Staff Exhibit No. 5

DOCKET NO. 3006

RE: APPLICATION OF TEXAS POWER & LIGHT COMPANY FOR AUTHORITY TO CHANGE RATES	§ § §	PUBLIC UTILITY COMMISSION OF TEXAS

~~DIRECT TESTIMONY OF J. WORTH KILCREASE II~~

Q. Please state your name and business address.

A. J. Worth Kilcrease, 7800 Shoal Creek Boulevard, Suite 400N, Austin, Texas.

Q. By whom are you employed?

A. I am employed by the Public Utility Commission of Texas in the Economic Research Division.

Q. What are your principal areas of responsibility?

A. I have responsibility for determining the fair rate of return requirements and financial integrity concerning public utilities regulated by this Commission. I also participate in the administration of the Division and assist in statistical analyses and research on topics of special interest to the Commission.

Q. Please state briefly your educational background, professional qualifications, and business experience.

A. I received a B.S. degree and an M.A. degree in chemistry from the University of Texas at Austin. I subsequently received a M.B.A. degree with a concentration in finance and accounting from the same university. Also, I am a member of the Financial Management Association and the Planning Executives Institute.

Q. Have you previously testified before this Commission?

A. Yes, I have testified in previous rate hearings.

Q. Would you please state the intent of your testimony in Docket No. 3006, Texas Power and Light Company, and describe the scope of your review and analysis in this case?

A. The purpose of this testimony is basically threefold. Initially, I will recommend a reasonable balance between the original cost of plant less depreciation and the current cost less an adjustment for present age and condition. This mix between net original and current cost is used by Ms. Blumenthal to compute the adjusted value of Texas Power and Light Company's (TP&L's) invested capital devoted to providing utility service. Secondly, an analysis into the cost of equity to Texas Utilities Company will be conducted to estimate the return required by investors for the use of their funds as equity capital by the parent company. Using this return as a benchmark, a fair return on the equity invested in TP&L will be determined which, in turn, will lead to my recommendation as to a fair composite rate of return on the original cost of invested capital. Finally, this testimony will evaluate the adequacy of the Staff's recommended revenue requirements in an effort to ensure that the proposed rates will be sufficient to maintain TP&L's financial integrity. To address these issues, this prepared testimony has been organized into seven sections:

I. Adjusted Value Mix

II. Cost of Equity to Texas Utilities

III. Market-to-Book Adjustment

IV. Return to Equity of TP&L

V. Composite Rate of Return

VI. Financial Integrity and Adequacy

VII. Shortterm Interest Rates Charged by Texas Utilities to TUGCO and TUFCO

VIII. Conclusions and Summary of Recommendations

I. ~~ADJUSTED VALUE MIX~~

Q. Would you please define the adjusted value of invested capital

A. The adjusted value of invested capital is the weighted average of the original cost of property used and useful in providing utility service, less depreciation, and the current cost of that property less an adjustment for age and condition, balanced within the limits prescribed by the Public Utility Regulatory Act. According to Section 41 of the Act, the adjusted value of invested capital must reflect a balance of between 60 and 75 percent net original cost and between 40 and 25 percent net current cost.

Q. Upon what basis have you determined the balance between net original cost and net current cost?

A. The balance between net original cost and net current cost has been developed under the assumption that more current cost should be included during periods of high inflation and deflation, and more original cost should be included during periods of low inflation and deflation. This approach takes into account two aspects of the adjusted value of invested capital. First, the impact of past inflation (deflation) on the Company is accounted for by means of trending the original cost of the Company's property. The resulting net current cost, as calculated by Mr. Saathoff, is directly determined by the age of the property and by the inflation (deflation) that has taken place up to the present. Second, the balance between net original and net current cost reflects the current annual rate of inflation or deflation. Thus, the present state of the economy is used to weight the extent to which past inflation and deflation is taken into account.

Q. Have you accounted for the other factors that may be considered when arriving at the mix between net original cost and net current cost?

A. The issue of the quality of service being provided by TP&L is addressed by Mr. Saathoff. Since the Company's overall quality of service appears adequate, this factor does not seem to merit additional attention in the adjusted value mix. Similarly, because the growth rate in TP&L's service area does not appear abnormal - having historically averaged in the range of between four to six percent annually - neither does this item warrant special consideration. Finally, the issue of TP&L's need to attract capital will be addressed and accounted for later in my testimony; thus, it does not appear necessary to also consider this factor in determining the balance between net original cost and net current cost plant.

Q. Please explain, then, your derivation of the mix between net original cost and net current cost.

A. The mix between net current cost invested capital and original cost invested capital has been determined so that the statutory limits for inclusion of net current cost coincide with historical experience of price level changes. Over the 33-year period from 1946 to the present, the most extreme inflation or deflation rate as measured by the GNP Price Deflator was the 11.8 percent inflation in 1947; therefore, 12 percent has been selected as the outside limits. These boundaries have been linearly connected with the origin under the presumption that, in the absence of either inflation or deflation, the invested capital mix should reflect 25 percent net current cost and 75 percent net original cost. For each additional percent of inflation or deflation, an incremental 1.25 percent of net current cost should be included in the invested capital mix. The derivation of this relationship is shown in Exhibit JWK-1, page 1 of 2. Exhibit JWK-1, page 2 of 2, shows the balance that would have been used in the past, based upon that relationship.

Q. What current inflation (deflation) rate has been used to arrive at the balance between net original and net current cost of invested capital for TP&L in this case?

A. As reported in ~~National Economic Trends~~ prepared by the Federal Reserve Bank of St. Louis, the seasonally adjusted annual inflation rate (based upon the Gross National Product Implicit Price Deflator) for the year ending September 30, 1979 was 9.0 percent. This time period has been selected so as to conform as nearly as possible to the test year and be representative of the present state of the economy. Substituting the 9.0 percent in the equation developed in Exhibit JWK-1, page 1 of 1, produces a mix comprised of 36.25 percent net current cost and 63.75 percent net original cost investment. The use of this mix in computing the adjusted value of TP&L's invested capital is detailed in Ms. Blumenthal's ~~Exhibit H~~, ~~page 1~~.

II. ~~COST OF EQUITY TO TEXAS UTILITIES~~

Q. Would you please explain the purpose of this portion of your testimony?

A. This section is intended to identify the cost of equity capital to Texas Utilities Company; or in other words, to estimate the minimum return that potential investors would require to induce them to purchase shares of common stock.

Q. Why have you initially focused on the cost of equity to Texas Utilities rather than the minimum return required from TP&L?

A. TP&L is a wholly-owned subsidiary of Texas Utilities Company (along with Dallas Power and Light Company, Texas Electric Service Company, and several other companies), and all equity is financed through the Parent. While we are ultimately concerned with a fair return to the equity capital invested in TP&L, the logical starting point for determining the quantity is where the subsidiary effectively meets the investor directly - in the marketplace at the parent, or consolidated, level.

Q. Would you please elaborate on the cost of equity concept?

A. As indicated, the cost of equity is the minimum price that must be paid to investors for the use of their money. Equity capital is a resource which, like debt funds, labor, fuel, etc., has a cost, or rent, associated with its usage. By identifying the cost of this resource and allowing a utility the opportunity to earn at approximately this rate, consumers are essentially paying only for the actual cost of the money invested in plant and facilities. At the same time, however, because the price of equity capital is determined by its alternative uses, the expected return is commensurate with those of other investments of similar risk. If equity capital is authorized to earn its opportunity cost, the Company should experience little difficulty raising additional funds. In short,

by allowing a utility company to earn its cost of equity, stockholders neither receive windfall gains nor is their investment confiscated; yet the return is sufficient to attract new capital so that service can be maintained and expanded as needed.

Q. Is the cost of equity the same as a fair return to equity?

A. Not necessarily; while the terms are often used synonymously, there can be a difference between the two if there are other objectives that would cause the values to be different. One such objective might be to encourage a desired ratio of market price to book value. In any event, the cost of equity concept provides a rational basis upon which to develop a fair return to common equity.

Q. How is the cost of capital determined?

A. The cost of capital is a function of two things: the time value of money and the risk to which the capital will be exposed. In other words, the cost of all capital can be generally described as:

Cost of Capital = Risk-Free Rate + Risk Premium

Thus, as the capital is put to riskier uses, the greater the return that is required. Five risk-return continuums have been illustrated in Exhibit JWK-2 where capital market lines for long-term or permanent utility industry capital in 1978 and 1979 have been depicted. As shown, virtually risk-free assets, e.g., U.S. Treasury Bonds, require only a minimum yield to account for the pure time value of money and long-term inflation expectations. As risk increases, the total required return rises as investors demand additional compensation for bearing additional risk. This is particularly evident in the case of bonds and preferred stocks where risk levels, as indicated by ratings, and required yields are fairly well-defined.

Q. What other observations can be made from the capital market lines in Exhibit JWK-2?

A. Two other items of significance should be noted from this discussion of the capital market line. First, inflation has implicitly been taken into account by the marketplace. In other words, the current returns required by investors for the use of their money already reflect their expectations of inflation. They continually adjust returns for anticipated loss of purchasing power while their funds are loaned out. Secondly, the capital market line is not a fixed function but moves over time. Not only does the slope of the line change, but also vertical shifts occur as investors revise expectations of overall economic conditions. This is illustrated in Exhibit JWK-2 where a current capital market line is compared with ones existing in early 1979 and at the time of the hearing for the last three major rate cases. As evidenced here, the capital market line has continually shifted upwards and the slope has drastically increased since a year ago; in all likelihood, this reflects revised expectations of price level changes due to the recently experienced increases in rates of inflation and the apparent inability of the federal government to control economic forces.

Q. Are the capital market lines in Exhibit JWK-2 fairly accurate, and what are their implications?

A. The graphs in Exhibit JWK-2 are, in my opinion, fairly representative of the capital market line as it existed a year ago and as it exists now given prevailing economic conditions and investor expectations. If a return on equity consistent with the current capital market line is authorized, not only will it include adequate compensation for the expected effects of inflation, but it will also be commensurate with the returns available from other investment opportunities given current market prices.

Q. You have pinpointed the returns required for various fixed income securities in Exhibit JWK-2; why not do the same for common equities?

A. Extrapolating from fixed income securities to common stock on the risk premium is imprecise in that risk and required returns for equities are not directly observable. Unlike bond and preferred stocks, the dividends and capital gains that common stockholders expect to receive from their investments are not directly observable. There is no stated or contractural rate on equity securities; and consequently, it is impossible to compute the precise rate of return that investors require from a share of common stock. Further complicating the effort to determine the investors' minimums required return is the problem of specifying the risk level of different companies since a multitude of factors contribute to investors' perceptions of the risk of a particular share of common stock. Nevertheless, the risk-return trade-off concept shown by bonds and preferred stocks undoubtedly extends to common equities as well. Thus, a lower expected return is required with lower risk equities, and increasing expected returns are required with higher risk equities.

Q. How, then, does one determine the investors' required return from or cost of equity for a particular company?

A. Obviously, this is a difficult task because the capital market line is not well defined past the point of fixed income securities. However, by analyzing information about a company and others judged to be of comparable risk, a reasonable estimate of a firm's cost of equity can be made. While various quantitative approaches are used as guides to investors' minimum required returns; in the final analysis, the cost of equity estimate is largely judgemental, being based upon the information available to the analyst.

Q. How have you gone about estimating the cost of equity to Texas Utilities Company?

A. I have approached the issue of determining Texas Utilities' cost of equity in a variety of ways. Initially, the fundamental financial and operating characteristics of Texas Utilities have been evaluated and compared with those for the electric utility industry and the unregulated sector to gauge the Company's risk relative to other companies. Concurrently, today's market conditions have been contrasted with those in the near past and recent developments have been explored in an effort to better understand any changes in investor expectations, perceptions, and requirements. Secondly, a conventional discounted cash flow analysis has been performed which attempts to replicate market expectations and impute investors' required return from Texas Utilities given the Company's current market price. In connection with this, a variation of the traditional discounted cash flow model utilizing investment analysts' earnings forecasts has also been employed to estimate the Company's cost of equity. Thirdly, I have also analyzed a recently conducted survey of investors which inquired directly as to the return they require from an investment in the common stock of an electric utility company. Next, I have examined the equity returns realized by other firms judged to have similar risks to see what investors might expect from alternative investments. A final test has been to examine the risk premium, or additional return, that investors require for holding common stock instead of long-term bonds. Even though each of these methods is useful in that it is somewhat indicative of investors' required returns, the results between methodologies may vary substantially. Because some tests are stronger than others, though, careful consideration must be given to the validity of each before arriving at a final cost of equity estimate to the Company.

Q. How does the risk of the electric utility industry compare with the unregulated sector?

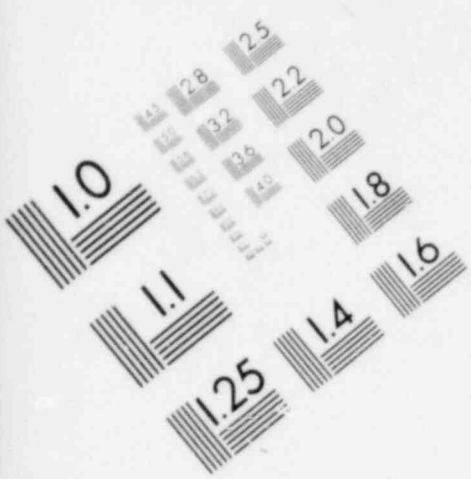
A. Electric utilities have traditionally been considered one of the least risky groups of stocks available. This is in large part due to the essential nature of electric service and the market protection afforded by regulation. Beginning in the early and mid-1970s, regulatory lag in some jurisdictions, consumer militancy, fuel problems, economic uncertainties, and the industry's need to raise substantial amounts of external capital for growth, conversion and pollution control caused electric utilities to lose some of their market favor. Even during this period, though, electrics were still considered relatively safe investments since most nonregulated companies were facing similar problems with the energy crisis, inflation, and rising capital costs. During 1977 and 1978, regulation generally improved nationwide, boiler fuel prices began to stabilize, and capital expenditures showed some promise of leveling out; hence, some of the historical stability returned to the industry.

Last year, though, saw the improving trend disrupted by numerous events and conditions. The mandatory shutdown of several nuclear stations before and after the Three Mile Island incident shocked the industry. Recurring oil shortages coupled with a looming recession has caused investor wariness in the economy as a whole. Continued environmental concerns, recent abnormal weather patterns, anti-nuclear demonstrations, and unparalleled inflation pushing up long-term interest rates to historical highs have also resulted in additional uncertainties, with the electric industry being particularly susceptible to the adverse financial consequences of these last items. Thus, the relative risk of the electric utility industry has been erratic of late and is currently deteriorating. The overall risk of the electric utility industry has undoubtedly increased somewhat from ten to fifteen years ago. While the last two years had shown a general decline in uncertainty, the events and circumstances through especially the last half of 1979 have rekindled investor

concern. Even in light of this, however, the industry is still typically viewed as being, by and large, no more risky than the unregulated sector and the market as a whole. As electricity becomes a more desirable source of energy to households and businesses because of its availability and reliability compared to direct consumption of fuels, the outlook for the industry, despite the near-term problems, still appears favorable with modest growth being projected for many years into the future.

Q. How do investors view Texas Utilities as compared with other electrics?

A. As everyone is well aware, the Texas Utilities Companies are the only electric utilities with long-term bonds rated Triple A by both major bond rating agencies. The low risk reflected by this rating is a function of many factors. The Company's fundamental business position is enhanced by its location in the Sunbelt and, in particular, in Texas. Its service area is diversified geographically and its revenue composition is reasonably well balanced across customer classes (43% residential, 29% commercial, 21% industrial, 7% other). Texas Utilities' fuel conversion effort and its long-term access to lignite deposits provide the System with relatively low cost, reliable fuel supplies, even though there is some uncertainty as to whether Texans will fully enjoy these resources due to the Texas Interconnect controversy over forced interstate power pooling. Texas Utilities' involvement in the Comanche Peak Nuclear Units is a source of some concern, especially in the wake of Three Mile Island; but even with both units on-line in 1983, nuclear power will comprise only slightly in excess of ten percent of the System's generating capacity and should not significantly affect its overall risk. Recently, the use of fuel oil as a boiler fuel has become an important negative factor in investor assessment of risk. However, only 1.4% of the total fuel requirements of the Company are supplied by fuel oil. As a large system, with assets of nearly $6 billion and significant generating capacity



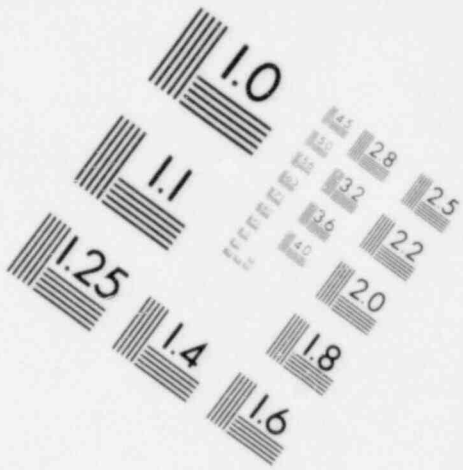
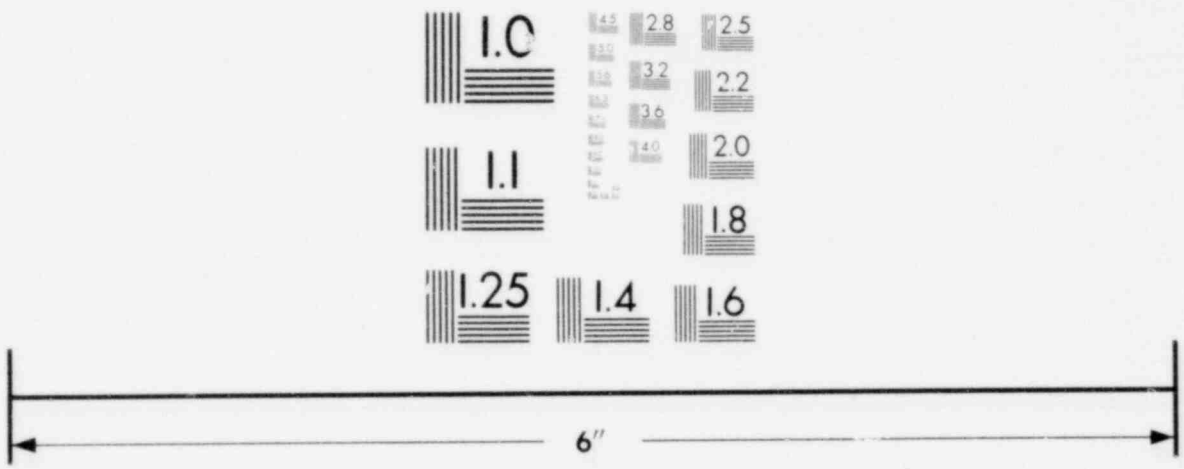
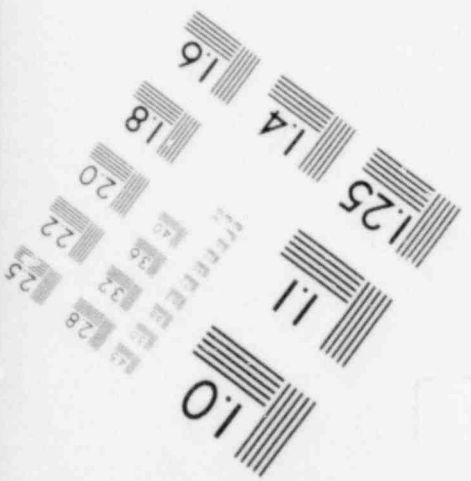
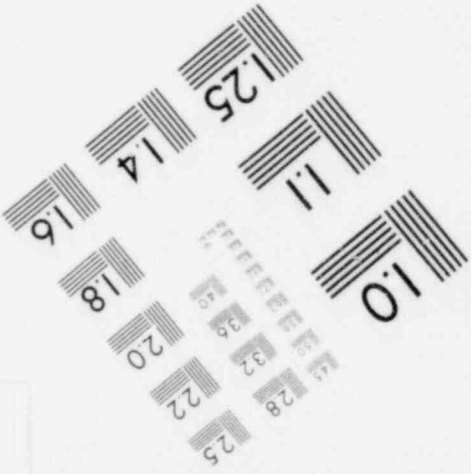
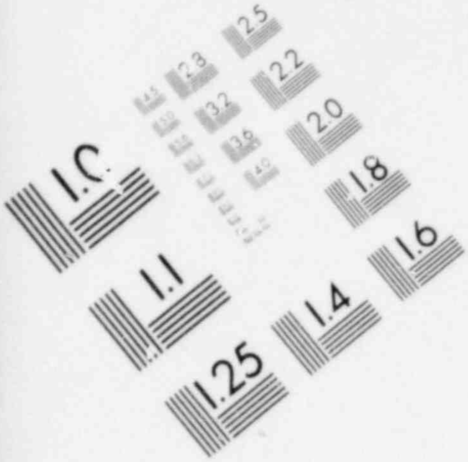


