UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Dominion Cove Point LNG, LP) Docket No. RP06-___

PREPARED DIRECT TESTIMONY
OF
PAUL R. MOUL

INTRODUCTION AND SUMMARY OF RECOMMENDATION

Q. Please state your name, occupation and business address.

A. My name is Paul Ronald Moul. My business address is 251 Hopkins Road, Haddonfield, New Jersey 08033-3062. I am Managing Consultant of the firm P. Moul & Associates, an independent, financial and regulatory consulting firm. My educational background, business experience and qualifications are provided in Appendix A that follows my direct testimony.

Q. What is the purpose of your testimony?

A. My testimony presents evidence, analysis, and a recommendation concerning the rate of return on equity that the Federal Energy Regulatory Commission ("FERC" or the "Commission") should allow Dominion Cove Point LNG, LP ("DCP" or the "Company") an opportunity to earn. My analysis and recommendation are supported by the detailed financial data set forth in Exhibit No. DCP-6 through Exhibit No. DCP-18, which accompany my direct testimony.

Q. Based upon your analysis, what is your conclusion concerning the appropriate rate of return on equity for the Company in this case?

A. Based upon my independent analysis, my conclusion is that DCP should be afforded an opportunity to earn a rate of return on equity in the range of 13.00% to 15.25%. The Company has selected a 15% rate of return on equity from my range, which DCP Witness Grim has used in calculating the weighted average cost of capital on her Exhibit No. DCP-4. That weighted average cost of capital, when applied to DCP's rate base, will provide a compensatory level of return for the use of capital and will provide DCP with the ability to attract new capital on reasonable terms.

It is important that the Commission seriously consider the Company's relative risk position when selecting the rate of return on common equity from the range of possibilities. Too often, the choice of the return, whether measured as the midpoint, mean or median, relegates most companies to the average risk category. Indeed, a process that assigns an average return to most companies defeats the purpose of establishing a range which is designed to encompass varying degrees of risk. In this case, the Company, an LNG import terminal with a single input and output, has amply supported a return above the average in recognition of its high risk traits, no matter how measured.

Q. What is your understanding of the Company's operations?

A. I have considered the general nature of DCP's operations in reaching my conclusions and recommendation. Although the rates are being set under the

methodology commonly used to set pipeline rates, the Commission should bear in mind that this is not just an interstate pipeline; it is primarily an LNG import facility with a different risk profile than a pipeline. DCP is the successor to Cove Point LNG, LP. DCP owns and operates a liquefied natural gas ("LNG") importing terminal and storage facility located on the western shore of the Chesapeake Bay. As described in more detail by DCP Witness Bomar, the Cove Point facility was originally built in the mid- to late 1970s. Imports of Algerian LNG began in early 1978 and ended in late 1980. The receiving terminal was mothballed at that time, and other facilities at the location were used for interruptible transportation service. In 1994, certain facilities were reactivated in order to provide peak shaving service with domestic LNG. In 2003, Cove Point began to receive, store and vaporize imported LNG once again. Since reactivation of the import facilities, the marine terminal has been upgraded and additional storage facilities have been added. As part of its operations, DCP also has pipeline facilities to transport natural gas into Virginia, about 88 miles from the facility. The erratic operating history of the Cove Point facility, including multiple and frequent changes in ownership, would cause investors to be wary of the risk associated with these facilities. Also, the asset concentrative in a single facility adds to the Company's risk. DCP Witness Bomar discusses in greater detail the risks faced by DCP.

Q. How have you determined the range of the cost of equity for DCP?

A. In arriving at my recommended cost of equity range, I employed publicly-available capital market and financial data to assess the relative risk, and hence the cost of

equity for an LNG facility, such as DCP. In this regard, I relied on four well-recognized measures: the Discounted Cash Flow ("DCF") model, the Risk Premium analysis, the Capital Asset Pricing Model ("CAPM"), and the Comparable Earnings approach. By considering the results of a variety of approaches, I determined that a reasonable cost of equity for DCP is within the range of 13.00% to 15.25%. This range is consistent with well-recognized principles for determining a fair rate of return.

The models that I used to measure the cost of equity for DCP were applied with market data from a proxy group comprised of six gas companies that were used by the Commission in its rate case decision in Docket No. RP00-107-000 (104 FERC ¶ 61,036 (2003)). This group will be referred to as the "Corporate Pipeline Group" throughout the remainder of my testimony.

Q. Please summarize the basis for your recommended cost of equity in this proceeding.

A. My recommendation is derived from the results of the four methods/models identified above. In general, the use of more than one method can provide a superior foundation to arrive at the cost of equity. Moreover, at any point in time, individual methods may be unduly influenced by extraneous factors and/or market sentiment that may produce anomalous results. The following table provides a summary of the indicated costs of equity using each of these approaches. I have presented the results of my analysis by both including and excluding an allowance for flotation costs.

	Corporate Pipeline Group	
	Incl. Flot.	Excl. Flot. (1)
DCF:		
Constant growth	17.50%	17.16%
Two-step	16.65%	16.31%
Risk Premium	13.34%	13.00%
CAPM	18.80%	18.46%
Comparable Earnings	13.45%	13.45%
Range:		
High	18.80%	18.46%
Low	13.34%	13.00%
Mid-point	16.07%	15.73%
Average	15.95%	15.68%
Median	16.65%	16.31%

It is noteworthy that in determining an appropriate cost of equity, I considered directly the results of a two-stage DCF model. The Commission has frequently insisted upon a DCF analysis that uses more than a single constant growth rate in setting the cost of equity in rate cases. My testimony will explain the results of the two-stage DCF model following generally the Commission's past use of this model.

From the summary presented above, the median values are represented by 16.65% for the Corporate Pipeline Group including flotation costs and 16.31% excluding flotation costs. The results of two-stage DCF model represents the median values from the models that I used to measure the cost of equity. The

[1] Flotation costs are defined as the out-of-pocket costs associated with the issuance of common stock. Those costs typically consist of the underwriters' discount and company issuance expenses.

average of the models that I used to measure the cost of equity is 15.95% including flotation costs and 15.68% excluding flotation costs. The Risk Premium cost rate is 13.34% including flotation costs and 13.00% excluding flotation costs. From these values, as well as the other results shown above, I recommend a range for a rate of return on equity bounded by 13.00% to 15.25%. Essentially, the Risk Premium cost rate supports the bottom of my range and the average value taken from all methods/models supports the top of my range. Given the overall risk profile of DCP, it is entirely reasonable for the Company to propose a 15% rate of return on common equity. That is to say, the top half of the range is 14.125% to 15.25%, and the Company has proposed a 15% rate of return on common equity for its cost of service.

Q. Setting aside the specific mechanics of computing a reasonable return, could you describe your overall perspective on the process?

A. My procedure for establishing the rate of return on equity includes a comprehensive approach by broadening the scope of my analysis beyond a single measure of the cost of equity. There are risks in relying upon an approach limited to a single method that may contain a variety of limitations and/or unrealistic assumptions. Moreover, it is necessary to exercise care in using individually-computed costs of equity that, due to aberrations in the data, may cause individual company calculations to produce anomalous and/or counter-intuitive results. This situation was revealed in the recent Initial Decision by the PALJ in the rate case for Kern River Gas Transmission Company (114 FERC ¶ 63,031 (2006)). There, two

abnormally low DCF results had an undue influence on the median return thereby producing an unreasonable result. If those two atypical and unrepresentative results were removed based upon the Commission prescription as set forth in Opinion No. 445 (92 FERC ¶ 61,070 (2000)), then the median value would move up dramatically from the 9.34% adopted by the PALJ to 10.71%. This significant change in overall DCF results indicates the capricious nature of the model, especially when used alone, as the PALJ did in Kern River. Indeed, when viewing the results of the Commission's preferred two-stage DCF, where individual results are developed for each company within a proxy group, those anomalies became apparent. Hence, use of a variety of methods to establish the cost of equity minimizes the inevitable limitations found in all models/methods.

Q. In your opinion, what factors should the Commission consider when setting DCP's rate of return in this proceeding?

A. The Commission should consider the principles that I have set forth in Appendix B. In this regard, the end result of the rate of return finding by the Commission must provide for the payment of interest on DCP's debt, compensate DCP equity investors for the use of capital, produce an adequate level of internally generated funds to meet capital requirements, support reasonable credit quality, be adequate to attract capital to DCP on reasonable terms, and compensate for the risk to which DCP equity capital is exposed.

INTERSTATE NATURAL GAS COMPANY RISK FACTORS

Q. Please describe the business environment facing interstate natural gas companies.

A. Competitive, regulatory and economic risks facing the natural gas business are different today than formerly. The Commission's general policy fosters competition in the natural gas business through regulatory and commercial practices (e.g., alteration of certification authorization procedures, greater ease in obtaining authorization to build capacity, and the discounting and negotiation of rates). For the future, the business environment facing the natural gas business will be influenced by changing regulation, revenues being pressured by the lower of cost or market-based rates, shorter contract durations with customers, and counter party risk.

