Exhibit No. ___T (DCP-1T)
Dockets UE-140762, et al.
Witness: David C. Parcell

BEFORE THE WASHINGTON
UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION, **Complainant,** **v.** **PACIFIC POWER & LIGHT COMPANY,** **Respondent.**	**UE-140762 and UE-140617** ***(consolidated)***
In the Matter of the Petition of **PACIFIC POWER & LIGHT COMPANY,** **For an Order Approving Deferral of Costs Related to Colstrip Outage.**	**DOCKET UE-131384** ***(consolidated)***
In the Matter of the Petition of **PACIFIC POWER & LIGHT COMPANY,** **For an Order Approving Deferral of Costs Related to Declining Hydro Generation.**	**DOCKET UE-140094** ***(consolidated)***

TESTIMONY

OF

DAVID C. PARCELL

ON BEHALF OF THE STAFF OF WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

Cost of Capital

October 10, 2014

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 PacifiCorp's cost of common equity: the DCF, CAPM, and CE methods. For reasons I will explain later in my testimony, I have not strictly 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 such a relatively long 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. Consideration of economic/financial conditions over a relatively long period of time allows me to assess how such conditions have had impacts on the level and trends of the cost of capital. This period also approximates the beginning and continuation of active rate case proceedings initiated by public utilities, which generally began in the mid-1970s.

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 period?

A. Yes, I do. Until the end of 2007, the United States economy had for the most part enjoyed general prosperity and stability since the early 1980s.[1] 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 bankruptcy of national companies such as Circuit City and automotive manufacturers Chrysler and General Motors.

[1] There was a so-called "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.

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 United States and other countries 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.[2] 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.

Q. Please describe recent and current economic and financial conditions and their impact on the cost of capital.

A. It is apparent from the discussion that follows that one impact of the Great Recession has been a reduction in actual and expected investment returns and a corresponding reduction in the costs of capital. This decline is evidenced by a reduction in both short-term and long-term interest rates and in cost of equity model results emanating from the DCF, CAPM and CE. It is also evident, as described in a later section, that regulatory agencies throughout the United States. have recognized the decline in capital costs by authorizing lower returns on common equity for regulated utilities.

Exhibit No. ___ (DCP-4) 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.

[2] The U.S. Economy, as measured by changes in Gross Domestic Product ("GDP"), declined in the first quarter of 2014.

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-than-normal recession. Since then, economic growth has been erratic and slower 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"), 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; in 2013 it was as low as 1.5 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, which is reflective of lower capital costs.[3]

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

[3] 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.

Since 2008, the Federal Reserve has maintained the Federal Funds rate (i.e., short-term rate) at 0.25 percent, an all-time low. The Federal Reserve has also purchased U.S. Treasury securities to stimulate the economy.[4] As seen on pages 3 and 4, in 2012 both U.S. and utility bond yields declined to their lowest levels in the past four business cycles and in more than 35 years. Interest rates rose somewhat from those lows in 2013, but have again declined over the past several months. Even with the 2013 increases, both government and utility lending rates remain at historically low levels, again reflective of lower capital costs.

Q. **What does Exhibit No. ___ (DCP-4) 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."

[4] This is referred to as Quantitative Easing ("QE"), in which the FED initially 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 through October of 2014.

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 utility bond yields were evidenced in the then-evident "flight to safety." Concurrently, there was a 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, even with the return of stock prices to levels achieved prior to the "crash." This is evident in several ways: 1) lower interest rates on bank deposits; 2) lower interest rates on U.S. Treasury and utility bonds; 3) lower increases in social security cost of living benefits;[5] and 4) lower authorized returns on common equity by regulatory commissions. 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.

Q. How do these economic/financial conditions impact the determination of the cost of capital for regulated utilities?

A. The costs of capital for regulated utilities have declined in recent years. For example, the current debt costs that utilities pay on new debt is near the low point of the last several decades. In addition, it is apparent that the results of the traditional cost of equity models (i.e., DCF, CAPM, CE) are lower than was the case prior to the Great Recession. In light

---

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

of this, it is not surprising that the average cost of equity authorized by state regulatory agencies has continued to decline into 2014, as shown in a later section of my testimony.