IMAGE EVALUATION TEST TARGET (MT-3)









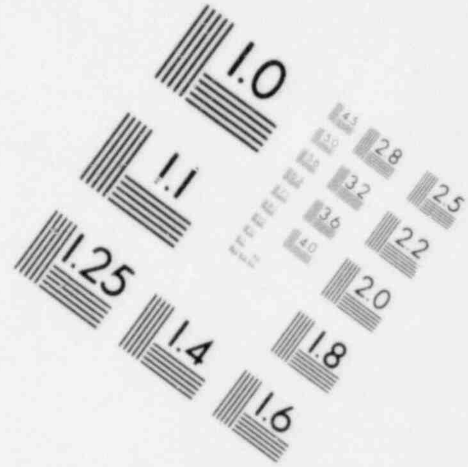
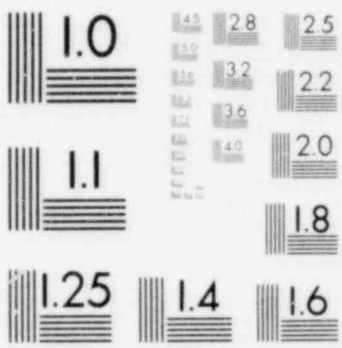
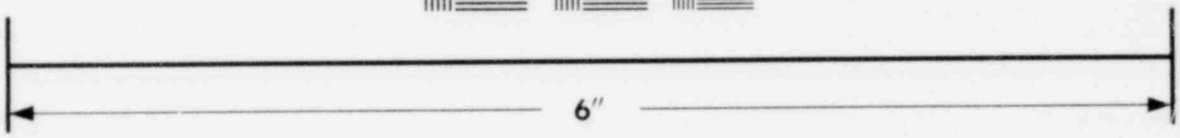
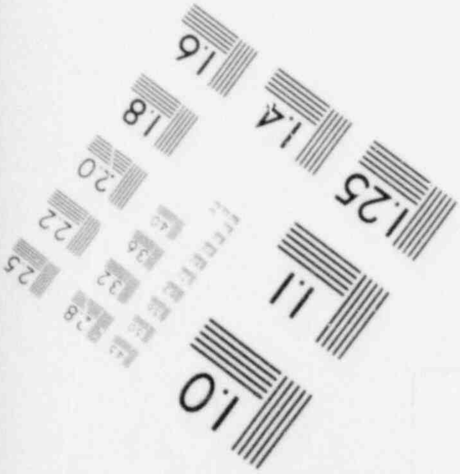
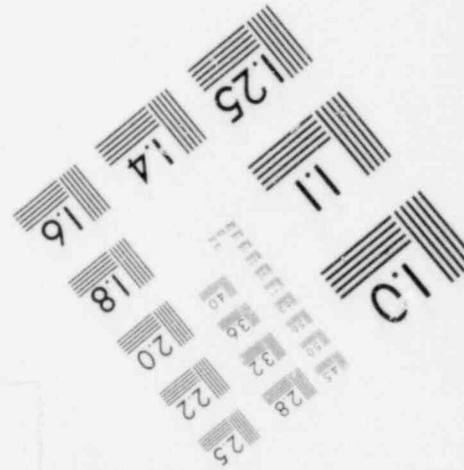


IMAGE EVALUATION TEST TARGET (MT-3)









reserve margins, the Company enjoys substantial financial flexibility. While the Company has recently undergone a massive construction program, planned capital expenditures in the near future will level off. Each of Texas Utilities' operating subsidiaries falls under the jurisdiction of the Texas Public Utility Commission, either directly or indirectly, which is generally considered by investors to be a responsible and fair regulatory body. The business-oriented political and social climate in the State also makes the Company's service area a desirable environment in which to operate. The capital structure and conservative accounting policies, such as normalized income tax treatment and pot-of-dollars approach to determining AFUDC, of the Company are generally viewed favorably by investors. Finally, the management of the Texas Utilities System has proven itself to be an efficient, progressive team quite capable of handling the affairs of the Company and generally well-respected by investors for their past accomplishments. Hence, even though some of the fundamental characteristics of the Texas Utilities System suggest that, in absolute terms, the Utility may have become more risky of late, the underlying causes tend to be almost entirely industry- and economy-wide factors common to all firms rather than company-specific changes. As a result, Texas Utilities' risk relative to other electric companies does not seem to have changed appreciably and the System still appears to be one of, if not the, least risky electric utilities in the country.

Q. What has been the recent experience in the capital markets for debt?

A. During the last year, the capital markets have undergone significant shifts with bond yields increasing and stock prices generally remaining unchanged despite increased earnings and book values. The exact causes behind this are

not clear but probably reflect a combination of forces including an anticipated recession, disillusionment with the current Administration, persistent inflation, oil shortages, and so on. This deterioration in the capital markets over the last 12 months and the impact on the electric utility industry can best be demonstrated with some selected financial indicators. Listed below are yields on public utility fixed income securities in February 1979 and February 1980 (from Moody's News Report):

	1979	1980	Difference
Aaa Bonds	9.53%	12.47%	2.94%
Aa Bonds	9.74%	12.90%	3.16%
A Bonds	9.81%	13.39%	3.58%
Baa Bonds	10.22%	14.12%	3.90%
aa Preferred Stock	9.03%	11.20%	2.17%
a Preferred Stock	9.52%	12.27%	2.75%
baa Preferred Stock	10.32%	13.09%	2.77%

As indicated, investors are requiring roughly 300 basis points more now than a year ago to induce them to purchase fixed income securities of comparable risk. The progressive steps in this unparalleled increase in yields is illustrated in Exhibit JWK-2. The exhibit shows that for the first seven months of 1979, the change in yields were not nearly as drastic as in the last five months. As yet, no amelioration in this trend of increasing required returns is evident.

Q. What has been the recent experience in the capital markets for equity?

A. The experience of electric utilities in the equity markets shows a similar pattern. Below are some average selected financial measures for the 100 largest electric utilities in 1978 and 1979 (from Salomon Brothers' Stock Research, February 1, 1979 and February 4, 1980; book values are for third

quarter of the previous year):

	1978	1979	Difference
Dividend Yield	9.33%	11.61%	2.28%
Price-Earnings Ratio	8.0X	6.7X	-1.3X
Market-to-Book Ratio	91.0%	77.0%	14.0%
Payout Ratio	75.0%	77.0%	2.0%
Return on Average Equity	11.8%	11.8%	0.0%

Since this time a year ago, dividend yields have risen 228 basis points while price-earnings ratios declined over 16 percent. Similarly, market prices have dropped from an average of 91 to 77 percent of book value. Probably most importantly, however, is that these declines in market prices have occurred during a period when payout ratios increased and realized return on equity remained constant. In all, these statistics present strong evidence that over the last 12 months, there has been a significant increase in the returns required by investors. This general upward shift in the capital market line has been illustrated in Exhibit JWK-2 to visually demonstrate the difference between the market returns demanded a year ago, and even six months ago, versus those required by investors today.

Q. How have the changes in the capital markets affected the Texas Utilities companies?

A. The general changes in economic and financial market conditions have had a similar impact on the Texas Utilities System. The operating companies' cost of borrowing has increased from slightly over 9.5 percent a year ago to approximately 13.0 percent today. The more serious impact of current conditions has been on the common equity of the System. For the first time in many years, Texas Utilities' common stock is consistently selling at below book value (approximately 75% of estimated 1979 book value) in the

marketplace. This indicates that the returns investors are expecting from Texas Utilities are no longer sufficient to make them willing to pay a price for a share of the Company's stock equal to or greater than book value.

Q. Does this mean that the returns on equity authorized in the past were inadequate?

A. Not at all, the returns allowed by the Commission in previous cases were appropriate given the economic and financial conditions at the time. This is evidenced by the fact that Texas Utilities' market price consistently sold at or above book value. Only of late have market conditions changed and investors' required returns increased to the point where the level of returns historically authorized are no longer adequate. The implications of this recent experience seem fairly clear. If this Commission intends to encourage a market price equal to or greater than book value so as to prevent dilution of present stockholder's investment, then the returns authorized on equity must be revised upward to reflect changes in capital market conditions and increases in the rates of return demanded by investors.

Q. What tests have you performed to identify the level of investors' required returns from Texas Utilities?

A. First of all, I have used the traditional discounted cash flow (DCF) model to estimate Texas Utilities' cost of equity. The DCF method of gauging investors' required returns is derived from the familiar Gordon dividend growth model. This theory of valuation postulates that the price of a share of common stock is equal to the present value of all its future dividends. These dividends are assumed to grow at a constant rate into infinity and are discounted by a rate that is the minimum return required by investors given the risk of the security:

$$P_o = \frac{D_o(1+g)^1}{(1+k)^1} + \frac{D_o(1+g)^2}{(1+k)^2} + \ldots + \frac{D_o(1+g)^\infty}{(1+k)^\infty}$$

This equation can be conveniently reduced to the more manageable form of:

$$P_o = \frac{D_1}{k-g}$$

and the company's cost of capital can be isolated by rearranging terms:

$$k = \frac{D_1}{P_o} + g$$

Essentially, the DCF model recognizes that the return to the stockholder consists of two parts: dividend yield and growth. Equity investors expect to receive a portion of their total required return in the form of current dividends and the remainder through price appreciation. The model is based upon two fundamental assumptions. Initially, it presumes that investors evaluate the risk and expected return of all securities in the capital markets. Secondly, given these expected returns, investors then adjust the price of each stock so that they are adequately compensated for the risks to which they are exposed. The use of the DCF model to estimate the cost of equity is essentially an attempt to replicate the market pricing mechanism described above. Since we can look to the market to determine what investors feel a share of Texas Utilities' common stock is worth, the rate of return required by investors can be imputed by approximating their expectations of future dividend growth.

Q. In your DCF analyses, what is the dividend yield of Texas Utilities Company?

A. When an investor purchases a share of stock, he is buying expected future dividends and price appreciation; he is not buying past dividends paid to someone else. Therefore, the dividend yield component of the DCF model should be computed by dividing the dividends expected to be received in the

coming year (D_1) by the current market price (P_o). Texas Utilities' dividends through 1979 totalled $1.64 per share; however, in light of the Company's long-standing policy of increasing dividends annually, I have used $1.76 per share in my calculations. This amount has been selected on the basis that investors anticipate Texas Utilities to raise dividends in 1980 in a manner consistent with 1978 and 1979, a $0.12 annual increase beginning in the first quarter, which will result in stockholders receiving a $0.44 dividend per share in each of the four quarters of 1980. The market price of the Company's stock has hovered between $15.50 and $19.50 over the last few months so a price of $17.50 has been used in this analysis. This recent average market price has been selected because the cost of equity is a current and forward-looking concept, and a recent market price is a better indication of investors' present requirements than would be a historical point estimate or a long-run average. Based on these values, the market presently expects a dividend yield of approximately 10.0 percent from Texas Utilities.

Q. Please describe the growth (g) component of the DCF model.

A. In using the DCF model to estimate a company's cost of equity, we are not concerned with the rate at which the firm will actually grow (that is primarily a function of this Commission's decision, management prowess, weather, economic conditions, and chance); rather, at issue is the growth expectations which investors have embodied in the current price of the stock. Furthermore, the DCF model technically maintains that investors are concerned with the expected increase in dividends into infinity; in other words, their emphasis is on average long-term growth rather than short-run growth. Consequently, in estimating the growth component of the DCF model, an attempt is made to determine what investors think long-term growth will be.

Q. How have you analyzed the growth expectations of Texas Utilities' investors?

A. Two approaches have been used to estimate the long-term growth that investors might expect from Texas Utilities. The first focuses on the Company's expected earnings retention ratio and earned returns on equity, and the second approach considers historical trends in growth. These methods taken together presumably examine, by and large, many of the same factors which investors evaluate when forming their long-term growth expectations and setting the price of a share of Texas Utilities' common stock.

Q. Please explain your first approach.

A. In general, a firm's internal growth results from the retention and reinvestment of earnings. In other words, any increase in a stockholder's interest in a utility company occurs primarily because some profits are retained by the firm and invested in additional assets upon which a return is earned. This being the case, investors would probably look to a company's retention ratio (1 - dividend payout ratio) and the expected returns to be earned on equity as an indication of what future growth is apt to be. Reviewing Texas Utilities' history (Exhibit JWK-3, page 1), the Company has consistently maintained a payout ratio in the 50 to 60 percent range (or a retention rate of 40 to 50 percent), with more recent experience towards the upper (lower) end of this range, as dividends have increased without corresponding improvements in earnings per share. The most recent three years between 1976 and 1978, however, have probably had a very significant effect on the formation of investor perceptions regarding Texas Utilities' prospects, as the investment community closely monitored the Company's performance under statewide regulation. During this period, Texas Utilities' retention rate has persistently declined each year to approximately 40 percent in 1978 and 36 percent for the test year. Meanwhile, the Company's realized return on equity during this

three-year period has ranged between 12.9 and 13.1 percent annually with a realized return of 12.0 percent for the test year. Complicating this further is the fact that Texas Utilities' stock is now selling at below book value, and investors recognize that any sales of additional equity to continue financing the System's construction program are apt to be dilutive and have a negative impact on future growth.

Considering these factors, investors are likely anticipating Texas Utilities' future retention ratio to be around the 36 to 38 percent level and, based upon recent past experience, expect the Company's earned return to be in the 12.75 to 13.25 percent range. This would imply that the market expects a prospective growth rate for Texas Utilities of something in the vicinity of 4.6 to 5.0 percent annually on an ongoing basis, probably with some downward adjustment for possible dilutive effects. There are, of course, an infinite number of growth rates that can be computed depending upon the combination of the retention ratio and return on equity used (Exhibit JWK-3, page 1), but growth rates around 4.7 percent seem most consistent with what investors would likely project based upon reasonable expectations of the Company's future retention ratio, earned return on equity, and dilutive effects.

Q. What is involved in your second approach for estimating investor expectations of Texas Utilities' future growth?

A. Besides looking directly to those factors resulting in growth, investors probably also form their expectations of future growth by analyzing historical experience and trends as a guide to the direction which the company is heading, especially for a relatively stable firm such as Texas Utilities. Three factors which would seem most indicative of Texas Utilities' future dividend potential would be growth in net book value, earnings per share, and dividends

per share. On page 2 of Exhibit JWK-3, the historical values for Texas Utilities' net book value (NBV), earnings per share (EPS), and dividends per share (DPS) are shown since the early 1960s. For each of these variables, annual compound growth rates for the three periods, 1974-1978, 1969-1978, and 1964-1978, have been computed and are listed on page 5 of the same exhibit. In addition, because compound growth rates are sensitive to beginning and ending values, I have also "smoothed" the NBV, EPS, and DPS values through linear regression models (pages 3 and 4 of Exhibit JWK-3). The annual compound growth rates using these normalized values for the same 5, 10, and 15 year periods are also shown in Exhibit JWK-3, page 5.

Q. What are the implications of these historical analyses?

A. As shown on page 5 of Exhibit JWK-3, NBV and EPS growth trends are declining over time (especially when smoothed values are observed), although there is an increasing trend in dividend growth. Recent trends (1978-1969 to 1978-1974) indicate that NBV and EPS are declining by -26.7% and -26.5% respectively while DPS is increasing 19%. Preliminary 1979 results suggest that this trend is continuing. While this rising dividend trend might suggest high market growth expectations, investors recognize that such increases cannot be sustained without corresponding growth in Texas Utilities' earnings per share and investment base (book value). In other words, the rising growth in dividends per share can largely be attributable to the Company increasing its payout ratio over the last few years; a practice which, of course, cannot be continued indefinitely. Since the increased dividend payout ratio results in less earnings being retained and reinvested, investors are likely anticipating that the Company's growth will continue to subside somewhat more in coming years. This is further reinforced by the performance experienced since 1976 when the System became subject to more centralized regulation. The general

decline in growth rates in the last two to three years relative to prior periods strongly suggests that Texas Utilities' heyday of high growth is past. Consequently, investors are beginning to view the Company as a potential income security instead of a growth stock.

Q. What does this analysis of historical trends suggest as to the long-term growth that investors are expecting from Texas Utilities?

A. The marked downward trend in recent earnings and net book value per share growth rates suggest that investors are not incorporating into Texas Utilities' stock price growth expectations corresponding to the growth rates experienced over the last 10 to 15 years. Texas Utilities is becoming perceived as a maturing electric utility having growth prospects more similar to those of the industry as a whole than it has had in the past, However, its location in Texas and the Sunbelt still results in growth at the high end of the industry average. Thus, considering the trends and implications of the historical numbers, the market's perception of the earnings level and consistency that will result from the more centralized regulatory process, and the Company's apparent transition from a growth to income security, my analysis leads me to believe that investors project Texas Utilities' future long-term growth to be less than that generally indicated by the Company's historical growth but something in the upper end of the 3.0 to 5.0 percent range expected for the industry. Somewhere in the 4.5 to 5.5 percent range seems to be a reasonable growth estimate for Texas Utilities from an analysis of historic NBV, EPS and DPS.

Q. Would you briefly recap your growth analyses and state your conclusions?

A. As discussed previously, the intent of these growth analyses has been to estimate the long-term growth expectations that investors have embodied in the current price of Texas Utilities' stock. I have attempted to do this by

replicating the thought processes of investors and how they might form their growth expectations for the Company. To do this, I have analyzed information which is presumably similar to that which the market would evaluate in assessing Texas Utilities' long-term growth prospects. Based upon these analyses and giving appropriate weight to the recent developments and experiences of the Company, I believe that investors expect Texas Utilities' future long-term growth to be in the 4.5 to 5.5 percent range with a more precise estimate being in the neighborhood of ~~4.75~~ 4.7 to 5.0 percent.

Q. Please summarize your analysis of Texas Utilities' cost of equity using the DCF approach.

A. The DCF model is a market oriented, forward-looking method of estimating a company's cost of equity which is based upon a reasonably sound theory of stock valuation. It is particularly applicable to a utility such as Texas Utilities where investors expect a large portion of their total return to be in the form of dividend yield. The advantages of the DCF model are that (1) it focuses solely on the firm in question, and (2) the company's relative risk is not of explicit concern since this is implicitly accounted for by investors when they set the stock price in the market. For Texas Utilities, my DCF analysis indicates that investors anticipate a dividend yield from the Company of approximately 10.0 percent and expect the Utility's future long-term growth to be in the 4.70 to 5.0 percent vicinity. Summing these two components of return, Texas Utilities' cost of equity appears to be in the range of 14.70 to 15.0 percent.

