Kote (collectively known as "I/N Tek and I/N Kote"), industrial customers of Petitioner, and the Industrial Consumers for Fair Utility Rates ("ICFUR"), an ad hoc group of Petitioner's industrial customers. The ICFUR Petition to Intervene was subsequently amended on two occasions to add certain other industrial customers. The I/N Tek and I/N Kote and ICFUR Petitions to Intervene were granted.

On December 23, 1991, the Commission held a Prehearing Conference and preliminary hearing. Subsequently, on January 15, 1992, the Commission issued a Prehearing Conference and Preliminary Hearing Order ("Prehearing Order") establishing, among other things, a procedural schedule. Pursuant to proper notice, proof of publication of which was incorporated into the record and placed in the official files of the Commission, a public hearing for the presentation of Petitioner's case-in-chief was commenced on July 15, 1992, in Room TC10, Indiana Government Center South, 302 West Washington Street, Indianapolis, Indiana. The Office of Utility Consumer Counselor ("OUCC" or "Public") and Intervenors participated in the hearing and were given the opportunity to cross-examine the Petitioner's witnesses.

the methodology proposed and the appropriate inputs thereto and more narrowly defining the weight to be given to each we find and conclude that Petitioner's cost of equity for purposes of this proceeding is 12%. This figure should be used as an input to the capital structure suggested by the evidence herein to derive an overall weighted cost of capital which should be considered, along with other factors, in deriving a fair return for the Petitioner.

(iii) Determination of cost of capital. Based upon all of the evidence of record, we find that I&M's cost of capital, for purposes of an original cost rate base analysis is 8.78% and is determined as follows:

Required Return For Indiana Michigan Power Company Based
On Capital Structure On December 31, 1991, As Adjusted
To Reflect Certain Known 1992 Refinancings For Purposes
Of An Original Cost Rate base

Component of Capitalization	Percent of Amount	Total	Weighted Cost Rate	Cost
Long Term Debt	$1,073,489,000	39.63%	8.40%	3.33%
Preferred Stock	$ 197,381,000	7.29%	7.98%	0.58%
Common Equity	$ 956,098,000	35.29%	12.00%	4.23%
Customer Deposits	$ 6,031,000	0.22%	6.00%	0.01%
Post-1970 JDIC	$ 172,392,000	6.36%	9.91%	0.63%
Cost-Free Capital	$ 303,570,000	11.21%	0.00%	0.00%
	$2,708,961,000	100.00%		8.78%

*Computed as the weighted cost of investor-supplied capital, as:

Debt	$1,073,489,000	48.20% at 8.40%	4.05%
Preferred Stock	$ 197,381,000	8.87% at 7.98%	0.71%
Common Equity	$ 956,098,000	42.93% at 12.00%	5.15%
	$2,226,968,000	100.00%	9.91%

C. Conclusion on Fair Return. This Commission utilizes cost of capital estimation evidence as only one factor in considering what will be a fair rate of return for a public utility. While it is appropriate to consider cost of capital testimony as relevant evidence in determination of a fair return, it is certainly not the sole consideration. As we have repeatedly found:

> Cost of capital is an important element of the ratemaking process. However, we have pointed out many times that cost of capital is not synonymous with the fair rate of

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return. Ultimately, the determination of a fair rate of return is the prerogative of the Commission, taking into consideration all the relevant evidence. The objective is to determine the return which is reasonably sufficient to assure confidence in and financial soundness of the utility and adequate, under efficient and economical management, to maintain and support its credit and to enable it to raise the money necessary for the proper discharge of its public duties. Columbus Gas Lt. Co. v. Public Serv. Comm'n (1923), 193 Ind. 399, 404-406, 140 N.E.2d 538, 540; Bluefield Waterworks and Improvement Co. v. Public Serv. Comm'n (1923) 262 U.S. 679, 692-693. These goals go well beyond the use of formulas and mathematical calculations which may imply a level of precision which does not really exist. . .. Rather we are to exercise the flexibility afforded us by statute and the Indiana Supreme Court.

Re Indiana-American Water Co., Inc., (IURC 9/26/90), Cause No. 30880, at p. 17. Accord Indiana Cities Water Corp. (IURC 7/5/90), Cause No. 38851, 115 PUR4th 470; Re Public Service Co. (IURC 4/4/90), Cause Nos. 37414-S2 and 38809, 112 PUR4th 94; Re Terre Haute Gas Corp. (IURC 3/8/89), Cause No. 38515; Re GTE North Incorporated (IURC 8/31/88), Cause No. 38427. In this regard the Indiana courts have supported our view and held that "the cost of capital is not the sole measure to be used in determining a fair rate of return". Office of Utility Consumer Counselor v. Public Service Co. (1983), Ind. App., 449 N.E.2d 604, 607. Indeed, in determining an appropriate rate of return, it is not even necessary for this Commission to determine cost of capital. Bethlehem Steel Corp. v. Northern Indiana Public Service Co., 397 N.E.2d at 623, 630.

As discussed previously, the only return which is ultimately relevant for ratemaking purposes is the utility's return on the fair value of its property. In Public Service Commission v. City of Indianapolis (1956) 235 Ind. 70, 89-90, 131 N.E.2d 308, 316, the Supreme Court explained:

To say that a utility's rates are unreasonable because it pays large dividends or has a high per share earning rate, is a popular fallacy that seems to appeal to the public fancy. Such a statement is not that of which sound reasoning is made. It is only evidence of superficial thinking. The statute does not permit the Commission to fix rates based on the outstanding stock issue. The capitalization and the stock outstanding may not have any fair relationship to the actual invested property used by the utility, or its reproduction cost or its fair value.

Indeed the book value or cost of Petitioner's common equity merely represents the historic proceeds of common stock issues, other paid in capital and retained earnings, not a fair return on the value of its property. Additionally, I&M's Witnesses William D'Onofrio, Armando Pena, Joseph Brennan and Dr. Wilbur Lewellen all argued, by means other than cost of capital, that increased earnings produced by I&M's proposed rate increase are necessary to attract capital, maintain or improve I&M's low BBB bond rating and assure I&M's financial integrity.

