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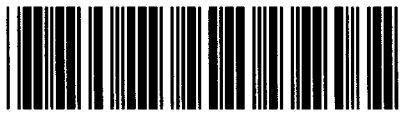

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APPLICATION OF ENTERGY TEXAS, INC. FOR AUTHORITY TO CHANGE RATES AND RECONCILE FUEL COSTS	**§**	**BEFORE THE STATE OFFICE OF ADMINISTRATIVE HEARINGS**

DIRECT TESTIMONY AND EXHIBITS

OF

DAVID C. PARCELL

ON BEHALF OF

CITIES SERVED BY ENTERGY TEXAS, INC.

JANUARY 10, 2014

David C. Parcell
Technical Associates, Inc.
9030 Stony Point Parkway, Suite 580
Richmond, VA 23235

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SOAH DOCKET NO. 473-14-0366
PUC DOCKET NO. 41791

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DIRECT TESTIMONY AND EXHIBIT OF DAVID C. PARCELL

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME, OCCUPATION, AND BUSINESS ADDRESS.

A. My name is David C. Parcell. I am President and Senior Economist of Technical Associates, Inc. My business address is Suite 580, 9030 Stony Point Parkway, Richmond, Virginia 23235.

Q. PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND PROFESSIONAL EXPERIENCE.

A. I hold B.A. (1969) and M.A. (1970) degrees in economics from Virginia Polytechnic Institute and State University (Virginia Tech) and an M.B.A. (1985) from Virginia Commonwealth University. I have been a consulting economist with Technical Associates since 1970. I have provided cost of capital testimony in public utility ratemaking proceedings, dating back to 1972. In connection with this, I have previously filed testimony and/or testified in over 500 utility proceedings before about 50 regulatory agencies in the United States and Canada, including the Public Utility Commission of Texas. Attachment DCP-1 provides a more complete description of my education and relevant work experience.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?

A. I have been retained by certain cities[1] located in the service area of Entergy Texas, Inc. ("ETI" or "the Company") to evaluate the cost of capital aspects of its current filing. I have performed independent studies and I am making recommendations of the current cost of capital for ETI. In addition, since ETI is a subsidiary of Entergy Corporation ("Entergy" or "Parent"), I also evaluated Entergy in my analyses.

Q. HAVE YOU PREPARED AN EXHIBIT IN SUPPORT OF YOUR TESTIMONY?

A. Yes, I have prepared 17 Attachments, identified as Attachment DCP-1 through Attachment DCP-17. These Attachments were prepared either by me or under my direction. The information contained in these Attachments is correct to the best of my knowledge and belief.

II. RECOMMENDATIONS AND SUMMARY

Q. WHAT ARE YOUR RECOMMENDATIONS IN THIS PROCEEDING?

A. My overall cost of capital recommendations for ETI is shown on Attachment DCP-2 and is summarized below:

	Percent	Cost	Return
Long-Term Debt	51.41%	6.73%	3.46%
Common Equity	48.59%	9.10-9.50%	4.42-4.62%
Total	100.00%		7.88-8.08%
			7.98% Mid-Point

ETI's application requests a return on common equity of 10.40 percent and an overall rate of return of 8.51 percent. I propose a return on common equity of 9.3 percent and an overall rate of return of 7.98 percent, which reflect the mid-points of the above ranges.

[1] These cities are: Anahuac, Beaumont, Bridge City, Cleveland, Conroe, Dayton, Groves, Houston, Huntsville, Liberty, Montgomery, Navasota, Nederland, Oak Ridge North, Orange, Pine Forest, Pinehurst, Port Arthur, Port Neches, Rose City, Shenandoah, Silsbee, Sour Lake, Splendora, Vidor, and West Orange.

Q. PLEASE SUMMARIZE YOUR COST OF CAPITAL ANALYSES AND RELATED CONCLUSIONS FOR ETI.

A. This proceeding is concerned with ETI's regulated electric utility operations in Texas. My analyses address the Company's total cost of capital. The first step in performing an analysis of the Company's cost of capital is the development of the appropriate capital structure. ETI's proposed capital structure is comprised of 51.41 percent long-term debt and 48.59 percent common equity, which is the March 31, 2013 capital structure.[2] I also use this capital structure in my cost of capital analyses.

The second step in a cost of capital calculation is a determination of the embedded cost of long-term debt. ETI's application uses a cost of 6.73 percent for long-term debt, which reflects the Company's cost at March 31, 2013.[2] I use this rate in my analyses.

The third step in the cost of capital calculation is the estimation of the cost of common equity. I have employed three recognized methodologies to estimate the cost of equity for ETI. Each of these methodologies is applied to two groups of proxy utilities. The first group is compiled of publicly-traded electric utilities (or holding companies) that I have selected based on similar operating and risk characteristics to ETI and Entergy. The second group is the "Comparable Company" group used by ETI witness Hadaway in his analyses. These three methodologies and my findings are:

Methodology	Range	Mid-Point
Discounted Cash Flow	8.6-9.6%	9.1%
Capital Asset Pricing Model	7.2-7.5%	7.35%
Comparable Earnings	9.0-10.0%	9.50%

Based upon these findings, I conclude that the cost of common equity for ETI is within a range of 9.1 percent to 9.5 percent (9.3 percent mid-point). This range incorporates the respective mid-points of the DCF and CE analyses. I recommend the mid-point of this range, or 9.3 percent.

[2] Schedule K-1.

Combining these three steps into a weighted cost of capital results in an overall cost of capital range of 7.88 percent to 8.08 percent. My recommended 9.3 percent cost of equity results in an overall cost of capital of 7.98 percent.

III. ECONOMIC/LEGAL PRINCIPLES AND METHODOLOGIES

Q. WHAT ARE THE PRIMARY ECONOMIC AND LEGAL PRINCIPLES THAT ESTABLISH THE STANDARDS FOR DETERMINING A FAIR RATE OF RETURN FOR A REGULATED UTILITY?

A. Public utility rates are normally established in a manner designed to allow the recovery of their costs, including capital costs. This is frequently referred to as "cost of service" ratemaking. Rates for regulated public utilities traditionally have been primarily established using the "rate base - rate of return" concept. Under this method, utilities are allowed to recover a level of operating expenses, taxes, and depreciation deemed reasonable for rate-setting purposes, and are granted an opportunity to earn a fair rate of return on the assets used and useful (*i.e.*, rate base) in providing service to their customers.

The rate base is derived from the asset side of the utility's balance sheet as a dollar amount and the rate of return is developed from the liabilities/owners' equity side of the balance sheet as a percentage. The revenue impact of the cost of capital is thus derived by multiplying the rate base by the rate of return (including income taxes).

The rate of return is developed from the cost of capital, which is estimated by weighting the capital structure components (*i.e.*, debt, preferred stock, and common equity) by their percentages in the capital structure and multiplying these by their cost rates. This is also known as the weighted cost of capital.

Technically, "fair rate of return" is a legal and accounting concept that refers to an *ex post* (after the fact) earned return on an asset base, while the cost of capital is an economic and financial concept which refers to an *ex ante* (before the fact) expected or

required return on a liability base. In regulatory proceedings, however, the two terms are often used interchangeably, as I have done in my testimony.

From an economic standpoint, a fair rate of return is normally interpreted to mean that an efficient and economically managed utility will be able to maintain its financial integrity, attract capital, and establish comparable returns for similar risk investments. These concepts are derived from economic and financial theory and are generally implemented using financial models and economic concepts.

Although I am not a lawyer and I do not offer a legal opinion, my testimony is based on my understanding that two United States Supreme Court decisions provide the main standards for a fair rate of return. The first decision is *Bluefield Water Works and Improvement Co. v. Public Serv. Comm'n of West Virginia*, 262 U.S. 679 (1923). In this decision, the Court stated:

> What annual rate will constitute **just compensation** depends upon many circumstances and must be **determined by** the **exercise of fair and enlightened judgment**, having regard to all relevant facts. A public utility is entitled to such rates as will permit it to **earn a return** on the value of the property which it employs for the convenience of the public equal to that **generally being made** at the same time and in the same general part of the country on **investments in other business undertakings** which are **attended by corresponding risks and uncertainties**; but it has no **constitutional right to profits** such as are realized or anticipated in **highly profitable enterprises or speculative ventures**. The **return** should be reasonably sufficient to assure confidence in the **financial soundness** of the utility, and should be adequate, **under efficient and economical management**, to maintain and **support its credit** and **enable it to raise the money** necessary for the proper discharge of its public duties. A rate of return may be reasonable at one time, and become too high or too low by changes affecting opportunities for investment, the money market, and business conditions generally. **[Emphasis added.]**

It is my understanding that the *Bluefield* decision established the following standards for a fair rate of return: comparable earnings, financial integrity, and capital attraction. It

also noted the changing level of required returns over time as well as an underlying assumption that the utility be operated in an efficient manner.