Q. What is the competitive position of the natural gas business environment?

A. The competitiveness of the natural gas business has increased significantly at all levels. Even beyond the federal level, unbundling initiatives at the state level for both gas and electric service will have an impact on the position of many pipelines and LNG facilities. Gas producers, marketers, distributors, and other end users now have a broad array of choices that may reduce the need for traditional long-term contracts for transportation service. Shippers can more readily obtain short term contracts, shifting risks to the pipelines. Indeed, shippers can compete directly with pipelines by releasing their firm capacity to other shippers. In addition, some shippers have investigated the participation in alternative competing pipeline projects.

Moreover, heightened competition will undoubtedly continue to develop from consolidation within and between the utility and pipeline industries because the surviving companies can bring to bear the economies of scope and scale in dealing with suppliers/vendors in order to obtain the most attractive prices for purchased goods and services. Also, as natural gas prices increase, the competitive position of natural gas diminishes, particularly as a fuel in electric generation and for general industrial applications.

Q. Is there other evidence regarding business risks facing DCP?

A. DCP Witness Bomar discusses the additional risk faced by DCP since it is primarily an LNG import facility. She testifies that these risks include heightened regulatory risk due to the multiple agencies with jurisdiction over DCP and political concerns associated with this high-profile source of energy. DCP has additional risk because, as noted in her testimony, two of the import shippers are building their own facilities and may elect to cease using Cove Point at the expiration of their contracts. Additional risk is created because DCP's terminal is reliant on imports and has only a single outlet for its gas supply.

FUNDAMENTAL RISK ANALYSIS

Q. Is it necessary to conduct a fundamental risk analysis prior to a determination of a pipeline's cost of equity?

A. Yes. In addition to qualitative factors, it is necessary to establish a company's relative risk position within its industry through an analysis of various quantitative factors that bear upon investors' assessment of overall risk. Items that influence

investors' evaluation of risk and their required returns are described in Appendix C. For this purpose, I have compared DCP to the S&P Public Utilities, an industry-wide proxy consisting of various regulated businesses, the Corporate Pipeline Group.

Q. What comparison groups have you employed to assess the Company's position vis-à-vis other regulated companies?

A. I have compared DCP to two groups of companies for my analysis. Those groups are the S&P Public Utilities and the Corporate Pipeline Group. The S&P Public Utilities is a widely recognized index comprised of electric power companies and natural gas companies. The companies that comprise the group are identified on page 3 of Exhibit No. DCP-9. I used this group as a broad-based measure of all types of regulated companies. The Corporate Pipeline Group includes: El Paso Energy Corporation, Equitable Resources, Inc., Kinder Morgan, Inc., National Fuel Gas Company, Questar Corporation, and The Williams Companies, Inc. Each of these companies were included as part of the proxy group used by the Commission in its rate case decision in Docket No. RP00-107-000 (104 FERC ¶ 61,036 (2003)).

Q. What is the significance of a firm's bond rating in assessing its risk and cost of capital?

A. Bond ratings are a measure of a company's credit quality and represent one indication of risk. DCP must have the financial characteristics of sufficient strength that will, at a minimum, contribute positively to the credit quality profile of Consolidated Natural Gas Company ("CNG") the intermediate parent of DCP and

the source of its external capital. It is important that the Commission provide DCP with a reasonable opportunity to achieve adequate credit quality so that DCP has a financial profile commensurate with an investment grade bond rating. I used bond ratings along with other measures of risk in analyzing the Corporate Pipeline Group. Knowledge of a company's credit quality is important because the cost of each type of capital is directly related to the associated risk of the firm. A company's credit quality risk is directly shown by the rating and yield on its bonds. It is important to recognize that credit ratings provide an indication of risk associated with the debt of a firm. Bond ratings do not necessarily reflect all of the factors that are important to equity investors, because equity investors face additional risks that are not faced by lenders.

Q. How do the bond ratings compare for DCP, the Corporate Pipeline Group, and the S&P Public Utilities?

A. DCP does not have a credit quality rating. Its intermediate parent company, CNG has a corporate credit rating ("CCR") of BBB by Standard and Poor's Rating Group ("S&P") and its Long-Term ("LT") issuer rating is A3 by Moody's Investors Service ("Moody's"). The credit outlook for CNG is stable according to S&P and is under review for possible downgrade by Moody's. The LT issuer rating by Moody's and the CCR designation by S&P focuses upon the credit quality of the issuer of the debt, rather than upon the debt obligation itself. The average LT issuer rating for the Corporate Pipeline Group is Baa2 from Moody's and the CCR is BBB from S&P. For the S&P Public Utilities, the average rating is Baa1 by Moody's and

BBB+ by S&P. Many of the financial indicators that I will subsequently discuss are considered during the rating process.

Q. What specific financial data have you considered in your analysis?

A. For this purpose, I have compared DCP to the S&P Public Utilities, an industry-wide proxy consisting of various regulated businesses, and the Corporate Pipeline Group. The broad categories of financial data that I will discuss are shown on Exhibit No. DCP-7, Exhibit No. DCP-8, and Exhibit No. DCP-9. The data cover the five-year period 2001-2005. The Exhibits include data concerning the following factors that affect investors perception of the market required return.

Size. In terms of capitalization, the average size of the companies in the Corporate Pipeline Group, and the S&P Public Utilities is larger than DCP. All other things being equal, a smaller company is riskier than a larger company because a given change in revenue and/or expense has a proportionately greater impact on a smaller firm. Moreover, a company with significant asset concentration, such as DCP, is also a riskier investment.

Market Ratios. Market-based financial ratios provide a partial measure of the investor-required cost of equity. If all other factors are equal, investors will require a higher return on equity for companies which exhibit greater risk in order to compensate for that risk. That is to say, a firm that investors perceive to have higher risks will experience a lower price per share in relation to expected

earnings.[2]

The price-earnings multiples were higher for the Corporate Pipeline Group than for the S&P Public Utilities. The average market-to-book ratios were higher for the Corporate Pipeline Group than for the S&P Public Utilities, which were somewhat lower. There are no market-based financial ratios for DCP.

Common Equity Ratio. The level of financial risk is measured by the ratio of long-term debt and other senior capital to permanent capital. Financial risk is also analyzed by comparing common equity ratios (the complement of the ratio of debt and other senior capital). That is to say, a firm with a high common equity ratio has lower financial risk, while a firm with a low common equity ratio has higher financial risk. The five-year average common equity ratio comparisons, based on permanent capital, were 64.8% for DCP, 42.9% for the Corporate Pipeline Group, and 39.5% for the S&P Public Utilities. The capital structure ratios for DCP reflect the notes payable to CNG and the partnership equity of the Company. For ratesetting purposes, the capital structure ratios of CNG are employed pursuant to Commission policy.

Return on Book Equity. Greater variability (i.e., uncertainty) of a firm's earned returns signifies relative levels of risk, as shown by the coefficient of variation (standard deviation ÷ mean) of the rate of return on book common equity. The higher the coefficient of variation, the greater degree of variability. For the

[2] For example, two otherwise similarly situated firms each reporting $1.00 earnings per share would have different market prices at varying levels of risk (i.e., the firm with a higher level of risk will have a lower share value, while the firm with a lower risk profile will have a higher share value).

five year period, the coefficients of variation were 0.493 (3.4% ÷ 6.9%) for DCP, 0.242 (2.2% ÷ 9.1%) for the Corporate Pipeline Group, and 0.231 (2.5% ÷ 10.8%) for the S&P Public Utilities. DCP has experienced the highest relative level of earning variability, thereby signifying high risk.

Operating Ratios. I have also compared operating ratios (the percentage of revenues consumed by operating expense, depreciation and taxes other than income).[3] The five-year average operating ratios were 65.1% for DCP, 81.6% for the Corporate Pipeline Group, and 84.6% for the S&P Public Utilities. It is difficult to make a direct comparison of the operating ratios because for DCP, no provision is made for cost of purchased products, in its cost of service. With an absence of any cost of purchased products, a lower operating ratio would be expected for DCP.

Coverage. The level of fixed charge coverage (i.e., the multiple by which available earnings cover fixed charges, such as interest expense) provides an indication of the earnings protection for creditors. Higher levels of coverage, and hence earnings protection for fixed charges, are usually associated with increased grades of creditworthiness. The five-year average interest coverage (excluding AFUDC) was 7.45 times for DCP, 3.91 times for the Corporate Pipeline Group, and 2.68 times for the S&P Public Utilities. It is difficult to assign much meaning to the DCP interest coverages, because interest is payable to an affiliate.