At issue in this Cause are two directly divergent positions on a fair return. Both OUCC and ICFUR support the proposition that I&M's proposed rate should be rejected with lower rates imposed based upon providing I&M an allowance for return in its revenue requirement which is no higher than cost of capital, as determined by Witnesses Baudino or Bolinger, times net original cost rate base. First, as Petitioner argued, a return allowance which is developed as proposed by OUCC and ICFUR is, by its very method, designed to drive the value of I&M stock down to book value. Petitioner contends, even authorities which allow use of a net original cost rate base recognize that in determining a fair rate of return a "market-to-book ratio" of at least 1 to 1.2 is the minimum necessary to avoid confiscation. As the Supreme Judicial Court of Massachusetts has recognized, if return is set in such a way as to reduce the value of stock to book value, then new stock issues will yield net proceeds less than book value and the equity of existing stockholders is diluted because of market pressure and financing costs "Forced dilution is confiscation". New England T&T Company v. Dept. of Public Utilities (1976), 354 N.E.2d 860, 867. See also, Tr.-M-80.

The second reason Petitioner contends the Commission must reject OUCC's and ICFUR's approach is that it is premised on the erroneous assumption that the Commission must approve only the "lowest reasonable rate". Thus, Petitioner argues even if the effect of OUCC's and ICFUR's proposals were not confiscatory in the constitutional sense, but rather could be viewed as the "lowest reasonable", this Commission, unlike other regulatory Commissions such as the Federal Power Commission under the Natural Gas Act of 1938, is not specifically empowered to order a rate decrease merely because existing rates are not "the lowest reasonable rates." Compare Federal Power Commission v. Natural Gas Pipeline Co., 315 U.S. 575, 585-586 (1941). Indeed, a considerably higher return than the "lowest return within the range of reasonableness" will still result in rates that are reasonable and just. As one Court has noted, rates which are designed to produce a return which falls within the range of reason can be approved by this Commission, but rates designed to produce a result which falls below that range may not. New England T&T Co. v. Dept. of Public Utilities supra. at 686; Columbus Gas Co. v. Comm 292 U.S. at 414; see also, Banton v. Beltline Railroad Corp., 268 U.S. 413, 422, 423.

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Petitioner contends the adoption of the proposal of OUCC and ICFUR would, in reality, merely represent a subterfuge whereby we give no real effect to the appreciation in value of I&M's utility property.

In Public Service Comm. v. Indiana Bell Telephone Co. (1955), 235 Ind. 1, 130 N.E.2d 467, 473, 481, the Court stated the rule in Indiana:

> Proper rates are those which produce a fair and nonconfiscatory return, and such as will enable the company, under efficient management, to maintain its utility property and service to the public, and provide a reasonable return upon the fair value of its used and useful property. Public Serv. Comm. v. Indianapolis Rys., 1948, 225 Ind. 656, 76 N.E. 2d 841: Columbus Gaslight Co. v. Public Service Comm., 1923, 193 Ind. 399, 140 N.E. 538: McCardle v. Indianapolis Water Co., 1926, 272 U.S. 400, 47 S. Ct. 144, 71 L. Ed. 316,.

******

> [T]he power to regulate is not the power to destroy, and the limitation which the Public Service Commission may impose upon public utilities in the fixing of rates and charges is not the equivalent of confiscation. The Public Service Commission, acting within the scope of its delegated powers, cannot require appellee to furnish telephone service to the public without just and reasonable compensation, nor can it enforce an order which results in a piecemeal confiscation of private property for public use.

The Indiana Bell decision further established that a rate level which is sufficient merely to keep the company's capital intact (cost of capital at original cost) and cover expenses or merely produce some return over that amount is not equivalent to a fair return. The Supreme Court's decision approved the opinion of the trial court below in Indiana Bell Teleph. Co. v. Public Service Comm. (Ind. Cir. Ct. 1952), 93 PUR (NS) 480, which held as follows:

> "The intervenor has argued that since the company's capital is intact and it is earning at least its expenses, it is entitled to no relief. In Public Service Commission v. Indianapolis Railways (1947) 225 Ind. 30, at p. 40, 70 PUR NS 480, 72 N.E.2d 434, it was argued that the true test of the company's right to relief was whether its revenues would cover its expenses until a permanent rate schedule could be fixed. The argument was rejected and the court held that the test was whether the Company was being compelled to operate under a

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confiscatory rate. <u>A rate is confiscatory if it does not
provide a reasonable return on value even though it
provides some return. In other words an unreasonably low
rate is a confiscatory rate</u>. (Public Utility
Commissioners v. New York Teleph. Co. 271 US 23, 31, 70
L. ed 808, 812, PUR 1926C 740, 744, 46 S. Ct. 363) ***
(93 PUR (NS) at 486) (Emphasis added)

The Court in its decision in <u>Public Service Commission of
Indiana et al. Indianapolis Water Company v. City of Indianapolis</u>
(1956), 235 Ind. 70, 131 N.E.2d 308, held that the Legislature may
not enact a law providing for valuation of utility property for
rate making purposes other than its full fair value. That case
involved an appeal from an action brought by the City in the
Superior Court of Marion County to set aside an order of the Public
Service Commission of Indiana in accordance with the governing
appeal procedure prior to the present direct appeal to the Court of
Appeals. The trial court had valued the utility's land on the
basis of its assessment for tax purposes as provided by the
valuation statute. The Court struck down as invalid this portion
of the statute, holding:

> [T]he finding of the trial court is contrary to law, in
> that it attempts to use for rate-making purposes a value
> for land fixed for tax purposes, which, by statute, is
> one-third of its market or sale value in 1949. The Acts
> of 1949, Ch. 225, § 5, p. 724, being §64-1019 note,
> provides:
>
> 'The rate of assessment on lands shall not exceed thirty-
> three and one-third per cent of the market or sale value
> as of March 1, 1949.'
>
> <u>No legislature may enact a law providing for a valuation
> of utility property for rate-making purposes at other
> than its full fair value.</u> The provisions of §54-203,
> Burns' 1951 Replacement, with respect to any requirement
> based on the Acts of 1949 are no longer effective or
> applicable. To construe it otherwise would result in its
> unconstitutionality. (citations) (235 Ind. at 92-93; 131
> N.E. 2d at 317) (emphasis added)

Nor can the present statutory authorization to consider
reproduction cost new less depreciation, be ignored by the
Commission in a period such as the present when current
construction costs greatly exceed the original cost of Petitioner's
property installed in prior years. The Indiana Court in the
<u>Indiana Bell</u> case, *supra.*, cited with approval the decision in
<u>McCardle v. Indianapolis Water Co.</u>, 272 U.S. 400 (1926). There the
Court held:

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It is well established that values of utility properties fluctuate, and that owners must bear the decline and are entitled to the increase. The decision of this court in Smyth v. Ames, 169 U.S. 466, 547, declares that to ascertain value 'the present as compared with the original cost of construction' are, among other things, matters for consideration. But this does not mean that the original cost or the present cost or some figure arbitrarily chosen between these two is to be taken as the measure. The weight to be given to such cost figures and other items or classes of evidence is to be determined in the light of the facts of the case in hand. By far the greater part of the company's land and plant was acquired and constructed long before the war. The present value of the land is much greater than its cost; and the present cost of construction of those parts of the plant is much more than their reasonable original cost. In fact, prices and values have so changed that the amount paid for land in the early years of the enterprise and the cost of plant elements constructed prior to the great rise of prices due to the war do not constitute any real indication of their value at the present time. Standard Oil Co. v. So. Pacific Co., 268 U.S. 146, 157; Georgia Ry. v. R. R. Comm., 262 U.S. 625, 630-631; Bluefield Co. v. Pub. Serv. Comm., supra., 691-692; S.W. Tel. Co. v. Pub. Serv. Comm., supra., 287.

We have abided by the Court's directive regarding the use of reproduction cost new evidence and given this evidence much substantially greater weight than original cost evidence in finding fair value. However, we remain mindful of the shortcomings in attempting to equate reproduction cost new evidence to fair value without due consideration of many relevant factors.

Columbus Gaslight Co. v. Public Service Co. (1923), 193 Ind. 399, 140 N.E. 538, was decided under the original valuation Section 9 of the Indiana Public Utility Act of 1913 which specified no limitations as to factors to be considered in arriving at value. Nevertheless, the Court reversed a lower court's approval of the Commission's valuation based upon the original cost of the utility's property at the time of acquisition or installation, holding:

In Wilcox v. Consolidated Gas Co., 212 U.S. 19, 29 Sup. Ct. 192, 53 L. Ed. 382, 15 Ann. Cas. 1034, 48 L.R.A. (N.S.) 1134, it was said:

'There must be a fair return upon the reasonable value of the property at the time it is being used for the public, * * * And we concur with the court below in holding that the value of the property is to be determined as of the

time when the inquiry is made regarding the rates.   If
the property which legally enters into the consideration
of the question of rates has increased in value since it
was acquired, the company is entitled to the benefit of
such increase.

193 Ind. at 402, 140 N.E. at 539

The above holding of the <u>Columbus Gaslight Co.</u> case was cited
with approval in the <u>Indiana Bell</u> decision cited above.   In the
latter case the Court accepted the facts as found by the trial
court which included Finding 28 which read as follows:

Neither   cost   of   reproduction   nor   net   book   cost
necessarily   represents   fair   value,   but   each   may   be
considered   in   arriving   at   fair   value.   Upon   all   the
evidence,   however,   the   court   finds   that   <u>cost   of
reproduction   should   be   given   predominant   weight   in
determining that issue.</u>   Under the evidence a valuation
approaching cost of reproduction is most realistic under
the inflationary conditions shown in the record.   Without
undue or unfair effect upon the plaintiff's subscribers
such a weighing affords a method of providing reasonable
protection   to   the   plaintiff   and   its   investors   against
inflationary effects; it will materially assist plaintiff
in   attracting   necessary   additional   capital   on   a   sound
basis; it will substantially protect the purchasing power
of   current   and   future   income   of   plaintiff   and   its
investors; and it will substantially avoid the necessity
for   consummating   additional   financing   on   unfair   or
unfavorable terms.

See 235 Ind. at 20; 93 PUR (NS) at 485-86.

Thus, both prior and subsequent to the Legislature's enactment
of the valuation statute in its present form, the Indiana Supreme
Court   has   consistently   held   that   for   rate   making   purposes   the
return allowed must reflect the <u>full fair value</u> of the utility's
used   and   useful   property.   In   the   <u>Indianapolis   Water   Company</u>
decision   cited   above   the   Court   clearly   states   that   this   is   a
constitutional   requirement   which   the   Indiana   Legislature   may   not
change.   Surely, Petitioner argues the positions expressed by OUCC
and ICFUR cannot provide a basis to change this long standing legal
requirement, or to evade these requirements by merely "calculating"
a fair return equal to cost of capital times original cost.

Public   contends   that   as   found   by   the   Commission   in   many
previous causes, it is inappropriate to apply a utility's weighted
cost of capital to a fair value rate base without first removing
the premium for inflation from the cost of capital.   (<u>See</u> <u>In Re
Hoosider Water Company</u>, Cause 39035, approved December 20, 1991, at

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p. 16.) In order to accomplish this Public suggests the Commission should estimate the current expected inflation rate and deduct this from Petitioner's current cost of equity capital.