The second decision is *Federal Power Comm'n v. Hope Natural Gas Co.*, 320 U.S. 591 (1942). In that decision, the Court stated:

> The rate-making process under the [Natural Gas] Act, i.e., the fixing of 'just and reasonable' rates, involves a **balancing** of the **investor** and **consumer interests** . . . . From the investor or company point of view it is important that there be enough revenue not only for operating expenses but also for the capital costs of the business. These include service on the debt and dividends on the stock. By that standard the **return** to the equity **owner** should be **commensurate** with **returns** on **investments** in **other enterprises having corresponding risks**. That return, moreover, should be sufficient to assure confidence in the **financial integrity** of the enterprise, so as to **maintain its credit** and to **attract capital. [Emphasis added.]**

The *Hope* case is also frequently credited with establishing the "end result" doctrine, which maintains that the methods utilized to develop a fair return are not as important as long as the end result is reasonable.

The three economic and financial parameters in the *Bluefield* and *Hope* decisions - comparable earnings, financial integrity, and capital attraction - reflect the economic criteria encompassed in the "opportunity cost" principle of economics. The opportunity-cost principle provides that a utility and its investors should be afforded an opportunity (not a guarantee) to earn a return commensurate with returns they could expect to achieve on investments of similar risk. The opportunity cost principle is consistent with the fundamental premise, on which regulation rests, namely, that it is intended to act as a surrogate for competition.

Q. HOW CAN THESE PARAMETERS BE EMPLOYED TO ESTIMATE THE COST OF CAPITAL FOR A UTILITY?

A. Neither the courts nor economic/financial theory have developed exact and mechanical procedures for precisely determining the cost of capital. This is the case because the cost

of capital is an opportunity cost and is prospective-looking, which dictates that it must be estimated.

There are several useful models that can be employed to assist in estimating the cost of equity capital, which is the capital structure item that is the most difficult to determine. These include the Discounted Cash Flow ("DCF"), Capital Asset Pricing Model ("CAPM"), Comparable Earnings ("CE") and Risk Premium ("RP") methods. Each of these methods (or models) differs from the others and each, if properly employed, can be a useful tool in estimating the cost of common equity for a regulated utility.

Q. WHICH METHODS HAVE YOU EMPLOYED IN YOUR ANALYSES OF THE COST OF COMMON EQUITY IN THIS PROCEEDING?

A. I have utilized three methodologies to determine ETI's cost of common equity: the DCF, CAPM, and CE methods. I have not employed a RP model in my analyses, although, as I indicate later, my CAPM analysis is a form of the RP methodology. Each of these methodologies will be described in more detail in my testimony that follows.

IV. GENERAL ECONOMIC CONDITIONS

Q. ARE ECONOMIC AND FINANCIAL CONDITIONS IMPORTANT IN DETERMINING THE COST OF CAPITAL FOR A PUBLIC UTILITY?

A. Yes. The cost of capital, for both fixed-cost (debt and preferred stock) components and common equity, are determined in part by current and prospective economic and financial conditions. At any given time, each of the following factors has an influence on the cost of capital:

- The level of economic activity (i.e., growth rate of the economy);
- The stage of the business cycle (i.e., recession, expansion, or transition);
- The level of inflation;
- The level and trend of interest rates; and,
- Expected economic conditions.

My understanding is that this position is consistent with the *Bluefield* decision that noted "[a] rate of return may be reasonable at one time and become too high or too low by changes affecting opportunities for investment, the money market, and business conditions generally." *Bluefield*, 262 U.S. at 693.

Q. WHAT INDICATORS OF ECONOMIC AND FINANCIAL ACTIVITY DID YOU EVALUATE IN YOUR ANALYSES?

A. I examined several sets of economic statistics from 1975 to the present. I chose this time period because it permits the evaluation of economic conditions over four full business cycles, allowing for an assessment of changes in long-term trends. This period also approximates the beginning and continuation of active rate case activities by public utilities.

A business cycle is commonly defined as a complete period of expansion (recovery and growth) and contraction (recession). A full business cycle is a useful and convenient period over which to measure levels and trends in long-term capital costs because it incorporates the cyclical (i.e., stage of business cycle) influences, and thus, permits a comparison of structural (or long-term) trends.

Q. PLEASE DESCRIBE THE TIMEFRAME OF THE FOUR PRIOR BUSINESS CYCLES AND THE CURRENT CYCLE.

A. The four prior complete cycles and current cycle cover the following periods:

Business Cycle	Expansion Cycle	Contraction Period
1975-1982	Mar. 1975-July 1981	Aug. 1981-Oct. 1982
1982-1991	Nov. 1982-July 1990	Aug. 1990-Mar. 1991
1991-2001	Apr. 1991-Mar. 2001	Apr. 2001-Nov. 2001
2001-2009	Dec. 2001-Nov. 2007	Dec. 2007-June 2009
Current	July 2009-	

Source: National Bureau of Economic Research, "Business Cycle Expansions and Contractions."

Q. DO YOU HAVE ANY GENERAL OBSERVATIONS CONCERNING THE RECENT TRENDS IN ECONOMIC CONDITIONS AND THEIR IMPACT ON CAPITAL COSTS OVER THIS BROAD PERIOD?

A. Yes, I do. Until the end of 2007, the United States economy had enjoyed general prosperity and stability since the early 1980s.[3] This period had been characterized by longer economic expansions, relatively tame contractions, low and declining inflation, and declining interest rates and other capital costs.

However, in 2008 and 2009, the economy declined significantly, initially as a result of the 2007 collapse of the "sub-prime" mortgage market and the related liquidity crisis in the financial sector of the economy. Subsequently, this financial crisis intensified with a more broad-based decline, initially based on a substantial increase in petroleum prices and a dramatic decline in the U.S. financial sector, culminating with the collapse and/or bailouts of a significant number of well-known institutions such as Bear Stearns, Lehman Brothers, Merrill Lynch, Freddie Mac, Fannie Mae, AIG and Wachovia. The recession also witnessed the demise of national companies such as Circuit City and the bankruptcies of automotive manufacturers such as Chrysler and General Motors.

This decline has been described as the worst financial crisis since the Great Depression and has been referred to as the "Great Recession." Since 2008, the U.S. and other governments have implemented and continue to implement unprecedented actions to attempt to correct or minimize the scope and effects of this recession.

The recession reached its low point in mid-2009 and the economy has since begun to expand again, although at a slow and uneven rate. However, the length and severity of the recession, as well as a relatively slow and uneven recovery, indicates that the impacts of the recession have been and will be felt for an extended period of time. As an example of this, even in the fifth year of the recovery/expansion, the U.S. unemployment rate still stands at over 7 percent—close to the highest unemployment rate experienced over the last several decades.

[3] There was a "Tech Bubble" in 1999-2000, in which prices of many technology stocks encountered a dramatic run-up that was followed by an equally dramatic decline in 2001-2002.

Q. PLEASE DESCRIBE RECENT AND CURRENT ECONOMIC AND FINANCIAL CONDITIONS AND THEIR IMPACT ON THE COST OF CAPITAL.

A. Attachment DCP-3 shows several sets of relevant economic and financial statistics for the cited time periods. Pages 1 and 2 contain general macroeconomic statistics; pages 3 and 4 show interest rates; and pages 5 and 6 contain equity market statistics.

Pages 1 and 2 show that 2007 was the sixth year of an economic expansion but, as I previously noted, the economy subsequently entered a significant decline, as indicated by the growth in real (i.e., adjusted for inflation) Gross Domestic Product ("GDP"), industrial production, and an increase in the unemployment rate. This recession lasted until mid-2009, making it a longer-than-normal recession, as well as a much deeper recession. Since then, economic growth has been erratic and lower than the initial periods of prior expansions.

Pages 1 and 2 also show the rate of inflation. As reflected in the Consumer Price Index ("CPI"), for example, inflation rose significantly during the 1975-1982 business cycle and reached double-digit levels in 1979-1980. The rate of inflation has declined substantially since 1981. Since 2008, the CPI has been 3 percent or lower, with 2012 being only 1.7 percent. It is thus apparent that the rate of inflation has generally been declining over the past several business cycles. Current levels of inflation are at the lowest levels of the past 35 years and are indicative of low inflation, which is reflective of lower capital costs.[4]

Q. WHAT HAVE BEEN THE TRENDS IN INTEREST RATES OVER THE FOUR PRIOR BUSINESS CYCLES AND AT THE CURRENT TIME?

A. Pages 3 and 4 show several series of interest rates. Rates rose sharply to record levels in 1975-1981 when the inflation rate was high and generally rising. Interest rates declined

[4] The rate of inflation is one component of interest rate expectations of investors, who generally expect to receive a return in excess of the rate of inflation. Thus, a lower rate of inflation has a downward impact on interest rates and other capital costs.

substantially in conjunction with inflation rates during the remainder of the 1980s and throughout the 1990s and 2000s.