Quality of Earnings. Measures of earnings quality usually are revealed by the percentage of AFUDC related to income available for common equity, the

[3] The complement of the operating ratio is the operating margin which provides a measure of profitability. The higher the operating ratio, the lower the operating margin.

effective income tax rate, and other cost deferrals. These measures of earnings quality usually influence a firm's internally generated funds. Typically, quality of earnings has not been a significant concern for the Corporate Pipeline Group and the S&P Public Utilities. For DCP, AFUDC has represented a significant portion of its earnings due to the large construction program underway during the past several years. Large construction expenditures are expected to continue through 2008. During the next three years, the Company projects its capital expenditures, excluding the cost of its planned terminal expansion, will be $205.4 million. This will represent a 42% increase ($205.4 million ÷ $487.3 million) in net utility plant from December 31, 2005.

Internally Generated Funds. Internally generated funds ("IGF") provide an important source of new investment capital for a utility and represent a key measure of credit strength. The coefficient of variation of the IGF percentage of capital expenditures was 0.226 (7.4% ÷ 32.8%) for DCP, 0.217 (30.2% ÷ 139.0%) for the Corporate Pipeline Group, and 0.174 (19.0% ÷ 109.0%) for the S&P Public Utilities. The historical percentage of IGF to capital expenditures has been variable for the Company, and it has also been quite low. Low IGF to construction for DCP is symptomatic of the Company's large construction expenditures historically, which are forecast to continue for the next three years.

Betas. The financial data that I have been discussing relate primarily to company-specific risks. Market risk for firms with traded stock is measured by beta coefficients. Beta coefficients attempt to identify systematic risk (i.e., the risk

associated with changes in the overall market for common equities). Value Line publishes such a statistical measure of a stock's relative historical volatility to the rest of the market. A comparison of market risk is shown by the Value Line betas which are 1.39 as the average for the Corporate Pipeline Group (see page 2 of Exhibit No. DCP-8) and .95 as the average for the S&P Public Utilities (see page 3 of Exhibit No. DCP-9). Keeping in mind that the gas industry has changed dramatically during the past five years, the systematic risk percentage is 146% (1.39 ÷ .95) for the Corporate Pipeline Group using the S&P Public Utilities' average beta as a benchmark.

Q. Please summarize your risk evaluation of DCP, the Corporate Pipeline Group, and the S&P Public Utilities.

A. The risk of DCP and the Corporate Pipeline Group is clearly greater than the S&P Public Utilities. DCP has some of the same risk characteristics as the Corporate Pipeline Group, although on balance DCP has more risk for the reasons explained by DCP Witness Bomar. In addition, my analysis has shown that the size of the Company is relatively small, its historical earnings have been highly variable, and its IGF to capital expenditures has been low and variable. Based on that risk, the Company’s rate of return on common equity should be set at 15%, or in the top ten percent of the range established with the Corporate Pipeline Group market data.

COST OF EQUITY – GENERAL APPROACH

Q. Please describe the process you employed to determine the cost of equity for the Company.

A. Although my fundamental financial analysis provides the required framework to establish the risk relationships among the Company, the Corporate Pipeline Group, and the S&P Public Utilities, the cost of equity must be measured by standard financial models that I describe in Appendix D. Differences in risk traits, such as size, business diversification, regulatory policy, financial leverage, and bond ratings must be considered when analyzing the cost of equity.

DISCOUNTED CASH FLOW ANALYSIS

Q. Please describe your use of the Discounted Cash Flow approach to determine the cost of equity.

A. The details of my use of the DCF approach and the calculations and evidence in support of my conclusions are set forth in Appendix E. I will summarize them here. The Discounted Cash Flow ("DCF") model seeks to explain the value of an asset as the present value of future expected cash flows discounted at the appropriate risk-adjusted rate of return. In its simplest form, the DCF return on common stocks consists of a current cash yield (e.g., dividend yields in the case of corporations) and future price appreciation (growth) of the investment. The DCF model is premised on the total return that can be realized from a combination of these two components.

Among other limitations of the model, there is a certain element of circularity in the DCF method when applied in rate cases. This is because investors' expectations for the future depend upon regulatory decisions. In turn, when regulators depend upon the DCF model to set the cost of equity, they rely upon investor expectations that include an assessment of how regulators will decide rate cases. Due to this circularity, the DCF model may not fully reflect the true equity return of a utility.

As I describe in Appendix E, the DCF approach has other limitations that diminish its usefulness in the ratesetting process when the market capitalization diverges significantly from the book value capitalization. When this situation exists, the DCF method will lead to a misspecified cost of equity when it is applied to a book value capital structure.

Q. Please explain the cash yield component of a DCF analysis.

A. The DCF methodology requires the use of an expected cash yield to establish the investor-required cost of equity. For the twelve months ended April 2006, the monthly cash yields of the Corporate Pipeline Group are shown graphically on Exhibit No. DCP-10. The monthly cash yields shown on Exhibit No. DCP-10 reflect recognition of the build up of the cash payment in the price that has occurred since the last ex-dividend date (i.e., the date by which a shareholder must have owned the shares to be entitled to the cash payment – usually about two to three weeks prior to the actual payment). An explanation of this element is provided in Appendix E.

For the twelve months ending April 2006, the average cash yield was 2.23% for the Corporate Pipeline Group based upon a calculation using annualized cash payments and adjusted month-end stock prices. The cash yields for the more recent six- and three- month periods were 2.24% and 2.28%, respectively. These averages were calculated from the cash yields shown on page 1 of Exhibit DCP-10. I have used, for the purpose of my direct testimony, a cash yield of 2.24% for the Corporate Pipeline Group, which represents the six-month average yield. The use of this dividend yield will reflect current capital costs while avoiding spot yields. While my use of a six-month average dividend yield is consistent with previous testimony, dividend yields have been quite volatile during the period, falling from 2.42% in May 2005 to 2.01% in September 2005 and then rising to 2.29% in April 2006. This demonstrates the instability that is present in the DCF method, which can provide a less reliable measure of the cost of equity.

For the purpose of a DCF calculation, the average cash yields must be adjusted to reflect the prospective nature of the payments i.e., the higher expected payments for the future. Recall that the DCF is an expectational model that must reflect investor anticipated cash flows. I have adjusted the six-month average cash yield in three different but generally accepted manners, and used the average of the three adjusted values as calculated in Appendix E. That adjusted cash yield is 2.36% for the Corporate Pipeline Group.

Q. Please explain the underlying factors that influence investors' growth expectations.

A. As noted previously, investors are interested principally in the future growth of their

investment (i.e., the cash and stock appreciation realized). Future earnings per share growth represents their primary focus because under the constant price-earnings multiple assumption of the DCF model, the price per share of stock will grow at the same rate as earnings per share. In conducting a growth rate analysis, a wide variety of variables can be considered when reaching a consensus of prospective growth. The variables that can be considered include: earnings, dividends, book value, and cash flow stated on a per share basis. Historical values for these variables can be considered, as well as analysts' forecasts that are widely available to investors. A fundamental growth rate analysis can also be formulated, which consists of internal growth ("*b x r*"), where "*r*" represents the expected rate of return on common equity and "*b*" is the retention rate that consists of the fraction of earnings that are not paid out as dividends. The internal growth rate can be modified to account for sales of new common stock -- this is called external growth ("*s x v*"), where "s" represents the new common shares expected to be issued by a firm and "*v*" represents the value that accrues to existing shareholders from selling stock at a price different from book value. Fundamental growth, which combines internal and external growth, provides an explanation of the factors that cause book value per share to grow over time. Hence, a fundamental growth rate analysis is duplicative of expected book value per share growth.

Growth can also be expressed in multiple stages. This expression of growth includes a "growth" stage where a firm enjoys rapidly expanding markets, high profit margins, and abnormally high growth in earnings per share. Thereafter, a

firm enters a "transition" stage where fewer technological advances and increased product saturation begins to reduce the growth rate and profit margins come under pressure. During the "transition" phase, investment opportunities begin to mature, capital requirements decline, and a firm begins to pay out a larger percentage of earnings to shareholders. Subsequently, the mature or "steady-state" stage is reached when a firm's earnings growth, payout ratio, and return on equity stabilizes at levels where they remain for much of the life of a firm. The three stages of growth assume a step-down of high growth to lower sustainable growth. Even if these three stages of growth can be envisioned for a firm, the third "steady-state" growth stage, which is assumed to remain fixed in perpetuity, represents an unrealistic expectation because the three stages of growth can be repeated. That is to say, the stages can be repeated where growth for a firm ramps-up and ramps-down in cycles over time.

