PREPARED DIRECT AND ANSWERING TESTIMONY OF FRANK J. HANLEY

I. INTRODUCTION AND PURPOSE

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

A. My name is Frank J. Hanley, and I am President of AUS Consultants - Utility Services. My business address is 155 Gaither Drive, P.O. Box 1050, Moorestown, New Jersey 08057.

Q. Please summarize your professional qualifications.

A. I have testified as an expert witness on rate of return and related financial issues before 32 state public utility commissions and the Federal Energy Regulatory Commission. I have also testified before local and county regulatory bodies, an arbitration panel, a U.S. Bankruptcy Court, the U.S. Tax Court, and a state district court. I have appeared on behalf of investor-owned companies, municipalities, and state public utility commissions. I hold a B.S. in business administration from Drexel University. I am also a Certified Rate of Return Analyst. The details in Appendix A present a more detailed description of my professional qualifications.

Q. What is the purpose of your direct and answering testimony?

A. The purpose of my prepared direct testimony is to provide evidence on behalf of Tesoro Refining and Marketing Company (Tesoro) with regard to a fair rate of return which Olympic Pipe Line Company (Olympic or OPL) should be afforded an opportunity to

earn on its jurisdictional rate base. My primary recommendation is, however, contingent upon my recommended hypothetical capital structure ratios being realized before an Order is issued by this Commission in this proceeding. Otherwise, if Olympic continues to maintain a capital structure comprised of 100% debt, then that actual capital structure should be used for reasons which are discussed infra.

The purpose of my answering testimony is to address the flaws in the approach utilized by OPL Witness George Schink in his determination of an appropriate ratemaking capital structure and related cost rates to be used in establishing a fair rate of return for Olympic. I also demonstrate the fallacy of his conclusion as to the significance of beta as an accurate measure of business risk and a determinant of the percentage of equity required in the capital structure.

Q. Have you prepared exhibits which support your direct and answering testimony?

A. Yes. I have prepared (or had prepared under my direct supervision and direction) 18 Exhibits which have been marked as Exhibit Nos. _____ (FJH-2) through (FJH-19). Exhibit Nos. _____ (FJH-2) through (FJH-17) relate to my Direct testimony, Exhibit Nos. _____ (FJH-18) and (FJH-19) relate to my Answering testimony.

II. DIRECT TESTIMONY

Q. Please summarize your direct testimony.

A. I recommend an overall cost of capital and fair rate of return applicable to OPL of 10.07% determined through the use of a hypothetical capital structure consisting of 53.60% debt and 46.40% common equity, a hypothetical debt cost rate of 7.54% and a

nominal cost of equity of 13.00%. The first step in the process was the determination of an appropriate capital structure. The capital structure ratios employed should be consistent with the prospective level of business risk of the enterprise and with similar risk companies whose capital structure ratios have found acceptance in the marketplace. The capital structure of a regulated utility utilized for ratemaking purposes should be the result of its prospective level of business risk. It should not be based upon who owns its common stock or the manner in which those owners are financed. OPL should be viewed as a stand-alone utility and its business and financial risks should be evaluated in that context.

My analyses of the capital structures of five oil pipeline limited partnerships (proxy group or LLPs) indicate that a reasonable capital structure for use in the calculation of the overall rate of return applicable to OPL consists of 53.60% debt and 46.40% equity.

I make the foregoing recommendation of the use of that hypothetical capital structure conditionally. For many years, OPL has maintained a capital structure which is financially imprudent. As shown on pages 1 and 2 of Exhibit No. ____ (FJH-4), OPL has, since 1990, maintained a capital structure which included far too much debt and too little equity. For example, between 1990 and 1997, OPL's equity ratio ranged between 11.06% and 16.09%. During that same period of time, OPL paid out $51.6 million in dividends to its parent owners. Clearly, there was little concern about bringing its equity ratio into line with the industry as measured by the proxy group of five oil pipeline

companies. Those proxies maintained an average equity ratio during 1990-1997 which ranged between 46.91% and 64.34% as shown on pages 1 and 2 of Exhibit No. ____ (FJH-4). Had OPL not paid out the $51.6 million in common dividends between 1990 and 1997, it would have, conservatively, been able to maintain a capital structure with the percentage of equity ranging between 31.81% and 64.98% also shown on pages 1 and 2 of Exhibit No. ____ (FJH-4).

The risk of under-capitalization is clear. With an already existing financially imprudent capital structure, the unexpected financial impact of the Whatcom Creek accident has resulted in an actual negative (1.84%) equity ratio in the year 2000 despite the cessation of payment of common dividends beginning in 1998. Consequently, the capital structure consists entirely of debt. As can be seen on page 1 of Exhibit No. ____ (FJH-4), had the payment of $51.6 million in dividends not been made during 1990-1997, the year 2000 equity ratio would have been at least 30.43% (and probably higher because no accretion in retained earnings was considered and the debt level was assumed to be the same). This points out the need to maintain a capital structure which is balanced and consistent with industry norms.

A financially imprudent capital structure should not result in a reward to shareholders by allowing an equity return on a much higher hypothetical common equity ratio unless there is a commitment by the shareholders to inject a like dollar amount of equity capital to bring the capital structure into line with the industry norm. As shown by Exhibit No. ____ (FJH-5), a copy of OPL's response to Tesoro Discovery Request

No. 152, OPL's shareholders have provided no equity capital to OPL since 1991. Also, incredibly, OPL states it has been unable to locate records prior to 1991.

The WUTC should, absent such commitment from OPL's owners, consider using OPL's actual capital structure, which consists of 100% debt, which should encourage the owners to recapitalize OPL consistent with the industry norm. The five proxy oil pipeline companies used by myself (identified in Exhibit No. ____ (FJH-4)) and OPL Witness Schink are the only proxies for the oil pipeline industry which have been in operation for a sufficient time. These five companies have actively traded common shares outstanding, thereby providing a meaningful measure of capital structure ratios which have found marketplace acceptance. Consequently, the industry norm should be measured by that proxy group of five oil pipeline companies.

As will be demonstrated infra, the capital structure ratios of OPL's parent companies have no relationship whatsoever to OPL or any operating oil pipeline company. This Commission has recognized that parent companies' capital structure ratios should not be used when they deviate from industry norms. To utilize the parent companies' ratios would be to unjustly reward OPL's shareholders for maintaining a financially imprudent capital structure on a sustained basis.

The debt cost rates of OPL's owner companies, weighted by percentage ownership, have no relationship to the debt cost rate applicable to OPL except by chance. In order to ascertain a reasonable debt cost rate for OPL, I calculated the composite debt cost rate of the proxy group of five oil pipeline LLPs for the year 2000. The use of their

composite debt cost rate is also conditional and will be explained in both the Capital Structure and Debt Cost Rate sections of this testimony.

In formulating my recommended nominal common equity cost rate, I relied upon the Efficient Market Hypothesis (EMH) which suggests that investors are aware of all publicly available information including the financial literature which encourages the use of multiple cost of common equity models. Consequently, I employ four different cost of common equity models, namely the Discounted Cash Flow (DCF); the Risk Premium Model (RPM); the Capital Asset Pricing Model (CAPM); and the Comparable Earnings Model (CEM). As a result of the application of all four models to the proxy group of five oil pipeline LLPs, I arrived at a common equity cost rate of 13.00% based upon that group of proxy companies and their average year 2000 common equity ratio of 46.40%.

I conclude that OPL is of about equal business risk to the proxy group; that is, I do not believe that OPL is any more business risky than the proxy group from either an operational or competitive viewpoint. In arriving at the 13.00% cost rate, I relied upon the mean of the indicators of common equity cost rate which I believe is the best indicator of average risk, especially with a proxy group consisting of only five LLPs. As mentioned above, I also recommend a hypothetical debt cost rate of 7.54% relative to a hypothetical debt ratio of 53.60%. As a result, my cost of capital recommendation is applicable to either or both of OPL's case periods and is as follows:

	Percent To Total	Cost Rate	Weighted Cost Rate
Debt	53.60%	7.54%	4.04%
Equity	46.40	13.00	6.03
Total	100.00%		10.07%

From Exhibit No. ____ (FJH-2), Page 2 and Supporting Exhibits.

I will explain why the use of a capital structure and debt cost rate of OPL's owner companies, weighted by percentage of ownership, is inappropriate for use in determining OPL's cost of capital. Moreover, I will explain in detail infra why my recommended cost of capital is conditional and why OPL's actual capital structure, currently consisting of 100% debt, should be used for cost of capital purposes unless its owners are willing to invest capital in the form of common equity. Simply put, OPL's owners should not be rewarded through the adoption of a hypothetical capital structure which includes a substantial percentage of equity as long as its owners are unwilling (they certainly have the wherewithal) to invest equity capital in sufficient amount as to equal the hypothetical percentage used in the cost of capital determination. Presently, the actual equity percentage is zero (0%). To allow an equity return rate on non-existent equity would make a mockery of the ratemaking paradigm.

As to the testimony of OPL Witness George Schink, I will address the flaws associated with the capital structure which he recommends; and also with his recommended preferred nominal common equity cost rate of 15.36%. I will demonstrate that the use of the weighted by percentage ownership capital structure of OPL's parent

companies is entirely inappropriate for use in this proceeding. Moreover, I will explain why Witness Schink's conclusions relative to beta and its significance to the use of financial leverage in the capital structure is erroneous.

II.A. THE RATEMAKING PARADIGM

Q. Please briefly explain the ratemaking paradigm.

A. In non-price regulated industries, the competition of the marketplace is the principal determinant in establishing the price of a product or service. In the case of price-regulated public utilities, regulation must act as a substitute for the competition of the marketplace. The principal standard employed in utility price regulation is the rate base times rate of return paradigm. Rate base is typically the depreciated original cost (DOC) of assets in service plus allowances for necessary cash working capital and materials and supplies inventory. The fair rate of return must meet the judicial standards established by the U.S. Supreme Court in Bluefield Water Works Improvement Co. v. Public Service Commission, 262 U.S. 679 (1922) and Federal Power Commission v. Hope Natural Gas Co., 320 U.S. 591 (1944). Those cases essentially require that the rates set assure that a utility can fulfill its obligation to serve and provide a level of earnings sufficient to maintain the integrity of invested capital and permit the attraction of new capital at a reasonable cost in competition with other comparable-risk seekers of capital in the marketplace. Thus, the cost of capital must be determined from analyses of market-based cost rates.

Ratemaking is always prospective, as is the cost of capital. Capital costs reflect investors' expectations based upon their perceptions of future risks. Rates are set to be collected over a future time period. Utilities are not guaranteed to earn a fair rate of return but are afforded only an opportunity to earn it.

II.B. RISK

Q. Please describe in a general way the elements of investment risk investors face in the marketplace.

A. The collective investment risk faced by investors is comprised of both non-diversifiable, systematic market risk and diversifiable, unsystematic risks. Systematic market risk is the result of socioeconomic and other events that affect the returns on all assets. Thus, diversification cannot reduce or eliminate systematic risk. Unsystematic risks are diversifiable and are comprised of both business and financial risks.