Since 2008, the Federal Reserve has lowered the Federal Funds rate (i.e., short-term rate) to 0.25 percent, an all-time low. The Federal Reserve has also purchased U.S. Treasury securities to stimulate the economy.[5] As seen on page 4, in 2012 both U.S. and corporate bond yields declined to their lowest levels in the past four business cycles and in more than 35 years. Interest rates have risen somewhat from those lows since the beginning of 2013. Even with the recent increases, both government and corporate lending rates remain at historically low levels, again reflective of lower capital costs.

Q. WHAT DOES THIS ATTACHMENT SHOW FOR TRENDS OF COMMON SHARE PRICES?

A. Pages 5 and 6 show several series of common stock prices and ratios. These indicate that stock prices were essentially stagnant during the high inflation/high interest rate environment of the late 1970s and early 1980s. The 1983-1991 business cycle and the more recent cycles witnessed a significant upward trend in stock prices. The beginning of the recent financial crisis saw stock prices decline precipitously, as stock prices in 2008 and early 2009 were down significantly from peak 2007 levels, reflecting the financial/economic crisis. Beginning in the second quarter of 2009, prices have recovered substantially and have ultimately reached and exceeded the levels achieved prior to the "crash."

Q. WHAT CONCLUSIONS DO YOU DRAW FROM YOUR DISCUSSION OF ECONOMIC AND FINANCIAL CONDITIONS?

A. It is apparent that recent economic and financial circumstances have been different from any that have prevailed since at least the 1930s. The late 2008-early 2009 deterioration in stock prices, the decline in U.S. Treasury bond yields, and an increase in corporate bond yields were evidenced in the then-evident "flight to safety." Concurrently, there was a

[5] This is referred to as Quantitative Easing ("QE"), in which the FED has purchased some $85 billion of U.S. Treasury Securities per month in order to stimulate the economy. The FED has recently announced its intention to "taper" its purchase of U.S. Treasury securities, but still intends to purchase some $75 billion per month.

decline in capital costs and returns, which significantly reduced the value of most retirement accounts, investment portfolios and other assets. One significant aspect of this has been a decline in investor expectations of returns. This is evident in several ways: 1) lower interest rates on bank deposits; 2) lower interest rates on U.S. Treasury and corporate bonds; and 3), lower increases in social security cost of living benefits.[6] Finally, as noted above, utility bond interest rates are currently at levels below those prevailing prior to the financial crisis of late 2008 to early 2009 and are near the lowest levels in the past 35 years.

V. ETI'S OPERATIONS AND BUSINESS RISKS

Q. PLEASE SUMMARIZE ETI AND ITS OPERATIONS.

A. ETI is a public utility that generates, transmits, and distributes electric energy to some 417,000 customers in 27 counties of Southeast Texas. Until December 31, 2007, ETI was part of Entergy Gulf States (EGS), which operated in both Texas and Louisiana. On December 31, 2007, ETI was separated from EGS and became a separate entity.

Q. WHAT IS THE PARENT COMPANY OF ETI?

A. ETI is owned by Entergy, which is a holding company with subsidiaries engaged in two general business segments:

Utility Business

- Entergy Arkansas, Inc.;
- Entergy Gulf States, Louisiana, LLC;
- Entergy Louisiana, LLC;
- Entergy Mississippi, Inc.;
- Entergy New Orleans, Inc.;

[6] The 2014 increase in Social Security benefits is 1.5 percent – near an all-time low.

Entergy Texas, Inc.;[7] and,

System Energy Resources, Inc.

Competitive Business

Entergy Nuclear (non-utility nuclear business); and,

Other

According to the 2012 Form 10-K, the utility segment of Entergy accounted for about 80 percent of consolidated revenues, net income and assets in 2012.[8]

Q. WHAT ARE THE CURRENT BOND RATINGS OF ETI AND ENTERGY?

A. The present bond ratings (secured debt) are as follows:

	ETI	Entergy
Moody's	Baa2	Baa3
Standard & Poor's	A-	BBB

(Source: Entergy Presentation at 48th EEI Financial Conference, Nov. 10-13, 2013.

Q. WHAT HAVE BEEN THE TRENDS IN ETI'S BOND RATINGS?

A. This is shown on Attachment DCP-4, which indicates that ETI has had triple-B or higher ratings since 2008. Prior to 2008, ETI was part of Entergy Gulf States.

Q. HOW DO THE BOND RATINGS OF ETI COMPARE TO OTHER ELECTRIC AND COMBINATION GAS/ELECTRIC UTILITIES?

A. As I indicated in the previous answer, ETI has single A/triple B bond ratings on its senior long-term debt. Below is a table depicting the bond ratings of the 51 electric utilities and combination gas/electric utilities covered by AUS Utility Reports:

---

[7] The six different jurisdictional utility operations: Entergy Arkansas, Inc.; Entergy Gulf States Louisiana, LLC; Entergy Louisiana, LLC; Entergy Mississippi, Inc.; Entergy New Orleans, Inc.; and Entergy Texas, Inc. are often referred to as the Entergy Operating Companies, or "EOCs."

[8] Entergy 2012 Form 10-K, page 1.

Moody's Rating	Number of Companies	S&P Rating	Number of Companies
Aa3	1	AA-	1
A1	3	A+	--
A2	10	A	6
A3	13	A-	16*
Baa1	11	BBB+	10
Baa2	11*	BBB	13
Baa3	--	BBB-	4
Ba or less	--	BB	--
NR	2	NR	3

* ETI ratings.

Q. ARE ETI'S RATINGS INDEPENDENT OF ENTERGY?

A. No, they are not. ETI's ratings are tied to, and negatively impacted by, Entergy's non-utility operations. Standard & Poor's stated in a January 26, 2012 RatingsDirect report on ETI (Attachment DCP-5):[9]

> Standard & Poor's Ratings Services' **ratings on Entergy Texas Inc.** (ETI) reflect the **consolidated credit profile of its parent, Entergy Corp.**
>
> . . .
>
> **Entergy's strong business risk profile incorporates regulated utility operations that have demonstrated a measure of steady improvement over time, but this strength is offset by significant exposure to merchant generation operations.**
>
> . . .
>
> The **merchant operations**, which are dominated by nuclear generation and which **we view as having higher business risk than the regulated electric utility operations**, contribute about one-third of operating income, and we expect their contribution to decline somewhat in light of continuing low wholesale power prices, especially in the northeastern U.S.
> **[Emphasis added]**

This is indicative of the fact that ETI, though less risky than its parent, is negatively impacted by the non-regulated activities of Entergy.

[9] Note that this S&P report was produced by the Company as a public document in a prior ETI proceeding (Docket No. 39896) and was included as an attachment in Mr. Parcell's testimony in that proceeding. As a result, it is not subject to the protective order, as cited in the response to BMT 1-31.

VI. CAPITAL STRUCTURE

Q. WHAT IS THE IMPORTANCE OF DETERMINING A PROPER CAPITAL STRUCTURE IN A REGULATORY FRAMEWORK?

A. A utility's capital structure is important because the concept of rate-base, rate-of-return regulation requires that a utility's capital structure be determined and utilized in estimating the total cost of capital. Within this framework, it is proper to ascertain whether the utility's capital structure is appropriate relative to its level of business risk and relative to other utilities.

As discussed in Section III of my testimony, the purpose of determining the proper capital structure for a utility is to help ascertain its capital costs. The rate-base rate-of-return concept recognizes the assets employed in providing utility services and provides for a return on these assets by identifying the liabilities and common equity (and their cost rates) used to finance the assets. In this process, the rate base is derived from the asset side of the balance sheet and the cost of capital is derived from the liabilities/owners' equity side of the balance sheet. The inherent assumption in this procedure is that the dollar values of the capital structure and the rate base are approximately equal and the former is utilized to finance the latter.

The common equity ratio (*i.e.*, the percentage of common equity in the capital structure) is the capital structure item which normally receives the most attention. This is the case because common equity: (1) usually commands the highest cost rate; (2) generates associated income tax liabilities; and, (3) causes the most controversy since its cost cannot be precisely determined.