Q. What investor-expected growth rate is appropriate in a DCF calculation?

A. Although some DCF devotees would advocate that mathematical precision should be followed when selecting a growth rate (i.e., precise input variables often considered within the confines of retention growth described above), the fact is that investors, when establishing the market prices for a firm, do not behave in the same manner assumed by the constant growth rate model using accounting values. Rather, investors consider both company-specific variables and overall market sentiment (i.e., level of inflation rates, interest rates, economic conditions, etc.) when balancing their capital gains expectations with their dividend yield

requirements. Investors are not influenced by a single set of company-specific variables weighted in a formulaic manner. Therefore, in my opinion, an array of relevant growth rate indicators using a variety of techniques must be evaluated when formulating a judgment of investor expected growth.

Q. What company-specific data have you considered in your growth rate analysis?

A. I have considered the growth in the financial variables shown on Exhibit No. DCP-11 and Exhibit No. DCP-12. The bar graphs provided on Exhibit No. DCP-11 show the historical growth rates in earnings per share, dividends per share, book value per share, and cash flow per share for the Corporate Pipeline Group. The historical growth rates were taken from the Value Line publication that provides these data. As shown on Exhibit No. DCP-11, the historical earnings per share growth rates were 0.08% and 1.42% for the Corporate Pipeline Group. The historical growth rates contain instances of negative values for individual companies within the Corporate Pipeline Group. Although indications of negative growth should not be considered for reasons stated below, both positive and negative growth rates have been included in the averages for the Corporate Pipeline Group. Obviously, negative growth rates provide no reliable guide to gauge investor expected growth for these companies. Investor expectations encompass long-term positive growth rates and, as such, could not be represented by sustainable negative rates of change. Therefore, statistics that include negative growth rates should not be given any weight when formulating a composite growth rate expectation.

Exhibit No. DCP-12 provides projected earnings per share growth rates

taken from analysts' forecasts compiled by IBES/First Call, Zacks, and Reuters/Market Guide and from the Value Line publication. IBES/First Call, Zacks, and Reuters/Market Guide represent reliable authorities of projected growth upon which investors rely. The IBES/First Call, Zacks, and Reuters/Market Guide forecasts are limited to earnings per share growth, while Value Line makes projections of other financial variables. The Value Line forecasts of dividends per share, book value per share, and cash flow per share have also been included on Exhibit No. DCP-12 for the Corporate Pipeline Group.

Although five-year forecasts usually receive the most attention in the growth analysis for DCF purposes, present market performance has been strongly influenced by short-term earnings forecasts. Each of the major publications provides earnings forecasts for the current and subsequent year. These short-term earnings forecasts receive prominent coverage, and indeed they dominate these publications. While the DCF model typically focuses upon long-run estimates of earnings, stock prices are clearly influenced by current and near-term earnings forecasts.

Q. Is a five-year investment horizon associated with the analysts' forecasts consistent with the DCF model?

A. Yes. In fact, it illustrates that the infinite form of the model contains an unrealistic assumption. Rather than viewing the DCF in the context of an endless stream of growing dividends (e.g., a century of cash flows), the growth in the share value (i.e., capital appreciation, or capital gains yield) is most relevant to investors' total return

expectations. Hence, the sale price of a stock can be viewed as a liquidating dividend that can be discounted along with the annual cash receipts during the investment-holding period to arrive at the investor expected return. The growth in the price per share will equal the growth in earnings per share absent any change in price-earnings (P-E) multiple -- a necessary assumption of the DCF. As such, my company-specific growth analysis, which focuses principally upon five-year forecasts of earnings per share growth, conforms with the type of analysis that influences the total return expectation of investors. Moreover, academic research focuses on five-year growth rates as they influence stock prices. Indeed, if investors really required forecasts that extended beyond five years in order to properly value common stocks, some investment advisory service would begin publishing that information for individual stocks in order to meet the market created by the demands of investors. The absence of such a publication signals that investors do not require infinite forecasts in order to purchase and sell stocks in the marketplace.

Q. What specific evidence have you considered in the DCF growth analysis?

A. As to the five-year forecast growth rates, page 1 of Exhibit No. DCP-12 indicates that the projected earnings per share growth rates for the Corporate Pipeline Group are 12.08% by IBES/First Call, 10.98% by Zacks, 9.69% by Reuters/Market Guide, and 12.40% by Value Line. The Value Line projections indicate that earnings per share for the Corporate Pipeline Group will grow prospectively at a more rapid rate than the cash payments per share, which indicates a declining dividend payout ratio

for the future. As indicated earlier, with the constant price-earnings multiple assumption of the DCF model, growth for these companies will occur at the higher earnings per share growth rate, thus producing the capital gains yield expected by investors.

Q. What conclusion have you drawn from these data?

A. Although ideally historical and projected earnings per share and dividends per share growth indicators would be used to provide an assessment of investor growth expectations for a firm, the circumstances of the Corporate Pipeline Group mandate that the greater emphasis be placed upon projected earnings per share growth. Historical evidence alone does not represent a complete measure of growth for these companies. Rather, projections of future earnings growth provide the principal focus of investor expectations. In this regard, it is worthwhile to note that Professor Myron Gordon, the foremost proponent of the DCF model in rate cases, established that the best measure of growth in the DCF model is forecasts of earnings per share growth.[4] Hence, to follow Professor Gordon's findings, projections of earnings per share growth, such as those published by IBES/First Call, Zacks, Reuters/Market Guide, and Value Line, represents a reasonable assessment of investor expectations.

It is appropriate to consider all forecasts of earnings growth rates that are available to investors. In this regard, I have considered the forecasts from IBES/First Call, Zacks, Reuters/Market Guide and Value Line. The IBES/First

[4] "Choice Among Methods of Estimating Share Yield," The Journal of Portfolio Management, spring 1989 by Gordon, Gordon & Gould.

Call, Zacks, and Reuters/Market Guide growth rates are consensus forecasts taken from a survey of analysts that make projections of growth for these companies. The IBES/First Call, Zacks, and Reuters/Market Guide estimates are obtained from the Internet and are widely available to investors free-of-charge. First Call is probably quoted most frequently in the financial press when reporting on earnings forecasts. The Value Line forecasts are also widely available to investors and can be obtained by subscription or free-of-charge at most public and collegiate libraries.

With the repeal of the 1935 Public Utility Holding Company Act ("PUHCA"), merger and acquisition ("M&A") activity, which already has been prevalent in the utility industry, is expected to accelerate. Acquisitions are usually accomplished at premiums offered to induce stockholders to sell their shares. These premiums create a ripple effect on the stock prices of all utilities, just like a rising tide lifts all boats. Due to M&A activity, there has been a run-up of the stock prices for some utility companies. With these elevated stock prices, dividend yields fall, and without some adjustment to the growth component of the DCF model, the results become unduly depressed by reference to alternative investment opportunities – such as public utility bonds.

There are three remedies available to deal with these potentially anomalous DCF results: (i) an adjustment to the DCF model to reflect the divergence of market capitalization and the book value capitalization, (ii) the use of a growth component in the DCF model that is at the high end of the range, and (iii) supplementing the DCF results with other measures of the cost of equity.

The forecasts of earnings per share growth as shown on Exhibit No. DCP-12, provide a range of growth rates of 9.69% to 12.40% for the Corporate Pipeline Group. While the DCF growth rates cannot be established solely with an mathematical formulation, it is my opinion that an investor-expected growth rate of 11.00% for the Corporate Pipeline Group is within the array of earnings per share growth rates shown by the analysts' forecasts and the forecast growth in overall corporate profits. As previously indicated, consolidation now taking place in the utility industry will provide additional risks and opportunities as the utility industry successfully adapts to the new business environment. These changes in growth fundamentals will undoubtedly develop beyond the next five years typically considered in the analysts' forecasts that will enhance the growth prospects for the future. As such, an 11.00% growth rate for the Corporate Pipeline Group will accommodate all these factors.

Q. Please explain why the sum of the dividend yield and growth rate does not provide a complete representation of the cost of equity.

A. As demonstrated previously, the divergence of stock prices from book values creates a conflict when the results of a market-derived cost of equity are applied to the common equity account measured at book value, which is the measure used in calculating the weighted average cost of capital. This is the situation today where the market price of stock exceeds its book value for most utilities. This divergence of price and book value creates a financial risk difference, whereby the capitalization of a utility measured at its market value contains relatively less debt

and more equity than the capitalization measured at its book value.

If regulators rely upon the results of the DCF (which are based on the market price of the stock of the companies analyzed) and apply those results to book value, the resulting earnings will not produce the level of required return specified by the model when market prices vary from book value. This is to say, such distortions tend to produce DCF results that understate the cost of equity to the regulated firm when using book values. This shortcoming of the DCF has caused regulatory decisions to adjust the cost of equity upward to make the return consistent with the book value capital structure. For instance, consider PPL Electric Utilities Corporation at Pennsylvania PUC Docket No. R-00049255 (Order entered December 22, 2004) where the Pennsylvania PUC acknowledged that an adjustment to the DCF results was required to make the return consistent with the book value capital structure. In that decision, the Pennsylvania PUC provided PPL (a wires-only electric delivery utility) with an additional increment to the simple DCF derived cost of equity for the financial risk difference related to the divergence of the market capitalization from the book value capitalization. Similar provisions were made by the Pennsylvania PUC in other rate case decisions and in one case affirmed by the Commonwealth Court. It must be recognized that in order to make the DCF results relevant to the capitalization measured at book value (as is done for ratesetting purposes), the market-derived cost rate cannot be used without modification. As I will explain later in my testimony, the DCF model can successfully recognize differences in risk attributed to changes in financial leverage

reflecting the divergence in the market capitalization and the book value capitalization.