Q. Please define business risk and explain why it is important to the determination of a fair rate of return.

A. Business risk is a collective term encompassing all of the diversifiable risks of an enterprise except financial risk. Business risk is important to the determination of a fair rate of return because the greater the level of risk, the greater the rate of return demanded by investors consistent with the basic financial precept of risk and return.

Q. Do you believe that OPL has any greater business risk, vis-a-vis the proxy groups?

A. No. I believe that from an operational standpoint, OPL is no more or less risky than the average proxy company. OPL has stated that the pipeline met all required safety

standards before and at the time of the Whatcom Creek accident. Mr. Batch has also stated that OPL will not operate if the pipeline is not safe. Thus, a similar accident could happen to any of the proxy pipelines at any time. Even though OPL has since been increasing the standards above and beyond normal safety standards – for which shippers are paying – it is being done unilaterally and voluntarily. Thus, in my opinion, there is no extraordinary operational risk vis-a-vis the proxy pipeline companies.

As to competitive risk, I believe that it is clear that any alternative shipping method is more expensive. It makes no sense that any shipper would choose a less efficient and more costly alternative if sufficient volume is available on the pipeline. It seems to me that there is little concern from OPL about the competitiveness of its rates in view of its application for a 62% increase in rates, already in effect subject to refund.

II.C. FINANCIAL RISK

Q. Please define financial risk and explain why it is important to the determination of a fair rate of return.

A. Financial risk is the additional risk created by the introduction of debt into the capital structure. Standard & Poor's (S&P) corporate bond rating criteria are contained in Exhibit No. ____ (FJH-3) which consists of 12 pages. Pages 11 and 12 contain a discussion of and the target financial ratios for ten levels of business positions at different bond ratings with "1" being considered the lowest risk and "10" the highest risk, respectively.

Q. Please discuss bond ratings as a measure of investment risk.

A. S&P expressly states that the bond rating process encompasses a qualitative analysis of business and financial risks (see pages 3 through 9 of Exhibit No. ____ (FJH-3)). Although specific business or financial risks may differ between companies, the same bond rating indicates that the combined risks are similar. Differences in credit risk may still exist between companies with the same bond rating which would be reflected in S&P's assigned business position, i.e., the higher the assigned number the greater the perceived risk and more stringent financial target ratios are required to be met..

No credit rating process, however, can be reflective of the risks to which the last-in-line common equity owners are exposed. Bond ratings, however, can be one important criterion in the selection of proxy companies. However, when the potential universe of companies in the same line of business is limited, as is the situation in this proceeding, such a criterion is of minimal value.

II.D. COMPARATIVE FINANCIAL STATISTICS

Q. Have you reviewed comparative financial statistics for OPL and the proxy group?

A. Yes. I have reviewed key financial ratios for OPL and the proxy group for the years 1990 through 2000 on a comparative basis. That information is shown on Exhibit No. ____ (FJH-4), which consists of three pages. I have shown the information on this schedule on a comparative basis from 1990 to demonstrate a pattern of a capital structure for OPL which has consisted of far too much debt and too little equity vis-a-vis the industry for the entire period. Page 1 contains information for the years 1996 through 2000, while

page 2 contains information for the years 1990 through 1995. Shown at the top of each page are the actual capital structures maintained by OPL in each year as derived from the annual FERC Form No. 6. Starting at the top of page 2 in the right-hand column, it is shown that OPL's common equity ratio was just 11.06% in 1990 and never rose higher than 16.09% between 1990 and 1995, when it was 14.90%. During this same period of time, it is shown that the mean equity ratio of the proxy group of five oil pipeline companies ranged between 47.48% and 64.34%.

It is shown on page 1 of Exhibit No. ____ (FJH-4) that during the period 1996 through 2000, OPL's common equity ratio changed from 11.37% in 1995 to a negative (1.84%) in 2000. The mean equity ratio of the proxy group (whose individual identities are shown in Note 1) ranged between 46.39% and 50.51%. It should be noted that despite an extremely substandard common equity ratio in the years 1990 through 1997, OPL paid substantial cash dividends in each and every year to its parents and its dividend payout ratios were higher than the mean dividend payout ratios for the proxy group in every year except 1997. An aggregate of $51.6 million in dividends was paid to Olympic's owners during the 1990-1997 period. Although OPL has paid no dividends to its owners from 1998 through the present time, had there been a desire to maintain a prudent capital structure, i.e., one which contained a level of equity more closely approximating that maintained by the industry, little to no dividends would have been paid during the 1990 through 1997 period.

OPL's extreme reliance on debt, in lieu of a proper level of equity in the capital structure, has placed OPL's owners in a preferred position in the event bankruptcy would ensue resulting from the Whatcom Creek accident in June 1999. I have also shown on pages 1 and 2 of Exhibit No. ____ (FJH-4) the resultant capital structure ratios which would have existed had no dividends been paid by OPL to its shareholders during the 1990-1997 period. It is shown on page 1 that the year 2000 capital structure ratios would have consisted of 69.57% debt and 30.43% equity, even after the extraordinary impact of the Whatcom Creek accident. Such calculations do not include any estimate of the additional earnings which could have been earned and retained. Such calculations would show a further increase in the equity ratio and a concomitant decrease in the debt ratio for each year. As a consequence, the year 2000 equity ratio would be much greater than the 30.43% based on my conservative calculations. Any comparison of OPL's actual capital structure ratios with those maintained by the proxy group would have made it obvious, beginning in 1990 (and perhaps earlier had such an analysis been made; although it is not necessary to demonstrate the point) that OPL's capital structure has consistently been extraordinarily aberrant, i.e., consisting of far too much debt and too little equity. Of course, subsequent to the Whatcom Creek accident, the capitalization now consists of 100% debt.

The proxy group of five oil pipeline LLPs is essentially the same group as utilized by this Commission and its Staff in past proceedings including in Order No. 435, re:

SFPP, L.P. There were six companies utilized in that proceeding. That number has been reduced to just five due to the acquisition of SFPP by KinderMorgan.

On page 3 of Exhibit No. ____ (FJH-4), I have shown the actual capital structure ratios maintained by the five proxy oil companies by company as well as the mean of the group for each year 1990 through 2000. As can be observed, the mean equity ratio of the group ranged between 46.40% in 2000 and 64.34% in 1991. The mean of all eleven years was 51.97%.

II.E. CAPITAL STRUCTURE

Q. Mr. Hanley, you have previously stated that you recommend for use in this proceeding a hypothetical capital structure consisting of 53.60% debt and 46.40% equity capital for use in calculating the overall cost of capital and fair rate of return for OPL. Please explain your reasoning for that recommendation.

A. There are several reasons why a hypothetical capital structure should be employed. First, OPL's actual capital structure at year-end 2000 includes negative equity and hence consists of 100% debt. Second, OPL's parent companies do not, and have stated that they will not, guarantee OPL's debt to third parties as a matter of policy. Third, as indicated by OPL's response to Tesoro's first set of discovery requests, Data Request No. 152, shown as Exhibit No. ____ (FJH-5), Olympic's parent companies have not invested any equity capital into OPL from 1991 to 2001. Moreover, incredibly, OPL states that it "has been unable to locate records prior to 1991."

In view of the foregoing, there are only two possible alternatives. First, to utilize the capital structure of the parent companies, or a hypothetical capital structure. I reject the use of the parent companies' capital structure and instead recommend the use of a hypothetical capital structure.

Q. Please explain why you reject the use of the parent companies' capital structure.

A. I reject the use of the parent companies' capital structure, on a weighted by percentage ownership basis, because the parents have not invested any equity capital in Olympic. Whatever capital is currently invested by them is in the form of debt capital. Common sense and financial principles tell us that being debt investors puts them in a more secured position than would be the case if such capital were invested as common equity. This is especially true in view of the ongoing litigation attributable to the Whatcom Creek accident. Moreover, as indicated previously, during the period 1990 through 1997, $51.6 million was paid by OPL in dividends to the owner companies. Those dividends paid to the parents and no equity investments by the parents into OPL, combined with an $18.8 million negative impact on retained earnings in the year 2000 attributable in large part to the Whatcom Creek accident has resulted in a grossly substandard equity ratio turning into a negative equity ratio.

In Exhibit No. ____ (FJH-4), I have shown the capital structures of the proxy group of five oil pipeline companies. During the period 1990 through 2000, those companies maintained a mean equity ratio ranging from a low of 46.40% in the year 2000, to a high of 64.34% in 1991 and a mean of 51.97% over the eleven-year period.

In contrast, OPL claims as appropriate for use in a cost of capital determination a common equity ratio of 82.92% weighted by percentage ownership (refer to page 52 of OPL Exhibit No. OPL-34). The individual equity ratios of the owner companies range from 66.51% for Texaco to 93.74% for Shell, while BP had an equity ratio of 83.62%. The equity ratios of those parent companies reflect a far greater level of business risk than the level of business risk of an operating oil pipeline company.

Q. Please explain why the capital structure ratios of the parent companies of OPL are in no way representative of the capital structure ratios maintained by operating oil pipeline companies.

A. In Exhibit No. ____ (FJH-6), I have included certain pages from reports filed with the Securities & Exchange Commission (SEC) by OPL's parent companies for the year 2000. Pages 1 through 3 are from Form 20-F filed by BP Amoco, PLC; pages 4 through 6 are from the annual Form 20-F filed by the Royal Dutch/Shell Group of Companies; and pages 7 and 8 are from Form 10-K for Texaco Inc.

It is readily determined from the information on page 2 of Exhibit No. ____ (FJH-6) for BP that no distinguishable sales are related to the operation of an oil pipeline. In fact, it can be determined that over 18% of BP's sales relate to exploration and production, over 9% of sales relate to gas and power activities, about 66% of sales relate to refining and market activities, and about 7% relate to the sale of chemicals. In short, the essence of the business operations of BP are completely unrelated to owning and operating an oil pipeline. Moreover, aside from the fact that the essence of its business

is unrelated to the operations of an oil pipeline company, of total worldwide operations only 41% of sales are derived from the USA. This same pattern holds true when observing operating profits as can be determined from the information on page 3 of Exhibit No. ____ (FJH-6).

Pages 3, 4 and 5 relate to information from SEC Form 20-F for the year 2000 for the Royal Dutch/Shell Group of Companies. The information shown on page 5 provides sales by business segment. Excluding inter-segment sales, it is readily determined that about 9% of sales to third parties was derived from exploration and production activities, about 11% is derived from downstream gas and power sales, nearly 70% was derived from the sale of oil products, and about 10% from the sale of chemicals. It is clear, therefore, that Shell's business activities are totally unrelated to an operating oil pipeline company. Shell's sales by geographical area of the world are shown at the bottom of page 5. From that information, it is clear that only 17% of worldwide sales is derived from the USA. The information shown on page 6 of Exhibit No. ____ (FJH-6) reveals that approximately 80% of net income from operations was derived from exploration and production, with the remainder being derived from the sale of oil products and chemicals. Thus, it is clear that Shell's business activities are completely unrelated to an operating oil pipeline company.