Q. HOW HAVE YOU EVALUATED THE CAPITAL STRUCTURE OF ETI?

A. I have first examined the five year historic (2008-2012) capital structure ratios of ETI. These are shown on Page 1 of Attachment DCP-6. I have summarized below the common equity ratios for ETI:

	Including S-T Debt	Excluding S-T Debt
2008	40.1%	42.0%
2009	33.7%	36.2%
2010	33.2%	33.2%
2011	34.9%	34.9%
2012	34.6%	34.6%

This reflects a declining common equity ratio for ETI since its corporate creation in 2007. It should be noted, however, that the decline in ETI's common equity ratio (and related increase in long-term debt ratio) is largely accounted for by the issuance of about $800 million in securitized debt to recover the cost of hurricane damage.

Page 2 shows the historic capital structure ratios of Entergy on a consolidated basis. This indicates the following common equity ratios.

	Including S-T Debt	Excluding S-T Debt
2008	39.7%	41.0%
2009	42.3%	43.9%
2010	41.3%	42.2%
2011	41.5%	46.5%
2012	40.1%	43.0%

These common equity ratios are currently slightly higher than those of ETI.

Page 3 shows the 2012 capital structure ratios of Entergy's utility subsidiaries. ETI's common equity ratios are seen to be at the lower end of the common equity range of its affiliated companies, again largely due to the issuance of securitized debt.

Q. HOW DO THESE CAPITAL STRUCTURES COMPARE TO THOSE OF INVESTOR-OWNED ELECTRIC UTILITIES?

A. Attachment DCP-7 shows the common equity ratios (including short-term debt in capitalization) for the two groups of electric utilities covered by AUS Utility Reports. These are:

Year	Electric	Combination Gas And Electric
2008	45%	43%
2009	46%	45%
2010	46%	46%
2011	47%	46%
2012	47%	46%

(Source: AUS Utility Reports)

Q. WHAT CAPITAL STRUCTURE HAS ETI REQUESTED IN THIS PROCEEDING?

A. ETI has requested a capital structure that consists of 51.41 percent long-term debt and 48.59 percent common equity. This is the Company's actual capital structure as of March 31, 2013, exclusive of the securitized debt. I also use this capital structure in my recommendation.

Q. WHAT IS THE COST OF LONG-TERM DEBT OF ETI?

A. The Company's application utilizes a cost of long-term debt of 6.73 percent – the cost as of March 31, 2013. I also employ this rate in my recommendation.

VII. SELECTION OF PROXY GROUPS

Q. HOW HAVE YOU ESTIMATED THE COST OF COMMON EQUITY FOR ETI?

A. ETI is not a publicly-traded company. Entergy, ETI's parent company, is a publicly-traded company. Consequently, it is possible to directly apply cost of equity models to this entity. However, it is generally preferred to analyze groups of comparison or "proxy" companies as a substitute for ETI to determine its cost of common equity.

I have examined two such groups for comparison of ETI. I selected one group of electric utilities similar to ETI and Entergy using the criteria listed on Attachment DCP-8. These criteria are as follows:

(1) Market cap of $10 billion or greater;

(2) Electric revenues 50% or greater;

(3) Common equity ratio 40% or greater;

(4) Value Line Safety of 1, 2 or 3;

(5) S&P stock ranking of A or B;

(6) S&P and Moody's bond ratings of A or BBB; and

(7) Currently pays dividends.

Second, I have conducted studies of the cost of equity for the group of "comparable risk company group" selected by ETI witness Hadaway.

VIII. DISCOUNTED CASH FLOW ANALYSIS

Q. WHAT IS THE THEORY AND METHODOLOGICAL BASIS OF THE DISCOUNTED CASH FLOW MODEL?

A. The discounted cash flow ("DCF") model is one of the oldest, as well as the most commonly-used, models for estimating the cost of common equity for public utilities. The DCF model is based on the "dividend discount model" of financial theory, which maintains that the value (price) of any security or commodity is the discounted present value of all future cash flows.

The most common variant of the DCF model assumes that dividends are expected to grow at a constant rate. This variant of the dividend discount model is known as the constant growth or Gordon DCF model. In this framework cost of capital is derived by the following formula:

$$K = \frac{D}{P} + g$$

where: K = discount rate (cost of capital)

P = current price ($)

D = current annual dividend ($)

g = constant rate of expected growth (%)

This formula essentially recognizes that the return expected or required by investors is comprised of two factors: the dividend yield (current income) and expected growth in dividends (future income).

Q. PLEASE EXPLAIN HOW YOU HAVE EMPLOYED THE DCF MODEL.

A. I have utilized the constant growth DCF model. In doing so, I have combined the current dividend yield for the groups of proxy utility stocks described in the previous section with several indicators of expected dividend growth.

Q. HOW DID YOU DERIVE THE DIVIDEND YIELD COMPONENT OF THE DCF EQUATION?

A. There are several methods that can be used for calculating the dividend yield component. These methods generally differ in the manner in which the dividend rate is employed; *i.e.*, current versus future dividends, or annual versus quarterly compounding of dividends. I believe the most appropriate dividend yield component is the version listed below:

$$Yield = \frac{D_0(1+0.5g)}{P_0}$$

This dividend yield component recognizes the timing of dividend payments and dividend increases.

The P_0 in my yield calculation is the average (of high and low) stock price for each proxy company for the most recent three month period (October-December, 2013). The D_0 is the current annualized dividend for each proxy company.

Q. HOW HAVE YOU ESTIMATED THE DIVIDEND GROWTH COMPONENT OF THE DCF EQUATION?

A. The dividend growth rate component of the DCF model is usually the most crucial and controversial element involved in using this methodology. The objective of estimating the dividend growth component is to reflect the sustainable long term growth expected by investors that is embodied in the price (and yield) of a company's stock. As such, it is important to recognize that individual investors have different expectations and consider alternative indicators in deriving their expectations. This is evidenced by the fact that every investment decision resulting in the purchase of a particular stock is matched by another investment decision to sell that stock. Obviously, since two investors reach different decisions at the same market price, their expectations differ.

A wide array of indicators exists for estimating the growth expectations of investors. As a result, it is evident that no single indicator of growth is always used by all investors. It therefore is necessary to consider alternative indicators of dividend growth in deriving the growth component of the DCF model.

I have considered five indicators of growth in my DCF analyses. These are:

1. 2008-2012 (5-year average) earnings retention, or fundamental growth (per Value Line);
2. 5-year average of historic growth in earnings per share ("EPS"), dividends per share ("DPS"), and book value per share ("BVPS") (per Value Line);
3. 2013, 2014 and 2016-2018 projections of earnings retention growth (per Value Line);
4. 2010-2012 to 2016-2018 projections of EPS, DPS, and BVPS (per Value Line); and,
5. 5-year projections of EPS growth (per First Call).

I believe this diverse combination of growth indicators is a representative and appropriate set with which to begin the process of estimating investor expectations of dividend growth for the groups of proxy companies. I also believe that these growth indicators

reflect the types of information that investors consider in making their investment decisions. As I indicated previously, investors have an array of information available to them, all of which should be expected to have some impact on their decision-making process.

Q. PLEASE DESCRIBE YOUR DCF CALCULATIONS.

A. Attachment DCP-9 presents my DCF analysis. Page 1 shows the calculation of the "raw" (i.e., prior to adjustment for growth) dividend yield for each proxy company. Pages 2 and 3 show the various growth rates for the groups of proxy companies. Page 4 shows the "raw" DCF calculations, which are presented on several bases: mean, median, and low/high values. These results can be summarized as follows:

	Mean	Median	Mean Low[10]	Mean High[11]	Median Low[10]	Median High[11]
Proxy Group	8.6%	8.4%	8.0%	9.4%	7.8%	8.6%
Hadaway Group	8.5%	8.3%	7.6%	9.6%	7.2%	9.1%

I note that the individual DCF calculations shown on Attachment DCP-9 should not be interpreted to reflect the expected cost of capital for the proxy groups; rather, the individual values shown should be interpreted as alternative information considered by investors. The individual DCF calculations also demonstrate how the focus on a single growth rate, such as EPS projections, can produce a DCF conclusion that is not reflective of a broader perspective of available information.

The results in Attachment DCP-9 indicate average (mean and median) DCF cost rates of 8.3 percent to 8.6 percent. The "high" DCF rates (i.e., using the highest growth rates only) are 8.6 percent and 9.6 percent on an average basis and median basis.

[10] Using only the lowest growth rate.

[11] Using only the highest growth rate.

Q. WHAT DO YOU CONCLUDE FROM YOUR DCF ANALYSES?

A. This analysis reflects a broad DCF range of 8.3 percent to 9.6 percent for the proxy groups. This is approximated by the average/mean value and high values for the proxy groups examined in the previous analysis. I give less weight to the low values and average values of the groups. I believe that 8.6 percent to 9.6 percent (9.1 percent mid-point) reflects the proper DCF cost for ETI. This reflects the highest DCF results.