Q. Have you presented this modification to the Commission in prior rate case proceedings?

A. Yes. The leverage adjustment presented below was discussed by the Commission in its Order at Docket No. RP00-107-000 (104 FERC ¶ 61,036 (2003)). There the Commission found that the leverage adjustment was unnecessary, based on the mistaken belief that it was a market-to-book adjustment, which it is not. Perhaps, with an improved explanation of my adjustment in this case, the Commission will realize the necessity of this adjustment.

Q. Has the Commission been inflexible in its application of the DCF model?

A. No. The Commission has modified the results of the DCF model when the situation warrants. For example, the Commission has periodically changed the DCF model by including a second-stage growth rate and has changed the weighting assigned to the first- and second-stage growth rates. The Commission has also altered the DCF model when the results are considered unreliable.

Q. Does the DCF derived return that is related to market value require modification to account for the common equity ratio indicated by the book value capitalization?

A. Yes. The capital structure ratios measured at the utility's book value show more financial leverage, and hence higher risk, than the capitalization measured at their market values. Please refer to Appendix E for the comparison. This means that a market-derived cost of equity, using models such as DCF and CAPM, reflects a

level of financial risk that is different from that shown by the book value capitalization. Hence, it is necessary to adjust the market-determined cost of equity upward to reflect the higher financial risk related to the book value capitalization used for ratesetting purposes. Failure to make this modification would result in a mismatch of the lower financial risk related to market value used to measure the cost of equity and the higher financial risk of the book value capital structure used in the ratesetting process. That is to say, the cost of equity for the Corporate Pipeline Group that is related to the 39.02% common equity ratio using book value has higher financial risk than the 65.58% common equity ratio using market values. Because the ratesetting process utilizes the book value capitalization, it is necessary to adjust the market-determined cost of equity for the higher financial risk related to the book value of the capitalization.

Q. How is the DCF-determined cost of equity adjusted for the financial risk associated with the book value capitalization?

A. In pioneering work, Nobel laureates Modigliani and Miller developed several theories about the role of leverage in a firm's capital structure. Modigliani and Miller established that as the borrowing of a firm increases, the expected return on stockholders' equity also increases. This principle is incorporated into my leverage adjustment which recognizes that the expected return on equity increases to reflect the increased risk associated with the higher financial leverage shown by the book value capital structure, as compared to the market value capital structure that contains lower financial risk. Modigliani and Miller proposed several approaches

to quantify the equity return associated with various degrees of debt leverage in a firm's capital structure. These formulas point toward an increase in the equity return associated with the higher financial risk of the book value capital structure. As detailed in Appendix E, the Modigliani and Miller theory shows that the cost of equity increases by 3.80% (17.16% - 13.36%) for the Corporate Pipeline Group when the book value of equity, rather than the market value of equity, is used for ratesetting purposes.

Q. Please provide the DCF return based upon your preceding discussion of dividend yield, growth, and leverage.

A. As explained previously, I have utilized a six-month average cash yield ("D_1 / P_0") adjusted in a forward-looking manner for my DCF calculation. This dividend yield is used in conjunction with the growth rate ("*g* ") previously developed. The DCF also includes the leverage modification ("*lev*.") required when the book value equity ratio is used in determining the weighted average cost of capital in the ratesetting process rather than the market value equity ratio related to the price of stock. The cost of equity must also include an adjustment to cover flotation costs ("*flot*."). Therefore, a flotation costs adjustment must be applied to the DCF result (i.e., "*k*") that provides an additional increment to the rate of return on equity (i.e., "*K*"). The factor used to develop the modification that would account for the flotation costs adjustment is provided in Exhibit No. DCP-13.

Q. What are your DCF results?

A. The resulting DCF cost rate is:

	D_1/P_0	+	g	+	*lev.*	=	k	$_x$	*flot.*	=	K
Corporate Pipeline Group	2.36%	+	11.00%	+	3.80%	=	17.16%	x	1.02	=	17.50%

As indicated by the DCF result shown above, the flotation cost adjustment adds 0.34% (17.50% - 17.16%) to the rate of return on common equity for the Corporate Pipeline Group. The DCF result shown above represents the simplified (i.e., Gordon) form of the model that contains a constant growth assumption. I should reiterate, however, that the DCF indicated cost rate provides an explanation of the rate of return on common stock market prices without regard to the prospect of a change in the price-earnings multiple. An assumption that there will be no change in the price-earnings multiple is not supported by the realities of the equity market because price-earnings multiples do not remain constant.

TWO-STAGE DCF MODEL

Q. In previous rate case decisions for natural gas pipelines, the Commission has employed a two-stage DCF model to set the rate of return on common equity. Have you considered this form of the DCF formula in this case?

A. Yes. Putting aside for the moment the fact that the DCF formula model was initially expressed with a single constant growth rate, I have included a calculation in my testimony based upon the Commission's approach in Transcontinental Gas Pipe Line Corp. (85 FERC ¶ 61,323 (1998)). It should be noted that in making these calculations, I am aware of the Commission's general procedure of considering GDP growth as an input in the second growth stage. While the forecast of growth in the GDP may represent a plausible measure of the growth in revenues

for a pipeline, which the Commission has acknowledged, it is not the same as growth in earnings.

As noted by the Commission, forecast growth of the Gross Domestic Product ("GDP") can represent the starting point for this analysis. The GDP has both "product side" and "income side" components. The product side of the GDP is comprised of: (i) personal consumption expenditures; (ii) gross private domestic investment; (iii) net exports of goods and services; and (iv) government consumption expenditures and gross investment. On the income side of the GDP, the components are: (i) compensation of employees; (ii) proprietors' income; (iii) rental income; (iv) corporate profits; (v) net interest; (vi) business transfer payments; (vii) indirect business taxes; (viii) consumption of fixed capital; (ix) net receipts/payment to the rest of the world; and (x) statistical discrepancy. The "product side," (i.e., demand components) could be used as a long-term representation of revenue growth for regulated companies. However, it is well known that revenue growth does not necessarily equal earnings growth, namely that the same growth rate would apply to revenues and all components of the cost of service. The earnings growth rates for regulated companies will be substantially affected by changes in operating expenses and capital costs.

Q. How do the growth rates in overall GDP and corporate profits compare?

A. Corporate profits grow faster than the overall GDP. This fact is shown with both historical data and based upon forecasts. The long-term consensus forecast that is published semi-annually by the Blue Chip Economic Indicators provides evidence

of future expectations in this regard by investors. Blue Chip Economic Indicators is a monthly publication that provides forecasts incorporating a wide variety of economic variables assembled from a panel of more than 50 noted economists from the banking, investment, industrial, and consulting sectors whose advice is widely reported in the financial press. For this purpose, it is preferable to use a consensus forecast taken from a large panel of contributors, rather than to rely upon one source that may not be representative of the types of information that have an impact on investor expectations. Indeed, Blue Chip Economic Indicators is frequently quoted in The Wall Street Journal, The New York Times, Fortune, Forbes, and Business Week. Twice annually, Blue Chip Economic Indicators provides long-range consensus forecasts. Based upon the March 10, 2006 issue of Blue Chip, those forecasts are:

Blue Chip Economic Indicators

Year	Nominal GDP	Corporate Profits, Pretax
2008	5.3%	3.9%
2009	5.3%	4.6%
2010	5.2%	4.3%
2011	5.1%	5.1%
2012	5.2%	6.0%
Averages		
2007-11	5.2%	4.8%
2012-16	5.2%	5.7%

These forecasts show that the rate of growth in corporate profits will decelerate during the early part of the forecast period due to the run-up in interest rates that I will discuss later in my testimony. Subsequently, growth will accelerate

later in the period. It is also indicated historically that the percentage change in corporate profits has been higher than the percentage change in GDP. [5]

Growth in corporate profits of approximately one-half of one percentage point more than GDP would represent an overall benchmark for the long-term growth component of the DCF. The higher corporate profit growth reflects productivity gains which have kept inflation in check, and productivity gains have added to growth in corporate earnings. So while the Commission seems agreeable to incorporate the low inflation forecasts as part of second-stage growth, the consequence of productivity gains -- namely increased corporate earnings -- must also be factored into the Commission's projections for earnings growth for the pipeline companies.