Q. In what other ways have you estimated Texas Utilities' cost of equity?

A. Another approach to estimate Texas Utilities' cost of equity is through a variation of the DCF model which uses investment analysts' forecasts of the Company's earnings as its basis. Taking the discounted cash flow formula presented earlier:

$$k = \frac{D_1}{P_o} + g$$

the dividend (D_1) and expected growth (g) components can be described as:

$$k = \frac{E_1 (1 - b)}{P_o} + (br + vs)$$

In this formulation, b represents the Company's expected earnings retention ratio, r is the expected realized return on book equity, and the vs term describes the dilution or accretion attributable to sales of new common stock at below or above book value (Exhibit JWK-4, page 1). What this equation says is that D_1 will be equal to expected earnings per share in the coming period (E_1) times the Company's payout ratio (1 - retention ratio) and growth will be equal to the rate of retaining earnings times the return earned on equity adjusted for the effects of issuing new equity at a market price different from book. Like the DCF method discussed previously, this approach is an expectations model; in other words, proper implementation requires that its parameters (except price) be estimated as investors would forecast them.

Q. Where have you obtained values for implementating this approach?

A. The sources of data for this model have been taken from Texas Utilities' Annual Report; TP&L's Rate-Filing Package; Salomon Brothers ~~Electric Utility Regulation, Quality, Earnings~~; ~~Value Line~~ and Standard and Poor's ~~Earnings Forecaster~~. This latter publication is a compilation of earnings projections made by various investment services, and while it does not include estimates from all analysts, the 51 firms contributing to the ~~Earnings Forecaster~~ represent a fairly broad cross-section of the investment community (Exhibit JWK-4, page 2). The investment advisory service forecasts contained in this service have been used as surrogates for investor

expectations of Texas Utilities' future earnings. As shown on page 2 of Exhibit JWK-4, those services projecting Texas Utilities' earnings are forecasting 1979 EPS of between $2.80 and $3.00, with an average estimate of $2.89. From Exhibit JWK-3, page 1 and the rate filing package, I have also obtained the following data for the last three years:

	~~1976~~	~~1977~~	~~1978~~	~~TY~~
b - Earnings Retention Ratio	42.4%	41.7%	40.2%	35.9%
(1-b) - Payout Ratio	57.6%	58.3%	59.8%	64.1%
r - Realized Return on Equity	13.0%	13.0%	13.0%	12.0%

Based on this recent financial information, it seems reasonable to assume that investors would project a 1980 earnings retention rate of approximately 39 percent, a payout ratio of 61 percent, and a return on equity in the neighborhood of 13.0 percent. Finally, investor expectations of the effects of additional common equity sales on future growth can be approximated from data contained in TP&L's Rate-Filing Package. As mentioned, the "vs" term in the equation reflects the increase (decrease) in expected growth attributable to selling new common stock at above (below) book value. To estimate the magnitude of this factor, some basic data is required. Texas Utilities has recently sold about 5,000,000 shares of new common each year (in 1976 it sold 10 million shares), typically incurring flotation costs slightly over $0.62 per share. As of the end of the test year, the Company's book value was $20.81 per share for the 86 million plus shares outstanding. Now, if Texas Utilities were to issue five million shares of new stock at the current market price of $17.50 per share, the Company would net about $16.88 per share. Since this is less than book value, the "s" term in the equation would be 81.1 percent. Furthermore, existing stockholders would forfeit some of their ownership and earnings participation in the Company to the new

shareholders. The "v" term in this case becomes -1.03 percent, and the product of these two values implies that existing owners' expected growth would be 0.84 percent less than it otherwise would have been. Put another way, the book value of the Company's stock would drop from $20.81 before the sale to $20.60 after, a decline in value of 1.03 percent. Thus, if investors anticipated five million new shares of common stock to be sold at current market prices to finance the Company's construction program, they would also expect a reduction in the expected growth rate on the order of 0.84 percent. Of course, if more shares were likely to be sold, the negative impact on growth would be even greater.

Q. What, then, does this test suggest as to the cost of equity for Texas Utilities?

A. In Exhibit JWK-4, page 1, the various computations discussed above are detailed. As shown there, combining investment analysts' forecasts of the Company's future earnings, reasonable estimates of an expected retention ratio and earned return on equity, and conservative external financing figures, this approach indicates that the cost of equity to Texas Utilities is approximately 14.3 percent.

Q. How else have you gone about estimating Texas Utilities' cost of equity?

A. The previous method measures a company's cost of equity indirectly; i.e., given various pieces of information about a company and current prices, investors' required returns are imputed. My second approach involves a direct query of investors as to the rate of return they require from a company or industry. In August 1979, the financial consulting firm of Mitchell, Hutchins, Inc. surveyed 68 institutional investors (with 105 responses) about their attitudes toward the electric utility industry. One of the questions included in the survey inquired as to the total return expected from an investment in the common stock of electric utility companies. A summary of the responses to this question have been reproduced in Exhibit JWK-5, page 1. As

illustrated, the majority of the respondents (85 percent) indicated that a return between 13 and 16 percent would be attractive from this group.

Q. Are there any caveats regarding the interpretation of this survey?

A. There are several points meriting mention with respect to this direct measure of investor's required returns. First, it should be noted that this survey is the most currently available and thus is the most recent information available from investors. Also, the survey was conducted after to the Three Mile Island incident and reflects the impact that this event had on the perceived risk of the industry. Secondly, however, the standard upon which these expected returns are based is a utility of Double A risk. Since Texas Utilities Company is rated Triple-A and is generally considered to be a less risky investment than the average Double A utility, the Company's cost of equity is likely to be at the bottom of this range, even after an adjustment is made for the change in Double-A yields from 9.5% to the higher yields of today. Finally, the results of this poll are subject to the limitations of any survey with respect to the truthfulness of responses, proper interpretation of the questions, sample size and representativeness, and so forth.

Q. Taking these factors into account, what does this survey imply as to Texas Utilities' cost of equity?

A. Adjusting the survey results for subsequent events, such as present inflation rates and the presently collapsing bond markets accounting for risk differentials, and recognizing the study methodology, this test indicates that Texas Utilities' cost of equity would fall in the 14.50 to 15.00 percent range.

Q. What other methodology have you used to estimate Texas Utilities' cost of equity?

A. Another approach for estimating the Company's cost of equity has been to examine the additional return that investors have demanded for holding Texas Utilities' common stock instead of its senior fixed securities. This bond

yield/risk premium analysis is intended to reflect the effect of interest rate changes on investors' required returns and is an offshoot of the idea discussed earlier that expected returns are comprised of some time value of money plus a risk premium.

Q. Please explain this method.

A. This test has involved computing the spread (or risk premium) between the yield on Moody's Aaa bonds and the return required on the equity invested in Texas Utilities for each year between 1974 and 1978. Since we do not know what the cost of equity to the Company in each of these periods was, investors' required returns at the various points in time must be estimated. Using Texas Utilities' realized returns as a proxy for the cost of equity would be inappropriate since this would only maintain the status quo of the Company and would be circular. Therefore, I have used a DCF model to estimate investor requirements which assumes that investors formed their growth expectations based solely on historical experience. A mechanical growth estimation technique has been employed that averages the compound growth rates for the 5, 10, and 15 year periods prior to the year under examination. The net effect of this averaging method is to emphasize the most recent past (the preceding five years are weighted 50 percent, the preceding ten years are weighted 33 percent, and the preceding 15 years are weighted 17 percent) under the assumption that investors place greater emphasis on more current growth rates. The resulting growth estimates have then been summed with the dividend yield to obtain a cost of equity estimate for each year. As shown in Exhibit JWK-6, page 1, using this approach to estimate the cost of equity indicates that the risk premium for Texas Utilities common stock between 1974 and 1978 has ranged, on average, from between 4.5 percent and 6.3 percent above the Aaa bond yield. If this

relationship is assumed to be relatively constant over time, then adding these risk premiums to the present Aaa bond yield of approximately 12.47 percent suggests that Texas Utilities' present cost of equity is between 17.0 and 18.8 percent.

Q. Do you have any reservations about this type of bond yield/risk premium methodology?

A. While this type of analysis has considerable appeal, difficulties implementing the concept require that the results be scrutinized carefully. Initially, the underlying assumptions that risk premiums are constant over time and independent of the level of interest rates may not be entirely correct. For example, the spreads between different quality bonds vary over time even though the risk differences between rating groups remain fairly constant. Presumably, the same phenomenon would be experienced between common stocks and bonds as economic conditions, interest rate levels, and investors' sensitivity to relative levels of risk change. Probably the most severe limitation of this approach, however, lies in estimating investors' required returns at different points back in time. Blindly accepting mechanically determined growth estimates may overlook some important items and changes that have occurred or which investors are expecting. For example, in Texas Utilities' case, the growth estimates suggest that investors' expectations have remained virtually unchanged over the five year study period, yet the rise in dividend yield from 6.3 to 8.1 percent (while interest rates only increased 20 basis points) would suggest that investors were anticipating Texas Utilities' transition from a growth stock to more of an income security. Because of this type of qualification, the results of this analysis must be interpreted judiciously.

Q. Have you performed any comparable earnings analyses?

A. Yes, as my last step in estimating Texas Utilities' cost of equity, the returns earned on book equity by other firms having purportedly corresponding risks have been evaluated. For this methodology to be useful in identifying investors' required returns, it must be assumed that other companies, on average, have earned their cost of equity on net book value - no more and no less. Furthermore, it must be established that the risks to the stockholders of the other companies selected for comparison are similar to the risks of owning Texas Utilities' common stock. It is not appropriate to compare Texas Utilities Company with all other stocks nor is it proper to classify the risks to stockholders by looking at the risks of holding bonds as indicated by bond ratings. Similarly, "risk" measures which are, in part, a function of the Companies' level of return on equity are inappropriate for use in identifying the cost of equity. For example, Standard and Poor's Earnings and Dividend Ranking for Common Stocks and Value Line's Rank for Safety are both largely arrived at by evaluating financial criteria which are related to realized returns on equity. Thus, those firms that have historically earned high returns on equity are deemed less risky while those companies that have earned a lower return on book equity are considered having higher risk. I have measured the risk to the investor of purchasing common stock in two ways: by the companies' Beta and by the companies' Value Line Price Stability Index (formerly the Value Line Safety Rank).

Q. Please explain these measures of risk.

A. For the widely diversified investor, Beta seems a more practical measure of investment safety or risk. Beta measures the sensitivity of the stock's price to fluctuations in the general market. A stock with a high Beta is riskier because its price tends to fluctuate more vis a vis the stock market as a whole than does a stock with a low Beta. The Value Line Price Stability Index is based on the total volatility of a stock's price. In other words, the Price

Stability Index is a measure of total risk, not only that growing out of the stock's sensitivity to fluctuations in the general market, but also that due to its inherent volatility. This includes not only the systematic risk, or the volatility attributable to general market movements, but also the nonsystematic risk, or those price fluctuations unique to that company and its industry. This measure of risk seems particularly well-suited to the investor who owns just a few stocks.

Q. Why have you used Beta and the Value Line Price Stability Index as your measures of risk?

A. Beta and the Value Line Price Stability Index appear to be appropriate measures of the risk of owning common stock for the large and small investor, respectively. First, both Beta and the Value Line Price Stability Index avoid having to speculate as to how investors perceive changes in a company's operating and financial characteristics. Rather than making conjectures as to what specific factors (such as capital structure, market conditions, supply availability, etc.) investors might view as affecting a company's prospects, they directly observe the investors' evaluation of these items as reflected in stock prices. Then, by measuring the investors' responses, not only are all of the factors considered, but their relative importance to the shareholder is considered. The second advantage with using these risk measures is that both focus on what constitutes risk to the investor, i.e., the volatility of his common stock holdings and the changes in their value. For these reasons, Beta and the Value Line Price Stability Index would seem to be the most objective measures of the risk to investors of owning a company's common stock.

Q. How have you used Beta in your comparable earnings?

A. The Beta comparable earnings analysis involves an evaluation of the returns realized on average book equity between 1964 and 1978 by those companies included in Standard and Poor's 500 Composite Index. The returns earned on

average equity by each of the 500 firms in the study over the 5, 10, and 15 year periods between 1964 and 1978 have been computed and combined according to the companies' Value Line Beta. Because Beta tends to be a somewhat unstable risk measure, the firms have been grouped using a range of Beta values to account for any nonstationarity of the risk measure. Furthermore, the long-term tendency of Betas to regress toward the mean has already been compensated for by Value Line through an adjustment to each company's actual Beta; thus, Texas Utilities' reported Beta of .85 reflects an adjustment to the Company's actual Beta of approximately .75. As shown in Exhibit JWK-7, page 1, firms with adjusted Betas of .80 to .90 earned an average of 14.0 percent during the most recent five-year period 1974 to 1977, 13.7 percent between 1969 and 1978 and 13.8 percent over the 15 year period 1964 to 1978. Excluding utilities these averages are slightly changed to 14.0 percent, 13.6 percent, and 13.8 percent, respectively.

Q. What are the results of the Price Stability test?

A. Value Line has assigned a Price Stability Index of 95 to Texas Utilities -the Index ranges from 100 (least risky) to five (most risky). Using identical computational methods and similar grouping procedures as in the Beta analysis, the results of this study are presented in Exhibit JWK-7, page 2. As illustrated, firms with Price Stability Indices comparable to Texas Utilities' realized a 14.2 percent on average book equity between 1974 and 1978, 14.7 percent between 1969 and 1978, and 13.6 percent during the 1964 to 1978 period. After excluding utilities, the averages became 14.9%, 15.6%, and 13.2% for the respective time periods.

Q. Would you briefly summarize your interpretation of these analysis?

A. While there are useful insights from these comparable earnings analyses, one must be careful accepting them as being truly representative of the sample

firms' costs of equity. First, the basic assumption upon which they are founded; i.e., that on average companies realize their cost of equity on book value, must be seriously questioned. While in the theory of competitive markets this assumption holds; few, if any, companies in the U.S. economy operate in truly competitive markets. Firms that enjoy marketing, monopolistic, or patent advantages, such as most drug companies, some chemical companies, IBM, Coca-Cola, and so on, are likely to have realized returns on book equity in excess of those required by investors at the market level. Meanwhile, other firms such as railroads, some electric utilities, etc. have undoubtedly earned less than their cost of equity on book values. Presuming that those earning more and those realizing less offset each other exactly is tenuous at best and the results of these tests must be interpreted accordingly. In addition, it is disappointing to note that there is little relationship between bond yields and the returns realized over the 15-year period 1963 to 1977 (Exhibit JWK-7, page 3). If returns on book equity were truly reflective of the cost of equity, one might expect to find a much higher correlation between the required return from bonds and the realized book returns. Moreover, relying on returns that have been earned in the past under varied financial and economic conditions fails to recognize the current nature and market orientation of investors' required rates of return. Finally, it is disturbing that there is not a distinct positive trade-off between the risk measured by either the Price Stability Index or Beta and earned equity returns. Whether these measures are inadequate descriptions of risk or whether realized returns bear little resemblance to the cost of equity is not clear; regardless, the validity of this, as with any comparable earnings test, must be questioned.

Q. What has been the major thrust of this portion of your testimony?

A. In this section, I have tried to identify the cost of a resource - equity capital to Texas Utilities Company - as the basis for making a recommendation as to a fair return on the equity invested in Texas Power and Light Company. Probably the most important conclusion to come out of my study has been that the cost of money to the Texas Utilities System, both debt and equity, has recently increased appreciably. This increase is largely due to the fact that the capital markets have undergone significant changes over the last 12 months and, unfortunately, Texas Utilities has not been immune. Not only are interest rates higher now than a year ago, but also the risks of the electric utility industry have increased, especially in the wake of Three Mile Island and the recurring oil shortage. These industry-specific and other economy-wide factors have caused Texas Utilities' common stock to now sell consistently below its book value. In light of this analysis, it seems clear that the equity return authorized in the past for the Texas Utilities companies is no longer adequate, and current economic conditions dictate that it be revised accordingly.

Q. From your analysis, what do you feel the cost of equity is for Texas Utilities?

A. Despite the events discussed above, I continue to believe that the electric utility industry is generally no more risky than the nonregulated sector as a whole, and that within the industry, Texas Utilities Company is one of the least risky electric utilities in the country. Thus, the return required by investors from the Company is still less than that demanded from most other utilities in the industry and other firms in general. I have conducted various tests to locate the minimum return required by the Company's investors (Exhibit JWK-8), and while each of these were useful, the resulting cost of equity estimates vary in magnitude and credibility (the first three being the

stronger set). Consequently, my final conclusion, as that of every analyst, is one largely based upon judgement, giving consideration to the relative strengths and weaknesses of the different methodologies, but I feel that the evidence is clear that Texas Utilities' cost of equity is currently in the range of 14.25 to 14.75 percent.

III. MARKET-TO-BOOK ADJUSTMENT

Q. What is the purpose of this portion of your testimony?

A. As discussed earlier, the cost of equity provides a basis for determining a fair return to equity. Other considerations, however, might warrant an adjustment to this minimum rent for the use of capital in an effort to achieve other objectives deemed to be in the public interest.

Q. Please provide an example of such an adjustment.

A. It is generally preferable for the market price of a utility's stock to sell above its book value so that the existing stockholders' equity in the company is not reduced on a per share basis in the event that additional common stock is sold. The importance of this is that a firm can only sell new stock at below book value for so long before it becomes nearly impossible to resume a growing earnings trend or before existing stockholders take action to block further dilutive sales of stock. Therefore, especially during periods of heavy construction expenditures and external equity financing, it seems desirable to improve the probability that the utility will not have to dilute existing stockholders' equity as the utility continues to meet its service obligations to its customers.

Q. Briefly explain the relationship between market price and book value.

A. The cost of equity is a market-oriented concept. Thus, if a market determined cost of equity is applied to an investment base valued at original cost, the market price of the utility's common stock will be driven towards book value (up if the existing market-to-book ratio is less than one and down if it is greater than unity). The reason for this is that if a company is authorized a level of earnings on book value that investors had expected on market value, they will adjust the equilibrium price so that the expected rate of return on market investment remains the same. Since regulatory

authorities are constrained to allowing a return on booked values rather than market values, if an equal market-to-book relationship is to be avoided, the cost of equity needs to be adjusted.

Q. What can cause the market price to book value ratio to fall below unity?

A. A variety of factors can result in the market price falling to below book value. Other things being equal, allowing a return less than the cost of equity will cause a market-to-book ratio of less than one. Similarly, if investors' required returns increase after rates have been set at the cost of equity, the market-to-book relationship will become less than equal. Theoretically, issuance and flotation costs incurred in connection with a new issue of common stock have a depressing effect on price. Finally, purported market pressure associated with the sale of additional equity could cause the market price to fall below book value.

Q. Please discuss the effects of flotation costs.

A. When a company sells new equity, flotation costs are incurred as a result of fees paid to investment bankers to handle the underwriting and distribution functions and other related issuance expenses. These costs reduce the net proceeds realized by the company from the additional securities. Typically, flotation and issuance costs amount to between three and five percent of the new issue, but the "dilutive effect" is infinitely smaller than these percentages would indicate. The reason for this is that the flotation costs are borne by all of the issuing company's stockholders; therefore, the dilution of existing equity is equal to the flotation costs divided by all shares outstanding. Exhibit JWK-9, page 1 shows these computations for three of Texas Utilities' latest stock offerings. As indicated, the dilution effect attributable to flotation costs has averaged about negative 0.08 percent. That is, investors that bought stock from those issues increased the NBV per share for all stockholders by as much as $0.06 per share. For TU, this

contribution resulted in only a 0.33 per-cent increase in the NBV per share. Of course, this negative dilution is possible only if the market-to-book is greater than 1.0 a condition that no longer exists. For all of the issues, the effects of all issuance expenses on NBV, are less th n 1.0 percent and certainly not very significant.

Q. Please explain the market pressure argument.

A. Market pressure is the purported drop in price that occurs when new issues are placed in the market because of the sudden excess supply of a particular security. If this market pressure exists, the effect would be to push the market price below book value and the sale of additional shares would have a dilutive impact similar to that described previously. An extensive study (M. Scholes, "The Market for Securities: Substitution Versus Price Pressure and the Effects of Information of Share Prices," Journal of Business, April 1972) has indicated that any market pressure associated with the issuance of additional common stock is negligible, and that the security markets are capable of absorbing new securities without abnormal price responses.