Public points out that Mr. Bollinger's testimony contains historical data showing the annual rate of inflation in the U.S. economy from 1966 to 1991 as measured by the Consumer Price Index. The data shows that, after a period of double digit inflation in the late 1970's and early 1980's, inflation has typically ranged from approximately 3.0% to 6.0% since 1981. Public notes the mid point of this range is 4.5%. (Public Exhibit No. 8, Sch. 6, p. 1.) Public points out that Mr. Brennan's testimony contains forecasts of anticipated inflation. Public goes on to quantify the anticipated inflation rates shown by Mr. Brennan. Public then performs a calculation which attempts to remove the costs of historic and anticipated future inflation from Petitioner's cost of capital.

I&M asks the Commission to find that its existing rates are too low, and thus are confiscatory since they do not provide an opportunity to earn a fair return. I&M then asks the Commission to find that its new proposed rates and charges are reasonable and just, and that the return produced by them is neither excessive nor unreasonable. This we believe is the appropriate role of this Commission in ratemaking, in full conformity with the requirements imposed by law.

Petitioner has offered extensive argument and authority in support of what fair return cannot be and in support of what fair return must do. In fact, the arguments and authority presented in this case may be the most comprehensive on the point which we have seen. Yet despite this massive research effort and extensive arguments on the point, Petitioner has suggested no methodology which the Commission may use in properly determining and quantifying an appropriate fair return. This leads us to the inscapable conclusion that a fair return on the fair value of utility property is one which is left to the discretion of the Commission so long as it provides for a reasonable result satisfying the criteria suggested by Petitioner and finally balancing the interests of the utility investors and the utility's ratepayers.

By its post hearing filing Public proposes a methodology with which we agree in part. As we have repeatedly noted above, the Commission is required by law to consider and give weight to the effects of historic inflation when determining fair value of utility property. It has been suggested that we might properly apply the weighted cost of capital to the fair value of utility property in order to calculate an appropriate return. This, would be inappropriate. We know from the evidence in this Cause that many, if not all, of the elements of the capital structure contain

the effects of historic inflation. That is the amount of return which investors require to offset the effects of past inflation. Thus, the weighted cost of capital contains the accumulated historic effects of all capital structure components. Since we must, by law, consider those effects when fixing the fair value of utility property, we cannot apply the weighted cost of capital to the fair value rate base less the effects of historic inflation would be double counted.

Public has proposed a methodology which purports to remove the effect of both historic and anticipated future inflation from the weighted cost of capital. We do not agree with Public's proposal. Our mandate to consider historic inflation when determining fair value, does not also require us to incorporate the effects of prospective inflation. Thus, we do not believe it is necessary or appropriate to remove the effects of anticipated inflation from the utility's weighted cost of capital. Although there is only limited evidence on this matter, we cannot, based on the record herein, agree with Public's calculation which purports to remove inflation from the weighted cost of capital. Public's methodology appears only to remove inflation from the cost of common equity. Yet clearly the effects of historic inflation have affected the cost rate of many, if not all, of the capital structure components. We believe it is much simpler and generally more reflective simply to remove a reasonable quantification of the effects of historic inflation from the overall weighted cost of capital when attempting to determine a historic inflation adjusted cost of capital. We note there is little evidence of the record on this point and none disputing our conclusion.

Public's evidence indicates that since 1981 inflation has ranged generally from 3% to 6%. This appears to be an appropriate period for which to examine and quantify the effects of historic inflation.

It is then a useful exercise when judging the reasonableness of a requested fair return to determine whether that requested return falls within the range of a historic inflation adjusted weighted cost of capital. Deducting the 3% appearing at the lower end of the range from the weighted cost of capital provides us with 5.78% and deducting the 6% at the upper end of the range from the weighted cost of capital provides us with 2.78%. Therefore, we may reasonably conclude that a fair return for Petitioner would lie within the range of 2.78% and 5.78%.

By its proposed Order, Petitioner provides us with the discussion of its currently authorized net operating income and its proposed net operating income comparing these amounts to its net original cost rate base and its fair value rate base. At this point in our discussion these comparisons appear to suggest to the Commission that our findings as to a fair return should only be

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considered in the context of the resulting net operating income. This implies that Petitioner's proposal may be results driven. While this exercise is appropriate and meaningful in determining whether the results are in fact reasonable it is inappropriate at a preliminary juncture.

Petitioner has proposed that it be allowed to earn a 4.25% return on the fair value of its property. This return is within the range calculated and discussed above, appears to be reasonable and should be approved, unless its results appear to be unreasonable in effect.

As determined hereinafter, after resolving all the disputed issues concerning Petitioner's pro forma operating results at existing rates, we have found that Petitioner's current rates will reasonably produce the opportunity to earn a net operating income of $137,817,880.

We have previously found herein that the fair value of Petitioner's used and useful property is $3,750,000,000. We have also found that Petitioner should be entitled to earn a 4.25% return on the fair value of its used and useful property. Therefore, Petitioner should be authorized rates which will reasonably provide it with an opportunity to earn a net operating income of $159,375,000. Therefore, we find and conclude that Petitioner's current rates and charges which provide it with an opportunity to earn a net operating income of $137,817,880 are unjust, unreasonable and insufficient.

Petitioner has proposed that the Commission give consideration to an appropriate "authorized return" for earnings test purposes under IC 8-1-2-42(d)(3). Petitioner points out that such an "authorized return" would function as an earnings cap for Petitioner until its next general rate proceeding. Petitioner argues that we should adopt a higher "authorized return" for earnings cap purposes to allow for variances, both above and below, to achieve what Petitioner terms as the target return found appropriate herein.

We observe several difficulties with Petitioner's proposal. Although we have not been favored with extensive authority and arguments on this point we question the legal propriety of Petitioner's proposal. A review of IC 8-1-2-42(d)(3) does not appear to authorize or contemplate the Commission fixing more than one return as the result of a general rate proceeding. We have no reason to believe that the General Assembly intended that we authorize a higher return for purposes of the earnings test in the FAC statute. Absent clear authority on the point, we believe the authorization of an alternative return for purposes of the earnings test would subvert the announced purpose of the General Assembly in enacting IC 8-1-2-42(d)(3). This we should not do.