Q. What second-stage growth rate do you propose in this case following the approach the Commission used in *Transco* and *Iroquois*?

A. My second-stage growth consists of long-term forecasts of GDP growth modified for growth in corporate profits. As shown on page 1 of Exhibit No. DCP-14, the long-term growth in GDP was taken from the Annual Energy Outlook published by the Energy Information Administration ("EIA"), Global Insight (the successor to the WEFA and DRI forecasts previously used by the Commission), and the Annual Report of the Trustees of the Federal Old-Age and Survivors Insurance and Disability Issuance Trust Funds administered by the Social Security Administration

[5] Obviously, growth in corporate profits is negatively impacted during recessionary periods, but on average, corporate profits have grown historically over two percentage points faster than GDP since the 1934.

("SSA"). Giving SSA the same weight as previously assigned to it by the Commission (i.e., 25% weight), would have produced a higher long-term average GDP growth level. However, the simple average of the growth rates is 4.96%, which is somewhat lower than the result produced by the Commission's past practice. In recognition of the fact that corporate profits grow faster than GDP growth, the long-term second-stage growth rate is 5.46% (4.96% + 0.50%).

Q. How have you used these data in the two-stage DCF model?

A. I have followed generally the Commission's past practice of computing the two-stage DCF. That is to say, I have used a six-month average dividend yield and a weighted growth rate that is comprised of assigning two-thirds weight to the analysts' forecasts provided by the IBES/First Call service and one-third weight to long-term growth using the GDP growth modified to reflect growth in corporate profits. With enhancements to regulations by the Securities and Exchange Commission, a higher level of reliability could now be placed on analysts forecasts such as those completed by IBES/First Call. That is to say, the objectivity of analysts' forecasts have been enhanced through the separation of the research and investment banking functions at the securities firms. After computing individually the DCF cost rates for each company in the Corporate Pipeline Group, I then computed a weighted return for each group.

Q. How should the results of the DCF analysis be employed in this case?

A. The DCF analysis should be used to measure the investors' expected return for an interstate natural gas company. As such, the DCF results of those companies

should be deemphasized when other business pursuits dominate their risk profiles. To accomplish this goal, I have used a weighting process to arrive at a DCF return that is applicable to the natural gas transmission and/or storage business.

Q. How have you weighted the returns?

A. The goal is to measure the required return for the interstate natural gas transmission and/or storage business, not other operations of some of the companies within the Corporate Pipeline Group. To the extent that an entity is largely engaged in other activities, that entity should be afforded less weight in setting the equity return than other entities that are more committed to the natural gas transmission business. By ignoring the relative weight that each company devotes to the natural gas transmission business, the result can be skewed if equal weight is assigned to each entity. That is to say, if an investor desired to achieve the maximum exposure to the interstate natural gas transmission business, her/his emphasis would be on the entity that had 45% to 50% of its assets invested on the natural gas transmission business, and not an entity with just 8% of its assets in that business. The weighting procedure that I employ in this case achieves that result.

My analysis of the business segments of the Corporate Pipeline Group indicates that different weights should be given to the components of each group when selecting a representative number from individually computed costs of equity. Indeed, the degree to which each company is engaged in the interstate natural gas transmission business should affect the weight that should be given to individually computed returns in the two-stage DCF analysis.

In this regard, there are three principal financial variables that could be employed to measure the role of the pipeline business of each firm. These are: revenues, operating income, and assets employed. I did not use revenues for this purpose because the margins on pipeline segment are generally dissimilar to the other businesses of the proxy group companies. Energy trading is a case in point, which would make revenue comparisons incompatible for this purpose. I also did not use operating income for this purpose because of the margin issue discussed above. In addition, some non-regulated business segments may incur losses due to start-up, or other reasons, that can distort the percentage calculations. I did use an asset criteria because it best describes the amount of capital that a firm devotes to each business segment.[6] It is the potential return on that capital that represents the primary focus of investors when they value the securities of a firm.

Based upon my analysis of the business segments of each company in the two proxy groups, I have computed both a weighted average and weighted median as shown of page 1 of Exhibit No. DCP-14. While my preference would be the use of the weighted average because it considers all values included in the distribution of the returns for each proxy group, I have included the weighted median in my recommendation so that the skewness of the distribution is not an issue in the final return.

Q. Does the weighted return for each group provide a composite return that differs from the procedure used previously by the Commission?

[6] It was necessary to focus on utility plant in service for Williams, due to distortions caused by derivative assets of its power business.

A. Yes. In prior cases, beginning with its decision in Order No. 414-A (99 FERC ¶61,305), the Commission has used the median as a measure of central tendency. The Commission's reasoning was that the median gives consideration to more of the proxy company numbers, as opposed to the midpoint of the range that was previously used by the Commission. While it is true that the median addresses the issue of skewness in the distribution of the returns, the median represents a single number at the middle of the distribution if the number of values is odd, or the average of the two middle values if the number of values is even. Regardless of whether the midpoint or the median is used, each value in the distribution receives the same emphasis (or weight), as would the average (or mean) whose computation truly considers all the values in the distribution. However, as I discussed above, due to differences in the degree that each company is involved in the natural gas pipeline business, each number in the distribution would not warrant the same weight.

Q. What are the results of your analysis?

A. I have combined the dividend yields and the first-stage (i.e., IBES/First Call) growth and adjusted GDP growth and weighted the individual DCF cost rates as described above. To the weighted median, I have recognized leverage adjustment, and the flotation cost adjustment I previously adopted to provide the following DCF cost rate:

	D_1/P_0	+ g	+ *lev.*	= k	+ *flot.*	= K
Corporate Pipeline Group	12.79%	+ 3.52%	= 16.31%	+ 0.34%	=	16.65%

The two-step DCF departs from classic DCF theory. While the foregoing represents a calculation of a two-step DCF analysis, it is entirely reasonable to employ the single-step DCF results directly in the rate of return analysis in this case.

RISK PREMIUM ANALYSIS

Q. Please describe your use of the Risk Premium approach to determine the cost of equity.

A. The details of my use of the Risk Premium approach and the evidence in support of my conclusions are set forth in Appendix H. I will summarize them here. With this method, the cost of equity capital is determined by corporate bond yields plus a premium to account for the fact that common equity is exposed to greater investment risk than debt capital.

Q. What long-term public utility debt cost rate did you use in your risk premium analysis?

A. In my opinion, a 6.50% yield represents a reasonable estimate of the prospective yield on long-term A-rated public utility bonds. As I will subsequently show, the Moody's index and the Blue Chip Financial Forecasts ("Blue Chip") forecasts support this figure.

The historical yields for long-term public utility debt are shown graphically on page 1 of Exhibit No. DCP-15. For the twelve months ended March 2006, the average monthly yield on Moody's A-rated index of public utility bonds was

5.68%. For the six and three-month periods ending March 2006, the yields were 5.84% and 5.85%, respectively.

Q. What has been the trend in interest rates?

A. The low interest rates that existed in 2003-'04 were, in part, the product of the Federal Open Market Committee ("FOMC") policy, which is now in transition. Indeed, on June 30, 2004, August 10, 2004, September 21, 2004, November 10, 2004, December 14, 2004, February 2, 2005, March 22, 2005, May 3, 2005, June 30, 2005, August 9, 2005, September 20, 2005, November 1, 2005, December 13, 2005, January 31, 2006, March 28, 2006, and May 10, 2006 the FOMC increased the Fed Funds rate in sixteen 25 basis point increments. These policy actions, which have brought the Fed Funds rate to 5.00%, are widely interpreted as part of the process of moving toward a more neutral range for monetary policy. While short-term rates have increased significantly over the past twenty-one months, long-term rates have not moved similarly. This means that there has been a flattening of the yield curve. There is the potential for higher long-term interest rates, in the situation where the yield curve regains its normal upward slope as maturities are lengthened, and when short-term rates remain at current levels.