Q. Since flotation costs and market pressure appear to be insignificant factors in diluting existing common equity, what reason is there for adjusting the cost of equity?

A. As mentioned, a market-to-book ratio less than one can be brought about by an increase in the cost of equity over time; or alternatively, by fluctuations in Texas Utilities' stock price attributable to changing interest rates and market movements in general. In order to reduce the likelihood (in light of Texas Utilities' recent experience, obviously not eliminate the possibility) of the Company having to issue new stock at below book value, a cushion to partially absorb market fluctuations seems appropriate. This essentially gives

Texas Utilities something better than an even chance to sell additional equity without diluting existing shareholders' interests a fair exchange since the Company is expected to continuously meet its service obligations to consumers.

Q. What is an appropriate market-to-book ratio?

A. While selecting any target market-to-book ratio is arbitrary, a ten percent cushion for a company such as Texas Utilities seems adequate. This means that the Company's market price must drop approximately ten percent before Texas Utilities is in a potential dilutive situation. Equally important, because Texas Utilities' actual Beta - the responsiveness of its stock price to changes in the market as a whole - is approximately .75 on average it would take over a 12 percent decline in general market levels to cause the Company's market price to fall below book. Considering the Texas Utilities System's financial strength, a ten percent market-to-book adjustment seems to be a sufficient cushion to provide additional financing flexibility and largely protect existing shareholders against possible dilutive effects resulting from new issues of common stock.

Q. How do you compute the amount of the adjustment necessary to achieve a target market-to-book ratio?

A. As explained earlier, if a market determined cost of equity is applied to accounting numbers, then price will be forced to book value. Assuming that the DCF model of valuation explained in the previous section is a fair description of the pricing mechanism for Texas Utilities' stock, then allowing the Company only its cost of equity, k, will result in market price (P) equalling book value (B):

$$P = B = \frac{D_1}{k - g}$$

If market price is to be equal to some target multiple of book value (M/B), then the price of the stock can be expressed as:

$$P = B\,(M/B) = \frac{D_1}{k^* - g}\,(M/B)$$

Solving for k*, the return necessary to encourage a target market-to-book ratio, results in the following (details of this computation are shown on page 4 of Exhibit JWK-9):

$$k^* = \frac{D_1}{P}\,(M/B) + g$$

Therefore, the adjustment to the cost of equity required to encourage a target market-to-book ratio is equal to the company's dividend yield times the desired cushion.

Q. What adjustment, then, would be required to achieve a market-to-book ratio of 1.1?

A. Since the Company's dividend yield is currently expected to be about 10.0 percent, if it were deemed appropriate for Texas Utilities' market price to sell 10 percent above book value, increasing the cost of equity by 100 basis points should be sufficient to encourage a market-to-book ratio of approximately 1.1. The resulting recommended return on equity for TU is 15.25 to 15.75 percent.

IV. RETURN TO EQUITY OF TEXAS POWER AND LIGHT

Q. You have indicated that the cost of equity to the Teas Utilities System is in the 14.25 to 14.75 percent range. How does this range relate to Texas Power and Light Company's cost of equity?

A. So far, my analysis has only focused on identifying the average cost of equity capital to the Texas Utilities System given the consolidated company's composite risk. It is important to recognize, however, that the total risk of Texas Utilities is comprised of the individual risks of the various parts of the System. In other words, when investors evaluate the risk of investing in Texas Utilities' stock, they look at the various components and activities included in the total holding company portfolio. After evaluating the level of risk attributable to each part of the System and weighing its relative proportion, an assessment of Texas Utilities' overall risk is made.

Q. Would you please elaborate on this?

A. The Texas Utilities System is essentially made up of eight parts: the three operating companies, Texas Electric Service Company, Dallas Power and Light Company, and Texas Power and Light Company; the three service companies, Texas Utilities Generating Company, Texas Utilities Service Inc., and Texas Utilities Fuel Company; and the two unregulated subsidiaries, Chaco Energy Company and Basic Resources, Inc. Many of the functions of these entities are similar and related, but each has different operating and financial characteristics and, consequently, varying levels of risk. For example, the risks of Chaco and Basic, which are involved in the development, acquisition, production, and delivery of fuels and alternative energy sources, are significantly greater than those of TUGCO, whose primary function is as an agent in the operation of jointly-owned generating stations. In the same vein, the three operating companies, DP&L, TESCO, and TP&L,

each have different risks although not as extreme as those between Chaco/Basic and TUGCO. Nevertheless, the total risk of the Texas Utilities System, which has been examined previously in the determination of an overall cost of equity, is a combination of the individual risks of these various components.

Q. How does this affect the cost of equity assigned to each component?

A. To the extent that the various parts of the Texas Utilities System have varying levels of risk, the cost of equity capital assigned to each component should be adjusted upward or downward from the System average according to the risk that it contributes to the holding company in total. This is consistent with the principle of identifying the costs of a resource, in this case, equity funds, used in providing service and allocating these correctly. The issue is not one of fairness to Texas Utilities but rather, one of equity among consumers. Ratepayers should be responsible for the costs incurred in serving them and should not subsidize or be subsidized by customers in other service areas or other parts of the System. Considering the amount of capital invested to serve each customer, this is a nontrivial matter.

Q. How do the relative risks of the various Texas Utilities subsidiaries compare?

A. TUGCO and TUFCO are nominally wholly debt-financed, and because TUSI is a service group, the equity investment in it verges on being inconsequential. Moreover, at the present time, Chaco and Basic comprise only a relatively insignificant portion of the System's assets. Therefore, the real issue centers on the relative risks of the three operating companies, DP&L, TESCO, and TP&L. I am of the opinion that while the three operating subsidiaries' risks are somewhat similar, they are not identical. However, the differences are not of a sufficient magnitude to warrant assigning different costs of equity to each company at this time.

Q. How did you arrive at this conclusion?

A. I have examined each of the three companies' operating traits, financial position, earnings history, service areas and customer mixes, construction programs, and so on to evaluate the subsidiaries' relative risks. Since the companies share many common characteristics through their ties to Texas Utilities, all three operate in essentially the same regulatory environment, and there are no overriding factors which create significant distinctions between the companies; I can find no reason to assign a cost of equity to any operating company.

Q. What, then, is your recommendation as to a fair return on the equity capital invested in Texas Power and Light Company?

A. Considering the fairly equal risk of TP&L to the entire Texas Utilities System, I believe that the Company's cost of equity is in the same range of 14.25 to 14.75 percent cost of equity range estimated for the Texas Utilities System as a whole. In light of the continuing construction program facing TP&L and the corresponding need to raise external equity through the Parent to finance these expenditures, I feel that an adjustment to encourage a market-to-book ratio greater than one is warranted. Because of the financial strength of TP&L and the flexibility afforded by its association with Texas Utilities, adjusting the cost of equity to encourage a market-to-book ratio of 110 percent should help provide protection against potential dilutive sales of new common stock. Consequently, combining a 100 basis point market-to-book adjustment with the mid-range of my estimate of Texas Utilities' cost of equity, I would recommend that a return of approximately 15.50 percent be authorized on the equity capital invested in Texas Power and Light Company.

V. COMPOSITE RATE OF RETURN

Q. Have you examined the test year capital structure proposed by TP&L?

A. Yes, I have. The Company has proposed a capital structure composed essentially of 46.7 percent long-term debt, 12.3 percent preferred stock, and 41.0 percent common equity. This compares to a September 30, 1979 capitalization for Texas Utilities of 48.3 percent debt, 11.7 percent preferred stock, and 39.6 percent common equity. Thus, at the end of the test year, TP&L was strong in equity compared to the entire System, to TP&L's recent past (Exhibit JWK-10, page 1 of 2), and to the 100 electric utilities shown in Exhibit JWK-10, page 2 of 2.

Q. Has the Company proposed any adjustments to its test year capital structure?

A. Yes, it has. First of all, the company has included the sale of $50 million of pollution control bonds which were sold through the Brazos River Authority. Second, the Company has also included $50 million for the sale of stock to Texas Utilities. Even though these sales occur outside of the test year, the funds have already been received by the Company. Therefore, I have considered these adjustments to properly be classified as known and measurable changes and have included them in the final recommended capital structure.

Q. Have any other adjustments been made in the capital structure?

A. The Company has also made an adjustment in all sources of capital for the exclusion of 82.569% of Sandow Unit #4. Since this portion of the plant is dedicated solely to one industrial customer, and the capital costs are recovered from this customer, this treatment also seems quite proper and I have included this adjustment in my capital structure.

Q. Have you made any adjustments to the proposed capital structure?

A. Yes, I have also seperated the short-term debt outstanding at the end of the test year in the amount of $1,879,553 from the long-term debt component and included the shortterm debt as a seperate item.

Q. How have you approached the problem of assigning a return on TP&L's accumulated deferred investment tax credits?

A. In assigning a return to the cost-free funds, I have followed the past practices of the Commission and the ruling of the Internal Revenue Service. The return for TP&L's accumulated deferred tax credits has been set at the composite cost of capital.

Q. Would you please summarize your recommended overall rate of return to Texas Power and Light Company?

A. As shown in Exhibit JWK-12, I recommend that the overall rate of return to be applied to the original cost of TP&L's invested capital be 10.91 percent. This represents a return of 9.04 percent on the adjusted value of TP&L's invested capital.

VI. FINANCIAL INTEGRITY AND ADEQUACY

Q. Please explain the purpose of this section.

A. This section will examine various criteria which investors consider when evaluating a company's overall financial strength and position. The purpose of this discussion is to provide an indication of the levels of alternative adequacy measures necessary for a company to realize so as to maintain its financial integrity and investor appeal. Through this process, I have established some general guidelines applicable to the test year for Ms. Blumenthal's use in making a determination as to the amount of construction work in progress (CWIP) to include in TP&L's rate base. Finally, the Staff's recommendation will be analyzed in an effort to ensure that TP&L's financial integrity can be maintained on a prospective basis.

Q. What types of things are usually evaluated by investors when they analyze the financial strength and position of a company?

A. A variety of factors are considered by investors - some quantifiable and others more judgemental - when they assess the financial position and prospects of a particular utility. While equity investors are typically more concerned with some indicators and creditors more interested in others, all measures of adequacy are of some concern to both categories of investors since they are reflective of the general health of the company. As mentioned, many of the things that investors evaluate are nonquantifiable, such as management quality, regulatory climate, social and political environments, fuel supplies, etc., but there are a number of factors that can be reduced to numbers or ratios and are often quoted as being indicative of financial integrity or the lack of it. These typically include such ratios as the percent of common earnings attributable to allowance for funds used during construction (AFUDC), cash flow coverage of dividends, pre-tax interest

coverage ratios (including and excluding AFUDC), and the percent of cash needs generated internally. Other measures of quality typically include the market-to-book ratio, capitalization ratios, return on equity, etc., which have been discussed elsewhere in this testimony and will not be dwelled upon again.

Q. What financial indicators do equity investors usually look at?

A. Besides the level of earnings as reflected in the return on equity, equity investors also focus heavily on the quality of a utility's earnings. In other words, investors are concerned not only with the magnitude of reported earnings but also with whether these profits are backed-up with adequate cash flow to pay current dividends and finance a part of the company's expansion needs. If a company's earnings are considered of poor quality (i.e., a significant portion is noncash, current expenses are deferred, depreciation rates are low, the relationship between actual and reported taxes is high, etc.), future returns are perceived to be less certain and the company to be riskier; consequently, investors demand a higher rate of return and are more wary of purchasing shares. Those measures typically considered as being most reflective of a company's quality of earnings and its relative safety of dividends are internal cash generation as a percent of total cash needs, cash coverage of dividends, and AFUDC as a percent of income available for common.

Q. What are typical levels of internal cash generation and dividend coverage?

A. Exhibit JWK-12, page 1, shows the level of internal cash generation for 100 electric utilities projected for 1980 through 1982 as well as those companies' dividend coverages for 1977, 1978 and the first half of 1979. While the internal cash generation percentages will obviously vary widely among these utilities depending, in part, upon the size of each utility's construction budget relative to its existing capitalization and also its level and quality of

earnings, the industry mean is projected to be in the vicinity of 49 percent. The median of the cash coverage of dividends for the 100 utilities was approximately 2.8 times. This ratio is heavily influenced by the company's payout ratio and capital structure which cause the coverages to vary considerably.

Q. Please explain allowance for funds used during construction.

A. The practice of capitalizing interest - charging an allowance for funds used during construction to plant and crediting income for an equal amount - results in a unique situation for public utility companies. The AFUDC credit does not give rise to present cash flows but, rather, a claim to future revenues. Consequently, many investors consider AFUDC earnings to be somewhat inferior to income from operating revenues. The certainty of the investor receiving these earnings is somewhat diminished since they cannot be used to pay current dividends. While the exact extent to which common stockholders are concerned with the level of AFUDC in earnings is uncertain, the percentage of net income attributable to the noncash AFUDC can definitely become excessive. An additional element of risk is thereby introduced which will ultimately affect the company's cost of equity and may ultimately interfere with future sales of additional equity. In Exhibit JWK-10, the percentage of net income attributable to AFUDC for 100 electric utility companies during the first half of 1979 has been reproduced. Again, it is apparent that the ratio of noncash to total earnings varies significantly within this sample, but the median level is 37 percent. During major construction phases, a larger percentage of AFUDC to earnings tends to be acceptable since investors are aware that this is largely a temporary situation. That is, as construction tapers off so that expenditures level out in relation to capitalization and regulatory proceedings recognize plants coming

in-line, these postponed AFUDC earnings will be realized as cash. The acceptable limiting percent of AFUDC to net income can vary from company to company depending upon other quality indicators, the overall strength of the utility in question, payout ratios, etc. before the utility's health is adversely affected. If the percentage begins to become too large, though, I believe that investors can become quite skeptical of the financial integrity of the company, especially if the company maintains a high dividend payout ratio. At this point, the utility's financial health begins to be questioned and, if the AFUDC level is not corrected, its financial integrity can become seriously jeopardized to the detriment of not only the investors but also the customers in the long run.

Q. What do bondholders consider when analyzing a company?

A. Fixed income investors, like stockholders, consider many factors when evaluating the quality of a company's debt. However, the most visible and quantifiable measures that are typically cited as being indicative of creditworthiness are interest coverage ratios, or the margin of earnings (and associated taxes) in excess of what is needed to meet interest payments. The most frequently analyzed credit indicator is the pre-tax interest coverage ratio. The columns labeled (A) in Exhibit JWK-13, illustrate this coverage ratio for most of the electric utilities in the country classified by bond ratings. As shown, the pre-tax coverages realized in the recent past have varied substantially within a rating class. A second measure of creditworthiness that has gained increased acceptance and importance is the pre-tax coverage ratio excluding AFUDC. Since the allowance for funds used during construction does not represent cash available to meet interest charges, this measure provides a better indication of the actual cash protection afforded bondholders. Exhibit JWK-13 also contains coverage

ratios computed in this manner under the column heading (B). Again, there is substantial variabili among companies within rating categories.

Q. Would you please summarize this discussion?

A. Investors co many factors when evaluating the financial strength of a firm, many of which are nonquantifiable. For example, TP&L's policy of accounting for deferred taxes and investment tax credits on a normalized basis contributes to the quality of the Company's earnings as does its relatively thick equity ratio. Moreover, the quality of management, the regulatory climate, and the economic-social-political environment within which TP&L operates favorably affect investors' assessment of the financial health of the Company. Similarly, while TP&L's general level of return on equity may need improving somewhat and even in spite of its Parent's recently deteriorating market-to-book ratio (Exhibit JWK-13), the Company still compares favorably with the industry and is viewed positively by investors. Besides these considerations, there are a variety of other ratios which are useful in analyzing TP&L's financial stature from both stockholders' and creditors' standpoints. This section has attempted to identify the most important of these which, in turn, provide a means by which the adequacy of the Staff's recommendation can be compared so as to ensure the maintenance of TP&L's financial integrity.

Q. What is the financial outlook for Texas Power and Light Company?

A. TP&L's financial prospects appear to be improving. The massive construction phase to convert to alternate fuels is largely behind the Company with annual capital expenditures projected for 1980 and 1981 being less than those experienced in the 1978 to 1979 period. Moreover, TP&L's need to raise external funds should become more manageable in the near term due to the scaling down of construction. Probably most important is that the Comanche

Peak Unit No. 1 is less than two years away from coming on-line in Fall 1981. Because of the substantial investment in this generating station, I would expect the Company to return to the Commission for rate relief to include the nuclear unit in the rate base in the coming 18 to 21 months. Consequently, the rates authorized in this proceeding will, in all likelihood, only need to be sufficient for that period of time. Furthermore, during this 18 to 21 month interval, no other extraordinary events are anticipated which merit special consideration.

Q. Ms. Blumenthal has requested that you provide her with some guidelines upon which to base her construction work in progress (CWIP) decision. What have you provided her?

A. In response to Ms. Blumenthal's request, I suggested that she consider those financial integrity factors most critically affected by the CWIP inclusion-exclusion decision: pre-tax interest coverage excluding AFUDC, AFUDC as a percent of income available to common, and internal cash generation. In arriving at the guidelines to be used with test year data, I took into account TP&L's expected growth in sales, the magnitude of its construction program relative to the Company's size, and other factors. Considering the target levels to be realized prospectively, I judgementally factored these back to test year levels. Based upon Texas Power and Light Company's present circumstances, I suggested the following test year parameters as guides to Ms. Blumenthal for determining a level of CWIP:

a) AFUDC should be no more than 20 percent of income available to common.

b) Pre-tax interest coverage, excluding AFUDC and including affiliate interest, should be in the range of 3.75 to 4.25 times.

c) Internally generated cash should be no less than 40 percent and no more than 60 percent.

Q. Are the test year guidelines that you have provided to Ms. Blumenthal applicable to all companies?

A. Definitely not, financial integrity is a prospective concept unique to each company taking into account its outlook and future needs. The test year guidelines that I have suggested for TP&L are company-specific and consider that particular utility's current financial and operating characteristics and trends. Because of differences in service areas, load requirements, construction plans, customer mix, etc., this set of guidelines is not appropriate for even all of the Texas Utilities Companies or much less for all electric utilities. In addition, I should stress that these guidelines are merely rules-of-thumb; The final determination of the recommended level of CWIP is based on a judgemental analysis of prospective ratios.

Q. Based upon these guidelines, Ms. Blumenthal has included 40 percent of TP&L's CWIP in the Company's rate base. Do you feel that this level is adequate to maintain the Company's financial integrity over the expected life of the rates?

A. Yes, I do. While I recognize that the test year indicators will deteriorate going forward, there seems to be an adequate cushion built into the Staff's recommended rates to account for this. The modest growth in revenues expected over the next year should be sufficient to offset any increases in operation and maintenance expenses. In fact, assuming all other costs of service remain constant, a twelve percent increase in expenses can be offset by a 3.2 percent increase in base rate revenues and still produce the same dollars of return. Internal cash generation should be more than ample over the next 18 to 21 months. Finally, taking into account the construction programs for 1979, 1980, and 1981, the level of AFUDC to net income does not appear to become so excessive so as to jeopardize the Company's financial health prior to the filing for additional rate relief. This is shown in Exhibit JWK-14 where the ratios of AFUDC as a percent of net income have

been estimated for the test year, 1980, and part of 1981. As indicated there, the AFUDC level approaches 17.4 percent in the test year, 21 percent in 1980, and 23.4 percent by the third quarter of 1981. Finally, in all cases, there is sufficient cash return to meet dividend payout ratios. For these reasons, the Staff's recommendation seems sufficient to maintain Texas Power and Light Company's financial integrity until rate relief is sought again.