Pages 7 and 8 of Exhibit No. ____ (FJH-6) are from Form 10-K for Texaco Inc. for the year 2000. It is readily determined from the Texaco segment information on page 8 of Exhibit No. ____ (FJH-6) that, excluding inter-segment sales, for the year 2000

approximately 15% of sales was derived from exploration and production activities, approximately 70% of total sales was derived from refining, marketing and distribution activities, while the remaining 15% was derived from global gas, power, and energy technology activities. Also, it is readily determined from the after-tax profit information on page 8 of Exhibit No. ____ (FJH-6) that 100% of Texaco's after-tax profits were derived from exploration and production and refining, marketing, and distribution activities. Thus, it is clear that Texaco Inc.'s business activities are completely unrelated to an operating oil pipeline company.

In view of the foregoing, it is apparent that the business activities and related sales and profits of all OPL's parent companies have no relationship to the business of owning and operating an oil pipeline company in the United States. Consequently, the business risk of the parent companies is substantially greater than those of an operating oil pipeline company in the United States. Consistent with the basic principles of finance, those parent companies do, and they must, have substantially higher common equity ratios to offset their far greater business risk vis-a-vis the business risk of owning and operating an oil pipeline company in the United States. Therefore, in view of these facts and all the foregoing, the use of their capital structure ratios is entirely inappropriate for ratemaking purposes in a cost of capital determination for OPL.

Q. Since you do not find the weighted by ownership capital structure of OPL's parent companies suitable, are you advocating the use of a hypothetical capital structure?

A. Yes, but with qualification as discussed supra and infra. I advocate the use of a hypothetical capital structure based upon the year 2000 mean capital structure maintained by the proxy group of five oil pipeline companies as discussed supra. Those capital structure ratios consist of 53.60% debt capital and 46.40% equity capital. An equity ratio of 46.40% is at the low end of the range of the mean equity ratios of 46.40% to 50.51% maintained by the proxy group during the most recent five-year period available, 1996-2000.

Q. Is there authority of the WUTC relative to imputing a hypothetical capital structure when the actual equity ratio is too low?

A. Yes. I believe that this Commission's Sixth Supplemental Order dated January 21, 1999, in Docket No. UW-980265 (Consolidated) re: American Water Resources, Inc. has considerable parallel to OPL in the instant matter as can be determined from the following excerpts from that Order:

> We must acknowledge, however, Staff's point that AWRI has ignored previous suggestions that AWRI should reform its capital structure. *Staff is correct that there is an inherent incentive in the form of higher available return on equity relative to debt that ought to encourage Mr. Fox - AWRI's principal shareholder, principal creditor, and principal decisionmaker - to retire debt in favor of equity.* Staff also observes correctly, however, that by making loans to AWRI his almost exclusive form of investment in the company, Mr. Fox obligates AWRI to 'substantial monthly interest payments' that provide Mr. Fox 'a secured income'. Staff Petition at 2. We observe, too, that while AWRI's

> extraordinarily high debt ratio places the company at high risk of business and financial failure, as principal creditor, Mr. Fox will enjoy a favorable position if bankruptcy ensues ... We expressly reject AWRI's argument that we should adopt a hypothetical capital structure such as the 50% debt, 50% equity structure AWRI advocated at hearing or the 60% debt, 40% equity structure suggested by AWRI's Petition ... AWRI presents the opposite situation; it is, in fact, equity poor. ...[h]ypothesizing increased equity, then, benefits AWRI's shareholders so long as return on equity exceeds interest on debt but imposes higher rates on AWRI's customers without actually improving AWRI's financial security. We approve the 80% hypothetical debt ratio determined under the Initial Order *only because it is realistic to believe that AWRI can achieve an actual structure at that ratio, or better, in the short-term and improve on the ratio further during the immediate term, and certainly before AWRI's next rate case when the issue can be reconsidered.* (italics added)

If OPL is not willing or is unable to achieve my recommended hypothetical capital structure ratios in the short-term, then I recommend that the WUTC consider adopting OPL's actual 100% debt ratio for cost of capital purposes.

Q. Please explain the major qualification that you have with regard to the use of those hypothetical capital structure ratios that you recommend.

A. OPL has no equity capital. Its capitalization consists entirely of debt. If, instead of paying out $51.6 million in dividends to its shareholders during the 1990-1997 period, OPL had retained those dividends, its current debt-equity ratios subsequent to the Whatcom Creek accident would be positive. While the equity ratio would have been substantially reduced because of the impact of the $18.8 million extraordinary loss in the year 2000 attributable to the impact of the Whatcom Creek accident, its equity ratio would still be positive, although not anywhere near the 46.40% average of the industry.

I believe that it would be extremely unfair to reward OPL's parent companies by assuming that the rate base is financed by 46.40% equity (much less the grossly inappropriate weighted by percentage ownership equity discussed supra of 82.92% claimed by OPL) unless there is a like amount of equity actually invested. That could be accomplished by the parent companies through conversion of a substantial portion of the notes payable to affiliates to common equity and/or a cash-equity injection in dollar amount(s) sufficient that total equity would equal approximately $52.6 million, or 46.40% of total capital at December 31, 2000 of about $113.3 million, which excludes the negative equity, which ought not to exist.

To assume, for ratemaking purposes, that there is in excess of $50 million of equity when in fact none exists would be outrageous and grossly unjust to ratepaying shippers.

Q. If the shareholders of OPL are unwilling to convert debt to equity and/or inject new cash equity equal to 46.40% of total capital, what do you recommend that this Commission do?

A. I recommend that the Commission condition any capital structure adopted for ratemaking purposes upon it actually being obtained, on a pro forma basis, by a conversion of notes payable to affiliates and/or injection of new cash as equity capital. If nothing is done, i.e., no commitment is given to the Commission by the parents to create equity capital, then I suggest that OPL's actual capital structure consisting of 100% debt be utilized for ratemaking purposes. If the owners are unwilling (they are certainly not unable) to invest

equity capital in OPL, they certainly are not entitled to an equity return on capital which is not invested as equity. Under such a circumstance (continued 100% debt ratio), it would be appropriate in developing the cost of service that the actual all debt capital structure be employed at the parents' weighted debt cost rate of 6.74%. Consequently, there would be a zero income tax provision in the cost of service because there would be no equity capital and no income taxes related thereto.

Q. What if the shareholders are willing to commit to create equity capital, but in an amount equal to less than 46.40% of total capital?

A. Then I suggest that such actual equity percentage be used in the capital structure and that the income tax provision be calculated based upon the complementary debt ratio. Of course, the equity return rate in all possible eventualities should be consistent with the equity ratio employed, keeping in mind that the mean equity ratio of the five proxy oil pipeline companies in the year 2000 is 46.40%.

Q. Just to be clear, are you recommending the adoption of hypothetical capital structure ratios consisting of 53.60% debt and 46.40% equity as long as the owners commit to creating equity equal to that percentage?

A. Yes. If they do not commit to creating equity, the capital structure should consist of 100% debt. If they commit to creating equity equal to a lesser percentage of total capital than 46.40%, then that capital structure containing the lesser percentage of equity capital should be utilized. For example, if they create equity equal to 25% of total capital, then

a capital structure consisting of 75% debt and 25% equity should be used. The owners should not be rewarded by a return on non-existent equity.

Q. Are you suggesting by these qualifications that a hypothetical capital structure which contains a somewhat larger equity ratio than is actually maintained by a utility is inappropriate?

A. Not at all. In many instances, a somewhat higher hypothetical equity ratio is appropriate to use in a cost of capital determination in order to help a utility to accelerate bringing its actual capital structure into line with the industry norm and to aid in attracting capital. Such actions on the part of regulators, of course, presume good faith efforts on the part of the equity owners – demonstrated by their past equity investments and reasonable attempts to attain and maintain a capital structure which is representative of its industry. Such is not the case in the instant matter as to OPL and its parents as discussed, supra. Consequently, these qualifications are unusual, if not extraordinary. But, this is an extraordinary situation characterized by a pattern of sustained imprudent financial policy.

II.F. DEBT COST RATE

Q. In view of your recommended use of a hypothetical debt ratio of 53.60%, how did you arrive at your recommended debt cost rate of 7.54?

A. There is no logical reason to use the weighted debt cost rate of OPL's parent companies for the same reasons discussed supra regarding the use of their capital structures for determining a cost of capital for OPL. Consequently, it is most appropriate to utilize the mean year 2000 debt cost rate of the proxy group of five oil pipeline companies of 7.54

as shown on Exhibit No. ____ (FJH-7). It is an appropriate rate to use because it relates to the mean debt ratio for the year 2000 for a proxy group. Moreover, their actual debt ratio of 53.60% is the hypothetical debt ratio which I propose for use in determining OPL's cost of capital.

Q. What debt cost rate do you propose to use if OPL's parents remain unwilling to commit to investing equity capital into OPL?

A. If the parent companies remain unwilling to commit to investing equity capital in OPL, then I propose that the debt cost rate of 6.74% proposed by OPL, based on a weighted percentage of ownership of the parent companies, be utilized. Even if the parent companies invest equity capital but to a much lesser extent than 46.40% of total capital, I suggest that their weighted percentage by ownership cost rate of 6.74% be utilized until equity as a percentage of total capital equals at least 40%. The reason would be to avoid rewarding them indirectly through a greater than actual weighted debt component.

II.G. COMMON EQUITY COST RATE MODELS

1. <u>The Efficient Market Hypothesis (EMH)</u>

Q. Are all of the models you employ market-based models?

A. Yes. The DCF model is market-based as current market prices are employed. The Risk Premium Model (RPM) is market-based as the current and expected bond ratings and yields reflect the market's assessment of risk. To the extent betas are used to determine equity risk premium, the market's assessment is reflected because betas are derived from regression analyses of market prices. The Capital Asset Pricing Model (CAPM) is

market-based for much the same reason as the RPM except that the yield on U.S. Government Treasury Bonds is used in lieu of company-specific bond yields. My application of the Comparable Earnings Model (CEM) is also market-based because the selection process of comparable risk companies is based upon statistics which result from regression analyses of market prices. All of the models are, therefore, based upon the Efficient Market Hypothesis (EMH).

Q. Please describe the conceptual basis of the EMH.

A. The EMH is the cornerstone of modern investment theory. It was pioneered by Eugene F. Fama[1] in 1970. An efficient market is one in which security prices at all times reflect all the relevant information at that time. An efficient market implies that prices adjust instantaneously to the arrival of new information and that the process therefore reflects the intrinsic fundamental economic value of a security.[2] The essential components of the EMH are:

1. Investors are rational and will invest in assets which provide the highest expected return for a particular level of risk.

2. Current market prices reflect all publicly available information.

3. Returns are independent in that today's market returns are unrelated to yesterday's returns as that information has already been processed.

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[1] Fama, Eugene F., "Efficient Capital Markets: A Review of Theory and Empirical Work", Journal of Finance, May 1970, 383-417.

[2] Morin, Roger A., "Regulatory Finance – Utilities' Cost of Capital", Public Utilities Reports, Inc., 1994, p. 136.

4. The markets follow a random walk, i.e., the probability distribution of expected returns approximates the normal bell curve.

Brealey and Myers[3] state:

> When economists say that the security market is 'efficient", they are not talking about whether the filing is up to date or whether desktops are tidy. They mean that information is widely and cheaply available to investors and that all relevant and ascertainable information is already reflected in security prices.