Q. What forecasts of interest rates have you considered in your analysis?

A. I have determined the prospective yield on A-rated public utility debt by using the Blue Chip along with the spread in the yields that I describe above and in Appendix G. Blue Chip is a reliable authority and contains consensus forecasts of a variety of interest rates compiled from a panel of banking, brokerage, and investment advisory

services. In early 1999, Blue Chip stopped publishing forecasts of yields on A-rated public utility bonds because the Federal Reserve deleted these yields from its Statistical Release H.15. To independently project a forecast of the yields on A-rated public utility bonds, I have combined the forecast yields on Treasury bonds published on May 1, 2006 and the yield spread of 1.00%. I have determined the prospective yield on A-rated public utility debt by using the Blue Chip Financial Forecasts ("Blue Chip") along with the spread in the yields that I describe above. For comparative purposes, I have also shown the Blue Chip of Aaa-rated and Baa-rated corporate bonds. These forecasts are:

		Corporate		30-Year	A-rated Public Utility	
Year	Quarter	Aaa-rated	Baa-rated	Treasury	Spread	Yield
2006	Second	5.9%	6.8%	5.1%	1.0%	6.1%
2006	Third	6.1%	7.0%	5.2%	1.0%	6.2%
2006	Fourth	6.1%	7.0%	5.3%	1.0%	6.3%
2007	First	6.2%	7.1%	5.3%	1.0%	6.3%
2007	Second	6.1%	7.0%	5.2%	1.0%	6.2%
2007	Third	6.1%	7.0%	5.2%	1.0%	6.2%

Q. Are there additional forecasts of interest rates that extend beyond those shown above?

A. Yes. Twice yearly, Blue Chip provides a long-term forecast of interest rates. In its December 1, 2005 publication, the Blue Chip published forecasts of interest rates are reported to be:

	Blue Chip Financial Forecasts				
	Corporate		20-Year	A-rated Public Utility	
Year	Aaa-rated	Baa-rated	Treasury	Spread	Yield
2007	6.2%	7.1%	5.4%	1.0%	6.4%
2008	6.2%	7.1%	5.4%	1.0%	6.4%
2009	6.3%	7.1%	5.5%	1.0%	6.5%
2010	6.3%	7.2%	5.5%	1.0%	6.5%
2011	6.4%	7.2%	5.6%	1.0%	6.6%
Averages					
2007-11	6.3%	7.1%	5.5%	1.0%	6.5%
2012-16	6.4%	7.2%	5.6%	1.0%	6.6%

These forecasts show that interest rates will likely be above current levels. Given these forecasts and the historical long-term interest rates, a 6.50% yield on A-rated public utility bonds represents a reasonable expectation, especially with the widespread forecasts of higher interest rates covering the years 2007 through 2011.

Q. What equity risk premium have you determined?

A. Appendix H provides a discussion of the financial returns that I relied upon to develop the appropriate equity risk premium for the S&P Public Utilities. I have calculated the equity risk premium by comparing the market returns on utility stocks and the market returns on utility bonds. I chose the S&P Public Utility index for the purpose of measuring the market returns for utility stocks because it is intended to represent firms engaged in regulated activities and today is comprised of electric companies and gas companies. The S&P Public Utility index is more closely aligned with these groups than some broader market indexes, such as the S&P 500 Composite index. The S&P Public Utility index is a subset of the overall S&P 500 Composite index. Use of the S&P Public Utility index reduces the role of

judgment in establishing the risk premium for public utilities. With the equity risk premiums developed for the S&P Public Utilities as a base, I derived the equity risk premium for the Corporate Pipeline Group.

Q. How have you analyzed the equity risk premium for the S&P Public Utilities?

A. To develop an appropriate risk premium, I analyzed the results for the S&P Public Utilities by averaging (i) the midpoint of the range shown by the geometric mean and median and (ii) the arithmetic mean. This procedure has been employed to provide a comprehensive way of measuring the central tendency of the historical returns. As shown by the values set forth on page 2 of Exhibit No. DCP-16 the indicated risk premiums for the various time periods analyzed are 5.17% (1928-2005), 6.05% (1952-2005), 5.19% (1974-2005), and 5.20% (1979-2005). The selection of the shorter periods taken from the entire historical series is designed to provide a risk premium that conforms more nearly to present investment fundamentals and removes some of the more distant data from the analysis.

Q. Do you have further support for the selection of the time periods used in your equity risk premium determination?

A. Yes. The selection of the shorter periods taken from the entire historical series is designed to provide a risk premium that conforms more nearly to present investment fundamentals and removes some of the more distant data from the analysis. First, the terminal year of my analysis presented in Exhibit No. DCP-16 represents the returns realized through 2005. Second, the selection of the initial year of each period was described above. These events were fixed in history and

cannot be manipulated as later financial data become available. That is to say, using the Treasury-Federal Reserve Accord as a defining event, the year 1952 is fixed as the beginning point for the measurement period regardless of the financial results that subsequently occurred. Likewise, 1974 represented a benchmark year because it followed the 1973 Arab Oil embargo. Also, the year 1979 was chosen because it began the deregulation of the financial markets. After selection of the benchmark year, all subsequent yearly data were analyzed up through the present.

Q. What conclusions have you drawn from these data?

A. Using the summary values provided on page 2 of Exhibit No. DCP-16, the 1928-2005 period provides the lowest indicated risk premium, while the 1952-2005 period provides the highest risk premium for the S&P Public Utilities. Within these bounds, a common equity risk premium of 5.20% (5.19% + 5.20% = 10.39% ÷ 2) is shown from data covering the periods 1974-2005 and 1979-2005. Based upon my analysis, 5.20% represents a reasonable risk premium using the S&P Public Utilities as a basis in this case. As noted earlier in my fundamental risk analysis, differences in risk characteristics must be taken into account when applying the results for the S&P Public Utilities to the Corporate Pipeline Group. I recognized these differences in the development of the equity risk premium in this case. I previously enumerated various differences in fundamentals between the Corporate Pipeline Group and the S&P Public Utilities, including size, market ratios, common equity ratio, return on book equity, operating ratios, coverage, quality of earnings, internally generated funds, business risks and betas. In my opinion, these

differences indicate that 6.50% represents a reasonable common equity risk premium in this case. This represents approximately 125% (6.50% ÷ 5.20% = 1.25) of the risk premium of the S&P Public Utilities and is reflective of the risk of the Corporate Pipeline Group compared to the S&P Public Utilities.

Q. What common equity cost rate would be appropriate using this equity risk premium and the yield on long-term public utility debt?

A. The cost of equity (i.e., "*k*") is represented by the sum of the prospective yield for long-term public utility debt (i.e., "*i*") and the equity risk premium (i.e., "*RP*"). To that cost must be added an adjustment for common stock financing costs ("*flot.*"). The Risk Premium approach provides a cost of equity of:

	i	+	*RP*	=	*k*	+	*flot.*	=	*K*
Corporate Pipeline Group	6.50%	+	6.50%	=	13.00%	+	0.34%	=	13.34%

CAPITAL ASSET PRICING MODEL

Q. Have you used any other methods to measure the cost of equity in this case?

A. I have used the Capital Asset Pricing Model ("CAPM") in addition to my other methods. The CAPM uses the yield on a risk-free interest bearing obligation plus a rate of return premium that is proportional to the systematic risk of an investment. The details of my use of the CAPM and evidence in support of my conclusions are set forth in Appendix I. To compute the cost of equity with the CAPM, three components are necessary: a risk-free rate of return ("*Rf*"), the beta measure of systematic risk ("*ß*"), and the market risk premium ("*Rm-Rf*") derived from the total return on the market of equities reduced by the risk-free rate of return. The CAPM

specifically accounts for differences in systematic risk (i.e., market risk as measured by the beta) between an individual firm or group of firms and the entire market of equities. As such, to calculate the CAPM it is necessary to employ firms with traded stocks. In this regard, I performed a CAPM calculation for the Corporate Pipeline Group. In contrast, my Risk Premium approach also considers industry- and company-specific factors because it is not limited to measuring just systematic risk.

Q. What betas have you considered in the CAPM?

A. For my CAPM analysis, I initially considered the Value Line betas. As shown on page 1 of Exhibit No. DCP-17, the average beta is 1.39 for the Corporate Pipeline Group.

Q. What betas have you used in the CAPM determined cost of equity?

A. The betas must be reflective of the financial risk associated with the ratesetting capital structure that is measured at book value. Therefore, Value Line betas cannot be used directly in the CAPM unless those betas are applied to a capital structure measured with market values. To develop a CAPM cost rate applicable to a book value capital structure, the Value Line betas have been unleveraged and releveraged for the common equity ratios using book values. This adjustment has been made with the formula:

$$ßl = ßu\ [1 + (1 - t)\ D/E + P/E]$$

where *ßl* = the leveraged beta, ßu = the unleveraged beta, *t* = income tax rate, *D* = debt ratio, *P* = preferred stock ratio, and *E* = common equity ratio. The betas

published by Value Line have been calculated with the market price of stock and therefore are related to the market value capitalization. By using the formula shown above and the capital structure ratios measured at their market values, the beta would become 1.03 for the Corporate Pipeline Group if it employed no leverage and was 100% equity financed. With the unleveraged beta as a base, I calculated the leveraged beta of 2.08 for the Corporate Pipeline Group associated with book value capital structure.