Q. HOW DO YOUR DCF RESULTS DIFFER FROM ETI WITNESS HADAWAY'S DCF RESULTS?

A. Dr. Hadaway applies three versions of the DCF model. First, he performs what he describes as the constant growth form of the DCF model. In this, he uses stock prices for the three-month period June-August 2013, along with "next year's" dividend levels, to get his dividend yield component (3.99% average and 3.97% median). He combines this yield with the average of three growth rates – all of which are projections of earnings per share (EPS) growth. His results from this DCF model are 9.1 percent to 9.0 percent (Exhibit SCH-4, page 2). These results are generally consistent with my DCF result.

Q. PLEASE NOW TURN TO DR. HADAWAY'S SECOND DCF ANALYSIS.

A. Dr. Hadaway's second DCF model relies exclusively on the 5.63 percent Gross Domestic Product ("GDP") projections as the DCF growth rate. As such, it also results in an over-statement of the DCF cost of equity.

Q. WHAT IS THE SOURCE OF THIS 5.63 PERCENT GDP FIGURE?

A. According to Dr. Hadaway's ETI Exhibit SCH-4, page 5, this 5.63 percent GDP growth is the "Average of GDP Growth During the Last 10-year, 20-year, 30-year, 40-year, 50-year, and 60-year periods."

Q. IS THERE ANYTHING INCONSISTENT WITH DR. HADAWAY'S USE OF HISTORIC GDP GROWTH IN HIS DCF ANALYSES?

A. Yes, there is. All of Dr. Hadaway's growth rates in his constant growth DCF analyses (i.e., EPS growth) reflect projections of future growth. On the other hand, Dr. Hadaway only uses historic rates in his GDP growth input. Apparently, Dr. Hadaway believes it is not proper to use historic growth rates of financial indicators (i.e., EPS growth), but it is proper to use only historic growth rates in his GDP input.

Q. ARE YOU AWARE OF ANY PROJECTIONS OF GDP GROWTH?

A. Yes, I am. There are at least two sources of projections of GDP growth. These are:

- Social Security Administration (SSA), and
- Energy Information Administration (EIA).

The two organizations cited above are U.S. government-sponsored organizations.

Q. WHAT ARE THE PROJECTIONS OF GDP GROWTH BY THESE TWO ORGANIZATIONS?

A. The projections of GDP growth by these two organizations are:

SSA – 2010-2085 – 4.6% (see Attachment DCP-10)

EIA – 2008-2035 – 4.4% (see Attachment DCP-10)

Each of these projections is at least 100 basis points below the 5.63 percent GDP figure used by Dr. Hadaway.

Q. WOULD IT BE MORE APPROPRIATE TO USE HISTORIC OR PROJECTED GROWTH RATES OF GDP IN A DCF ANALYSIS SUCH AS THAT BEING USED BY DR. HADAWAY?

A. It would be appropriate to use projections of GDP growth, since Dr. Hadaway is using projections of the other growth rate indicators.

Q. IS IT REASONABLE TO BELIEVE THAT INVESTORS WOULD EXPECT GDP GROWTH TO BE 5.63 PERCENT, IN SPITE OF MUCH LOWER PROJECTIONS BY THE U.S. GOVERNMENT FORECASTING ORGANIZATIONS?

A. No, it is not. It would be expected that the government's forecasts of GDP would be considered by investors as the most unbiased and reliable estimate.

Q. ARE YOU AWARE OF ANY UTILITY REGULATORY AGENCIES THAT UTILIZE GDP GROWTH AS A COMPONENT IN A DCF ANALYSIS?

A. The only regulatory agency of which I am aware that directly and formally uses GDP growth in a DCF context is the Federal Energy Regulatory Commission (FERC). The FERC regularly uses a two-stage DCF model in establishing the cost of equity for interstate natural gas pipelines. The first stage of the FERC two-stage DCF model is 5-year EPS forecasts, while the second stage is GDP projections for 6-25+ years into the future.

Q. HOW MUCH WEIGHT DOES FERC GIVE TO THE GDP GROWTH RATE IN ITS TWO-STAGE DCF MODEL?

A. Thirty-three percent.

Q. ARE YOU AWARE OF ANY REGULATORY AGENCIES THAT USE HISTORIC GDP GROWTH IN A DCF CONTEXT?

A. No, not in the same context as Dr. Hadaway does.

Q. WHAT IS THE IMPACT OF THE GDP GROWTH ON DR. HADAWAY'S SECOND DCF ANALYSIS?

A. As is shown below, the impact is substantial:

Yield	3.99%	(average value, per Exhibit SCH-4)
GDP	4.50%	(see Attachment DCP-10)
	8.49%	

Q. PLEASE DESCRIBE DR. HADAWAY'S THIRD DCF MODEL.

A. Dr. Hadaway's third DCF analysis is a "two-stage growth" model that uses five years of "cash flows" (i.e., dividends) plus years 5-150 dividend growth (as measured by GDP growth at 5.63 percent). This DCF model employs a 150 year "internal rate of return" as the DCF result, which Dr. Hadaway finds to be 9.5 percent (average) and 9.6 percent (median).

Q. IS THERE ANYTHING IMPROPER ABOUT THIS DCF MODEL AND RESULTS?

A. Yes, there are two significant problems with this DCF model. First, by estimating growth rates of up to 150 years into the future, this model incorporates questionable assumptions about future growth, not to mention measurement problems going so far into the future. Second, the primary growth rate in this analysis, and the growth rate that is used in 145 of the 150 years in the "internal rate of return" model, is the 5.63 percent GDP growth discussed above. In other words, Dr. Hadaway's 150 year projected DCF model uses only historic figures to estimate 145 years of data, notwithstanding the existence of GDP projections by U.S. government organizations. Thus, this DCF model suffers from the same significant flaw that causes Dr. Hadaway's second DCF model to over-state the cost of equity.

Q. HOW MUCH WEIGHT IS GIVEN TO THE GDP GROWTH RATE IN DR. HADAWAY'S TWO-STAGE DCF ANALYSIS?

A. Dr. Hadaway gives the GDP growth rate over 95 percent weight on an unweighted basis (i.e., each year given equal weight). Even allowing for the discounted nature of his internal rate of return process, the weight given to GDP growth represents the majority of his DCF growth.

Q. DO YOU HAVE ANY FURTHER COMMENTS ABOUT DR. HADAWAY'S DCF CALCULATIONS?

A. Yes, I do. Two of Dr. Hadaway's three DCF models over state the cost of equity due to the use in each model of a 5.63 percent GDP growth rate. This growth rate is based

exclusively on historic growth in GDP, in spite of the fact that U.S. government forecasting organizations provide long-term forecasts of GDP growth which are significantly lower. In addition, Dr. Hadaway's exclusive use of historic GDP growth is inconsistent with his exclusive avoidance of other historic financial data in his DCF analyses.

Q. DOES DR. HADAWAY UTILIZE THE RESULTS OF HIS DCF ANALYSES IN MAKING HIS DETERMINATION OF A 10.4 PERCENT RETURN ON EQUITY RECOMMENDATION FOR ETI?

A. Apparently not. His DCF "estimates" fall within a range of 9.0 percent to 9.6 percent, well below his 10.4 percent recommendation. Dr. Hadaway addresses this apparent discrepancy, on page 50, lines 6-11, where he maintains "the DCF results are out of sync. The data required for estimates of ROE from that model do not yet reflect the rising interest rate environment that has resulted from the tapering down of the FED's stimulative monetary policy."

Q. DO YOU AGREE WITH THIS ASSERTION?

A. No, I do not. Market-based cost of equity models, such as DCF, are based upon a presumption that capital markets are "efficient" in that all relevant information is reflected in stock prices. In fact, without this presumption, there would be no basis for the use of DCF and other market-based models.

As a result, any impact of capital market conditions is already reflected in stock prices, which translates into their incorporation into DCF results. There is thus no need to disregard the results of these market-based models as Dr. Hadaway proposes.

IX. CAPITAL ASSET PRICING MODEL ANALYSIS

Q. PLEASE DESCRIBE THE THEORY AND METHODOLOGICAL BASIS OF THE CAPITAL ASSET PRICING MODEL.

A. The Capital Asset Pricing Model ("CAPM") is a version of the risk premium method. The CAPM describes and measures the relationship between a security's investment risk and its market rate of return. The CAPM was developed in the 1960s and 1970s as an extension of modern portfolio theory ("MPT"), which studies the relationships among risk, diversification, and expected returns.