There are three forms of the EMH, namely:

1. The "weak" form asserts that all past market prices and data are fully reflected in securities prices. In other words, technical analysis cannot enable an investor to "outperform the market".

2. The "semistrong" form asserts that all publicly available information is fully reflected in securities prices. In other words, fundamental analysis cannot enable an investor to "outperform the market".

3. The "strong" form asserts that all information, both public and private, is fully reflected in securities prices. In other words, even insider information cannot enable an investor to "outperform the market".

The "semistrong" form is generally held as true because the use of insider information, even though illegal, can enable an investor to "beat the market" and earn excessive returns, thereby disproving the "strong" form.

The paradox of efficient markets is that if every investor believed the markets were efficient, then they would not be efficient because no investors would bother to analyze securities. In effect, efficient markets depend on market participants who believe they are inefficient and trade securities in an attempt to outperform the market.

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[3] Brealey, R.A. and Myers, S.C., "Principles of Corporate Finance", McGraw-Hill Publications, Inc., 1996, 323-324.

Q. Please explain the applicability of the EMH to your determination of common equity cost rate.

A. Common sense affirms the conceptual basis of the semi-strong version EMH as described above. In practical terms, this means that market prices paid for securities reflect all relevant information available to investors and no degree of sophistication or analysis can enable an investor to outperform the market. This means that all perceived risks are taken into account by investors in the prices they pay for securities. Investors are aware of all publicly-available information about the companies they invest in. Such information includes reports by bond rating agencies and financial analysts who follow the companies; and knowledge of the various methodologies used to determine common equity cost rate as discussed in the financial literature. Consequently, in an attempt to emulate investors' actions, it is necessary to take into account the results of multiple cost of common equity models.

Q. Is there specific support in the academic literature for the need to rely upon multiple cost of common equity models in arriving at a recommended common equity cost rate?

A. Yes. For example, Phillips[4] states:

> Since regulation establishes a level of authorized earnings which, in turn, implicitly influences dividends per share, *estimation of the growth rate from such data is an inherently circular process. For these reasons, the DCF model 'suggests a degree of*

[4] Charles F. Phillips, Jr., The Regulation of Public Utilities – Theory and Practice, 1993, Public Utility Reports, Inc., Arlington, VA, p. 396, 398.

> *precision which is in fact not present' and leaves 'wide room for controversy and argument about the level of k'.* (italics added) (p. 396)
>
> * * *
>
> *Despite the difficulty of measuring relative risk, the comparable earnings standard is no harder to apply than is the market-determined standard. The DCF method, to illustrate, requires a subjective determination of the growth rate the market is contemplating. Moreover, as Leventhal has argued: 'Unless the utility is permitted to earn a return comparable to that available elsewhere on similar risk, it will not be able in the long run to attract capital*'. (italics added) (p. 398)

Also, Morin[5] states:

> Sole reliance on the DCF model ignores the capital market evidence and financial theory formalized in the CAPM and other risk premium methods. The DCF model is one of many tools to be employed in conjunction with other methods to estimate the cost of equity. *It is not a superior methodology that supplants other financial theory and market evidence. The broad usage of the DCF methodology in regulatory proceedings does not make it superior to other methods.* (italics added) (pp. 231-232)
>
> Each methodology requires the exercise of considerable judgment on the reasonableness of the assumption underlying the methodology and on the reasonableness of the proxies used to validate a theory. *The failure of the traditional infinite growth DCF model to account for changes in relative market valuation, discussed above, is a vivid example of the potential shortcomings of the DCF model when applied to a given company. It follows that more than one methodology should be employed in arriving at a judgment on the cost of equity and that these methodologies should be applied across a series of comparable risk companies. ...Financial literature supports the use of multiple methods.* (italics added) (p. 239)

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[5] Roger A. Morin, Regulatory Finance – Utilities' Cost of Capital, 1994, Public Utilities Reports, Inc., Arlington, VA, pp. 231-232, 239-240.

> Professor Eugene Brigham, a widely respected scholar and finance academician asserted:
>
> *In practical work, it is often best to use all three methods – CAPM, bond yield plus risk premium, and DCF* – and then apply judgement when the methods produce different results. People experienced in estimating capital costs recognize that both careful analysis and very fine judgements are required. It would be nice to pretend that these judgements are unnecessary and to specify an easy, precise way of determining the exact cost of equity capital. Unfortunately, this is not possible. (italics added) (pp. 239-240)
>
> Another prominent finance scholar, Professor Stewart Myers, in his best-selling corporate finance textbook stated:
>
> *The constant growth formula and the capital asset pricing model are two different ways of getting a handle on the same problem.* (italics added) (p. 240)
>
> In an earlier article, Professor Myers explained the point more fully:
>
> *Use more than one model when you can. Because estimating the opportunity cost of capital is difficult, only a fool throws away useful information. That means you should not use any one model or measure mechanically and exclusively. Beta is helpful as one tool in a kit, to be used in parallel with DCF models or other techniques for interpreting capital market data.* (italics added) (p. 240)

In view of the foregoing, it is clear that investors are aware of all of the models including comparable earnings. The EMH requires the assumption that investors use them all.

2. Discounted Cash Flow Model (DCF)

2.a. Theoretical Basis

Q. What is the theoretical basis of the DCF model?

A. DCF theory is based upon finding the present value of an expected future stream of net cash flows during the investment holding period discounted at the cost of capital, or the capitalization rate. The theory suggests that an investor buys a stock for an expected total return rate which is expected to be derived from cash flows in the form of dividends and appreciation in market price, i.e., the expected growth rate. Thus, the dividend yield on market price plus a growth rate equals the capitalization rate. The capitalization rate is the total return rate expected by investors.

3. Application of the DCF Model

Q. What versions of the DCF model did you employ and how were they applied?

A. I employed two basic versions of the DCF model, namely a single-stage growth model and a two-step growth model. Both models theoretically presume infinite investment holding periods. In practical terms, this means a very long period of time, such as 40 to 50 years.

In the application of the two-step growth model, I calculated the growth rates in two different ways. The first I call "Compound Growth" and the second I call the "FERC Weighted Growth". These will be explained subsequently.

I have summarized the results of all of my applications of the two versions on Exhibit No. ____ (FJH-8). As shown, my conclusion of a representative DCF cost rate based on the proxy group is 14.7%.

3.a. <u>Single-Stage Growth DCF Model</u>

Q. How did you determine the dividend yields used in your applications of the DCF model?

A. The recent volatility of the stock market demonstrates why current spot (single day) market prices should not be used exclusively in the ratemaking paradigm. A principal goal of regulation is to normalize in order to avoid erratic pricing. Consequently, in calculating dividend yields I relied upon the spot prices at February 12, 2002 and the months of December 2001 and January 2002 as shown on Exhibit No. ____ (FJH-9). Shown on Exhibit No. ____ (FJH-9) are the dividend yields by company and the means for all five of the proxy companies. The mean dividend yield for the group is 7.3% which will be used in both the single- and two-step growth versions.

Q. Please explain the dividend growth components in your application of the single-stage growth model as shown on Line Nos. 2 and 7, respectively of Exhibit No. ____ (FJH-10), page 1.

A. Due to the fact that dividends are paid quarterly, or periodically, as opposed to continuously (daily), an adjustment must be made. This is often referred to as the discrete, or the Gordon Periodic version of the DCF model.

Since all of the companies pay quarterly dividends at different times of the year, a reasonable assumption is to reflect one-half the expected dividend growth rate. This is a conservative approach so as not to overstate the dividend yield as it should be representative of the next twelve-month period consistent with the academic literature. Therefore, the actual mean dividend yield of 7.3% on Line Nos. 1 and 6 on page 1 of Exhibit No. ____ (FJH-10) has been adjusted upward to include one-half the growth rates shown on Line Nos. 3 and 8 of page 1 of Exhibit No. ____ (FJH-10). Details by company are shown on page 2 of Exhibit No. ____ (FJH-10).

Q. Please explain the basis of the growth rates you utilized in your applications of the single-stage growth DCF model.

A. When it comes to formulating an expectation of growth for use in the DCF model, I believe that investors are most inclined to give weight to analysts' forecasts. This is especially so in a time of investor awareness of increasing regulatory changes affecting the energy industry. Moreover, I believe it is clear the expectation of earnings growth is the largest single factor which affects market prices. Consequently, I have reviewed growth rates on two different bases. As shown at the top of page 1 of Exhibit No. ____ (FJH-10), my first growth estimate is based upon a mean forecasted growth rate in earnings per share (EPS) by Value Line and ThomsonFN FirstCall analysts. It is 7.9% as shown on Line No. 4. At the bottom of page 1 of Exhibit No. ____ (FJH-10), I have shown a calculation of a second growth rate in EPS per I/B/E/S which is 8.2% as shown

on Line No. 9. Those mean forecasts are quite similar, i.e., 7.9% versus 8.2%. I will use both in calculating single-stage growth DCF cost rates.

Q. Please discuss the results of your applications of the single-stage growth DCF model.

A. The results are summarized on page 1 of Exhibit No. ____ (FJH-10). A cost rate of 15.8% is indicated as shown on Line No. 5, page 1 using the mean of the Value Line and ThomsonFN FirstCall growth rates. A cost rate of 15.8% is indicated as shown on Line No. 10, page 1 using the mean I/B/E/S growth rate. Page 2 of Exhibit No. ____ (FJH-10) shows the cost rates by company. The mean are as indicated supra. The median cost rates are 14.4% based on Value Line and ThomsonFN FirstCall growth rates and 15.0% based on I/B/E/S growth rates. The median cost rates are lower than the mean cost rates; however, I believe that with only five observations and a wide range of cost rates from 12.0% for Buckeye Partners using I/B/E/S growth to a high of 19.8% for KinderMorgan using I/B/E/S growth that the means are much better indicators of average risk.

4. Two-Step Growth DCF Model

Q. Please explain the basis of a two-step growth DCF model.

A. Analysts' longer range forecasts are typically limited to five years. The investment horizon implicit in the standard DCF model used in rate regulation is infinity. In practical terms, this typically means a period of 40 or 50 years when discounting is performed on a net present value (NPV) basis before the NPV is essentially zero. The theory for a second-step growth rate, is that over the long-run, no company's growth can

exceed that of the economy as a whole and as such, would likely temper the shorter term rate of growth. Growth of the economy is typically measured by the change in the Gross Domestic Product (GDP). This Commission has relied upon forecasted GDP growth for the second-step in its application of a two-step growth DCF model. For the first step growth rate, I use the same two measures of growth in EPS as discussed supra re the single-stage growth applications. For the second stage growth, I use an average of forecasted GDP growth rates in a manner previously utilized by the FERC Staff. I utilize two different forms of the two-step growth model, namely a compound growth form consistent with DCF theory and previously utilized by the FERC as well as FERC's current weighted growth version, i.e., 2/3 weight to the step 1 growth rate and 1/3 weight to the step 2 growth rate.