Q. You mentioned a 3.2 % growth in base rate revenues. Have you tested the reasonableness of this number?

A. Yes, I have. Exhibit JWK-15 shows the annual growth rates for number of customers, kwh sales, and kw demand over the last five years. The average annual growth rates range from 3.96% to 8.34%. These results tend to indicate that all of the determinants of base rate revenues (demand charge - kw demand, customer charge - number of customers, and energy charge - kwh sales) will all grow by more than 3.2%. Therefore, a 3.2% growth in base rate revenues is probably quite conservative and contributes to an under-estimate of the future levels of all of the adequacy measures.

Q. Referring to Exhibit JWK-14, would you please identify the time periods indicated for the column headings?

A. The heading TP refers to the test period. 1980 and 1981 represent the four quarters ending September 30, 1980 and 1981 respectively.

Q. How was the return component determined?

A. The test period returns was from Ms. Blumenthal's testimony. 1980 and 1981 returns are the result of the following: increased interest expenses from an assumed bond sale ($100,000,000 @ 12%) in the second quarter of fiscal year 1980 and 2) increased quarterly depreciation expense from new plant going on-line (per Schedule C-4 of the Rate Filing Package).

Q. Did you assume any other changes in long-term capitalization besides the bond sale?

A. Yes, consistent with the Company's past financing experiences, I assumed a preferred stock sale ($30,000,000 @ 10%) in the Third quarter of fiscal year 1980 and a common stock sale (2,000,000 shares) in the first quarter of fiscal year 1981.

Q. How did you determine the common stock dividends?

A. First of all, I determined the number of shares represented by common equity in the capital structure by dividing $792,074,899 by the net book value of $24.83. Consistent with the average quarterly dividend paid by TP&L (Schedule H-2, page 1 of 2), the following dividend rates were developed:

IV. 1978	$0.48
I. 1979	0.51
II. 1979	0.51
III. 1979	0.50
IV. 1979	0.44
I. 1980	0.50
II. 1980	0.50
III. 1980	0.50
IV. 1980	0.50
I. 1981	0.51
II. 1981	0.51
III. 1981	0.51
IV. 1981	0.51

From this chart, it is evident that the 1979 dividends total $1.96 and increase $0.04 per year through 1981. This same trend is shown in Schedule H-2, page 1 of 2.

Q. Why did you not use the outstanding number of shares in Schedule H-2?

A. I have attempted to exclude those shares which represent investment in 82.569% of Sandow #4.

Q. How did you determine the Investment Tax Credits?

A. For the test period, I used the ITC amount from Ms. Blumenthal's testimony. For the '980 column, I took 10% of the sum of one-fourth of 1979 actual net construction (total construction less AFUDC, nuclear fuel, and the dedicated portion of Sandow #4) and three-fourths of the 1980 projected net

construction. The same relationship of 1980 and 1981 net constructions was used for developing the 1981 ITC figure.

Q. Did you use the above construction figures in the determination of cash generation?

A. No, to the above construction amounts, I added back nuclear fuel.

Q. Please explain how you calculated AFUDC.

A. For the test period, the total booked CWIP (after excluding 82.569% of Sandow #4) was multiplied by 60%. From this amount $11,423,582, which represents all projects under $100,000, was subtracted. The resulting figure was multiplied by 8%. Since the Company has started compounding semiannually, the effective annual rate is 8.16% or 2.04% per quarter. Thus, each quarter's cumulative AFUDC was calculated according to the following equation:

$$AFUDC_t = AFUDC_{t-1} + (0.0204)(0.5)(\text{quarterly construction - new plant on-line})_{t-1} + (0.0204)(0.5)(\text{quarterly construction - new plant on-line})_t$$

where t is the quarterly time period.

Q. What quarterly construction amounts did you use?

A. The quarterly construction amounts were one-fourth of the total construction for the fiscal year less AFUDC, nuclear fuel, Sandow #4, and all projects less than $100,000.

Q. Why did you exclude all projects less than $100,000?

A. In the pot-of-dollars approach used by the company for determining AFUDC, the amount of CWIP allowed in the last rate case (the "pot-of-dollars") is subtracted from total booked CWIP. The resulting net CWIP accrues AFUDC and these accruals are allocated to projects over $100,000. The composition of the pot-of-dollars is implicitly or explicitly based on one of the following: 1) all projects less than $100,000, 2) all projects over $100,000, and 3) some combination of both. Since the company does not allocate AFUDC accruals

to projects less than $100,000, logic dictates that these projects should not accrue AFUDC. Therefore, the company's methodology implicitly included projects less than $100,000 as the first component of the pot-ofdollars with the remaining component being large projects. In my calculation of AFUDC, I have explicitly established the pot-of-dollars as being composed of large projects. Projects less than $100,000 (and 90 days) should not accrue AFUDC and therefore are excluded before AFUDC is determined. This methodology tends to produce a lower AFUDC amount than would result under the Company's methodology.

Q. Why do you think it is important to make this designation as to the composition of CWIP in the rate base?

A. First of all, as I stated above, reported AFUDC for the company is lowered. Second, this treatment is consistent with the reason CWIP is included in the rate base—financial integrity. Financial integrity of the utility industry, including that in Texas, is of concern not because of small, relatively inexpensive and quick projects that have minimal carrying costs and can quickly become revenue-producing; but rather, because of large, very expensive and lengthly projects that have huge carrying costs and can not become revenue-producing for up to years. Therefore, it is only reasonable to include the necessary amount of these latter projects in the rate base to protect the financial integrity of the company. Finally, I feel it is in the long-range best interest of the ratepayers to minimize AFUDC by ensuring not only that small projects do not accrue unnecessary AFUDC but also that small projects do not allow for unnecessary accrual of AFUDC on large projects.

Q. Would you please summarize your overall approach to considering the CWIP/AFUDC trade-off.

A. Stated simply, I am proposing a composition for the "pot of dollars" but am not proposing that those dollars be traced on a project-by-project basis. The pot of dollars should represent only those projects which would otherwise accrue AFUDC under the Company's policy for accruing AFUDC. Dollars representing non-AFUDC accruing projects, such as projects less than $100,000 and nuclearfuel, should not be considered as being part of the pot of dollars.

VII. SHORT TERM INTEREST RATES

Q. Have you reviewed Texas Utilities proposed method of charging short-term interest rates to TUGCO and TUFCO which would be borne by TP&L's ratepayers through its fuel clause?

A. Yes, I have reviewed the proposed methodology. Considering the currently widely gyrating capital markets, I think any fixed short-term rate is not feasible. A fixed rate that is above prevailing short-term interest rates unfairly over-compensates the stockholders at the expense of the ratepayers. On the other hand, a fixed rate that is below prevailing short-term interest rates, such as the case today, does not allow the company to fully recover its costs. For example, as shown in Schedule H-5, page 5 of 5, Texas Utilities' weighted average cost of notes payable is 11.674% or 2.174% greater than the currently charged 9.5%. Schedule H-5, page 5 of 5 also shows how these rates have varied from 10.521% to 12.210% in less than two months. Therefore, a daily floating short-term interest rate charged by Texas Utilities to TUGCO and TUFCO (collected through TP&L's fuel clause) seems the most fair and equitable method of recovering these costs.

Q. Do you have any other comments about the short-term debt of Texas Utilities and TP&L?

A. One final concern I have about short-term debt is the apparent extent to which short-term cash requirements and availabilities are co-ordinated within the TU System. At the present time, the operating companies seem to be meeting their short-term cash requirements and investing excess cash independently of each other. Coordinated cash management through a type of brokerage management within the TU System which would minimize contact with outside money markets might provide some cost savings for the Texas Utilities operating companies. To this end, I recommend that TP&L, in

concert with Texas Utilities Company, investigate the possible cost savings that could be realized by alternative cash management policies, includig an internal brokerage management, within the Texas Utilities System.

Q. Would you please elaborate on the type of arrangement you envision?

A. A possible scenario might involve a money brokerage arrangement where the broker provides funds to an operating company from surplus funds available to the broker from cash - rich sister operating companies. If no sister operating companies has any excess cash, TU corporate funds might be the next alternative. The final alternative would be short-term borrowings outside of the TU System. Interest rates for intra-System borrowings could be tied to commercial paper rates or the prevailing prime rate.

VIII. CONCLUSIONS AND SUMMARY OF RECOMMENDATIONS

Q. Would you briefly recapitulate the major points discussed in your testimony?

A. The major issues in my testimony have centered around specifying a fair value mix, determining a fair rate of return on Texas Power and Light Company's invested equity capital, computing a composite rate of return, and evaluating the adequacy of the Staff's proposed cost of service. The conclusions that I have reached on the various issues are summarized below:

-A fair mix upon which to determine the adjusted value of invested capital is 36.25 percent net current cost and 63.75 percent net original cost (Exhibit JWK-1).

-The capital markets have undergone significant shifts over the last 12 months with investors requiring higher yields to induce them to make investments. The net effect of this on the Texas Utilities System has been that the market price of the Company's common stock is now consistently selling below its book value. In light of this, it seems apparent that the returns authorized the Texas Utilities System in the past are no longer adequate, and they must be revised to reflect current economic conditions (Exhibit JWK-2.)

-Because Texas Utilities continues to be one of the least risky electric utilities in the country, the return required by investors from the Company is less than that demanded from most other companies in the industry and other firms in general. Based upon my analysis, I believe Texas Utilities' cost of equity to now be between 14.25 and 14.75 percent (Exhibit JWK-8).

-If a market-to-book ratio greater than one is to be sought, only the dividend yield portion of total return need be adjusted. Thus, to encourage Texas Utilities' common stock to sell at approximately 110 percent of book value, a 100 basis point upward adjustment to the cost of equity is appropriate (Exhibit JWK-9).

-In light of the continuing construction program facing TP&L and the corresponding probability of having to raise additional equity capital, I feel that a market-to-book adjustment of 110 percent is warranted. Combining the 100 basis point market-to-book adjustment with the estimated cost of equity to the Company of 14.5 percent results in a fair rate of return to the equity invested in TP&L of approximately 15.50percent.

-Based upon a return to equity of 15.50 percent, I feel that a composite rate of return of 10.91 percent should be applied to TP&L's invested capital (Exhibit JWK-12). This represents an 9.05 percent return on the adjusted value of the Company's invested capital (Exhibit JWK-12).

-Based upon an analysis of the financial circumstances facing TP&L between now and when the Company will likely seek rate relief again, I believe that the Staff's proposed revenue requirements are sufficient to maintain the financial health of TP&L and that the Company's financial integrity will not be jeopardized (Exhibit JWK-16).

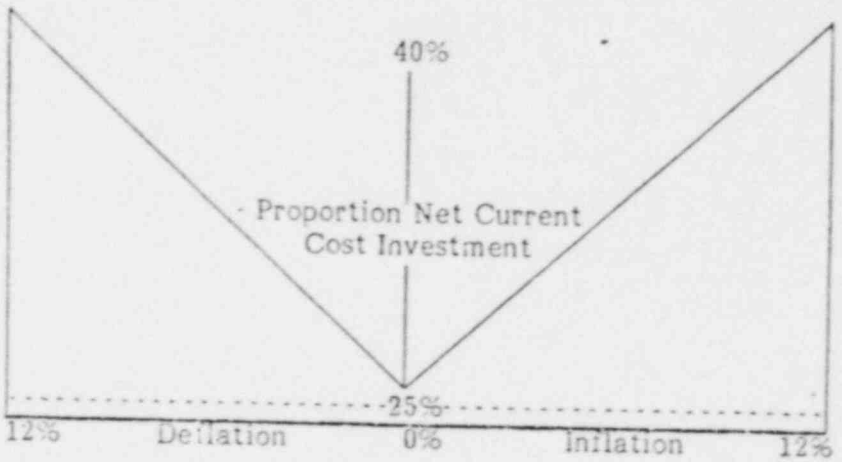
Q. Does this conclude your direct testimony in this case?

A. Yes, it does.

PUBLIC UTILITY COMMISSION OF TEXAS

TEXAS POWER AND LIGHT COMPANY

DERIVATION OF THE RELATIONSHIP BETWEEN ANNUAL INFLATION AND DEFLATION RATES AND PROPORTION OF NET CURRENT COST INVESTED CAPITAL



Annual Inflation/Deflation Rate

The mix between net current cost invested capital and original cost invested capital has been determined so that the statutory limits for inclusion of net current cost coincides with historical experience. Over the 33-year period from 1946 to 1978, the most extreme inflation or deflation rate was the 11.8 percent inflation in 1947; therefore, 12 percent has been selected as the outside limits. These boundaries have been linearly connected with the origin under the presumption that, in the absence of either inflation or deflation, the invested capital mix should reflect 25 percent net current cost and 75 percent net original cost. For each additional percent of inflation or deflation, an incremental 1.25 percent of net current cost should be included in the invested capital mix.

The relationship between the proportion of net current cost investment included in the mix and the annual inflation/deflation rate can be expressed as:

$$Y = 0.25 + 1.25\,X$$

where: Y = proportion of net current cost investment
X = annual inflation/deflation rate

PUBLIC UTILITY COMMISSION OF TEXAS

TEXAS POWER AND LIGHT COMPANY
MIX OF NET ORIGINAL COST AND NET CURRENT COST OF INVESTED CAPITAL FOR EACH YEAR SINCE 1946

Year	Annual Percentage --Change-- (a)	Proportion of Net Current Cost	Proportion of Net Original Cost
1979(b)	9.0%	36.25%	63.75%
1978	8.3%	35.375%	64.625%
1977	6.1%	32.625%	67.375%
1976	4.7%	30.875%	69.125%
1975	7.5%	34.375%	65.625%
1974	11.0%	38.750%	61.250%
1973	7.5%	34.375%	65.625%
1972	3.2%	29.000%	71.000%
1971	4.7%	30.875%	69.125%
1970	5.5%	31.875%	68.125%
1969	4.8%	31.000%	69.000%
1968	4.0%	30.000%	70.000%
1967	3.2%	29.000%	71.000%
1966	2.7%	28.375%	71.625%
1965	1.9%	27.250%	72.750%
1964	1.4%	26.750%	73.250%
1963	1.3%	26.625%	73.375%
1962	1.1%	26.375%	73.625%
1961	1.3%	26.625%	73.375%
1960	1.7%	27.125%	72.875%
1959	1.6%	27.000%	73.000%
1958	2.6%	28.250%	71.750%
1957	3.7%	29.625%	70.375%
1956	3.4%	29.250%	70.750%
1955	1.5%	26.875%	73.125%
1954	1.5%	26.875%	73.125%
1953	0.9%	26.125%	73.875%
1952	2.2%	27.750%	72.250%
1951	6.7%	33.375%	66.625%
1950	1.4%	26.750%	73.250%
1949	-0.6%	25.750%	74.250%
1948	6.7%	33.375%	66.625%
1947	11.8%	39.750%	60.250%
1946	11.7%	39.625%	60.375%

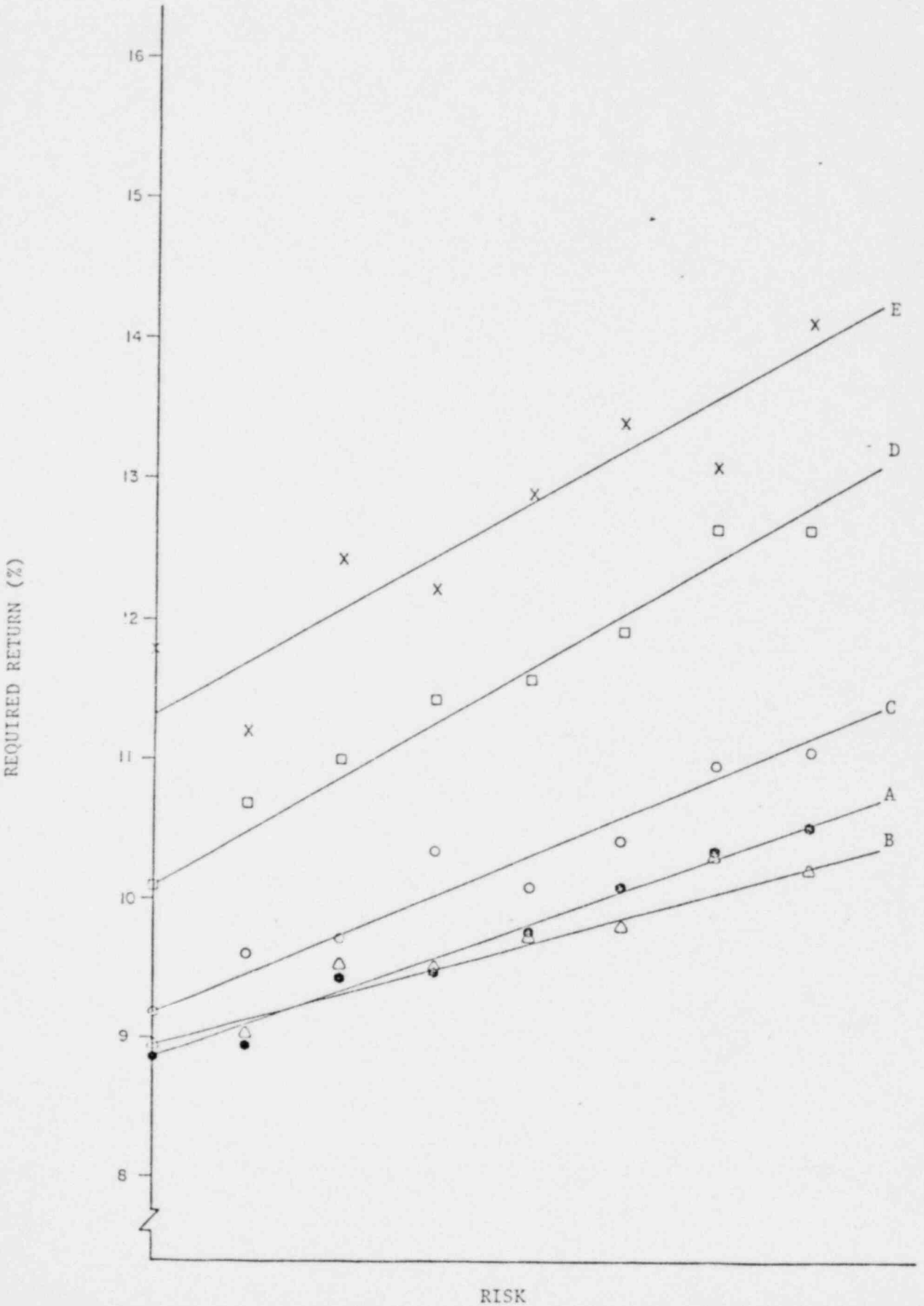
(a) Source for 1946-1972: Gross National Product Implicit Price Deflator as reported in the U.S. Department of Commerce's Survey of Current Business.

Source for 1973-1978: Gross National Produce Implicit Price Deflator for Year Ended December 31, 1978, as reported in the Federal Reserve Bank of St. Louis' National Economic Trends.

(b) For the year ended September 30, 1979.

PUBLIC UTILITY COMMISSION OF TEXAS

TEXAS POWER & LIGHT COMPANY
MARKET LINES FOR PERMANENT CAPITAL



PUBLIC UTILITY COMMISSION OF TEXAS

TEXAS POWER & LIGHT COMPANY

YIELDS ON LONG-TERM FEDERAL AND PUBLIC UTILITY SECURITIES (1)

Line	Date	Federal Securities (2)	AAA Bonds (3)	AA Bonds (3)	A Bonds (3)	Baa Bonds (3)	aa Pref. Stock (2)	a Pref. Stock (2)	baa Pref. Stock (2)
A	7/30/79	8.88	9.44	9.77	10.08	10.52	8.96	9.49	10.34
B	2/15/79	8.96	9.53	9.74	9.81	10.22	9.03	9.52	10.32
C	9/27/79	9.18	9.72	10.06	10.42	11.05	9.60	10.34	10.97
D	12/17/79	10.08	10.99	11.56	11.91	12.62	10.68	11.42	12.63
E	2/13/80	11.76	12.47	12.90	13.39	14.12	11.20	12.27	13.09

(1) Weekly average for week containing the date.
(2) Federal Reserve Bank of St. Louis, U.S. Financial Data.
(3) Moody's Utility News Report.