Q. HOW IS THE CAPM DERIVED?

A. The general form of the CAPM is:

$$K = R_f + \beta(R_m - R_f)$$

where: K = cost of equity

R_f = risk free rate

R_m = return on market

β = beta

R_m-R_f = market risk premium

As noted previously, the CAPM is a variant of the risk premium method. I believe the CAPM is generally superior to the simple risk premium method because the CAPM specifically recognizes the risk of a particular company or industry (*i.e.*, beta), whereas the simple risk premium method assumes the same risk premium for all companies exhibiting similar bond ratings.

Q. WHAT GROUP OF COMPANIES HAVE YOU UTILIZED TO PERFORM YOUR CAPM ANALYSES?

A. I have performed CAPM analyses for the same groups of proxy utilities evaluated in my DCF analyses.

Q. PLEASE EXPLAIN THE RISK-FREE RATE AS USED IN YOUR CAPM AND INDICATE WHAT RATE YOU EMPLOYED.

A. The first term of the CAPM is the risk-free rate (R_f). The risk-free rate reflects the level of return that can be achieved without accepting any risk. In CAPM applications, the risk-free rate is generally recognized by use of U.S. Treasury securities. Two general types of U.S. Treasury securities are often utilized as the R_f component - short-term U.S. Treasury bills and long-term U.S. Treasury bonds.

I have performed CAPM calculations using the most recent three-month average yield (October-December, 2013) for 20-year U.S. Treasury bonds. Over this three-month period, these bonds had an average yield of 3.50 percent.

Q. WHAT IS BETA AND WHAT BETAS DID YOU EMPLOY IN YOUR CAPM?

A. Beta is a measure of the relative volatility (and thus risk) of a particular stock in relation to the overall market. Betas of less than 1.0 are considered less risky than the market, whereas betas greater than 1.0 are more risky. Utility stocks traditionally have had betas below 1.0. I utilized the most recent Value Line betas for each company in the groups of proxy utilities.

Q. HOW DID YOU ESTIMATE THE MARKET RISK PREMIUM COMPONENT IN YOUR CAPM ANALYSIS?

A. The market risk premium component (R_m-R_f) represents the investor-expected premium of common stocks over the risk-free rate, or government bonds. For the purpose of estimating the market risk premium, I considered alternative measures of returns of the S&P 500 (a broad-based group of large U.S. companies) and 20-year U.S. Treasury bonds.

First, I have compared the actual annual returns on equity of the S&P 500 with the actual annual yields of U.S. Treasury bonds. Attachment DCP-11 shows the return on equity for the S&P 500 group for the period 1978-2012 (all available years reported by S&P).

This schedule also indicates the annual yields on 20-year U.S. Treasury bonds, as well as the annual differentials (*i.e.*, risk premiums) between the S&P 500 and U.S. Treasury 20-year bonds. Based upon these returns, I conclude that this version of the risk premium is about 6.6 percent.

I have also considered the total returns (i.e., dividends/interest plus capital gains/losses) for the S&P 500 group as well as for long-term government bonds, as tabulated by Morningstar (formerly Ibbotson Associates), using both arithmetic and geometric means. I have considered the total returns for the entire available 1926-2012 period, which are as follows:

	S&P 500	L-T Gov't Bonds	Risk Premium
Arithmetic	11.8%	6.1%	5.7%
Geometric	9.8%	5.7%	4.1%

I conclude from this that the expected risk premium is about 5.47 percent (i.e., average of all three risk premiums). I believe that a combination of arithmetic and geometric means is appropriate since investors have access to both types of means and, presumably, both types are reflected in investment decisions and thus stock prices and cost of capital.

Q. WHAT ARE YOUR CAPM RESULTS?

A. Attachment DCP-12 shows my CAPM calculations. The results are:

	Mean	Median
Proxy Group	7.2%	7.2%
Hadaway Group	7.5%	7.3%

Q. WHAT IS YOUR CONCLUSION CONCERNING THE CAPM COST OF EQUITY?

A. The result of my CAPM analyses collectively indicates a cost of 7.2 percent to 7.5 percent for the groups of proxy utilities. I conclude that the CAPM cost of equity for ETI is 7.2 percent to 7.5 percent.

Q. DOES DR. HADAWAY UTILIZE A CAPM METHODOLOGY IN HIS COST OF CAPITAL ANALYSES.

A. No, he does not. On the other hand, he does employ the risk premium analyses.

Q. PLEASE DESCRIBE DR. HADAWAY'S RISK PREMIUM ANALYSIS.

A. Dr. Hadaway's risk premium test is a comparison of public utility bond yields and "authorized electric returns" over the period 1980-2012. His Exhibit SCH-5 indicates an average differential of 3.41 percent over this entire period. He then performs a regression analysis to reflect an "inverse relationship between risk premiums and interest rate levels." His conclusion is a risk premium of 4.65 percent and a cost of equity of 9.98 percent to 10.43 percent (Exhibit SCH-5, page 1 and 2), reflecting three different triple B bond yield scenarios. I note that Dr. Hadaway uses forecasted yields on Triple B utility bonds to calculate his highest risk premium result.

Q. WHAT ARE YOUR COMMENTS ABOUT DR. HADAWAY'S RISK PREMIUM METHODOLOGY AND CONCLUSIONS?

A. First, it is worth noting that the annual cost rate differences between authorized electric returns and public utility bonds are not necessarily reliable indicators of investor-required risk premiums. This is true for two reasons. First, authorized returns are simply averaged over all the available rate case decisions during a calendar year. That means that any capital market data that the various regulatory bodies considered were drawn from time periods prior to the decision rendered. In some cases, that period of time between the hearing and the decision can be substantial. In any event, there would be a significant differential among the various authorized returns.

Second, the relative risk of the utility for which the equity return was determined is not a factor in Dr. Hadaway's analysis.

Q. DO YOU AGREE WITH THE USE OF FORECASTED INTEREST RATES IN A RISK PREMIUM CONTEXT?

A. No. I do not. I believe it is proper to use the current yield as the risk-free rate in a risk premium context. This is the case since the current yield is known and measurable and reflects investors' collective assessment of all capital market conditions. Prospective interest rates, in contrast, are not measurable and not achievable. For example, if the current yield on Triple B utility bonds is 5.0 percent, this reflects the rate the investors can actually receive on their investment. Investors cannot receive a prospective yield (e.g., 5.7 percent) on their investments since such a yield is not actual but rather speculative.

Use of the current yield in a DCF context is similar to using the current risk-free rate in a risk premium context. Analysts do not use prospective stock prices as the basis for the dividend yield in a DCF analysis, as use of prospective stock prices is speculative. Use of current stock prices is appropriate. Likewise use of current interest rates is appropriate in a risk premium analysis. I note that Dr. Hadaway used then-current yields to derive his risk premium values, not prospective yields.

Q. WHAT WOULD BE THE RESULTS OF DR. HADAWAY'S RISK PREMIUM MODELS IF HE HAD PROPERLY USED THE ACTUAL COST OF TRIPLE B UTILITY BONDS RATHER THAN A PROJECTED YIELD?

A. This is indicated on Dr. Hadaway's Exhibit SCH-5, page 2, which indicates a risk premium result of 9.98 percent. This indicates that, even accepting Dr. Hadaway's risk premium, use of the actual risk free rate produces risk premium result of less than 10 percent.

X. COMPARABLE EARNINGS ANALYSIS

Q. PLEASE DESCRIBE THE BASIS OF THE CE METHODOLOGY.

A. The CE method is derived from the "corresponding risk" concept discussed in the *Bluefield* and *Hope* cases. This method is thus based upon the economic concept of

opportunity cost. As previously noted, the cost of capital is an opportunity cost: the prospective return available to investors from alternative investments of similar risk. The CE method is designed to measure the returns expected to be earned on the original cost book value of similar risk enterprises. Thus, it provides a direct measure of the fair return, since it translates into practice the competitive principle upon which regulation rests.

The CE method normally examines the experienced and/or projected returns on book common equity. The logic for examining returns on book equity follows from the use of original cost rate base regulation for public utilities, which uses a utility's book common equity to determine the cost of capital. This cost of capital is, in turn, used as the fair rate of return which is then applied to (multiplied by) the book value of rate base to establish the dollar level of capital costs to be recovered by the utility. This technique is thus consistent with the rate base-rate of return methodology used to set utility rates.