Q. Please discuss the results of the two-step compound growth DCF model.

A. The results are shown in Exhibit No. ____ (FJH-11) which consists of seven pages. Page 1 is a summary of the results. Page 2 contains data on a per proxy company basis including median cost rates. Pages 3 through 7 contain the details of the growth rates. The first step growth rates are the mean growth in EPS per Value Line and ThomsonFN FirstCall at the top of page 1 and per I/B/E/S at the bottom of page 1. Exhibit No. ____ (FJH-13) shows the single stage/step 1 growth rates by company and proxy group average of the Value Line and ThomsonFN FirstCall forecasted growth rates in EPS. The second step growth rates are the means of the forecasted growth rates in GDP from

2007 through 2031. I have compounded the impact of the first and second step growth rates on the initial annual dividends per share consistent with DCF theory.

As shown on page 1 of Exhibit No. ____ (FJH-11), the compound effective growth rates using the step 1 and step 2 mean rates are 5.9% (using Value Line/ThomsonFN FirstCall) and 5.9% (using I/B/E/S). The group average compound DCF cost rates are 13.4% in both instances as are the median cost rates.

Q. Please discuss the results of the two-step FERC weighted DCF model.

A. The application is identical to the two-step compound growth model except that I have given 2/3 weight to the first step growth rate and 1/3 weight to the second-step growth rate in accordance with the current FERC practice. This approach is purely arbitrary. Nonetheless, I have utilized it as one of several approaches to the application of the DCF model. This application is shown in Exhibit No. ____ (FJH-12), which consists of three pages. Page 1 summarizes the results. Page 2 contains data on a per proxy company basis including median cost rates. Page 3 contains the details of growth rates by company for each of the five proxy oil pipeline companies as well as the means for the group. As shown on page 1, the mean FERC weighted cost rates are 14.9% using Value Line/ThomsonFN FirstCall and 14.9% using I/B/E/S for the step 1 growth rates, while the median cost rates are 14.2% and 15.0%, respectively.

5. <u>The Risk Premium Model (RPM)</u>

5.a. <u>Theoretical Basis</u>

Q. Please describe the theoretical basis of the RPM.

A. The RPM is based upon the theory that the cost of common equity capital is greater than the prospective company-specific cost rate for long-term debt capital. In other words, it is the expected cost rate for long-term debt capital plus a premium to compensate common shareholders for the added risk of being unsecured and last-in-line in any claims against assets and earnings.

Q. Some analysts state that the RPM is another form of the CAPM. Do you agree?

A. Generally yes, but there is a very significant distinction between the two models. The RPM and CAPM both add a "risk premium" to an interest rate. However, the beta approach to the determination of an equity risk premium in the RPM should not be confused with the CAPM. Beta is a measure of systematic, non-diversifiable, market risk which is invariably a much smaller percentage of total investment risk, the sum of both diversifiable and non-diversifiable risks. Diversifiable, i.e., unsystematic or company-specific, risks are reflected in the RPM because the <u>prospective</u> *company-specific* long-term bond yield is the result of a bond rating process which includes an assessment of all diversifiable business and financial risks. This reality is verifiable by reading S&P's description of its bond rating process which is contained in Exhibit No. ____ (FJH-3), particularly pages 3 through 9. In contrast, the use of a U.S. Government Security as the risk-free rate of return in the CAPM reflects no diversifiable company-specific risk, nor

can it by definition. Clearly, the RPM and CAPM are two separate and distinct cost of common equity models, a fact acknowledged in the financial literature.

Q. Please describe your RPM analysis.

A. It is shown in Exhibit No. ____ (FJH-14), which consists of nine pages. As can be gleaned from Page 1, I have estimated the projected bond yield on A rated utility bonds to be 7.8%. As explained in Note 3 on Page 1, an adjustment of 0.2% is required to be made to the 7.8% yield on A rated public utility bonds to reflect the average Moody's bond rating of A3 for the proxy group. Two companies in the group do not have bonds rated by Moody's, namely Buckeye and TEPPCO. Consequently, the resultant expected average yield on Moody's A3 rated utility bonds is 8.0% as shown on Line No. 5, Page 1 of Exhibit No. ____ (FJH-14). I then calculated an equity risk premium applicable to the proxy group. The prospective bond yield plus the equity risk premium equals the expected common equity cost rate applicable to the proxy group.

5.b. <u>Estimation of Expected Bond Yields</u>

Q. Please explain the basis of the expected average Moody's bond yield of 8.0%.

A. Because the cost of common equity is prospective, a prospective yield on similarly-rated long-term debt is appropriate. As discussed <u>supra</u>, the average Moody's bond rating is A3 for the proxy group. I relied on the consensus forecasts of about 50 economists of the expected yields on Moody's Aaa rated corporate bonds for the six calendar quarters ending with the first calendar quarter of 2003 as derived from the February 1, 2002 <u>Blue Chip Financial Forecasts</u>, shown on Page 7 of Exhibit No. ____ (FJH-14). As shown on

Line No. 1 of Page 1 of Exhibit No. ____ (FJH-14), the average expected yield on Aaa rated corporate bonds is 7.0%. The Blue Chip economists do not forecast yields on public utility bonds. Consequently, it is necessary to adjust the average yield on Aaa rated corporate bonds to be equivalent to the yields on Moody's A3 rated utility bonds. That process was done in two steps. The first step was to adjust to the equivalent of a utility bond rated A. The basis of that adjustment is 0.8% as explained in Note 2 on Page 1 of Exhibit No. ____ (FJH-14). The basis of the second adjustment of 0.2% is explained in Note 3 on page 1 of Exhibit No. ____ (FJH-2). As a result, the expected yield on A3 rated public utility bonds is 8.0% (7.0% + 0.8% +0.2%).

5.c. <u>Estimation of the Equity Risk Premium</u>

Q. Please explain the basis of the equity risk premium which you have determined to be applicable to the proxy group.

A. I evaluated the results of two different historical equity risk premium studies. In addition, I also took into account Value Line's forecasted total annual return on the market over the prospective yield on high grade corporate bonds. Those analyses are summarized on Page 5 of Exhibit No. ____ (FJH-14). As shown on Line No. 3 of page 5, the mean equity risk premium based on both studies is 5.0%. It is an average of equity risk premiums calculated by using the arithmetic mean of both historical and forecasted total annual market returns less the yields on high grade corporate bonds adjusted by beta (from page 6 of Exhibit No. ____ (FJH-14); and the arithmetic mean of holding period returns on S&P's Public Utility Index, 1928-2000, inclusive, adjusted to

reflect the premiums applicable to A rated public utility bonds (from page 8 of Exhibit No. ____ (FJH-14).

Q. Please explain the basis of the equity risk premium of 4.8% applicable to the proxy group determined through the use of the beta approach as shown on Line No. 1, Page 5 of Exhibit No. ____ (FJH-14).

A. Equity risk premiums determined through the application of the beta approach are meaningful because the betas were derived from regression analyses of the market prices of common stocks over a recent five-year period. The market prices reflect investors' future expectations over a long-term investment horizon. Consequently, beta is a meaningful measure of prospective risk relative to the market as a whole and thus is a logical means by which to allocate a relative share of total market equity risk premium.

The average of the historical and forecasted total market equity risk premiums is 7.3% as shown on Page 6, Line No. 7 of Exhibit No. ____ (FJH-14).

To derive the historical market equity risk premium, I used the most recent Ibbotson Associates' data on holding period returns for the S&P 500 Composite Index and Salomon Brothers Long-term High-grade Corporate Bond Index for the period 1926-2000. The use of holding period returns over a very long period of time is useful in the application of the beta approach. Ibbotson Associates, in its Valuation Edition - 2001 Yearbook provides sound reasoning why the use of a long-term historical time period is appropriate to estimate the expected equity risk premium. They demonstrate empirically through tests of serial correlation that equity risk premiums are random. They also

demonstrate and explain why the arbitrary use of shorter time periods distorts the results of estimated long-term mean market equity risk premium. Moreover, the arbitrary use of shorter time periods is contrary to the long-term randomness of equity risk premiums. Consequently, the use of the long-term mean equity risk premium provides stability in contrast to the volatility associated with the arbitrary use of shorter historical time periods. Ibbotson Associates' full explanation is provided in Exhibit No. ____ (FJH-15), which consists of a total of 8 pages.

In view of the foregoing and all of Ibbotson Associates' comments contained in Exhibit No. ____ (FJH-15), it should be clear that random selection of historical periods such as the past 20 or 30 years, would be highly suspect as such periods would contain the 1987 stock market crash, the collapse of the Soviet Union, the Persian Gulf War, extraordinary inflation rates and other significant events as noted by Ibbotson Associates. Consequently, the arbitrary use of shorter historical time periods is unlikely to be representative of the amount of change <u>which could occur over a long period of time in the future</u> (the presumed long-term holding period for common stocks as is implicit in the various cost of equity models). *Therefore, the use of the long-term past is critical to proper evaluation of the long-term future because of the long-term investment horizon in common stocks, -- e.g., the standard DCF model presumes an infinite investment horizon.* This is true in the application of the RPM because the prospective bond yield, resulting from a comprehensive bond rating methodology, reflects a complete assessment of all current/prospective diversifiable investment risks. Consequently, the use of a very

long past period to estimate the equity risk premium is consistent with the long-term investment horizon for utilities' common stocks.

The arithmetic mean of those long-term total return rates on the market as a whole is the appropriate mean to use when estimating the cost of capital because it provides essential insight into the potential variance of expected returns. A full explanation by Ibbotson Associates of why the arithmetic mean must be used when discounting future cash flows *for estimating the cost of capital* is contained in Exhibit No. ____ (FJH-15), pages 2 through 4.

Historical total returns and equity risk premium spreads differ in size and direction over time. It is precisely for this reason that the arithmetic mean is important. It is the arithmetic mean which provides insight into the variance and standard deviation of returns. It is the prospect for and degree of variance which provides the insight needed by investors to estimate risk when contemplating making an investment. Insight into the variance can only be obtained by the use of the arithmetic mean of historical returns. Absent valuable insight into the potential variance of returns, there can be no meaningful evaluation of prospective risk. *If investors relied upon the geometric mean of historical returns, they would have no insight into the potential variance of future returns because the geometric mean relates the change over many periods to a constant, i.e., compound, rate of change, thereby obviating the year-to-year fluctuations, or variance, critical to risk analysis.*

The basis of the historical market equity risk premium of 7.0% is detailed in Line Nos. 1 through 3, Page 6 of Exhibit No. ____ (FJH-14). The basis of the forecasted market equity risk premium of 7.5% is detailed in Line Nos. 4 through 6, Page 6 of Exhibit No. ____ (FJH-14). The average of those historical and projected market equity risk premiums is 7.3% as shown on Line No. 7, Page 6 of Exhibit No. ____ (FJH-14).

As shown on Line No. 9, Page 6 of Exhibit No. ____ (FJH-14), application of the proxy group's average beta to the average market equity risk premium results in a beta adjusted equity risk premium of 4.8% which is also shown on Line No. 1, page 5 of Exhibit No. ____ (FJH-14).

Q. Please explain the derivation of the equity risk premium of 5.2% applicable to public utilities with A rated bonds, as shown on page 5, Line No. 2 and Line No. 5, page 8 of Exhibit No. ____ (FJH-14), which you also used in your determination of an equity risk premium applicable to the proxy group.