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The evidence in this Cause as to an appropriate return for the Petitioner was replete with references to the operation of IC 8-1-2-42(d)(3). Certainly the Commission is aware of the operation of that statute. The operation of the statute and its attendant effects on the Petitioner were fully considered by the Commission in assessing the Petitioner's risk. These types of risks are properly considered when the Commission fixes an appropriate fair return. We believe it would be inappropriate to again make provision for this factor having fully considered it.

Finally, even assuming arguendo that we could lawfully implement Petitioner's proposal and had not fully considered the operation of the earnings test in assessing Petitioner's risk and fair return, there is insufficient evidence of record in this Cause to reasonably quantify an earnings test "authorized return". Even Petitioner, by its proposed Order, suggests that such evidence is scant.

Based upon the foregoing discussion and findings, we find that Petitioner's request to adopt and implement a separate a higher return for the earnings test under IC 8-1-2-42(d)(3) should be denied.

    10. Petitioner's Unadjusted Test Year Operating Results. For the twelve months ended December 31, 1991, Petitioner's actual operating results were as follows:

Operating Revenues

Sales of Electricity	$837,401,282
Other Operating Revenues	11,175,473
Total Operating Revenues	848,576,755

Operating Expenses

Operation and Maintenance Expenses	503,947,433
Depreciation and Amortization Expenses	108,511,897
Taxes other than Income Taxes	39,728,409
Income Taxes	
State	4,105,388
Federal	35,211,431
Total Operating Expenses	691,504,558
Net Operating Income	$157,072,197

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

PETITION OF INDIANA-AMERICAN WATER COMPANY, INC., AN INDIANA CORPORATION, FOR AUTHORITY (a) TO INCREASE ITS RATES AND CHARGES FOR WATER SERVICE RENDERED BY IT IN AND ADJACENT TO THE CITIES OF KOKOMO, MUNCIE, RICHMOND, SEYMOUR, SULLIVAN AND TERRE HAUTE, INDIANA, AND FOR APPROVAL OF NEW SCHEDULES OF RATES AND CHARGES APPLICABLE THERETO, (b) TO CHANGE THE COMPANY'S RULES TO IMPLEMENT MONTHLY METER READING IN ALL DISTRICTS, AND (c) TO RECOGNIZE AS A REGULATORY ASSET THE DIFFERENCE BETWEEN PENSION EXPENSE DETERMINED PURSUANT TO SFAS 87 AND PENSION CONTRIBUTIONS	))))))))))))) CAUSE NO. 39595)))))) APPROVED:))) FEB 2 1994)))))

BY THE COMMISSION:
David E. Ziegner, Commissioner
Scott R. Jones, Assistant Chief Administrative Law Judge
Gregory S. Colton, Administrative Law Judge

On November 18, 1992, Indiana-American Water Company, Inc. ("Petitioner" or "Company") filed its petition in this cause for authority to increase its rates and charges for water service rendered by it and for approval of new schedules of rates and charges applicable thereto. A petition to intervene was filed by the City of Seymour ("Intervenor") and was granted by the Commission.

Pursuant to the Prehearing Conference on January 8, 1993, the Prehearing Conference Order dated January 20, 1993, and notice of hearing given as provided by law, proof of which was incorporated into the record by reference and placed in the official files of the Commission, public hearings in this cause were held on April 16 and 20, 1993 and July 7-8, 1993 in Indianapolis, Indiana. At the hearings, evidence offered by Petitioner, Intervenor and the Office of Utility Consumer Counselor (the "OUCC") was received and admitted in evidence. Pursuant to Ind. Code § 8-1-2-61(b), a public field hearing was held on May 20, 1993 in Muncie, the

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	Amount	Percent	Cost	Weighted Cost
Long Term Debt	$ 55,797,430	55.19%	8.71%	4.81%
Preferred Equity	690,116	0.68%	4.96%	.03%
Common Equity	44,614,456	44.13%	11.00%	4.85%
Total	$101,102,002	100.00%		9.69%

This is consistent with the methodology adopted by the Commission in Indianapolis Power & Lt. Co. (PSCI 8/6/86), Cause No. 37837 at p. 18.

(c) Fair Rate of Return On Fair Value. As we have said many times, cost of capital is not synonymous with a fair rate of return on the fair value of Petitioner's property. It is our duty to determine what rate of return on fair value is fair and reasonable.

Petitioner's witness Salser testified that a fair rate of return of 6.53% would be appropriate to apply to the fair value of $166,532,307 which he computed. The fair rate of return of 6.53% was derived by using a 8.90% common equity rate in Petitioner's capital structure, with deferred taxes and investment tax credits inflated to present day values. (Petitioner's Ex. JES-2, Sch. 2) The 8.90% rate was calculated by deducting a prospective inflation rate of 3.6% from Dr. Phillips' recommended common equity cost rate of 12.50%. Dr. Phillips testified that 8.90% was a reasonable estimate of Petitioner's real cost of equity, adjusted to eliminate inflation risk. Dr. Phillips testified that it would not be proper to reduce inflation from the cost of capital to the extent that the fair value rate base is weighted to reflect original costs, since to that extent inflation would not be reflected in either the assets or rate of return. Mr. Bolinger also testified that the reflection of historical inflation in the fair value rate base is represented by the reproduction costs. (Transcript, p. TEB-9)

OUCC witness Bolinger contended that the amount of compensation for inflation included in the rate base should "somehow" relate to the amount of compensation for inflation removed from the cost of capital. (Public's Ex. 3, p. 35) Thus, Mr. Bolinger reasoned that "it would be unfair to shareholders to remove a large amount of inflation from the cost of capital which included only a small amount of compensation for inflation in the rate base." (Id.) Mr. Bolinger agreed that use of a 3.6% prospective inflation rate was reasonable based on the consensus forecast of future inflation and recent historical inflation rates.