Q. HOW DO YOU APPLY THE CE METHODOLOGY IN YOUR ANALYSIS OF ETI'S COMMON EQUITY COST?

A. I apply the CE methodology by examining realized returns on equity for the two groups of proxy electric utilities, as well as unregulated companies, and evaluating investor acceptance of these returns by reference to the resulting market-to-book ratios. In this manner it is possible to assess the degree to which a given level of return equates to the cost of capital. It is generally recognized for utilities that market-to-book ratios of greater than one (*i.e.* 100 percent) reflect a situation where a company is able to attract new equity capital without dilution (*i.e.* above book value). As a result, one objective of a fair cost of equity is the maintenance of stock prices at or above book value. There is no regulatory obligation to set rates designed to maintain a market-to-book ratio significantly above one.

I further note that my CE analysis is based upon market data (through the use of market-to-book ratios) and is thus essentially a market test. As a result, my CE analysis is not

subject to the criticisms occasionally made by some who maintain that past earned returns do not represent the cost of capital. In addition, my CE analysis also uses prospective returns and thus is not backward looking.

Q. WHAT TIME PERIODS DO YOU EXAMINE IN YOUR CE ANALYSIS?

A. My CE analysis considers the experienced equity returns of the proxy groups of utilities for the period 1992-2012 (*i.e.* the last twenty-one years). The CE analysis requires that I examine a relatively long period of time in order to determine trends in earnings over at least a full business cycle. Further, in estimating a fair level of return for a future period, it is important to examine earnings over a diverse period of time in order to avoid any undue influence from unusual or abnormal conditions that may occur in a single year or shorter period. Therefore, in forming my judgment of the current cost of equity, I focused on three prior periods: 2009-2012 (the current cycles), 2002-2008 (the most recent business cycle) and 1992-2001 (the previous business cycle). I have also considered prospective returns on equity for 2013, 2014, and 2016-2018.

Q. PLEASE DESCRIBE YOUR CE ANALYSIS.

A. Attachments DCP-13 and DCP-14 contain summaries of experienced returns on equity for three groups of companies, while Attachment DCP-15 presents a risk comparison of utilities versus unregulated firms.

Attachment DCP-13 shows the earned returns on average common equity and market-to-book ratios for the groups of proxy utilities. These can be summarized as follows:

	Proxy Group	Hadaway Group
Historic ROE		
Mean	10.3-11.6%	9.6-12.1%
Median	10.0-12.0%	9.5-12.2%
Historic M/B		
Mean	141-166%	131-177%
Median	135-156%	128-164%
Prospective ROE		
Mean	9.4-9.7%	9.8-10.1%
Median	9.0-9.5%	9.5%

These results indicate that historic returns of 9.5 percent to 12.2 percent have been adequate to produce market-to-book ratios of 128 percent to 177 percent for the groups of utilities. Furthermore, projected returns on equity for 2013, 2014 and 2016-2018 are within a range of 9.0 percent to 10.1 percent for the utility groups. These relate to 2012 market-to-book ratios of 145 percent or greater.

Q. DO YOU ALSO REVIEW THE EARNINGS OF UNREGULATED FIRMS?

A. Yes. As an alternative, I also examine the S&P 500 Composite group. This is a well recognized group of firms that is widely utilized in the investment community and is indicative of the competitive sector of the economy. Attachment DCP-14 presents the earned returns on equity and market-to-book ratios for the S&P 500 group over the past twenty-one years (i.e., 1992-2012). As this schedule indicates, over the three business cycle periods, this group's average earned returns ranged from 12.4 percent to 14.7 percent, with average market-to-book ratios ranging between 204 percent and 341 percent.

Q. HOW CAN THE ABOVE INFORMATION BE USED TO ESTIMATE ETI'S COST OF EQUITY?

A. The recent earnings of the proxy utilities and S&P 500 groups can be viewed as an indication of the level of return realized and expected in the regulated and competitive sectors of the economy. In order to apply these returns to the cost of equity for the proxy utilities, however, it is necessary to compare the risk levels of the electric utilities and the

competitive companies. I do this in Attachment DCP-15, which compares several risk indicators for the S&P 500 group and the electric utility groups. The information in Attachment DCP-15 indicates that the S&P 500 group is more risky than the electric proxy groups.

Q. WHAT COST OF EQUITY IS INDICATED BY YOUR CE ANALYSIS?

A. Based on recent earnings and market-to-book ratios, my CE analysis indicates that the cost of equity for the proxy utilities is no more than 9.0 percent to 10.0 percent. Recent returns of 9.5 percent to 12.2 percent have resulted in market-to-book ratios more than 125 percent. Prospective returns of 9.0 percent to 10.1 percent have been accompanied by most recent market-to-book ratios over 145 percent. As a result, it is apparent that authorized returns below this level would continue to result in market-to-book ratios of well above 100 percent. As I indicated earlier, the fact that market-to-book ratios substantially exceed 100 percent indicates that historic and prospective returns of over 10.0 percent reflect earnings levels that are well above the actual cost of equity for those regulated companies. I also note that a company whose stock sells above book value can attract capital in a way that enhances the book value of existing stockholders, thus creating a favorable environment for financial integrity. Finally, I note that my 9.0 percent to 10.0 percent CE finding does not incorporate any market-to-book "adjustment", as it matches the projected returns on equity for the electric proxy groups.

XI. RETURN ON EQUITY RECOMMENDATION

Q. PLEASE SUMMARIZE THE RESULTS OF YOUR THREE COST OF EQUITY ANALYSES.

A. My three analyses produce the following results:

DCF	8.6-9.6%	(9.1% mid-point)
CAPM	7.2-7.5%	(7.35% mid-point)
CE	9.0-10.0%	(9.50% mid-point)

These results indicate an overall broad range of 7.2 percent to 10.0 percent, which focuses on the respective ranges of my individual model results. Focusing on the respective midpoints, the range is 7.35 percent to 9.5 percent. I recommend a COE range of 9.1 percent to 9.5 percent for ETI. Though this recommendation is higher than my CAPM findings, it includes the mid-point of my DCF range (9.1 percent) and the mid-point of my CE range (9.50 percent). For the purposes of this proceeding, I recommend the mid-point of this range, which is 9.3 percent.

Q. YOUR CAPM RESULTS ARE LESS THAN YOUR DCF AND CE RESULTS. DOES THIS IMPLY THAT THE CAPM RESULTS SHOULD NOT BE CONSIDERED IN DETERMINING THE COST OF EQUITY FOR ETI?

A. No. It is apparent that the CAPM results are less than the DCF and CE results. There are two reasons for the lower CAPM results. First, risk premiums are lower currently than was the case in prior years. This is also reflective of a decline in investor expectations of equity returns and risk premiums. Second, the level of interest rates on U.S. Treasury bonds (i.e., the risk-free rate) has been lower in recent years. This is partially the result of the actions of the FED to stimulate the economy. This also impacts investor expectations of return in a negative fashion. I note that, initially, investors may have believed that the decline in Treasury yields was a temporary factor that would soon be replaced by a rise in interest rates. However, this has not been the case as interest rates have remained low and, even with recent increases, continue to be at historically low levels. As a result, it cannot be maintained that low interest rates (and low CAPM results) are temporary and do not reflect investor expectations. Consequently, the CAPM results should be considered as one factor in determining the cost of equity for ETI. At the very least, the CAPM results indicate the capital costs continue at historically low levels and that ETI's cost of equity is less than in prior years.

XII. TOTAL COST OF CAPITAL

Q. WHAT IS THE TOTAL COST OF CAPITAL FOR ETI?

A. Attachment DCP-2 reflects the total cost of capital for the Company using the capital structure along with the cost of debt and common equity costs my analyses support. The resulting total cost of capital is a range of 7.88 percent to 8.08 percent. I recommend that an 7.98 percent total cost of capital be established for ETI, which is the mid-point of this range and incorporates a 9.3 percent cost of equity.

Q. DOES YOUR COST OF CAPITAL RECOMMENDATION PROVIDE THE COMPANY WITH A SUFFICIENT LEVEL OF EARNINGS TO MAINTAIN ITS FINANCIAL INTEGRITY?

A. Yes, it does. Attachment DCP-16 shows the pre-tax coverage that would result if ETI earned my cost of capital recommendation. As the results indicate, my recommended range would match a coverage level above the benchmark range for a BBB rated utility. In addition, the debt ratio (which reflects the Company's proposed capital structure) exceeds the benchmark for a BBB rated utility.

XIII. FURTHER COMMENTS ON ETI COST OF CAPITAL REQUEST

Q. DO YOU HAVE ANY ADDITIONAL CRITICISMS OF DR. HADAWAY'S 10.4 PERCENT COST OF EQUITY RECOMMENDATION?

A. Yes, I do. As I indicated previously, Dr. Hadaway's DCF findings are a range of 9.0 percent to 9.6 percent and his risk premium findings are in a range of 10.0 percent to 10.4 percent. Stated differently, Dr. Hadaway's 10.4 percent recommendation significantly exceeds the results of virtually all of his own analyses.