A. For the reasons described by Ibbotson Associates, I directed to be performed under my supervision and direction, a study of the long-term historical holding period returns applicable to public utilities, i.e., the S&P Public Utility Index for the period 1928-2000, inclusive. The long-term mean provides a good basis for future expectations as all types of events are included, even "unusual" ones. The study is summarized on Page 8 of Exhibit No. ____ (FJH-14). After an adjustment which was necessary to reflect the mean equity risk premium applicable to A rated public utility bonds, the resultant equity risk premium is 5.2%.

Q. What is your conclusion of equity risk premium applicable to the proxy group?

A. It is 5.0% which is an average of the beta approach equity risk premium of 4.8% and the study of equity risk premium on A rated public utility bonds of 5.2%.

5.d. <u>Conclusion of RPM Cost Rate</u>

Q. What is the resultant RPM cost rate applicable to the proxy group?

A. It is 13.0% as shown on Exhibit No. ____ (FJH-14), page 1, Line No. 7.

5.e. <u>The RPM Does Not Presume a Constant Equity Risk Premium</u>

Q. Some critics of the RPM claim that its weakness is that it presumes a constant equity risk premium. Is such a claim valid?

A. No. The equity risk premium varies inversely with interest rate changes. Common sense affirms this to be so, due to investors' expectations of greater returns during periods of declining interest rates and vice versa. In a sense, the equity risk premium is no different than the "g", or growth component, in the DCF model. A DCF cost rate calculated next month or in several months will invariably be different because of differing growth rate forecasts, i.e., the "g" in the DCF model. This confirms the reality that the expected growth rate, "g", does change, even though it is presumed to be constant in theory. In that regard, there is no difference between the RPM and DCF models, i.e., <u>both models</u> assume an *expectationally constant* equity risk premium and growth rate, respectively, but in actuality *both* change regularly.

As Morin[6] states with regard to the DCF model:

> It is not necessary that *g* be constant year after year to make the model valid. *The growth rate may vary randomly around some average expected value. Random variations around trend are perfectly acceptable, as long as the mean expected growth is constant.* The growth rate must be 'expectationally constant' to use formal statistical jargon. (italics added)

6. The Capital Asset Pricing Model (CAPM)

6.a. Theoretical Basis

Q. Please explain the theoretical basis of the CAPM.

A. The CAPM defines risk as the covariability of a security's returns with the market's returns. This covariability is measured by beta (" "), an index measure of an individual security's variability relative to the market. A beta less than 1.0 indicates lower variability than the market and a beta greater than 1.0 indicates greater variability than the market.

The CAPM assumes that all non-market, or unsystematic, risk can be eliminated through diversification. The risk that cannot be eliminated through diversification is called market, or systematic, risk. The model presumes that investors require compensation for risks that cannot be eliminated through diversification. Systematic risks are caused by socioeconomic events that affect the returns on all assets. In essence, the model is applied by adding a risk-free rate of return to a market risk premium. This

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[6] Id., p. 111.

market risk premium is adjusted proportionally to reflect the systematic risk of the individual security relative to the market as measured by beta.

The **traditional CAPM** is expressed as:

$$R_s = R_f + (R_m - R_f)$$

Where R_s = Return rate on the common stock

R_f = Risk-free rate of return

R_m = Return rate on the market as a whole

= Adjusted beta (volatility of the security relative to the market as a whole)

Numerous tests of the CAPM have confirmed its validity. These tests have measured the extent to which security returns and betas are related as predicted by the CAPM.

The **empirical CAPM (ECAPM)**, discussed by Morin, reflects the reality that the empirical Security Market Line (SML) described by the traditional CAPM is not as steeply sloped as the predicted SML. Morin[7] states:

> At the empirical level, there have been countless tests of the CAPM to determine to what extent security returns and betas are related in the manner predicted by the CAPM.[8] The results of the tests support the idea that beta is related to security returns, that the risk-return tradeoff is

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[7] Id., at p. 321.

[8] For a summary of the empirical evidence on the CAPM, see Jensen (1972) and Ross (1978). The major empirical tests of the CAPM were published by Friend and Blume (1975), Black, Jensen, and Scholes (1972), Miller and Scholes (1972), Blume and Friend (1973), Blume and Husic (1973), Fama and Macbeth (1973), Basu (1977), Reinganum (1981B), Litzenberger and Ramaswamy (1979), Banz (1981), Gibbons (1982), Stambaugh (1982), and Shanken (1985). CAPM evidence in the Canadian context is available in Morin (1981).

positive, and that the relationship is linear. The contradictory finding is that the empirical Security Market Line (SML) is not as steeply sloped as the predicted SML. With few exceptions, the empirical studies agree that the implied intercept term exceeds the risk-free rate and the slope term is less than predicted by the CAPM. That is, low-beta securities earn returns somewhat higher than the CAPM would predict, and high-beta securities earn less than predicted.

* * *

Therefore, the empirical evidence suggests that the expected return on a security is related to its risk by the following approximation:

$$K = R_F + x(R_M - R_F) + (1 - X) \quad (R_M - R_F)$$

Where x is a fraction to be determined empirically. …the value of x that best explains the observed relationship is between 0.25 and 0.30. If x = 0.25, the equation becomes:

$$K = RF + 0.25(RM - RF) + 0.75 \ (RM - RF)$$[9]

* * *

Professor Morin has stated to me that the ECAPM is a return adjustment, i.e., a y-axis adjustment and thus differs from the adjusted beta which is an x-axis adjustment and accounts for regression bias.

I utilize both the CAPM and the ECAPM. My analyses are shown in Exhibit No. ____ (FJH-16), which consists of three pages.

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[9] Id., at pp. 335-336.

6.b. Risk-Free Rate of Return

Q. Please describe your selection of a risk-free rate of return.

A. I utilize a risk-free rate of return of 5.7% which is based upon the average consensus forecast of the reporting economists in the February 1, 2002 issue of Blue Chip Finance Forecasts for the yields on 30-year U.S. Treasury Bonds for the six quarters ending with the second calendar quarter of 2003 as shown in Note 2 on page 3 of Exhibit No. ____ (FJH-16).

Q. Why is the average prospective yield on 30-year U.S. Treasury Bonds appropriate for use as the risk-free rate?

A. The yield on 30-year T-Bonds is almost risk-free. Its term to maturity is consistent with the long-term investment horizon inherent in utilities' common stocks. Moreover, it is consistent with the long-term investment horizon, presumed to be infinite, in the standard regulatory form of the DCF model employed in rate proceedings such as this. In addition, Ibbotson Associates[10] states:

> A common choice for the nominal riskless rate is the yield on a U.S. Treasury Security. The ability of the U.S. government to create money to fulfill its debt obligations under virtually any scenario makes U.S. Treasury securities practically default-free. While interest rate changes cause government obligations to fluctuate in price, investors face essentially no default risk as to either coupon payment or return of principal. The horizon of the chosen Treasury security should match the horizon of whatever is being valued. When valuing a business that is being treated as a going concern, the appropriate Treasury yield should be that of a long-term Treasury bond. Note that the horizon is a function

[10] Stocks, Bonds, Bills and Inflation: 2001 Yearbook – Valuation Edition, Ibbotson Associates, Chicago, IL, p. 43.

> of the investment, not the investor. If an investor plans to hold stock in a company for only five years, the yield on a five-year Treasury note would not be appropriate since the company will continue to exist beyond those five years. (*underlining added for emphasis*)

In view of the foregoing, I believe the expected average yield on 30-year U.S. Treasury Bonds is the appropriate proxy for the risk-free rate in the CAPM and ECAPM.

6.c. <u>Market Equity Risk Premium</u>

Q. Please explain the basis for your estimation of the expected market equity risk premium.

A. I estimate investors' expected total return rate which is based on an average of forecasted and long-term historical return rates from which I subtract the risk-free rate. The result is a market equity risk premium, some proportion of which must be allocated to the proxy group. I make the allocation through the use of beta because beta is a measure of the relative risk of a security to the entire market.

The basis of the projected market equity risk premium is explained in detail in Note 1 on Page 3 of Exhibit No. ____ (FJH-16). The 3-5 year total market appreciation projection, when converted to an annual rate of 12.64% plus the market's average dividend yield of 1.82% equals a forecasted total annual return rate of 14.46% which rounds to 14.5%. The long-term historical return rate of 13.0% on the market is from Table 1-1 of Ibbotson Associates' <u>Stocks, Bonds, Bills and Inflation: Valuation Edition - 2001 Yearbook</u>. In each instance, the relevant risk-free rate was deducted from the total market return rate. From the Value Line projected total market return of 14.5%, the

forecasted average risk-free rate of 5.7% was deducted indicating a forecasted market risk premium of 8.8%. From the Ibbotson Associates' arithmetic mean long-term historical total return rate of 13.0%, the long-term historical income return rate on long-term U.S. Government Securities of 5.2% was deducted indicating an historical equity risk premium of 7.8%. Thus, the average of the projected and historical total market risk premiums of 8.8% and 7.8%, respectively, is 8.3%.

6.d. Conclusion of CAPM Cost Rates

Q. What are the results of your applications of the CAPM and ECAPM?

A. The results are shown on Exhibit No. ____ (FJH-16), Page 1.

The mean traditional CAPM cost rate is 11.2%, while the mean ECAPM cost rates is 11.9%. I rely upon the average of both the CAPM and ECAPM cost rates which is 11.6%.

7. The Comparable Earnings Model (CEM)

7.a. Theoretical Basis

Q. Please describe the theoretical basis of the CEM.

A. The comparable earnings standard recognizes the fundamental economic concept of opportunity cost. This concept states that the cost of using any resource – land, labor and/or capital – for a specific purpose is the return that could have been earned in the next best alternative use. The opportunity cost to an investor in a utility's common stock is what that capital would yield in an alternative investment of similar risk. The opportunity cost principle is consistent with one of the fundamental principles of utility

price regulation, i.e., it is intended to act as a surrogate for the competition of the marketplace.

The problem in using returns on book equity (the ROEs) of non-price regulated companies is determining whether such companies are similar in risk to the price-regulated utility. The ROEs of other similar price-regulated firms should not be relied upon because they reflect the results of regulatory awards which may not be indicative of what could have been earned in a competitive market. Moreover, such use would be an exercise in circularity. Consequently, application of the CEM is most appropriately implemented by examining the expected ROEs of similar risk, domestic, non-price regulated firms.

The use of rates of earnings (ROEs) on book equity of comparable, non-price regulated firms is appropriate because under the rate base/rate of return paradigm, the rate of return (including the rate of return on common equity) is applied to the rate base measured at original (*i.e., book*) cost.

7.b. <u>Application of the CEM</u>

Q. How did you approach your CEM analyses?

A. My CEM analysis is set forth in Exhibit No. ____ (FJH-17), which consists of two pages. Page 1 contains the relevant data for the domestic non-price regulated companies which are comparable in risk to the proxy group. Page 2 contains the notes relative to page 1.

It is critical to the application of the CEM to select a proxy group of non-price regulated companies similar in total risk to the utility proxy group which in this instance

is the proxy group of five oil pipeline companies. The selected risk-comparable, non-price regulated, companies should be broad-based in order to obviate individual company-specific aberrations. Utilities should not be included because the achieved rates of return on their common equity are substantially influenced by the rate determinations of their respective regulatory commissions and may not be indicative of what could have been earned in a competitive market. After all, regulation is a substitute for the competition of the marketplace.