The OUCC agreed that the Commission must employ fair value ratemaking under Indiana law. However, the OUCC did not propose a fair rate of return to be applied to fair value. Mr. Bolinger testified that in his opinion the fair value method should not result in a return "substantially" above or below what the original cost method would produce. Mr. Bolinger did not quantify the amount which he would consider to be substantial. However, he

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stated that an $80,000 increase in net operating income over what the original cost method would produce (the result of Petitioner's last rate order) would not be outside the range of reasonableness.

In determining a fair return to be applied to the fair value of Petitioner's utility rate base, we have started with the overall cost of capital, which in this case, is 8.69%. We have then adjusted the overall weighted cost of capital to eliminate the component which represents the historical inflation which is a component of traditional cost of capital estimations. This adjustment is made because the fair value method of evaluation attempts to capture the effects of historical inflation in the value of Petitioner's rate base. In this proceeding, Dr. Phillips has adjusted the overall weighted cost of capital not by the historical inflation component, but rather by the prospective inflation component. While such an adjustment would produce a similar result so long as prospective inflation is roughly the equivalent of historical inflation, it is theoretically incorrect. The affects of this error may well be magnified by the nature of the utility plant in service. For example, in the case of a water utility, such as Petitioner, much of the plant in service has been in service for many many decades, while prospective inflation is viewed in the short-term.

The record of this proceeding does contain evidence pertinent to historical inflation. Specifically, Attachment 4 to Public's Exhibit 3, the testimony of Mr. Bolinger, demonstrates the effect of historical inflation upon investments dating from 1926 through 1992. Schematically, this attachment demonstrates the affects of inflation upon varying holding periods and the date of the investment. For an investment made in 1926, the effect of historical inflation to 1992 is 3.1%. For an investment made in 1953, the affect of inflation upon such investment to 1992 is 4.3%. For the type of investment involving the utility plant operated by a water utility, we find such a range is instructive. Applied to Petitioner's overall weighted cost of capital, this would imply fair returns ranging from 5.59% to 4.39%. Interestingly, the application of Petitioner's overall weighted cost of capital to its original cost rate base produces a net operating income amount which, applied to Petitioner's fair value rate base, produces a return of 5.93%, which is .34% of a percent higher than the range of fair returns which is derived by removal of the affects of historic inflation from Petitioner's overall weighted cost of capital. This might lead to the conclusion that an 11% return on equity appears to be overstated when applied to original cost rate base. However, the nature of Petitioner's capital structure is such that a wide range of costs assigned to Petitioner's equity component will produce little variation in comparative fair returns based upon Petitioner's fair value rate base. This relation occurs because Petitioner's equity component is 38.14% of its capital structure. Petitioner's evidence indicates that in the future years, its construction program will place continuing pressure upon

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its need to attract capital. For this reason, it appears unlikely that Petitioner's equity component of its capital structure will increase by any substantial amount over that period of time. Therefore, while the resulting fair return from the net operating income which is derived by taking the weighted cost of capital and applying it to Petitioner's original cost rate base might be considered unusual, we find such results reasonable.

The Commission finds that 5.93% is a fair rate of return to be applied to the fair value of Petitioner's utility property of $166,500,000. Based upon a fair rate of return of 5.93% and a fair rate base of $166,500,000, rates should be designed to provide Petitioner with the opportunity to earn net operating income of $9,869,554.

As noted in Finding No. 5, Petitioner's present rates would generate approximately $9,208,036 in net operating income which equates to an opportunity to earn a return of approximately 8.00% on Petitioner's original cost rate base and a return of approximately 5.53% on the fair value of its property. This opportunity is insufficient to represent a reasonable return. We therefore find that Petitioner's present rates are unreasonable and confiscatory.

On the basis of the evidence presented in these proceedings, we find that Petitioner should be authorized to increase its rates and charges to produce additional operating revenue of $1,068,484, resulting in total annual revenue of $36,556,333. This revenue is reasonably estimated to allow Petitioner the opportunity to earn net operating income of $9,869,554. The estimated financial results from this revenue increase on a district-by-district basis (the OUCC's proposed pricing method) as well as on a total-company basis (Petitioner's proposed pricing method) are as follows:

	Kokomo	Muncie	Richmond
Operating Revenues	$8,942,580	$9,088,840	$6,024,895
Operating Expenses			
Operation and Maintenance	3,647,922	4,080,324	2,976,562
Depreciation and Amortization	1,145,997	1,172,663	741,376
Income Taxes	699,133	604,899	352,349
Other Taxes	672,845	835,766	538,016
Total	6,165,897	6,693,652	4,608,303
Net Operating Income	$2,776,683	$2,395,188	$1,416,592

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	Seymour	Wabash Valley	Total
Operating Revenues	$2,277,182	$10,222,836	$36,556,333
Operating Expenses			
Operation and Maintenance	1,149,699	4,596,509	16,451,016
Depreciation and Amortization	284,032	1,401,161	4,745,229
Income Taxes	148,428	669,275	2,474,084
Other Taxes	168,515	801,308	3,016,450
Total	1,750,674	7,468,253	26,686,779
Net Operating Income	$ 526,508	$ 2,754,583	$ 9,869,554
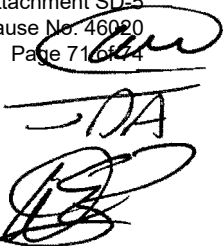
These determinations reflect the effect of additional revenue on income taxes, the gross receipts tax, the IURC fee and uncollectible accounts consistent with the gross revenue conversion factors used by Petitioner. (Petitioner's Ex. PJB-1, Sch. 1)