V. PACIFICORP'S OPERATIONS AND BUSINESS RISKS

Q. Please describe PacifiCorp and its operations.

A. PacifiCorp is a regulated electric utility that generates, transmits and distributes electricity to customers in Washington. Pacific Power is a division of PacifiCorp and operates as a "trade name" of PacifiCorp in Washington, California and Oregon. PacifiCorp also operates in Utah, Wyoming and Idaho under the "trade name" of Rocky Mountain Power. Prior to March 21, 2006, PacifiCorp was owned by ScottishPower.

Q. Please describe PacifiCorp's ownership structure.

A. As noted above, Pacific Power is a division of PacifiCorp, which is an indirect subsidiary of BHE.[6] BHE's other U.S. utility subsidiaries are:

Nevada Power;
Sierra Pacific Power;
Mid-American Energy;
Northern Natural Gas;
Kern River Pipeline; and
Mid-American Transmission.

In 2013, 89 percent of BHE's operating income was generated by rate-regulated businesses.

[6] BHE was previously named Mid-American Energy Holding Company.

BHE also has several other subsidiaries. The major non-U.S. subsidiaries are:

Northern Powergrid Holdings (United Kingdom);
MidAmerican Renewables, LLC;
CalEnergy Philippines;
MidAmerica Transmission; and
Home Services of America, Inc.

Q. What are the current security ratings of Pacific Power and PacifiCorp?

A. Pacific Power, as a division of PacifiCorp, does not issue its own securities directly to investors, but rather is a component of PacifiCorp. It follows that Pacific Power does not have rated securities. The current ratings of PacifiCorp are as follows:

Rating Agency	Senior Unsecured	Senior Secured
Moody's	A3	A1
S&P	A-	A
Fitch	BBB+	A-

(Source: Response to UTC Data Request 21)

Q. What have been the recent trends in PacifiCorp's debt ratings?

A. This is shown on Exhibit No. ___ (DCP-5). PacificCorp's debt has been rated in the "Single A" category by all three rating agencies since at least 2000.

Q. How do the bond ratings of PacifiCorp compare to other electric utilities?

A. As I indicated in a previous answer, PacifiCorp has single A bond ratings on its senior debt, which are investment grade (i.e., Triple-B or above). Of the 50 electric utilities and combination gas and electric utilities covered by AUS Utility Reports, the following numbers of bond ratings currently exist:

Moody's Rating	Number of Companies	S&P Rating	Number of Companies
Aa2	1	AA-	1
A1*	1	A+	--
A2	7	A*	3
A3	19	A-	18
Baa1	12	BBB+	11
Baa2	7	BBB	10
Baa3	--	BBB-	2
Ba or less	--	BB	--
NR	3	NR	4

* PacifiCorp's ratings.

This comparison indicates that PacifiCorp's ratings are above the common rating categories of most electric utilities. This is indicative of a lower financial risk for PacifiCorp.

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.

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 approximates the historic and 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	8.75-9.25%	(9.0% mid-point)
CAPM	7.2-7.4%	(7.3% mid-point)
CE	9.0-10.0%	(9.5% 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 7.3 percent to 9.5 percent. I recommend a return on equity range of 9.0 percent to 9.5 percent for PacifiCorp. Though this recommendation is higher than my CAPM findings, it approximates the mid-point of my DCF range (9.0 percent) and the mid-point of my CE range (9.5 percent). For the purposes of this proceeding, I recommend the low end of this range, or 9.0 percent. This is justified for the following reasons:

- PacifiCorp has above-average debt ratings;
- My DCF and CE conclusions focus on the highest results; and
- Possible implementation of a Power Cost Adjustment Mechanism (PCAM).

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 PacifiCorp?

A. No. 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 Federal Reserve 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 the 2013 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 PacifiCorp. At the very least, the CAPM results indicate that capital costs continue at historically low levels and that PacifiCorp's cost of equity is less than in prior years. This is another reason to consider a cost of equity slightly below the median DCF and CE results.

XII. TOTAL COST OF CAPITAL

Q. What is the total cost of capital for PacifiCorp?

A. Exhibit No. ___ (DCP-3) 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 7.07 percent to 7.31 percent. I recommend that a 7.07 percent total cost of capital be established for PacifiCorp, which incorporates a 9.0 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. Exhibit No. ___ (DCP-15) shows the pre-tax coverage that would result if my cost of capital recommendation is employed. As the results indicate, my recommended range would satisfy a coverage level at the benchmark range for an A rated utility. In addition, the debt ratio exceeds the benchmark for an A rated utility.