PUBLIC UTILITY COMMISSION OF TEXAS

TEXAS POWER & LIGHT COMPANY

IMPLIED GROWTH RATES[A]

	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969	1968	1967	1966	1965	1964	1963
RETENTION RATE(%)	40.16	41.67	42.36	38.61	48.62	48.26	48.72	44.63	45.78	44.37	40.74	42.42	41.46	40.87	40.74	41.18
RETURN ON EQUITY(%)	12.95	12.91	13.03	12.11	13.89	14.11	15.09	14.73	15.37	15.28	14.88	15.48	15.38	15.31	15.63	16.11
IMPLIED GROWTH RATES(%)[B]	5.20	5.38	5.52	4.67	6.75	6.81	7.35	6.60	7.04	6.78	6.06	6.57	6.38	6.26	6.37	6.64

REALIZED RATE OF RETURN(%)

EARNINGS RETENTION RATIO(%)	12.0	12.5	13.0	13.5	14.0	14.5	15.0
32.0	3.8	4.0	4.2	4.3	4.5	4.6	4.8
34.0	4.1	4.3	4.4	4.6	4.8	4.9	5.1
36.0	4.3	4.5	4.7	4.9	5.0	5.2	5.4
38.0	4.6	4.8	4.9	5.1	5.3	5.5	5.7
40.0	4.8	5.0	5.2	5.4	5.6	5.8	6.0
42.0	5.0	5.3	5.5	5.7	5.9	6.1	6.3
44.0	5.3	5.5	5.7	5.9	6.2	6.4	6.6
46.0	5.5	5.8	6.0	6.2	6.4	6.7	6.9

[A] EXHIBIT JWK-3 PAGE 2 OF 5
EARNINGS RETENTION RATIO COMPUTED AS 100% LESS "DIVIDENDS DECLARED ON COMMON STOCK, PERCENT OF NET INCOME" AND REALIZED RETURN ON EQUITY BASED ON EARNINGS ON AVERAGE BOOK VALUE.
[B] PRODUCT OF EARNINGS RETENTION RATIO AND REALIZED RETURN ON EQUITY.

PUBLIC UTILITY COMMISSION OF TEXAS

TEXAS POWER & LIGHT COMPANY

HISTORICAL GROWTH TRENDS FOR NET BOOK VALUE,EARNINGS PER SHARE,DIVIDENDS PER SHARE[A]

	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969	1968	1967	1966	1965	1964	1963
NBV($)	20.14	19.10	18.09	17.07	16.30	15.09	13.40	12.45	11.18	10.42	9.34	8.80	8.25	7.75	7.27	6.55
ANNUAL GROWTH (%)	5.45	5.58	5.98	4.72	8.02	12.61	7.63	11.36	7.29	11.56	6.14	6.67	6.45	6.60	10.99	7.20
EPS($)	2.54	2.40	2.29	2.02	2.18	2.01	1.95	1.74	1.66	1.51	1.35	1.32	1.23	1.15	1.08	1.02
ANNUAL GROWTH(%)	5.83	4.80	13.37	-7.34	8.46	3.08	12.07	4.82	9.93	11.85	2.27	7.32	6.96	6.48	5.88	10.87
DPS($)	1.52	1.40	1.32	1.24	1.12	1.04	1.00	.96	.90	.84	.80	.76	.72	.68	.64	.60
ANNUAL GROWTH(%)	8.57	6.06	6.45	10.71	7.69	4.00	4.17	6.67	7.14	5.00	5.26	5.56	5.88	6.25	6.67	7.14

[A] COMPANY'S ANNUAL REPORTS

PUBLIC UTILITY COMMISSION OF TEXAS

TEXAS POWER & LIGHT COMPANY

LINEAR REGRESSION VALUES[A]

	EQUATION INTERCEPT	EQUATION SLOPE	1978	1977	1976	1975	1974	1973	1972	1971	1970
NBV											
5 YEARS	15.23	.97	20.08	19.11	18.14	17.17	16.20	15.23	.00	.00	.00
10 YEARS	9.21	1.11	20.32	19.21	18.10	16.99	15.88	14.77	13.66	12.55	11.43
15 YEARS	4.37	.97	18.99	18.01	17.04	16.06	15.09	14.11	13.14	12.17	11.19
EPS											
5 YEARS	1.96	.11	2.51	2.40	2.29	2.18	2.07	1.96	.00	.00	.00
10 YEARS	1.44	.11	2.51	2.40	2.30	2.19	2.08	1.98	1.87	1.76	1.66
15 YEARS	.97	.11	2.55	2.45	2.34	2.24	2.13	2.03	1.92	1.81	1.71
DPS											
5 YEARS	1.03	.10	1.51	1.42	1.32	1.22	1.13	1.03	.00	.00	.00
10 YEARS	.73	.07	1.47	1.39	1.32	1.25	1.17	1.10	1.02	.95	.87
15 YEARS	.51	.06	1.42	1.36	1.30	1.24	1.18	1.12	1.06	1.00	.94

[A] EXHIBIT JWK-3 PAGE 2 OF 5

PUBLIC UTILITY COMMISSION OF TEXAS

TEXAS POWER & LIGHT COMPANY

LINEAR REGRESSION VALUES[A]

	1969	1968	1967	1966	1965	1964	1963
NBV							
5 YEARS	.00	.00	.00	.00	.00	.00	.00
10 YEARS	10.32	9.21	.00	.00	.00	.00	.00
15 YEARS	10.22	9.24	8.27	7.29	6.32	5.34	4.37
EPS							
5 YEARS	.00	.00	.00	.00	.00	.00	.00
10 YEARS	1.55	1.44	.00	.00	.00	.00	.00
15 YEARS	1.60	1.50	1.39	1.29	1.18	1.07	.97
DPS							
5 YEARS	.00	.00	.00	.00	.00	.00	.00
10 YEARS	.80	.73	.00	.00	.00	.00	.00
15 YEARS	.88	.82	.76	.69	.63	.57	.51

PUBLIC UTILITY COMMISSION OF TEXAS

TEXAS POWER & LIGHT COMPANY

SUMMARY OF COMPOUND GROWTH RATES

	1978-74	1978-69	1978-64
NET BOOK VALUE			
ACTUAL(%)[A]	5.94	7.99	7.78
REGRESSION(%)[B]	5.69	8.23	10.30
EARNINGS PER SHARE			
ACTUAL(%)[A]	4.79	6.52	6.27
REGRESSION(%)[B]	5.08	5.68	6.68
DIVIDENDS PER SHARE			
ACTUAL(%)[A]	7.89	6.63	6.40
REGRESSION(%)[B]	7.94	7.28	7.00

[A] EXHIBIT JWK-3 PAGE 2 OF 5.
[B] EXHIBIT JWK-3 PAGE 3 AND 4 OF 5.

PUBLIC UTILITY COMMISSION OF TEXAS

TEXAS POWER AND LIGHT COMPANY
EARNINGS PROJECTIONS

$$k = \frac{E_1 (1 - b)}{P} + (br + vs)$$

where, k = cost of equity
E_1 = expected earnings in next period
b = expected earnings retention ratio
P = market price of common stock
r = expected realized return on common equity
v = percent of funds from sale of new stock accruing to existing stockholders
s = ratio of proceeds from new stock to existing book value

TEXAS UTILITIES COMPANY

$$k = \frac{E_1 (1 - b)}{P} + (br + vs)$$

$$k = \frac{\$2.89 - (.61)}{\$17.50} + (0.39 \times 0.130) + (-0.0103 \times 0.811)$$

$$k = 0.101 + 0.042$$

$$k = 0.143 \text{ or } 14.3\%$$

E_1	=	$2.89	Average of analysts' forecasts, Exhibit JWK-4, page 2.
b	=	.39	Extrapolation from Exhibit JWK-3, page 2 of 5.
P	=	$17.50	Text of testimony.
r	=	.130	Extrapolation from Exhibit JWK-3, page 2 of 5.
v	=	-.0103	Net Proceeds ($16.88) less Book Value ($20.81) times New Shares (5,000,000) equals Total Dilution ($19,650,000) divided by product of Existing Shares (91,768,295) and Book Value ($20.81) equals Percent Dilution of Existing Shares (-1.03%).
s	=	.811	Proceeds New Stock ($16.88) divided by Book Value ($20.81).

PUBLIC UTILITY COMMISSION OF TEXAS

TEXAS POWER AND LIGHT COMPANY

EARNINGS PROJECTIONS FORECAST BY INVESTMENT ANALYSTS

	1980 Estimate
Bache Halsey Stuart Shields	$2.80
Rauscher Pierce Securities Corporation	$2.80
Shearson Hayden Stone Inc.	$3.00
Moore & Schley, Cameron & Co.	$2.90
Standard and Poor's Corporation	$2.90
Value Line	$2.85
Salomon Bros.	$3.00
AVERAGE	2.89

Sources: Standard and Poor's Earnings Forecaster
Salomon Brother's Electric Utility Regulation, Quality and Earnings
Value Line

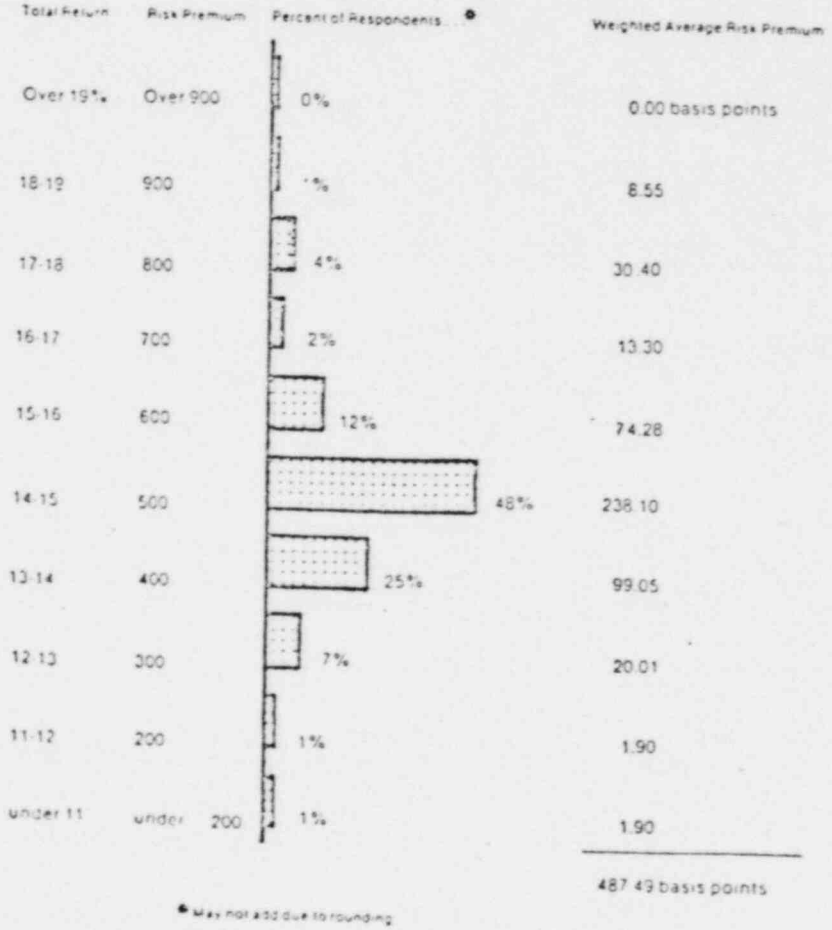
PUBLIC UTILITY COMMISSION OF TEXAS

TEXAS POWER & LIGHT COMPANY
SURVEY OF INVESTORS INQUIRING AS TO THEIR REQUIRED RATE OF RETURN

Assuming that a double A, long term utility bond currently yields about 9½%, the utility common stock for the same company would be attractive to you relative to the bond if its expected total return was at least:

Total Return	Indicated Risk Premium (basis points)
over 19%	over 900
18-19	900
17-18	800
16-17	700
15-16	600
14-15	500
13-14	400
12-13	300
11-12	200
under 11	under 200

MOST INVESTORS WOULD REQUIRE A 14 TO 15% TOTAL RETURN OR 500 BASIS POINTS OVER THE BOND ALTERNATIVE...



* May not add due to rounding

PUBLIC UTILITY COMMISSION OF TEXAS

TEXAS POWER & LIGHT COMPANY

RISK PREMIUM ANALYSIS-EXPECTED RETURN MODEL

	1978	1977	1976	1975	1974	CURRENT[F]	AVERAGE
DIVIDEND YIELD(%)[A]	8.10	7.30	7.10	6.40	6.30		
COMPOUND GROWTH RATES(%)[B]							
NET BOOK VALUE	7.24	7.77	7.94	8.31	8.58		
EARNINGS PER SHARE	5.86	5.67	6.38	5.45	7.49		
DIVIDENDS PER SHARE	6.97	6.52	6.46	6.45	6.04		
COST OF EQUITY(%)[C]							
NET BOOK VALUE	15.34	15.07	15.04	14.71	14.88		
EARNINGS PER SHARE	13.96	12.97	13.48	11.85	13.79		
DIVIDENDS PER SHARE	15.07	13.82	13.56	12.85	12.34		
MOODY'S PUBLIC UTILITY BOND YIELD(%)[D]	8.90	8.20	8.60	9.00	8.70	12.47	
RISK PREMIUM(%)[E]							
NET BOOK VALUE	6.44	6.87	6.44	5.71	6.18		6.33
EARNINGS PER SHARE	5.06	4.77	4.88	2.85	5.09		4.53
DIVIDENDS PER SHARE	6.17	5.62	4.96	3.85	3.64		4.85
CURRENT COST OF EQUITY(%)[G]							
NET BOOK VALUE							18.80
EARNINGS PER SHARE							17.00
DIVIDENDS PER SHARE							17.32

RISK PREMIUM ANALYSIS-EXPECTED RETURN MODEL.....CONTINUED

FOOTNOTES

[A] COMPUTED AS DIVIDEND IN YEAR T+1 DIVIDED BY AVERAGE PRICE IN YEAR T; RATE FILING PACKAGE SCHEDULE H-2 PAGE 2 OF 2.
[B] GROWTH COMPUTED AS THE AVERAGE OF THE COMPOUND GROWTH RATES FOR PRECEDING FIVE,TEN,AND FIFTEEN YEAR PERIODS FOR NIV,EPS,DPS.
[C] SUM OF DIVIDEND YIELD AND COMPOUND GROWTH RATES.
[D] YIELD FOR T AS REPORTED BY MOODY'S INVESTORS SERVICE, INC.
[E] DIFFERENCE BETWEEN COST OF EQUITY AND MOODY'S PUBLIC UTILITY BOND YIELD.
[F] MOODY'S UTILITY NEWS REPORT.,AVERAGE WEEK ENDING FEBRUARY 13 1980..
[G] SUM OF AVERAGE PREMIUM [E] AND SPOT BOND YIELD [F].

PUBLIC UTILITY COMMISSION OF TEXAS

TEXAS POWER AND LIGHT COMPANY
COMPARABLE EARNINGS ANALYSIS
EARNED RETURNS BY RISK CLASS - BETA

Coveriance with Market (Value Line Adjusted Beta)

Adjusted Beta	Average Return on Book Equity 1974-1978	1969-1978	1964-1978
0.40 - 0.60	16.0%	14.4%	14.8%
0.65 - 0.75	15.3%	12.7%	12.8%
0.80 - 0.90	14.0%	13.7%	13.8%
.95 - 1.05	15.1%	14.9%	14.4%
1.10 - 1.20	14.5%	15.2%	14.9%
1.25 - 1.35	15.2%	15.5%	16.4%
1.40 - 1.50	13.5%	13.5%	15.1%
1.55 - 1.75	12.0%	13.9%	13.0%
Data not available	----	----	----
TOTAL/AVERAGE	14.5%	14.2%	14.4%

Note: Value Line has assigned Texas Utilities Company a Beta of 0.85.

PUBLIC UTILITY COMMISSION OF TEXAS

TEXAS POWER AND LIGHT COMPANY
COMPARABLE EARNINGS ANALYSIS
EARNED RETURNS BY RISK CLASS - PRICE STABILITY

Total Variability (Value Line Price Stability Index)

Price Stability Index	Average Return on Book Equity 1974-1978	1969-1978	1964-1978
100 - 90	14.2%	14.7%	13.6%
85 - 75	15.9%	15.5%	15.2%
70 - 60	15.4%	15.8%	15.5%
55 - 45	15.4%	15.2%	14.7%
40 - 30	12.1%	12.6%	13.6%
25 - 15	11.7%	11.2%	12.7%
10 - 5	4.4%	6.7%	9.3%
Data not available	----	----	----
TOTAL/AVERAGE	12.7%	13.1%	13.5%

Note: Value Line has assigned Texas Utilities Company a Price Stability Index of 95.

PUBLIC UTILITY COMMISSION OF TEXAS

TEXAS POWER AND LIGHT COMPANY
COMPARABLE EARNINGS ANALYSIS
EARNED RETURNS RELATIVE TO BOND YIELDS

Year	Average Return on Book Equity	Moody's Composite Bond Yield Average
1977	13.3%	8.4%
1976	14.6%	9.0%
1975	13.6%	9.6%
1974	15.8%	9.0%
1973	15.5%	7.8%
1972	13.8%	7.6%
1971	13.1%	7.9%
1970	13.2%	8.5%
1969	14.8%	7.4%
1968	15.3%	6.5%
1967	15.5%	5.8%
1966	16.1%	5.3%
1965	15.3%	4.6%
1964	14.4%	4.6%
1963	13.1%	4.5%

PUBLIC UTILITY COMMISSION OF TEXAS

TEXAS POWER AND LIGHT COMPANY

SUMMARY OF COST OF EQUITY ESTIMATES

Estimation Technique	Cost of Equity -- Estimate --
Discounted Cash Flow	
a. Retention Growth	14.6 - 15.0%
b. Adjusted Historical Trend	14.5 - 15.5%
Projected Earnings	
a. Investment Analyst Forecasts	14.3%
Direct Inquiry	
a. Mitchel Hutchins Survey	14.5 - 15.0%
Bond Yield/Risk Premium	
a. Expectations Model	17.0 - 18.8%
Comparable Earnings	
a. Adjusted Beta	13.6 - 14.0%
b. Value Line Price Stability Index	13.2 - 15.6%
Judgemental Conclusion	14.25 - 14.75%

PUBLIC UTILITY COMMISSION OF TEXAS

TEXAS POWER AND LIGHT COMPANY
DILUTION EFFECTS OF STOCK ISSUES

	January 1979 Offering	March 1978 Offering	May 1977 Offering
Pre-Issue NBV/Share	$20.14	$19.10	$18.09
Post-Issue NBV/Share	$20.08	$19.14	$18.15
Dilution per Share	$ 0.06	$ (0.04)	$ (0.06)
% Dilution per Share	0.30%	(0.21)%	(0.33)%
Cost of Issue	3.06%	2.98%	3.07%

PUBLIC UTILITY COMMISSION OF TEXAS

TEXAS POWER AND LIGHT COMPANY
DERIVATION OF MARKET-TO-BOOK ADJUSTMENT

P	=	market price of common share
B	=	book value of common share
M/B	=	target market price to book value ratio
k	=	cost of equity
k*	=	cost of equity adjusted to encourage a target market-to-book ratio
D_1	=	expected dividend per share in next period
g	=	expected long-term growth

$$P = B = \frac{D_1}{k - g}$$

$$P = B\,(M/B) = \frac{D_1}{k^* - g}\,(M/B)$$

$$P = \frac{D_1}{k^* - g}\,(M/B)$$

$$\frac{P}{(M/B)} = \frac{D_1}{k^* - g}$$

$$Pk^* - Pg = D_1\,(M/B)$$

$$Pk^* = D_1\,(M/B) + Pg$$

$$k^* = \frac{D_1\,(M/B) + Pg}{P}$$

$$k^* = \frac{D_1}{P}\,(M/B) + g$$

PUBLIC UTILITY COMMISSION OF TEXAS

TEXAS POWER & LIGHT COMPANY
CAPITALIZATION ANALYSIS
(1000's)