Based on the evidence and giving appropriate weight to the need for Petitioner to maintain and support its credit, to raise funds necessary to discharge its public duties and to earn a return commensurate with that earned by enterprises of corresponding risk, the Commission finds that rates estimated to produce these results are just and fair and should allow Petitioner the opportunity to earn a reasonable return on its property dedicated to providing water service to the public. This rate adjustment is intended to increase Petitioner's total operating revenues by approximately 3.01%. The result of the increase based on the district-specific and single tariff pricing alternatives discussed hereafter would be:

District-Specific

District	Revenue Increase	Percent Increase
Kokomo	$ 279,279	3.22%
Muncie	176,545	1.98%
Richmond	18,092	.30%
Seymour	250,047	12.33%
Wabash	344,521	3.49%
Total	$1,068,484	3.01%

A fair rate of return of 5.93 on a fair value rate base of $166,500,000 is not excessive. This rate is less than the 30-year Treasury Bond yields used by both Petitioner and the OUCC in their cost of capital calculations. This rate of return is also less than the 6.63% rate of return found reasonable in Petitioner's last rate case. Indiana-American Water Co. (IURC 5/27/92), Cause No. 39215 at p. 28.

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ORIGINAL

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

PETITION OF INDIANA-AMERICAN WATER COMPANY,) INC. FOR AUTHORITY TO INCREASE ITS RATES AND) CHARGES FOR WATER AND SEWER UTILITY SERVICE,) FOR APPROVAL OF NEW SCHEDULES OF RATES AND) CHARGES APPLICABLE THERETO, FOR APPROVAL OF) CHANGES TO RULES AND REGULATIONS APPLICABLE) TO SUCH SERVICE, AND FOR AUTHORIZATION TO) DEFER IN A PENSION/OPEB BALANCING ACCOUNT) OVER- AND UNDER-RECOVERIES FOR PASS THROUGH) TO CUSTOMERS.)	CAUSE NO. 43680 APPROVED: APR 3 0 2010

BY THE COMMISSION:
David E. Ziegner, Commissioner
Angela Rapp Weber, Administrative Law Judge

On April 30, 2009, Indiana-American Water Company, Inc. ("Petitioner," "Indiana American," or "Company") filed its *Petition and Notice of Intent to File in Accordance with Minimum Standard Filing Requirements* ("Petition") with the Indiana Utility Regulatory Commission ("Commission"), seeking authority to increase its rates and charges for water and sewer utility service, for approval of new schedules of rates and charges applicable thereto, for approval of changes to rules and regulations applicable to such service, and for authorization to defer in a Pension/OPEB balancing account over- and under-recoveries for pass through to customers. Petitioner's notice of its intent to file in accordance with the Commission's rules on minimum standard filing requirements ("MSFRs") was given pursuant to 170 IAC 1-5-1 *et seq.*[1]

Pursuant to notice as provided in 170 IAC 1-1.1-15, a Prehearing Conference was convened in this Cause on May 27, 2009 at 9:30 A.M. in Room 224 of the National City Center, 101 W. Washington Street, Indianapolis, Indiana. Proofs of publication of notices of the Prehearing Conference were incorporated into the record and placed in the official files of the Commission. Petitioner, the Office of Utility Consumer Counselor ("OUCC" or "Public") and Intervener Town of Schererville ("Schererville") participated in the Prehearing Conference. The procedural, scheduling, and other matters determined at the Prehearing Conference were memorialized in the Commission's Prehearing Conference Order approved and issued on June 3, 2009.

Petitions to Intervene in this Cause were filed on May 21, 2009 by the Town of Schererville; on June 17, 2009 by the Ramsey Water Company, Inc. ("Ramsey"); on July 2, 2009, by a group of Indiana American's industrial customers ("Industrial Group"); on July 15,

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[1] Since Petitioner filed its Petition, case-in-chief, and supporting workpapers prior to the promulgation of new regulations concerning the MSFRs, the prior version of the MSFRs have continued to apply to this Cause. References to the regulations promulgating the MSFRs herein are to the version of those regulations that was in effect when Petitioner filed its case-in-chief and supporting workpapers.

explained that, just like a homeowner benefits from the appreciation in the value of his/her home over time without investing additional amounts in his/her property, investors in Indiana American also realize the appreciation (or depreciation) in the value of the rate base without expending additional dollars (i.e., reinvestment earnings realized from future returns that are not paid out as dividends). Hence, Mr. Moul concluded that original cost is not the same as fair value, and changes in value realized since the original installation of the assets must be recognized in the fair value determination. Petitioner's Exhibit PRM-R at 35–36.

(4) Commission Discussion and Findings. The cost of capital is a percentage that can be converted into an earnings requirement only by applying the percentage to a rate base. In Duquesne Light Co. v. Barasch, the United States Supreme Court held that the U.S. Constitution does not require "the adoption of a single theory of valuation. . . . The Constitution within broad limits leaves the States free to decide what rate setting methodology best meets their needs in balancing the interests of the utility and the public." 488 U.S. 299, 316 (1989). Indiana has selected the fair value rate base methodology. The United States Supreme Court described the fair value approach as follows:

> Under the fair value approach, a "company is entitled to ask . . . a fair return upon the value of that which it employs for the public convenience," while on the other hand, "the public is entitled to demand . . . that no more be exacted from it for the use of [utility property] than the services rendered by it are reasonably worth. [*Smyth v. Ames,*] 169 U.S. 466, 547 [(1898)]. In theory the *Smyth v. Ames* fair value standard mimics the operation of the competitive market. To the extent utilities' investments in plants are good ones (because their benefits exceed their costs) they are rewarded with an opportunity to earn an "above-cost" return, that is, a fair return on the current "market value" of the plant. To the extent utilities' investments turn out to be bad ones (such as plants that are canceled and so never used and useful to the public), the utilities suffer because the investments have no fair value and so justify no return.

Duquesne Light Co., 488 U.S. at 308–09. As previously discussed, the Indiana fair value rule is a significant factor in treating the Indiana Cities AA at issue in this case. In light of the findings made above, including how the purchase price served to bring the property to its present state of efficiency and the cost savings that investment made possible, Petitioner should be allowed a return on the net amount of the Indiana Cities AA through fair value ratemaking.