7.c. <u>Selection of Market-Based Companies of Similar Risk</u>

Q. Is your application of the CEM market-based?

A. Yes. My application of the CEM is market-based because the selection of the comparable non-price regulated firms is based upon statistics derived from the market prices paid by investors. Consequently, the betas and related statistics used to select comparable risk companies result from Value Line regression analyses of weekly market prices over the most recent 260 weeks (five years). The bases of selection resulted in a proxy group of eleven non-price regulated firms comparable in total investment risk to the proxy group of five oil pipeline companies. That is, they are similar in non-diversifiable market risk as measured by beta; and similar in diversifiable company-specific risks as measured by the standard errors of the regressions, i.e.,

standard errors of the estimates or residual standard deviations. The criteria used in the selection of the non-price regulated firms were:

1. Their projected ROEs must be less than 20%.
2. They must be domestic, non-price regulated companies, i.e., non-utilities.
3. They must be covered by Value Line Investment Survey (Standard Edition).
4. Their betas must lie within plus or minus two standard deviations of the average unadjusted beta of the proxy group.
5. The standard errors of the regressions (residual standard errors) must lie within plus or minus two standard deviations of the average residual standard error of the proxy group.

Betas are a measure of market, or systematic, risk. The residual standard errors of the regressions (the standard errors of the estimate resulting from the regression equations from which each company's beta was derived by Value Line) were used to measure each firm's company-specific risk (diversifiable, unsystematic risk). The residual standard errors of the regressions measure the extent to which events specific to a company affect its stock price. Because market prices reflect investors' perceptions of total risk, all risk which is not systematic market risk as measured by beta is reflected in the residual standard errors which, therefore, are measures of diversifiable, non-systematic risk. Consequently, the use of those regression statistics results in proxy groups of non-price regulated domestic firms which are similar in total investment risk to the proxy group. The use of two standard deviations captures 95.5% of the distribution

of unadjusted betas and standard errors, thereby assuring comparability. Thus, those non-price regulated companies selected have similar total investment risk to the proxy group of five oil pipeline companies.

7.d. Conclusion of CEM Cost Rates

Q. What is the indicated CEM cost rate?

A. As shown on page 1 of Exhibit No. ____ (FJH-17), the mean of Value Line five-year projected ROEs for the eleven domestic, non-price regulated companies comparable in total investment risk to the proxy group is 12.7%.

II.H. CONCLUSION OF COMMON EQUITY COST RATE

1. Conclusion of Nominal Common Equity Cost Rate Must be Based on the Application of Multiple Models

Q. Please summarize why, in your opinion, the conclusion of common equity cost rate must be based upon the results of the application of multiple cost of common equity models.

A. As discussed supra, the EMH and common sense mandate the use of multiple market-based cost of common equity models. All of the models utilized are market-based.

1. The DCF Model utilizes market prices paid by investors.

2. The RPM utilizes the expected market yield on company-specific long-term debt and the equity risk premium based upon an expectation of the market equity risk premium.

3. The CAPM and ECAPM utilize total market returns, and betas which result from each individual stock's market price movement relative to the market.

4. The CEM is based upon the selection of comparable risk, non-price regulated domestic companies selected through the use of statistics derived from regression analyses of market prices paid by investors.

Investors are aware of all of these cost of common equity models which are in use and discussed in the financial literature. Therefore, belief in the EMH requires that all of them be taken into account.

Q. What is your recommended common equity cost rate?

A. My recommended common equity cost rate is 13.00% based on the application of all four cost of common equity models to the proxy group of five oil pipeline companies. My conclusion is summarized on page 2 of Exhibit No. ____ (FJH-2). Equal weight was given to the cost rates resulting from application of all four market-based cost of common equity models. The resultant average cost rate of 13.00% shown on Line No. 5, page 2 of Exhibit No. ____ (FJH-2) and is applicable to a 46.40% common equity ratio. I reiterate that my recommendation is conditional upon such common equity ratio actually being achieved via commitment from OPL's shareholders.

Q. Mr. Hanley, you stated earlier in your testimony that OPL's actual capital structure consists of 100% debt. You also indicated that at year-end 2000, actual equity was negative. Since you have recommended a hypothetical capital structure which includes a 46.40% common equity ratio, would it be proper to apply your recommended common equity cost rate to an equity ratio which would be substantially different from 46.40%?

A. No, it would not. As I stated previously, unless OPL's parent companies are willing to commit equity capital, they should not be entitled to any equity return. In plain words, they should not get a return on capital which they have not invested. All that they have invested to this point in time is a substantial portion of OPL's total outstanding debt capital; however, they received $51.6 million in dividends from 1990 through 1997. Consequently, if the parent companies maintained the status quo, i.e., 100% debt capital, they should be entitled to nothing more than a return at the rate which the capital that was invested as debt actually cost them – which is 6.74%, the embedded interest cost, weighted by percentage ownership (see OPL Witness Schink testimony at page 53 and Exhibit No. OPL-45).

Q. Is there a way that the parent companies can bring the equity ratio of OPL into line with the industry average of 46.40% without investing the entire amount as new cash?

A. Yes. This could readily be accomplished if there were a willingness on the part of the parent companies to convert a substantial portion of OPL's notes payable to affiliated companies to equity.

Q. What if the parent companies are unwilling to commit to converting any debt to equity and are also unwilling to commit to injecting any new cash equity capital into OPL?

A. Under that scenario, the debt ratio would remain at 100%. I would recommend then that this Commission utilize the 100% debt ratio and allow only the weighted, by percentage ownership, debt cost rate of the parent companies of 6.74% as the return rate for that capital. In essence, 6.74% would be the overall rate of return.

Q. What if the parent companies commit to injecting new cash equity and/or through conversion of debt into equity, create an equity ratio that is lower than the 46.40%?

A. It is impossible to predict every potential scenario which could occur. I will say, however, that the parent companies should not be rewarded by returns on non-existent equity capital. Consequently, if before an Order is issued from this Commission relative to the instant matter, some action is taken that, for example only, would result in a 25% equity ratio, then the actual capital structure should be utilized. Under that hypothetical scenario, the capital structure would consist of 75% debt and 25% common equity. Obviously, some adjustment would have to be made to recognize that an equity ratio substantially lower than 46.40% would mandate a higher cost rate than the 13.00% which I recommend, consistent with basic financial precepts.

II.I. CHECK ON THE REASONABLENESS OF THE INDICATED COMMON EQUITY COST RATE

Q. Please explain interest coverage, its significance and its relationship to the cost rate of common equity capital.

A. Interest coverage is defined as the number of times annual interest on debt has been earned. It is the relationship between the income available to pay interest charges and total interest charges. Earnings available for common equity provide the margin by which fixed charges are covered more than one time. Bond investors use coverage as a tool to measure the relative safety of their investment because of the emphasis placed upon interest coverage, especially pretax, i.e., before all income taxes by the rating agencies.

For example, S&P places emphasis on pretax interest coverage because interest is paid on debt before income taxes are paid to the government and because the interest on corporate debt is deductible in arriving at taxable income. Also, pretax interest coverage better reflects the availability of cash from operations from which interest charges are paid. The bond rating agencies, and hence investors, review trends in pretax interest coverage in conjunction with current developments in order to formulate an assessment of the likely future adequacy or inadequacy of protection to bondholders which can affect bond ratings.

Q. Please discuss S&P's financial ratio "targets" for utilities.

A. S&P's financial ratio "targets" are based upon 10 different business positions/profiles with "1" being considered lowest risk and "10" being considered highest risk. The explanation of these financial targets and the targets themselves are shown on Pages 11 and 12, respectively, of Exhibit No. ____ (FJH-3). As S&P explains, the different risk levels between types of utilities and utilities with the same bond rating but different perceived risks are taken into account by the business position/profile assigned.

Q. What is the implicit opportunity for OPL to earn pretax interest coverage based on your recommended hypothetical capital structure and resultant overall cost of capital of 10.07%?

A. As shown on page 1 of Exhibit No. ____ (FJH-2), I have calculated the opportunity to earn before-income tax coverage of interest expense at 3.49 times. It assumes a hypothetical combined federal and state effective income tax rate of 40%.

Q. Is 3.49 times a reasonable opportunity to earn interest before income taxes?

A. Yes, I believe it is. Based on the information shown on page 2 of Exhibit No. ____ (FJH-14), the proxy group of five oil pipeline companies has an average Moody's bond rating of A3, and an S&P bond rating of BBB+ with an S&P average business position of "4". Enbridge Energy Partners is rated A2 by Moody's, but is not rated by S&P. It is reasonable to assume that if it were rated by S&P, it would be in the A category. Inasmuch as the average bond rating for the four companies with bonds rated S&P is BBB+, the average of all five would likely be A-. The financial target ratios required

by S&P for public utilities with rated bonds are shown on page 12 of Exhibit No. ____ (FJH-3). It is readily determined, by taking the complement of the total debt to total capital ratios, that the range of required equity ratios for companies whose bonds are rated A and assigned a business position of "4" would be between 50.5% and 57%. Similarly, it can be determined that for those companies whose bonds are rated BBB with a business position of "4", that the required range of equity ratios is between 43% and 50.5%. Since it is quite clear that this group of five oil pipeline companies is on the cusp of the BBB/A categories, the most meaningful indication of requirement for them is somewhere between the two. Consequently, the hypothetical capital structure ratios that I recommend are reasonable. In looking at the pretax interest coverage requirements of S&P, it is seen that for a BBB bond rating and a business position of "4", coverage of between 2.2 and 3.3 times is required, while coverage between 3.3 and 4.0 times is required for the A bond rating.

Considering that this group is on the cusp of the BBB/A criteria, it would seem that an opportunity for earning pretax interest coverage of 3.49 times is reasonable. Thus, I believe that my recommended nominal common equity cost rate of 13.00% relative to a 46.40% hypothetical common equity ratio is reasonable. It also confirms the reasonableness of my recommended contingent overall cost of capital of 10.07%.

III. ANSWERING TESTIMONY

Q. Mr. Hanley, OPL Witness Schink recommends the use of a capital structure consisting of 17.08% debt and 82.92% equity. It is based upon a weighting of the capital structure ratios of the parent companies of OPL, namely BP, Shell, and Texaco. Is the use of such ratios appropriate in determining an overall cost of capital for OPL?

A. No. In the Direct portion of my testimony under Capital Structure, I addressed in detail the problems associated with such an approach. I need not repeat them in detail here. OPL's actual capital structure consists of all debt. It actually has a negative equity ratio. The parent companies hold substantial notes payable by OPL. The parent companies do not guarantee OPL's debt payable to third parties as a matter of policy. The parent companies have not invested any equity capital into OPL from 1991 to 2001 and, incredibly, OPL states that it "has been unable to locate records prior to 1991" (see Exhibit No. ____ (FJH-5). Despite the fact that $51.6 million were paid in dividends by OPL to the parent companies between 1990 and 1997, not a single dollar of equity capital has been invested, despite an overwhelmingly obvious need for substantial equity capital. Finally, the business interests of the parent companies are completely unrelated to the operation of an oil pipeline company in the United States (refer to Exhibit No. ____ (FJH-6) and discussion related thereto under Capital Structure portion of my Direct testimony). The business risks of the parent companies are substantially greater than

those of an operating oil pipeline company. Hence, they should, and do, have far greater equity ratios than those maintained by operating oil pipeline companies.