	September 30, 1979		December 31, 1978		December 31, 1977		December 31, 1976	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
Long-term debt (1)	$ 923,576	46.6%	$ 820,113	46.4%	$ 815,047	47.5%	$ 695,709	46.9%
Preferred Stock	256,112	12.9%	226,521	12.8%	226,521	13.2%	196,866	13.3%
Common Equity	803,205	40.5%	722,263	40.8%	675,046	39.3%	590,576	39.8%
TOTAL	$1,982,893	100.0%	$ 1,768,897	100.0%	$ 1,716,614	100.0%	$ 1,483,151	100.0%

PUBLIC UTILITY COMMISSION OF TEXAS

TEXAS POWER & LIGHT COMPANY

IMPORTANT QUALITY MEASUREMENTS OF 100 ELECTRIC UTILITIES: 6/30/79

	Bond Ratings			6/30/79 Pre-Tax Interest Coverage	6/30/79 Capital Ratios			6/30/79 S-T Debt % of	6/30/79 AFDC % of	6/30/79 Effective Inc. Tax Rate		6/30/79 Return on
	Moody's	S&P	D&P*	(A) (B)	% L-T Debt	% Pfd.	% Com.	L-T Cap.	Net Earn.	(A)	(B)	Common Equity
1 ALLEGHENY POWER		*		2.4/2.1	54	11	35	7	44%	33%	44%	10.9%
2 AMERICAN ELEC PWR		*		2.1/1.9	56	10	34	6	36	25	32	10.1
3 ARIZONA PUBLIC SVC	A	A-	7	2.5/1.9	49	14	37	4	57	11	19	12.0
4 ATLANTIC CITY ELEC	Aa	A+	4	3.8/3.5	46	14	40	-0-	21	36	41	11.7
5 BALTIMORE GAS & EL	Aa	AA-	3	3.3/3.2	51	10	39	-0-	11	37	39	11.6
6 BOSTON EDISON	Baa	BBB	7	2.6/2.3	57	14	29	5	51	46	58	11.1
7 CAROLINA PWR & LT	A	A	5	3.4/2.6	51	12	37	2	71	43	64	12.1
8 CENTRAL HUDSON G&E	A	A-	6	2.7/2.3	49	15	36	7	39	25	32	11.6
9 CENTRAL ILL LIGHT	A	A+	4	3.7/3.6	51	16	33	-0-	9	48	49	11.9
10 CEN ILL PUB SVC	AA	AA	5	3.9/3.5	51	13	36	6	28	45	51	14.8
11 CENTRAL LA ENERGY	A	A	5	5.2/5.1	49	7	44	2	6	43	45	22.4
12 CENTRAL MAINE PWR	A	BBB+	7	3.1/2.7	47	13	40	9	34	35	43	12.4
13 CENTRAL SOUTH WEST		*		4.1/3.5	51	7	42	4	37	41	51	14.8
14 CENTRAL VT PUB SVC	Baa	BBB		3.9/3.4	44	14	42	5	29	31	37	14.5
15 CINCINNATI G&E	Aa	AA-	4	2.9/2.4	52	13	35	-0-	44	26	35	12.5
16 CLEVELAND EL ILLU	Aa	AA-	5	2.5/2.0	49	16	35	5	55	16	24	11.0
17 COL & SO OHIO ELEC	A	BBB+	7	2.3/2.0	51	13	36	9	45	26	35	9.0
18 COMMONWEALTH ED	A	AA-	4	2.4/1.8	53	14	33	3	80	26	47	10.2
19 COMMUNITY PUB SVC	A	A		2.9/2.9	52	10	38	10	1	41	42	13.0
20 CONSOLIDATED ED	A	A	7	3.4/3.3	45	12	43	-0-	3	30	30	9.8
21 CONSUMERS POWER	A	A-	8	2.6/2.0	51	15	34	-0-	58	19	29	12.3
22 DAYTON POWER & LT	A	A	7	2.6/2.0	47	16	37	1	63	20	33	10.0
23 DELMARVA PWR & LT	A	A	7	2.9/2.6	49	13	38	1	32	29	36	12.1
24 DETROIT EDISON	Baa	BBB	9	2.5/2.0	54	13	33	1	62	29	43	10.4
25 DUKE POWER	A	A+	4	3.7/2.7	48	15	37	-0-	70	33	52	12.9
26 DUQUESNE LIGHT	A	AA-	6	2.5/2.2	52	17	31	-0-	52	35	46	7.5
27 EL PASO ELECTRIC	A	AA-	6	2.7/1.9	46	14	40	19	76	26	48	13.3
28 EMPIRE DIST ELEC	A	A	5	3.1/2.7	54	8	38	-0-	33	39	47	13.1
29 FLORIDA POWER CORP	A	A+	3	3.3/3.3	51	12	37	13	2	49	50	10.0
30 FLORIDA PWR & LT	A	A+	3	3.3/3.0	52	11	37	6	29	46	53	12.4
31 GENERAL PUB UTILS		*		2.5/2.1	53	13	34	4	52	32	43	9.4
32 GULF STATES UTILS	A	A+	7	3.2/2.5	55	10	35	6	66	38	57	10.3
33 HAWAIIAN ELECTRIC	A	A	4	3.5/3.4	51	12	37	1	11	44	46	12.7
34 HOUSTON INDUSTRIES	Aa	AA	2	3.6/3.3	51	9	40	-0-	26	39	46	14.2
35 IDAHO POWER	A	A	5	2.1/1.8	57	7	36	7	41	24	32	9.0
36 ILLINOIS POWER	Aa	AA	3	3.3/2.8	48	13	39	-0-	48	38	50	11.8
37 INDIANAPOLIS P&L	Aa	AA	3	4.0/3.9	51	12	37	1	10	47	49	14.1
38 INTERSTATE POWER	A	A	7	3.1/2.7	54	14	32	-0-	34	38	46	13.1
39 IOWA ELEC LT & PWR	A	A	6	2.8/2.6	49	17	34	8	24	40	45	12.0
40 IOWA-ILL GAS & EL	Aa	AA	3	4.1/3.6	47	14	39	-0-	30	41	48	13.7
41 IOWA RESOURCES	Aa	A	5	3.5/3.0	50	11	39	5	35	36	45	13.2
42 IOWA PUBLIC SVC	Aa	AA	4	3.5/2.8	46	14	40	-0-	51	29	42	17.0
43 IOWA SOUTHERN UTIL	Aa	AA		3.8/3.3	53	6	41	-0-	31	36	44	13.9
44 KANSAS CITY P&L	Aa	A	6	2.7/1.9	51	13	36	5	90	34	62	12.6
45 KANSAS GAS & ELEC	A	A-	6	2.2/1.6	56	12	32	7	108	33	67	7.5
46 KANSAS POWER & LT	Aa	AA	4	3.4/2.9	50	11	39	6	43	40	51	11.4
47 KENTUCKY UTILITIES	Aa	AA	3	3.2/3.2	51	11	38	9	-0-	48	49	12.3
48 LONG ISLAND LTNG	A	A-	7	2.5/1.8	48	14	38	4	61	4	[illegible]	12.2
49 LOUISVILLE G&E	Aaa	AA	1	3.1/3.1	49	14	37	7	-0-	47	47	8.4
50 MADISON GAS & ELEC	Aa	AA		4.4/4.4	44	14	42	-0-	2	51	52	11.4

PUBLIC UTILITY COMMISSION OF TEXAS

TEXAS POWER & LIGHT COMPANY

IMPORTANT QUALITY MEASUREMENTS OF 100 ELECTRIC UTILITIES: 6/30/79

		Bond Ratings			6/30/79 Pre-Tax Interest Coverage	6/30/79 Capital Ratios			6/30/79 S-T Debt	6/30/79 AFDC	6/30/79 Effective Inc. Tax Rate		6/30/79 Return o
		Moody's	S&P	D&P•		% L-T Debt	% Pfd.	% Com.	% of L-T Cap.	% of Net Earn.	(A)	(B)	Common Equity
51	MIDDLE SOUTH UTILS		•		(A) (B)								
52	MINNESOTA PWR & LT	A	A	7	2.0/1.3	59	9	32	8	85%	7%	24%	14.2%
53	MONTANA DAKOTA UT	A	A		3.6/3.4	53	12	35	-0-	12	44	47	18.1
54	MONTANA POWER	A	A	7	3.7/3.4	53	11	36	-0-	21	42	47	12.7
55	NEVADA POWER	Baa	BBB	7	2.3/2.2	52	9	39	-0-	10	27	29	10.3
56	NEW ENGLAND ELEC		•		3.0/2.9	51	15	34	10	5	26	27	14.5
57	NEW ENG G&E ASSO		•		3.5/3.2	53	12	35	2	27	43	49	14.3
58	NEW YORK STATE E&G	A	A-	7	3.7/3.6	50	12	38	2	9	42	44	14.1
59	NIAGARA MOHAWK PWR	A	A-	8	2.4/2.1	49	13	38	-0-	32	12	16	11.3
60	NORTHEAST UTILS		•		2.7/2.2	48	14	38	1	40	10	14	11.8
61	NORTHERN IND P S	Aa	AA	4	2.2/1.9	56	12	32	4	42	26	34	10.6
62	NORTHERN STATES PR	Aa	AA	2	3.1/2.6	50	14	36	-0-	52	41	54	10.3
63	NORTHWESTERN P S	Baa	BBB		4.9/4.7	46	12	42	-0-	11	51	54	13.9
64	OHIO EDISON	A	A-	8	2.3/1.8	56	11	33	4	62	24	39	13.6
65	OKLAHOMA GAS & EL	Aa	AA-	3	1.8/1.2	51	15	34	4	107	(-Neg.-)		7.9
66	ORANGE & ROCK UTIL	A	A-	6	2.7/2.2	51	13	36	7	56	36	50	9.4
67	OTTER TAIL POWER	A	A	5	3.4/3.2	48	15	37	-0-	16	38	42	12.7
68	PACIFIC GAS & ELEC	Aa	AA-	4	4.1/3.7	48	15	37	2	28	45	51	14.7
69	PACIFIC POWER & LT	Baa	BBB+	7	3.3/2.7	47	14	39	2	41	24	33	12.8
70	PENNSYLVANIA P&L	Aa	A+	6	2.3/2.0	60	19	31	-0-	37	11	15	11.5
71	PHILADELPHIA ELEC	A	A-	8	2.9/2.1	49	18	33	2	72	26	53	12.2
72	PORTLAND GEN ELEC	Baa	BBB-	8	2.4/1.9	52	13	35	1	67	25	40	10.4
73	POTOMAC ELEC POWER	A	A+	5	2.0/1.4	52	10	38	3	102	20	52	8.4
74	PUB SVC COLORADO	Aa	AA-	5	3.0/3.0	53	10	37	3	-0-	43	43	10.4
75	PUB SVC ELEC & GAS	Aa	AA	4	2.8/2.4	48	14	38	12	36	33	41	9.2
76	PUB SVC INDIANA	Aa	AA	2	3.8/3.5	46	13	41	1	22	38	43	11.8
77	PUB SVC NEW HAMP	Baa	BBB	8	4.1/3.5	48	14	38	1	41	42	53	15.0
78	PUB SVC NEW MEXICO	Aa	AA	4	2.6/1.9	43	17	40	17	72	32	54	13.0
79	PUGET SOUND P&L	Baa	BBB	8	3.8/3.0	45	17	38	6	58	30	43	11.4
80	ROCHESTER GAS & EL	A	A	6	2.6/2.2	48	15	37	4	37	20	26	11.1
81	SAN DIEGO GAS & EL	Baa	BBB	8	2.5/2.0	47	12	41	4	45	11	17	11.0
82	SAVANNAH ELEC & PR	Baa	BBB-		2.1/1.8	50	15	35	3	50	9	13	8.6
83	SIERRA PAC PWR CO	A	A	6	1.9/1.4	63	9	28	1	84	19	41	12.0
84	SOUTH CAROLINA E&G	A	A	5	3.0/2.6	51	10	39	-0-	30	31	38	12.5
85	SOUTHERN CALIF ED	Aa	AA	4	2.3/1.8	55	12	33	1	69	34	52	9.8
86	SOUTHERN COMPANY		•		3.1/2.6	48	13	39	1	37	23	30	12.9
87	SOUTHERN IND G&E	Aa	AA	2	2.1/1.7	59	11	30	3	80	42	63	8.2
88	SOUTHWESTERN P S	Aa	AA	3	4.4/3.7	48	12	40	1	42	42	53	14.2
89	TAMPA ELECTRIC	Aa	AA	2	2.7/2.5	53	11	36	1	16	3	3	16.4
90	TEXAS UTILITIES		•		3.6/3.5	51	8	41	8	5	44	45	12.5
91	TOLEDO EDISON	Baa	A-	7	3.3/3.0	49	12	39	5	26	39	45	13.3
92	TUCSON GAS & ELEC	A	A+	4	2.7/2.2	49	14	37	3	58	28	41	12.1
93	UNION ELECTRIC	A	A	7	2.9/2.4	51	10	39	1	34	13	18	14.9
94	UNITED ILLUMINATING	A	BBB		3.0/2.6	50	16	34	3	43	37	48	12.4
95	UTAH POWER & LIGHT	A	AA-	4	2.4/1.9	47	17	36	12	51	10	17	12.4
96	VIRGINIA ELEC & PR	A	A	7	2.7/2.6	49	11	40	4	12	36	38	9.2
97	WASHINGTON WTR PWR	A	A	7	2.3/1.9	52	14	34	4	58	26	37	8.9
98	WISCONSIN ELEC PWR	Aa	AA	2	2.8/2.6	55	5	40	-0-	18	22	26	11.5
99	WISCONSIN PWR & LT	Aa	AA	2	4.1/3.9	45	12	43	6	13	47	50	12.3
100	WISCONSIN PUB SVC	Aa	AA	1	4.1/4.1	48	13	39	-0-	2	51	51	12.7
					6.2/6.1	41	14	45	1	1	53	53	15.0
	Range -	High			6.2/6.1	63%	19%	45%	17%	108%	53%	67%	22.4%
		Low			1.8/1.2	41	5	28	-0-	-0-	(Neg.)	(Neg.)	7.5
		Median			3.0/2.6	51	13	37	2	37	34	44	12.1

Notes: (1) • Holding Company

(2) (A) Total AFDC included in pre-tax income

(3) (B) Total AFDC excluded

PUBLIC UTILITY COMMISSION OF TEXAS

TEXAS POWER AND LIGHT COMPANY
WEIGHTED AVERAGE COST OF INVESTED CAPITAL

Component	Amount	Percent of Total	Component Percentage Cost	Component Weighted Average Cost
Long-Term Debt[(a)]	$ 901,582,328	43.95%	7.79%	3.42%
Notes Payable[(b)]	1,879,553	0.09	7.49%	0.01
Preferred Stock[(c)]	237,759,654	11.59	7.51%	0.87
Accumulated Deferred Investment Tax Credits[(d)]	118,041,518	5.75	10.91%	0.63
Common Equity[(e)]	792,074,899	38.61	15.50%	5.98
TOTAL	$2,051,337,952	100.00%		10.91%

(a) Schedule H 6, page 1 of 1 less notes payable.
(b) Schedule H-5, page 2 of 4 of Rate-Filing Package.
(c) Schedule H-4, page 1 of 1 of Rate-Filing Package.
(d) Schedule H, page 2 of 2 of Rate-Filing Package.
(e) Schedule H, page of 2 of Rate-Filing Package.

PUBLIC UTILITY C[illegible]ISSION OF TEXAS

TEXAS POWER & LIGHT COMPANY
CASH DIVIDEND COVERAGE AND INTERNAL CASH GENERATION

	6/30/79	12/31/78	12/31/77	1980-82E % Internal Cash
1 ALLEGHENY POWER	2.8	2.8	3.5	58
2 AMERICAN ELEC PWR	1.9	2.1	1.9	33
3 ARIZONA PUBLIC SVC	1.7	2.1	2.3	25
4 ATLANTIC CITY ELEC	3.0	2.9	2.7	45
5 BALTIMORE GAS & EL	2.8	3.0	2.7	80
6 BOSTON EDISON	3.4	3.2	3.5	40
7 CAROLINA PWR & LT	2.7	4.5	3.4	28
8 CENTRAL HUDSON G&E	2.9	2.8	3.0	38
9 CENTRAL ILL LIGHT	4.0	4.0	4.0	34
10 CENTRAL ILL PUB SVC	3.4	3.3	3.3	124
11 CENTRAL LA ENERGY	4.9	3.9	4.2	56
12 CENTRAL MAINE PWR	2.6	2.4	2.4	33
13 CENTRAL SOUTH WEST	3.3	3.4	3.6	40
14 CENTRAL VT PUB SVC	2.7	2.7	2.2	39
15 CINCINNATI G&E	*	*	*	*
16 CLEVELAND EL ILL	1.7	1.8	2.6	33
17 COL & SO OHIO	1.9	1.0	1.9	60
18 COMMONWEALTH ED	2.3	2.7	3.0	50
19 COMMUNITY PUB SVC	3.9	4.3	4.2	74
20 CONSOLIDATED ED	3.5	3.6	3.8	95
21 CONSUMERS PWR	*	*	*	*
22 DAYTON POWER & LT	1.5	1.7	1.9	48
23 DELMARVA PWR & LT	2.5	2.5	2.4	67
24 DETROIT EDISON	2.3	2.2	2.9	45
25 DUKE POWER	2.5	2.6	2.7	56
26 DUQUESNE LIGHT	1.9	2.1	2.1	52
27 EL PASO ELECTRIC	1.6	1.9	2.0	28
28 EMPIRE DIST ELEC	2.8	3.2	3.0	50
29 FLORIDA POWER CORP	3.4	4.4	5.0	31
30 FLORIDA PWR & LT	4.5	5.1	5.8	55
31 GENERAL PUB UTILS	3.4	2.8	2.7	50
32 GULF STATES UTILS	2.7	3.1	3.0	31
33 HAWAIIAN ELECTRIC	3.6	3.7	3.9	61
34 HOUSTON INDUSTRIES	3.8	3.7	4.4	29
35 IDAHO POWER	2.0	2.5	1.9	59
36 ILLINOIS POWER	2.3	2.1	2.3	42
37 INDIANAPOLIS P&L	3.4	3.2	3.2	54
38 INTERSTATE POWER	2.5	2.1	2.5	57
39 IOWA ELEC LT & PWR	4.4	4.9	3.8	44
40 IOWA-ILL GAS & EL	2.8	2.6	3.1	33
41 IOWA RESOURCES	3.0	2.7	2.7	57
42 IOWA PUBLIC SVC	3.0	3.2	3.6	75
43 IOWA SOUTHERN UTIL	3.3	3.2	3.2	99
44 KANSAS CITY P&L	2.7	2.7	4.8	39
45 KANSAS GAS & ELEC	1.9	2.6	2.7	25
46 KANSAS POWER & LT	2.6	2.6	2.9	38
47 KENTUCKY UTIL	4.5	3.7	3.7	37
48 LONG ISLAND LTNG	1.3	1.4	1.3	41
49 LOUISVILLE G&E	3.7	3.8	3.7	42
50 MADISON GAS & ELEC	3.9	3.9	4.0	97
51 MIDDLE SOUTH UTIL	1.8	1.8	2.5	36
52 MINNESOTA P&L	4.1	3.5	3.1	104
53 MONTANA DAKOTA UT	3.5	3.5	3.8	20
54 MONTANA POWER	3.0	3.0	2.6	31
55 NEVADA POWER	4.4	3.7	6.4	37
56 NEW ENGLAND ELEC	3.2	3.2	3.3	46
57 NEW ENG G&E ASSO	3.3	3.3	3.5	80
58 NEW YORK STATE E&G	2.2	2.3	1.7	23
59 NIAGARA MOHAWK PWR	*	*	*	*
60 NORTHEAST UTIL	2.6	2.9	3.1	83
61 NORTHERN IND P S	2.6	2.4	3.1	32
62 NORTHERN STATES PR	4.1	4.1	4.1	73
63 NORTHWESTERN P S	2.1	2.6	3.9	100
64 OHIO EDISON	*	*	*	*
65 OKLAHOMA GAS & EL	2.2	2.5	2.4	57
66 ORANGE & ROCK UTIL	2.0	2.4	2.5	88
67 OTTER TAIL POWER	3.9	4.4	4.7	58
68 PACIFIC GAS & ELEC	1.4	1.9	2.2	64
69 PACIFIC POWER & LT	2.0	2.4	2.1	29
70 PENNSYLVANIA P&L	1.7	1.6	2.6	19
71 PHILADELPHIA ELEC	1.8	1.8	1.8	48
72 PORTLAND GEN ELEC	*	*	*	*
73 POTOMAC ELEC POWER	2.8	2.9	3.2	70
74 PUB SVC COLORADO	2.5	2.6	2.4	42
75 PUB SVC ELEC & GAS	3.6	3.6	3.6	46
76 PUB SVC INDIANA	3.2	3.0	2.9	48
77 PUB SVC NEW HAMP	1.5	2.1	1.7	20
78 PUB SVC NEW MEXICO	2.0	2.4	2.6	25
79 PUGET SOUND P&L	2.5	2.5	2.8	10
80 ROCHESTER GAS & EL	3.2	3.3	3.2	45
81 SAN DIEGO GAS & EL	1.6	1.9	1.0	30
82 SAVANNAH ELEC & PR	3.0	3.5	5.9	56
83 SIERRA PAC PWR CO	2.7	2.8	3.7	40
84 SOUTH CAROLINA E&G	1.8	2.3	2.5	78
85 SOUTHERN CALIF ED	2.6	4.6	3.6	40
86 SOUTHERN COMPANY	2.3	2.5	2.9	52
87 SOUTHERN IND G&E	4.1	3.9	4.5	54
88 SOUTHWESTERN P S	2.0	2.2	1.9	34
89 TAMPA ELECTRIC	3.8	4.3	4.4	78
90 TEXAS UTILITIES	3.4	3.5	3.3	62
91 TOLEDO EDISON	1.8	2.0	0.7	24
92 TUCSON ELEC POWER	2.1	1.8	2.6	47
93 UNION ELECTRIC	2.6	2.9	2.9	21
94 UNITED ILLUMINATING	1.8	1.7	2.6	85
95 UTAH POWER & LIGHT	2.1	2.2	1.6	40
96 VIRGINIA ELEC & PR	2.3	2.3	2.1	38
97 WASHINGTON WTR PWR	1.9	2.9	1.5	10
98 WISCONSIN ELEC PWR	3.6	3.5	3.6	52
99 WISCONSIN PWR & LT	3.8	3.7	3.5	65
100 WISCONSIN PUB SVC	4.6	4.3	4.0	60
				49
HIGH*	4.9	5.1	6.4	
LOW*	0.8	0.8	0.7	
MEDIAN*	2.7	2.8	2.9	