Q. DR. HADAWAY FREQUENTLY CITES HIS PERCEPTION OF "INCREASING INTEREST RATES" IN HIS TESTIMONY AS AN INDICATION OF AN INCREASE IN ETI'S COST OF CAPITAL. DO YOU HAVE ANY COMMENTS ABOUT THIS ASSERTION?

A. Yes, I do. It is apparent that Dr. Hadaway is inconsistent in his selective reference to "increasing interest rates" and the "stimulative monetary policies." On the one hand, Dr. Hadaway claims that the FED has, in recent years, kept interest rates low in order to stimulate the economy. On the other hand, he uses these FED-induced interest rates in his risk premium method to develop a risk premium, which has the effect of increasing the risk premium. He cannot have it both ways: if the recent interest rates are somehow not "market rates" (due to the FED's stimulative monetary policies), it is not proper to use these artificially-low rates (which results in larger risk premiums) to develop a forward-looking risk premium for the purposes of setting the cost of equity for a utility such as ETI.

Q. IS DR. HADAWAY'S PERCEPTION OF CHANGES IN INTEREST RATE LEVELS BEEN CONSISTENT IN HIS LAST TWO ETI RATE PROCEEDINGS?

A. No. It is also apparent that Dr. Hadaway's position he is taking in the current case (where he maintains interest rates are increasing) is not consistent with the position he took in the 2012 Entergy Texas proceeding (Docket No. 39896) where he maintained (page 6 of his Rebuttal Testimony) that "Current interest rates do not represent a reliable baseline for determining the risk premium expected by investors for equity investment." Apparently Dr. Hadaway does not feel that falling interest rates are relevant to the cost of equity (as he maintained in 2012) but he now maintains that rising interest rates are relevant (as he is maintaining in 2013 and 2014). It is inconsistent for Dr. Hadaway to maintain that in instances where there are falling interest rates there should not be a corresponding decline in the cost of equity; and then in instances where there is an increase from these "non-market" rates it should be construed to reflect an increase in the cost of equity.

XIV. RATE CASE EXPENSES

Q. HAVE YOU INCLUDED AN AFFIDAVIT SUPPORTING YOUR ACTUAL RATE CASE EXPENSES IN THIS PROCEEDING?

A. Yes, included as Attachment DCP-17 is an affidavit supporting my firm's actual rate case expenses through December 31, 2013. It is my understanding that actual expenses will be updated at the time of the hearing in this proceeding.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes, it does.

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BACKGROUND AND EXPERIENCE PROFILE
DAVID C. PARCELL, MBA, CRRA
PRESIDENT/SENIOR ECONOMIST

EDUCATION

1985	M.B.A., Virginia Commonwealth University
1970	M.A., Economics, Virginia Polytechnic Institute and State University, (Virginia Tech)
1969	B.A., Economics, Virginia Polytechnic Institute and State University, (Virginia Tech)

POSITIONS

2007-Present	President, Technical Associates, Inc.
1995-2007	Executive Vice President and Senior Economist, Technical Associates, Inc.
1993-1995	Vice President and Senior Economist, C. W. Amos of Virginia
1972-1993	Vice President and Senior Economist, Technical Associates, Inc.
1969-1972	Research Economist, Technical Associates, Inc.
1968-1969	Research Associate, Department of Economics, Virginia Polytechnic Institute and State University

ACADEMIC HONORS

Omicron Delta Epsilon - Honor Society in Economics
Beta Gamma Sigma - National Scholastic Honor Society of Business Administration
Alpha Iota Delta - National Decision Sciences Honorary Society
Phi Kappa Phi - Scholastic Honor Society

PROFESSIONAL DESIGNATIONS

Certified Rate of Return Analyst - Founding Member

RELEVANT EXPERIENCE

Financial Economics -- Advised and assisted many Virginia banks and savings and loan associations on organizational and regulatory matters. Testified approximately 25 times before the Virginia State Corporation Commission and the Regional Administrator of National Banks on matters related to branching and organization for banks, savings and loan associations, and consumer finance companies. Advised financial institutions on interest rate structure and loan maturity. Testified before Virginia State Corporation Commission on maximum rates for consumer finance companies.

Testified before several committees and subcommittees of Virginia General Assembly on numerous banking matters.

Clients have included First National Bank of Rocky Mount, Patrick Henry National Bank, Peoples Bank of Danville, Blue Ridge Bank, Bank of Essex, and Signet Bank.

Published articles in law reviews and other periodicals on structure and regulation of banking/financial services industry.

Utility Economics -- Performed numerous financial studies of regulated public utilities. Testified in over 300 cases before some thirty state and federal regulatory agencies.

Prepared numerous rate of return studies incorporating cost of equity determination based on DCF, CAPM, comparable earnings and other models. Developed procedures for identifying differential risk characteristics by nuclear construction and other factors.

Conducted studies with respect to cost of service and indexing for determining utility rates, the development of annual review procedures for regulatory control of utilities, fuel and power plant cost recovery adjustment clauses, power supply agreements among affiliates, utility franchise fees, and use of short-term debt in capital structure.

Presented expert testimony before federal regulatory agencies Federal Energy Regulatory Commission, Federal Power Commission, and National Energy Board (Canada), state regulatory agencies in Alabama, Alaska, Arizona, Arkansas, California, Connecticut, Delaware, District of Columbia, Florida, Georgia, Hawaii, Illinois, Indiana, Kansas, Kentucky, Maine, Maryland, Missouri, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, Ohio, Oklahoma, Ontario (Canada), Pennsylvania, South Carolina, Texas, Utah, Vermont, Virginia, West Virginia, Washington, Wisconsin, and Yukon Territory (Canada).

Published articles in law reviews and other periodicals on the theory and purpose of regulation and other regulatory subjects.

Clients served include state regulatory agencies in Alaska, Arizona, Delaware, Missouri, North Carolina, Ontario (Canada), and Virginia; consumer advocates and attorneys general in Alabama, Arizona, District of Columbia, Florida, Georgia, Hawaii, Illinois, Indiana, Kansas, Kentucky, Maryland, Nevada, New Mexico, Ohio, Oklahoma, Pennsylvania, South Carolina, Texas, Utah, Vermont, Virginia, and West Virginia; federal agencies including Defense Communications Agency, the Department of Energy, Department of the Navy, and General Services Administration; and various organizations such as Bath Iron Works, Illinois Citizens' Utility Board, Illinois Governor's Office of Consumer Services, Illinois Small Business Utility Advocate, Wisconsin's Environmental Decade, Wisconsin's Citizens Utility Board, and Old

Insurance Economics -- Conducted analyses of the relationship between the investment income earned by insurance companies on their portfolios and the premiums charged for insurance. Analyzed impact of diversification on financial strength of Blue Cross/Blue Shield Plans in Virginia.

Conducted studies of profitability and cost of capital for property/casualty insurance industry. Evaluated risk of and required return on surplus for various lines of insurance business.

Presented expert testimony before Virginia State Corporation Commission concerning cost of capital and expected gains from investment portfolio. Testified before insurance bureaus of Maine, New Jersey, North Carolina, Rhode Island, South Carolina and Vermont concerning cost of equity for insurance companies.

Prepared cost of capital and investment income return analyses for numerous insurance companies concerning several lines of insurance business. Analyses used by Virginia Bureau of Insurance for purposes of setting rates.

Special Studies -- Conducted analyses which evaluated the financial and economic implications of legislative and administrative changes. Subject matter of analyses include returnable bottles, retail beer sales, wine sales regulations, taxi-cab taxation, and bank regulation. Testified before several Virginia General Assembly subcommittees.

Testified before Virginia ABC Commission concerning economic impact of mixed beverage license.
Clients include Virginia Beer Wholesalers, Wine Institute, Virginia Retail Merchants Association, and Virginia Taxicab Association.

Franchise, Merger & Anti-Trust Economics -- Conducted studies on competitive impact on market structures due to joint ventures, mergers, franchising and other business restructuring. Analyzed the costs and benefits to parties involved in mergers. Testified in federal courts and before banking and other regulatory bodies concerning the structure and performance of markets, as well as on the impact of restrictive practices.

Clients served include Dominion Bankshares, asphalt contractors, and law firms.

Transportation Economics -- Conducted cost of capital studies to assess profitability of oil pipelines, trucks, taxicabs and railroads. Analyses have been presented before the Federal Energy Regulatory Commission and Alaska Pipeline Commission in rate proceedings. Served as a consultant to the Rail Services Planning Office on the reorganization of rail services in the U.S.
Economic Loss Analyses -- Testified in federal courts, state courts, and other adjudicative forums regarding the economic loss sustained through personal and business injury whether due