In view of all of the foregoing, including my comments contained in the Direct portion of my testimony, the use of the parent companies' capital structure ratios, weighted by percentage ownership, is entirely incorrect and should be disregarded.

Q. Do you have a major criticism of the methodology relied upon by OPL Witness Schink in arriving at the various array of common equity cost rates from which he selects a preferred rate of 15.36%?

A. Yes. I believe it is clear under the EMH**,** that investors consider all available cost of common equity models. Absent any empirical evidence that investors rely only upon one model, and indeed upon a single conceptual application of that model, sole reliance on one model is without basis. Moreover, in contrast, my approach is more balanced. Reference to Exhibit No. ____ (FJH-2), page 2 shows an array of cost rates ranging from 11.6% from the CAPM applications to 14.7% resulting from applications of the DCF model relative to the same proxy group of five oil pipeline LLPs relied upon by OPL Witness Schink. These reasoned applications of four entirely different cost of common equity models confirm the overstatement of Witness Schink's recommendation.

Q. OPL Witness Schink adds an increment of 75 basis points to arrive at his recommended nominal equity cost rate of 15.36% for Olympic. Please comment.

A. In view of what I have testified to supra, I clearly disagree with his estimate of the cost of common equity capital for an average, or typical, oil pipeline company. Witness

Schink's reasoning for inclusion of 75 basis points is without merit. I have stated supra in the Direct portion of my testimony under Risk why I believe that Olympic is of average risk and does not experience any extraordinary operational or competitive risks. Those reasons need not be repeated here.

Q. At pages 53-55 of OPL Witness Schink's direct testimony, he provides reasoning why he believes that it is appropriate to use the weighted average capital structure of Olympic's parents even though that capital structure has a higher percentage of equity in it than is the case for a typical oil pipeline company. Is his reasoning correct?

A. No.

Q. Please explain.

A. First, he states that Olympic's parents' capital structure is the one actually used to raise capital for Olympic. The evidence is that they have not raised any equity capital for Olympic. Rather, they have only injected debt capital into Olympic and, as such, are entitled to nothing more than a debt cost rate of return on such capital. Moreover, those ratios are completely out of line with the oil pipeline industry averages.

Dr. Schink states that, "it is reasonable to presume that Olympic's parents' actual capital structures are the one (sic) which result in the lowest overall cost of capital..." His statement is true, but totally either misses or begs the point as relates to the ratemaking paradigm for a public utility. It may well be that on a composite basis, a capital structure comprised of 82.92% equity for BP, Shell and Texaco (viewed as one

based on weighted capital structure by percentage ownership of OPL) may result in the lowest overall cost of capital for them on an after-income tax basis. The ultimate question to be answered in the utility ratemaking paradigm is -- is the capital structure representative of how the typical company in the industry is financed and does it prudently minimize the revenue cost of capital? The answers to the question, when using OPL's parents' weighted capital structure are -- no, it is not typical of the industry; and no, it does not prudently minimize the revenue cost of capital. When the income tax implication of such an equity heavy capital structure (containing 82.92% equity) is taken into account, it results in an extraordinary revenue requirement which would have to be built into the tariff rates charged to the shippers because of the burden associated with the unnecessary, additional income taxes. That reason is why, in regulatory ratemaking, regulatory commissions often adopt a hypothetical capital structure for ratemaking purposes when the actual capital structure of the utility consists of an excessive proportion of equity capital.

Q. Have you prepared an exhibit that demonstrates the impact of capital structure as affecting the before-income tax weighted cost of capital (the revenue cost of capital), an important aspect in the ratemaking paradigm?

A. Yes, I have. It is contained in Exhibit No. ____ (FJH-18), which consists of two pages.

Page 1 shows the capital structure ratios, related "preferred" cost rates and resultant overall cost of capital recommended by OPL Witness Schink. As shown under the Weighted Cost Rate column, the overall cost of capital, after income taxes, is

13.89%. Assuming a hypothetical combined federal and state effective income tax rate of 40%, the Before-Income Tax Weighted overall cost of capital (also referred to as the revenue cost of capital) is 22.38%. It is also shown that this cost of capital would result in before-income tax interest coverage of 19.46 times which is literally off the charts for public utilities which can be readily determined by reference to page 12 of Exhibit No. ____ (FJH-3) under the pretax (before-income tax) interest coverage financial target ratios for public utilities as established by S&P. It is seen that this is true even for the best bond ratings and the most risky business positions. For example, a utility with bonds rated A by S&P and an assigned business position of "10", i.e., the most risky, would require a range of pretax interest coverage of between 8.4 and 11.1 times, still very far below the 19.46 times implicit in Witness Schink's recommendation.

Page 2 of Exhibit No. ____ (FJH-18), contains an indication of what the indicated return rate on a 46.40% common equity ratio would be if OPL Witness Schink's preferred overall cost of capital on an after-income tax basis of 13.89% were applied to the hypothetical capital structure ratios that I recommend. As shown, the resultant common equity cost rate would be 22.16% relative to a 46.40% common equity ratio and the resultant before-income tax overall rate of return would be 20.74%. This outcome would result in an opportunity for before-income tax interest coverage of 5.75 times, still far above any reasonable level of pretax interest coverage for a public utility with a business position of "4".

The foregoing demonstrates the inapplicability of Witness Schink's comments to the ratemaking paradigm of a public utility company such as an operating oil pipeline company.

Q. At page 55 of his testimony, OPL Witness Schink discusses the results of a regression analysis that he made as set forth in OPL Exhibit No. OPL-46. Please comment.

A. Witness Schink's analysis is flawed for several reasons. First, he assumes greater significance to beta than is actually justified. Beta is a measure of systematic market risk and not of company-specific risk. While it is true that beta does include some degree of recognition of business and financial risks, it is also true that the overwhelming majority of such risks, including the impact of financial leverage on market prices and hence common equity cost rate is not reflected in beta. I have prepared Exhibit No. ____ (FJH-19) which consists of four pages. The information shown on page 1 contains an excerpt from Professor Diana R. Harrington's book on the Capital Asset Pricing Model which explains the significance of the coefficient of determination, i.e., R-squared or R^2. Professor Harrington indicates that the R^2 explains how much of the activity of the dependent variable (stock returns) was explained by the independent variable (the market returns). She states that if the stock-return variation were coincident with market-return changes, the R^2 would be 1.00.

Q. What are typical R^2's relative to betas?

A. Shown on page 2 of Exhibit No. ____ (FJH-19) are the December 14, 2001 Value Line R^2's of beta derived from the Value Line proprietary database for both the proxy group of five oil pipeline companies as well as the eleven non-price regulated domestic companies (similar in total risk to the proxy group of five oil pipeline companies and used in my CEM analysis). As shown, the average R^2 for the proxy group of five oil pipeline companies is 0.0588, or 5.88% while the average R^2 for the eleven non-price regulated companies is 0.0760, or 7.60%.

Q. Are the R^2's of 0.0533 or 0.0760 unusual?

A. No. Pages 3 and 4 of Exhibit No. ____ (FJH-19) have been taken from Ibbotson Associates' 2001 Yearbook - Valuation Edition. The graph shown on Exhibit No. ____ (FJH-19) shows the distribution of the R^2 (coefficients of determination) for all 5,700+ companies included in the Ibbotson Associates publication. As can be readily determined by reference to the graph (Graph 5.4), the overwhelming majority (about 60%) of those 5,700+ companies have an R^2 equal to or less than the proxy group of five oil pipeline companies, i.e., 0.06 or less.

Q. What inferences can be drawn from the R^2 of .0552 (5.52%) resulting from OPL Witness Schink's regression analysis whereby he regressed the equity ratio as the dependent variable and beta as the independent variable?

A. What this means is that beta explains less than 6% of the total variation in equity ratio. Conversely, it means that more than 94% of the total variation in equity ratio is not

explained by beta. I believe OPL Witness Schink's conclusion is irrelevant. It is irrelevant because the basic assumption contained in the regression analysis is that beta is a measure of business risk and is highly relevant to a change in equity ratio. As recognized in the literature and demonstrated supra, beta accounts for very little of the change in market prices and therefore is not a meaningful indicator of either business or financial risk. I recall a discussion by my instructor in a basic statistics class who stated that you can perform a regression which indicates a high degree of significance while the "explained" relationship fails the common sense test. In Witness Schink's analysis, beta explains less than 6% of the change in equity ratio. It fails the common sense test.

Q. Can you demonstrate the fallacy contained in Witness Schink's regression analysis based on data for the proxy group?

A. Yes. Reference to Exhibit No. ____ (FJH-14), page 9 shows that of the five oil pipeline proxy companies, TEPPCO Partners has the highest adjusted beta of 0.80, but as reference to Exhibit No. ____ (FJH-4), page 3 reveals TEPPCO Partners in 2000 had the lowest common equity ratio of the five oil pipeline proxy companies.

I believe my analysis clearly demonstrates that there is no valid rationalization for the use of a capital structure which contains 82.92% equity in determining the cost of capital for OPL in this proceeding.

Q. Does this conclude your testimony?

A. Yes.

CERTIFICATE OF SERVICE

I hereby certify that on May 13, 2002, a true and correct copy of the foregoing document was hand delivered to the following at the WUTC settlement proceedings:

OLYMPIC PIPELINE COMPANY, INC.
Steven C. Marshall, Esq.
Counsel for Olympic Pipe Line Company
Perkins Coie LLP
One Bellevue Center, Suite 1800
411 - 108th Ave. N.E.
Bellevue, WA 98004-5584

William H. Beaver, Esq.
Counsel for Olympic Pipe Line Company
Karr Tuttle Campbell
1201 Third Avenue, Suite 2900
Seattle, WA 98101

WUTC STAFF
Donald Trotter, Assistant Attorney General
Counsel for Commission Staff
Attorney General's Office
Utilities and Transportation Division
1400 S. Evergreen Park Drive S.W.
P.O. Box 40128
Olympia, WA 98504-0128

TOSCO CORPORATION
Edward A. Finklea, Esq.
Counsel for Tosco Corporation
Energy Advocates LLP
526 N.W. 18th Avenue
Portland, OR 97209-2220

_____
Elaine Houchen

Exhibit No. _____ (FJH-1T)
Docket No. TO-011472
Witness: Frank J. Hanley

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION	)	
	)	**DOCKET NO. TO-011472**
Complainant,	)	
v.	)	
OLYMPIC PIPE LINE COMPANY, INC.	)	
Respondent.	)	

GENERAL RATE CASE

Prepared Direct and Answering Testimony of

FRANK J. HANLEY
President, AUS Consultants - Utility Services

on Behalf of Intervenor
Tesoro Refining and Marketing Company

May 13, 2002

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PREPARED DIRECT AND ANSWERING
TESTIMONY OF FRANK J. HANLEY