As the Commission did in the 2002 Rate Order and the 2004 Rate Order, we will use the following standards and criteria to determine a fair rate of return on Petitioner's investment in its utility plant:

1) Return comparable to return on investments in other enterprises having corresponding risks;

2) Return sufficient to ensure confidence in the financial integrity of the Petitioner;

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3) Return sufficient to maintain and support the Petitioner's credit [rating];

4) Return sufficient to attract capital as reasonably required by the Petitioner in its utility business.

2002 Rate Order at 38; 2004 Rate Order at 68. One recognized method for evaluating the reasonableness of a utility's allowed return involves investigation of the utility's capital structure. From such investigation, we can develop the overall weighted cost of capital. This cost of capital may then be considered in determining a fair return. Having previously determined that the fair value of Petitioner's rate base is $945,522,592, it is now the Commission's duty to determine a fair rate of return that can be used to calculate a fair dollar return for Petitioner's net operating income.

As the Supreme Court of Indiana previously determined in Public Serv. Comm'n:

> The ratemaking process involves a balancing of all these factors and probably others. It involves a balancing of the owner's or investor's interest with the consumer's interest. On the one hand, the rates may not be so low as to confiscate the investor's interest or property. On the other hand, the rates may not be so high as to injure the consumer by charging an exorbitant price for service and at the same time giving the utility owner an unreasonable or excessive profit.

131 N.E.2d at 318. Therefore, the results of any return computation may be tempered by the Commission's duty to balance the respective interests involved in ratemaking. Finally, the end result of this Commission's Orders must be measured as much by the success with which they protect the broad public interest entrusted to our protection as by the effectiveness with which they maintain credit and attract capital.

The Commission has asserted in previous rate cases, insofar as the fair value rate base contains historical inflation, that it is historical inflation and not the prospective inflation that should be removed from the cost of capital to estimate a fair rate of return. The Commission previously explained that "[i]n order to avoid over-compensating Petitioner for the effects of historical inflation, it is necessary to remove the historical inflation component from the costs of capital to derive a fair return." 2004 Rate Order at 69. See also 2002 Rate Order at 39.

In test two and five of his five fair value reasonableness tests, Mr. Grubb used an historical inflation rate of 3.5%, which was the rate, according to Mr. Grubb, used by the Commission in Cause No. 42520. However, in test three, Mr. Grubb used an historical inflation rate of 2.5%, which is the average inflation rate from 1994–2008. This time period provides fourteen years of data and corresponds to the average age of Indiana American's plant as provided by Mr. Hoffman. In addition, the Commission notes that in footnote two on page five of his testimony, Mr. Kaufman explained that from 1991–2008 the inflation has averaged 2.5%. The Commission finds that 2.5% is the appropriate historical inflation rate.

The Commission first notes that the OUCC did not provide testimony or a

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recommendation concerning Petitioner's fair rate of return. Although the Industrial Group provided testimony on the fair rate of return, it did not provide a recommended fair rate of return. Indiana American's recommended range for its fair rate of return provided by the five reasonableness tests is 6.10%–7.84%. As noted previously, only reasonableness test number two, which produced a fair vale rate of return of 6.97%, used 2.5% for its historical inflation rate and removed historical inflation values from Petitioner's cost of debt only.

Using the 2.5% historical inflation rate to remove inflation values from Indiana American's overall cost of capital yields a fair value rate of return of 5.03%. Using that same rate to remove inflation values from Indiana American's cost of debt yields a fair value rate of return of 6.40%. Accordingly, the range for Petitioner's fair value rate of return is 5.03%– 6.40%. Based on the evidence presented, the Commission finds 5.32% to be Indiana American's fair value rate of return. When this is applied to Indiana American's fair value rate base of $945,522,592, the result is a net operating income of $50,262,867.

9.   **Operating Results Under Present Rates.**

A.   Revenues. Petitioner's proposed *pro forma* annual revenues at present rates originally totaled $162,481,343. Petitioner's Exhibit GMV at 18. The OUCC's proposed *pro forma* revenues at present rates equaled $161,306,564. OUCC Revised Schedule 5 at 1. The OUCC accepted Petitioner's proposed adjustments for Bill Analysis Reconciliation, Unbilled Revenue, Large Customer Usage, and Other Revenue. Petitioner accepted on rebuttal the OUCC's proposed adjustments for the Portage Billing Error, Insufficient Funds Charges, and Non-Utility Rent. On rebuttal, Petitioner presented evidence of a small adjustment to increase revenues as a result of billing errors from some new meters that had a defect and had been installed in the Southern Indiana Operation. This problem was not discovered until several weeks after the hearing on Petitioner's case-in-chief, but no party opposed the adjustment. The remaining differences as well as issues raised by other parties are described and reconciled hereinafter.

(1)   Residential and Commercial Revenue Growth Normalization.

(a)   Petitioner's Position. Petitioner proposed to normalize residential and commercial revenues to reflect changing customer counts during the test year. This adjustment used actual residential and commercial customers from December 2007 through November 2008 (end of test year). Book 2 of 12, MSFR # 10 Workpapers – Revenue, pp. 18–20 of 211. For the service charge portion, Mr. VerDouw asserted that his adjustment is consistent with the Company's treatment accepted by the Commission in Cause No. 39595, and the 1996, 1997, 2002, and 2004 Rate Orders. He also asserted that for the usage portion, his adjustment was consistent with the Commission's decision in the 2004 Rate Order.

Mr. VerDouw calculated the change in the number of residential and commercial customers for each month of the test year and used actual changes in customer counts from December 2007 through November 2008. Petitioner's Exhibit GMV at 14. Mr. VerDouw added six months of service charges to the test year for residential and commercial sprinkler meters. Mr. VerDouw explained that the change in customers was calculated for each month and then annualized for the number of months that the service charge was not accounted for in the test