Q. What risk-free rate have you used in the CAPM?

A. For reasons explained in Appendix G, I have employed the yields on long-term Treasury bonds using both historical and forecast data to match the longer-term horizon associated with the ratesetting process. As shown on pages 2 and 3 of Exhibit No. DCP-17, I provided the historical yields on 20-year Treasury bonds. For the twelve months ended March 2006, the average yield was 4.65%, as shown on page 4 of that schedule. For the six- and three-months ended March 2006, the yields on 20-year Treasury bonds were 4.77% and 4.76%, respectively. As shown on page 5 of Exhibit No. DCP-17, forecasts published by Blue Chip on May 1, 2006 indicate that the yields on long-term Treasury bonds are expected to increase to 5.20% during the next six quarters. The longer term forecasts described previously show that the yields on Treasury bonds will average 5.50% from 2007 through 2011. To conform to the use of the historical and forecast data that I employed in my analysis, I have used a 5.50% risk-free rate of return for CAPM purposes.

Q. What market premium have you used in the CAPM?

A. As developed in Appendix I, the market premium is developed by averaging historical market performance (i.e., 6.5%) and the forecasts (i.e., 5.95%). The resulting market premium is 6.23% (6.5% + 5.95% = 12.45% ÷ 2), which represents the average market premium using historical and forecast data.

Q. What CAPM result have you determined using the CAPM?

A. Using the 5.50% risk-free rate of return, the leverage adjusted beta of 2.08 for the Corporate Pipeline Group, the 6.23% market premium, and the flotation cost adjustment developed previously, the following result is indicated.

	Rf	+	ß	x (	*Rm-Rf*	) =	*k*	+	*flot.*	=	*K*
Corporate Pipeline Group	5.50%	+	2.08	x (	6.23%	) =	18.46%	+	0.34%	=	18.80%

COMPARABLE EARNINGS APPROACH

Q. How have you applied the Comparable Earnings approach in this case?

A. The technical aspects of my Comparable Earnings approach are set forth in Appendix J. In order to identify the appropriate return on equity for a public utility, it is necessary to analyze returns experienced by other firms within the context of the Comparable Earnings standard. The firms selected for the Comparable Earnings approach should be companies whose prices are not subject to cost-based price ceilings (i.e., non-regulated firms) so that circularity is avoided. To avoid circularity, it is essential that returns achieved under regulation not provide the basis for a regulated return. Because regulated firms must compete with non-regulated firms in the capital markets, it is appropriate, if not necessary, to view the

returns experienced by firms which operate in competitive markets. One must keep in mind that the rates of return for non-regulated firms represent results on book value actually achieved, or expected to be achieved, because the starting point of the calculation is the actual experience of companies that are not subject to rate regulation. The United States Supreme Court has held that:

> [T]he 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. [F.P.C. v. Hope Natural Gas Co., 320 U.S. 591 (1944).]

Therefore, it is important to identify the returns earned by firms that compete for capital with a public utility. This can be accomplished by analyzing the returns of non-regulated firms that are subject to the competitive forces of the marketplace.

There are two avenues available to implement the Comparable Earnings approach. One method would involve the selection of another industry (or industries) with comparable risks to the public utility in question, and the results for all companies within that industry would serve as a benchmark. The second approach requires the selection of parameters that represent similar risk traits for the public utility and the comparable risk companies. Using this approach, the business lines of the comparable companies become unimportant. The latter approach is preferable with the further qualification that the comparable risk companies exclude regulated firms. As such, this approach to Comparable Earnings avoids the circular reasoning implicit in the use of the achieved earnings/book ratios of other regulated

firms. Rather, it provides an indication of an earnings rate derived from non-regulated companies that are subject to competition in the marketplace and not rate regulation. Because regulation is a substitute for competitively-determined prices, the returns realized by non-regulated firms with comparable risks to a public utility provide useful insight into a fair rate of return. This is because returns realized by non-regulated firms have become increasingly relevant with the trend toward increased risk throughout the public utility business. Moreover, the rate of return for a regulated public utility must be competitive with returns available on investments in other enterprises having corresponding risks, especially in a more global economy. And in the example of an integrated company such as Dominion, the return as an immediate and direct impact on corporate capital allocation decisions.

To identify the comparable risk companies, the Value Line Investment Survey for Windows was used to screen for firms of comparable risks. The Value Line Investment Survey for Windows includes data on approximately 1700 firms. Excluded from the selection process were companies incorporated in foreign countries.

Q. How have you implemented the Comparable Earnings approach?

A. As noted above, non-regulated companies were selected from the Value Line Investment Survey for Windows that have six categories of comparability designed to reflect the risk of the Corporate Pipeline Group. The identities of companies comprising the Comparable Earnings group and their associated rankings within the

ranges are identified on page 1 of Exhibit No. DCP-18.

Value Line data were relied upon as providing a comprehensive basis for evaluating the risks of the comparable firms. As to the returns calculated by Value Line for these companies, there is some downward bias in the figures shown on page 2 of Exhibit No. DCP-18 because Value Line computes the returns on year-end rather than average book value. If average book values had been employed, the rates of return would have been slightly higher. Nevertheless, these are the returns considered by investors when taking positions in these stocks. Finally, because many of the comparability factors, as well as the published returns, are used by investors for selecting stocks, and to the extent that investors rely on the Value Line service to gauge their returns, it is, therefore, an appropriate database for measuring comparable return opportunities.

Q. What data have you used in your Comparable Earnings analysis?

A. I have used both historical realized returns and forecast returns for non-utility companies. As noted previously, I have not used returns for utility companies so as to avoid the circularity that arises from using regulatory influenced returns to determine a regulated return. It is appropriate to consider a relatively long measurement period in the Comparable Earnings approach in order to cover conditions over an entire business cycle. A ten-year period (5 historical years and 5 projected years) is sufficient to cover an average business cycle. Unlike the DCF and CAPM, the results of the Comparable Earnings method can be applied directly to the book value capitalization because the nature of the analysis relates to book

value. Hence, Comparable Earnings does not contain the potential misspecification contained in market models when the market capitalization and book value capitalization diverge significantly. The historical rate of return on book common equity was 13.1% using the median value as shown on page 2 of Exhibit No. DCP-18. The forecast rates of return as published by Value Line are shown by the 13.8% median values also provided on page 2 of Exhibit No. DCP-18.

Q. What rate of return on common equity have you determined in this case using the Comparable Earnings approach?

A. The average of the historical and forecast median rates of return is:

	Historical	*Forecast*	*Average*
Comparable Earnings Group	13.10%	13.80%	13.45%

CONCLUSION

Q. What is your conclusion concerning the Company's cost of equity?

A. Based upon the application of a variety of methods and models described previously, it is my opinion that the reasonable rate of return on common equity is 13.00% to 15.25% for the Company. It is my opinion that it is better to use a variety of techniques to measure the Company's cost of equity because of the limitations/infirmities that are inherent in each method. I have based my recommendation upon the results of the methods/models applied with data for the Corporate Pipeline Group. In conclusion, the Company should be allowed a 13.00% to 15.25% rate of return on common equity, so that it can compete in the capital markets and be adequately compensated for its business risk.

Q. Does this conclude your prepared direct testimony?

A. Yes.

GLOSSARY OF ACRONYMS AND DEFINED TERMS

ACRONYM	DEFINED TERM
AFUDC	Allowance for Funds Used During Construction
ß	Beta
b	represents the retention rate that consists of the fraction of earnings that are not paid out as dividends
b x r	Represents internal growth
CAPM	Capital Asset Pricing Model
CCR	Corporate Credit Rating
DCF	Discounted Cash Flow
EIA	Energy Information Administration
FERC	Federal Energy Regulatory Commission
FOMC	Federal Open Market Committee
g	Growth rate
GDP	Gross Domestic Product
DCP	Gas Transmission Northwest Corporation
IGF	Internally Generated Funds
Lev	Leverage modification
LDCs	Local Distribution Companies
LT	Long Term
PUC	Public Utility Commission
r	represents the expected rate of return on common equity
Rf	Risk-free rate of return
Rm	Market risk premium
RP	Risk Premium
s	Represents the new common shares expected to be issued by a firm
SSA	Social Security Administration
s x v	Represents external growth
S&P	Standard & Poor's
v	represents the value that accrues to existing shareholders from selling stock at a price different from book value
WCSB	Western Canadian Sedimentary Basin

GLOSSARY OF ACRONYMS AND DEFINED TERMS	
ACRONYM	**DEFINED TERM**
SFV	straight fixed-variable

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Dominion Cove Point LNG, LP) **Docket No. RP06-_____**

AFFIDAVIT OF PAUL R. MOUL

Paul R. Moul, being first duly sworn according to law, on oath deposes and says: that he is the witness whose testimony appears on the preceding pages entitled "PREPARED DIRECT TESTIMONY OF PAUL R. MOUL" in this proceeding; that, if asked the questions which appear in the text of the aforesaid testimony, affiant would give the answers that are therein set forth; and that affiant adopts the aforesaid testimony as his sworn testimony in these proceedings.

Paul R. Moul

Subscribed and sworn to before me this 27 day of June, 2006.

Notary Public

Notary Public of New Jersey
I.D.#2165661 Com.Exp. 5/12/09
Ruby Marie Tucker