PUBLIC UTILITY COMMISSION OF TEXAS

Exhibit JWK-13
Page 1 of 2

TEXAS POWER & LIGHT COMPANY
ELECTRIC UTILITY INTEREST COVERAGE RATIOS

		Ratings			Pre-Tax Interest Charges Earned 12 Mos. Ended:									
		Moody's	S&P	D&P•	6/30/79	3/31/79	12/31/78	12/31/77	12/31/76	12/31/75	12/31/74	12/31/73		
	Straight Aaa/AAA				(A) (B)	(A) (B)	(A) (B)	(A) (B)	(A)	(A)	(A)	(A)		
*x	Dallas P&L (TXU)	Aaa	AAA	1	3.7/3.1	3.1/2.6	3.1/2.6	3.5/3.0	2.9	3.3	3.3	4.2		
± x	Texas Elec. Ser.(TXU)	Aaa	AAA	1	3.9/3.5	4.1/3.6	4.1/3.7	3.3/2.8	3.6	3.8	4.8	5.1		
± *x	Texas P&L (TXU)	Aaa	AAA	1	4.2/4.0	4.2/3.9	4.1/3.9	3.7/3.4	3.2	3.2	4.1	4.6		
	Split Aaa/AA													
x	Louisville G&E	Aaa	AA	1	3.1/3.1	3.0/3.0	3.0/3.0	3.8/3.8	4.0	4.1	3.4	4.3		
	Straight Aa/AA													
±	Baltimore G&E	Aa	AA-	3	3.3/3.2	3.3/3.2	3.4/3.3	2.9/2.9	2.9	2.6	2.2	3.2		
	Central Ill. Pub. Ser.	Aa	AA	5	3.9/3.5	3.8/3.5	3.2/2.9	3.1/2.7	3.0	2.9	2.8	3.0		
•	Central P&L (CSR)	Aa	AA	3	4.0/3.1	4.2/3.3	4.2/3.5	5.2/4.8	4.0	3.8	4.0	5.6		
	Cincinnati G&E	Aa	AA-	4	2.9/2.4	3.2/2.8	3.2/2.7	3.4/3.0	2.6	2.6	2.8	3.9		
±	Cleveland Elec. Illu.	Aa	AA-	5	2.5/2.0	2.6/2.1	2.7/2.2	3.3/2.6	2.7	2.5	2.7	2.7		
± x	Houston L&P	Aa	AA	2	3.6/3.3	3.7/3.3	3.6/3.3	4.1/3.8	4.0	2.8	3.5	4.6		
±	Illinois Power	Aa	AA	3	3.3/2.8	3.4/2.8	3.5/3.0	3.8/3.3	3.7	3.8	3.2	3.9		
•	Indianapolis P&L	Aa	AA	3	4.0/3.9	3.7/3.6	3.4/3.3	3.8/3.0	2.9	2.8	2.7	3.6		
±	Iowa-Illinois G&E	Aa	AA	3	4.1/3.6	3.9/3.4	3.3/2.7	3.4/3.0	4.1	4.1	3.4	3.4		
±	Iowa Public Service	Aa	AA	4	3.5/2.8	3.0/2.3	3.0/2.3	2.9/2.4	3.4	3.8	3.4	3.3		
	Iowa Southern Util.	Aa	AA		3.8/3.3	3.7/3.2	3.8/3.4	4.9/4.7	4.0	4.1	3.8	5.3		
	Kansas P&L	Aa	AA	4	3.4/2.9	3.5/2.8	3.4/2.6	3.6/2.6	3.8	4.0	4.6	6.3		
	Kentucky Utilities	Aa	AA	3	3.2/3.2	3.1/3.1	2.7/2.7	2.8/2.6	3.3	3.4	2.5	3.3		
	Madison G&E	Aa	AA		4.4/4.4	4.3/4.2	4.2/4.1	3.9/3.7	2.9	2.9	2.2	2.6		
•	No. Indiana Pub. Ser.	Aa	AA	4	3.1/2.6	2.9/2.5	2.7/2.3	3.1/2.7	3.2	2.7	2.6	3.6		
x	Northern States Power	Aa	AA	2	4.9/4.7	4.7/4.6	4.7/4.5	4.1/4.0	3.7	3.5	2.7	2.9		
±	Oklahoma G&E	Aa	AA-	3	2.7/2.2	2.9/2.4	3.0/2.5	2.9/2.4	2.8	3.3	3.8	5.1		
± x	Pacific G&E	Aa	AA-	4	3.3/2.7	3.2/2.6	3.1/2.5	2.8/2.3	2.3	2.3	2.9	3.1		
ø	Pub. Ser. of Colorado	Aa	AA-	5	2.8/2.4	2.8/2.4	2.7/2.4	2.5/2.3	2.9	3.1	2.3	2.8		
± *x	Pub. Ser. E&G	Aa	AA	4	3.8/3.5	3.9/3.6	3.7/3.4	3.5/3.1	3.3	2.6	2.3	2.2		
*x	Pub. Ser. of Indiana	Aa	AA	2	4.1/3.5	3.9/3.3	3.7/3.1	4.3/3.7	4.6	3.7	4.2	4.8		
	Pub. Ser. of New Mexico	Aa	AA	4	3.8/3.0	3.3/2.7	3.3/2.7	3.0/2.5	2.9	3.0	3.0	3.7		
±	Pub. Ser. of Oklahoma (CSR)	Aa	AA	3	4.4/3.7	4.6/4.0	4.6/4.0	4.5/4.3	4.0	4.0	4.2	4.9		
± *x	So. California Edison	Aa	AA	4	3.1/2.6	3.0/2.5	2.7/2.3	3.0/2.6	3.0	2.9	4.1	2.9		
	So. Indiana G&E	Aa	AA	2	4.4/3.7	5.2/4.2	4.9/4.0	5.1/4.6	6.1	5.4	4.8	4.3		
±	Southwestern Elec. Pwr.(CSR)	Aa	AA	2	3.6/3.3	3.9/3.6	3.9/3.5	3.9/3.5	3.6	4.5	5.4	5.1		
	Southwestern Public Ser.	Aa	AA	3	2.7/2.5	2.9/2.6	3.1/2.8	3.5/3.2	3.6	3.7	4.5	4.4		
	Tampa Electric	Aa	AA	2	3.6/3.5	3.9/3.9	4.1/4.0	3.4/3.4	3.1	2.8	2.3	3.3		
± •	West Penn Power (AYP)	Aa	AA	3	3.5/2.9	3.6/3.0	3.2/2.6	4.1/3.7	3.6	3.7	2.9	3.1		
	West Texas Util. (CSR)	Aa	AA	1	5.4/5.3	6.1/6.0	5.5/5.5	6.7/6.4	6.4	6.7	6.2	7.2		
± x	Wisconsin Electric Power	Aa	AA	2	4.1/3.9	4.1/3.9	4.3/4.2	5.1/5.1	4.6	4.1	3.9	4.2		
±	Wisconsin P&L	Aa	AA	2	4.1/4.1	4.1/4.1	3.9/3.9	4.4/4.2	4.5	3.7	2.7	2.9		
	Wisconsin Pub. Ser.	Aa	AA	1	6.2/6.1	5.9/5.9	5.7/5.7	5.5/5.4	5.2	4.2	2.9	3.1		
			High		6.2/6.1	6.1/6.0	5.7/5.7	6.7/6.4	6.4	6.7	6.2	7.2		
		Range -	Low		2.5/2.0	2.6/2.1	2.7/2.2	2.5/2.3	2.3	2.3	2.2	2.2		
			Median		3.6/3.3	3.7/3.3	3.4/3.1	3.6/3.2	3.6	3.5	3.0	3.6		
	Split Aa/A or A/AA													
	Atlantic City Elec.	Aa	A+	5	3.8/3.5	3.8/3.5	3.6/3.3	3.1/2.8	3.1	2.8	2.3	2.6		
± *x	Commonwealth Edison	A	AA-	4	2.4/1.8	2.5/1.9	2.8/2.2	2.7/2.2	3.4	3.4	3.1	3.5		
	Duquesne Light	A	AA-	6	2.5/2.2	2.6/2.3	2.6/2.3	2.8/2.5	2.8	3.1	2.7	2.8		
±	El Paso Electric	A	AA-	5	2.7/1.9	2.7/2.0	2.6/2.0	2.7/2.3	3.4	2.8	3.2	4.4		
	Iowa P&L	Aa	A	5	3.5/3.0	3.5/2.9	3.6/2.8	3.6/3.0	3.8	3.6	3.3	4.7		
±	Kansas City P&L	Aa	A	6	2.7/1.9	2.7/2.1	3.0/2.3	2.8/2.3	3.1	3.0	2.8	2.7		
±	New England Power (NES)	Aa	A+	3	3.0/2.6	3.2/2.7	2.9/2.5	2.9/2.6	3.8	2.7	2.3	2.5		
±	Pennsylvania P&L	Aa	A+	6	2.9/2.1	3.1/2.3	3.0/2.3	3.4/2.8	2.6	2.8	2.9	.1		
±	Utah P&L	A	AA-	4	2.7/2.6	2.8/2.6	2.8/2.5	2.4/1.9	3.4	2.9	2.3	2.6		
			High		3.8/3.5	3.8/3.5	3.6/3.3	3.6/3.0	3.8	3.6	3.3	4.7		
		Range -	Low		2.4/1.8	2.5/1.9	2.6/2.0	2.4/1.9	2.6	2.7	2.3	2.5		
			Median		2.7/2.2	2.8/2.3	2.9/2.3	2.8/2.5	3.4	2.9	2.8	2.8		

Notes: (1) (A) Total AFDC included in pre-tax income
(B) Total AFDC excluded from the calculations.

(2) Parent Company Symbols:

AYP - Allegheny Power System
AEP - American Electric Power
CSR - Central & South West
GPU - General Public Utilities
MSU - Middle South Utilities
NES - New England Electric System
NU - Northeast Utilities
OEC - Ohio Edison
SO - Southern Company
TXU - Texas Utilities

(3) N.A. - Not available due to interim restatement.

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PUBLIC UTILITY COMMISSION OF TEXAS

TEXAS POWER & LIGHT COMPANY
ELECTRIC UTILITY INTEREST COVERAGE RATIOS

		Ratings			Pre-Tax Interest Charges Earned 12 Mos. Ended:									
		Moody's	S&P	D&P*	6/30/79	3/31/79	12/31/78	12/31/77	12/31/76	12/31/75	12/31/74	12/31/73
	Straight A/A				(A) (B)	(A) (B)	(A) (B)	(A) (B)	(A)	(A)	(A)	(A)
*	Arizona Public Service	A	A-	7	2.5/1.9	2.6/2.0	2.7/2.2	2.6/2.1	2.3	2.5	2.0	2.3
‡	Carolina P&L	A	A	5	3.4/2.6	3.7/3.0	3.7/3.1	3.4/2.8	3.2	2.3	2.0	2.4
*	Central Hudson G&E	A	A-	6	2.7/2.3	2.9/2.5	3.2/2.6	2.8/2.6	2.7	2.4	1.8	2.6
‡	Central Illinois Light	A	A+	4	3.7/3.6	3.6/3.5	3.4/3.4	2.8/2.3	2.7	2.3	2.2	3.1
	Central La. Elec.	A	A	5	5.2/5.1	4.5/4.4	4.0/3.9	4.2/4.1	4.2	3.7	3.3	3.7
‡	Connecticut L&P (NU)	A	A-	8	2.3/1.9	2.4/2.1	2.3/1.9	2.3/1.9	2.4	2.2	2.4	2.4
	Consolidated Edison	A	A	8	3.4/3.3	3.3/3.3	3.5/3.4	3.6/3.6	3.3	2.7	2.2	2.2
‡ x	Consumers Power	A	A-	8	2.6/2.0	2.7/2.1	2.6/2.1	2.6/2.2	2.9	2.4	1.9	2.7
	Dayton P&L	A	A	7	2.6/2.0	2.6/2.0	2.5/2.0	2.2/1.8	2.8	2.9	2.1	2.4
‡ *	Delmarva P&L	A	A	7	2.9/2.6	2.9/2.6	2.9/2.6	2.4/2.1	2.4	2.1	2.3	2.6
‡ *x	Duke Power	A	A+	4	3.7/2.7	3.1/2.3	3.0/2.3	2.9/2.3	3.0	2.3	2.1	2.5
	Empire District Elec.	A	A	5	3.1/2.7	3.5/3.1	3.4/3.2	4.3/4.1	3.5	3.1	3.0	3.0
x	Florida Power	A	A+	3	3.3/3.3	3.9/3.9	4.3/4.3	4.2/4.1	3.1	3.0	2.0	2.8
‡ *x	Florida P&L	A	A+	3	3.3/3.0	3.8/3.3	3.8/3.6	3.5/3.3	2.4	3.0	2.4	3.2
‡	Gulf Power (SO)	A	A+	4	3.2/2.8	3.4/3.1	3.3/3.0	3.0/2.7	3.5	3.9	1.9	3.1
‡	Gulf States Util.	A	A+	7	3.2/2.5	2.7/2.2	2.7/2.3	2.9/2.4	2.7	2.6	3.1	3.5
‡	Hartford Elec. (NU)	A	A-	7	2.5/2.2	2.7/2.4	2.7/2.2	2.7/2.4	2.7	2.4	2.0	2.5
	Hawaiian Elec.	A	A	4	3.5/3.4	3.4/3.3	3.1/3.4	3.2/3.2	3.1	3.0	2.0	2.9
‡ β	Idaho Power	A	A	5	2.1/1.8	2.1/1.9	2.4/2.1	2.3/2.1	3.0	2.2	2.4	3.2
‡	Interstate Power	A	A	7	3.1/2.7	2.7/2.4	2.6/2.3	2.6/2.2	2.9	3.1	3.1	3.5
	Iowa Elec. L&P	A	A	6	2.8/2.6	3.0/2.8	3.1/2.9	3.4/3.4	2.7	2.1	1.4	2.2
‡ *	Kansas G&E	A	A-	6	2.2/1.6	2.6/2.1	2.9/2.2	2.8/2.2	2.8	2.8	2.3	2.5
β	Long Island Lt.	A	A-	7	2.5/1.8	2.5/1.9	2.7/2.0	2.6/1.9	2.6	2.5	2.3	2.5
	Massachusetts Elec. (NES).	A	A	4	4.5/4.5	4.3/4.3	3.9/3.9	3.3/3.3	2.8	3.7	3.3	3.1
	Minnesota P&L	A	A	7	3.6/3.4	3.7/3.5	3.4/3.1	3.3/3.0	3.4	3.3	2.6	2.6
‡	Mississippi Power (SO)	A	A	6	2.7/2.7	2.6/2.6	2.9/2.9	3.4/3.0	3.1	2.6	2.6	2.9
	Mississippi P&L (MSU)	A	A	6	3.4/3.3	3.3/3.3	3.3/3.3	3.2/3.2	3.1	2.6	2.5	3.1
	Montana Dakota Util.	A	A		3.7/3.4	3.1/2.9	3.2/3.0	2.5/2.5	3.7	3.2	2.7	3.0
‡	Montana Power	A	A	7	2.3/2.2	2.3/2.2	2.4/2.3	2.1/2.0	2.1	3.0	3.3	4.7
	Narragansett Elec. (NES)	A	A	5	4.3/4.2	4.1/4.0	3.7/3.7	2.2/2.1	1.7	2.7	2.8	3.5
	New Orleans Pub. Ser. (MSU)	A	A	6	2.8/2.8	3.2/3.2	3.1/3.0	3.2/3.2	3.4	1.7	1.6	4.2
‡ x	N.Y. State E&G	A	A-	7	2.4/2.1	2.7/2.4	2.4/2.1	2.2/1.7	2.4	2.4	2.5	2.5
‡ *x	Niagara Mohawk Power	A	A-	8	2.7/2.2	2.6/2.2	2.6/2.1	2.5/2.1	2.4	2.4	2.1	2.0
‡ β	Ohio Edison	A	A-	8	1.8/1.2	1.8/1.1	1.7/1.2	2.5/1.9	2.5	2.6	2.3	3.1
	Orange & Rockland Util.	A	A-	6	3.4/3.2	3.3/3.2	3.4/3.2	2.6/2.4	2.7	2.3	1.9	2.2
	Otter Tail Power	A	A		4.1/3.7	4.1/3.8	4.3/4.0	3.6/3.5	3.2	2.5	2.5	3.3
x	Philadelphia Elec.	A	A-	8	2.4/1.9	2.6/2.1	2.4/1.9	2.5/2.0	2.6	2.4	2.4	2.8
*	Potomac Elec. Power	A	A+	5	3.0/3.0	3.0/3.0	3.0/3.0	3.1/3.1	2.6	1.8	2.4	2.7
	Rochester G&E	A	A	6	2.5/2.0	2.5/2.0	2.8/2.3	2.5/2.1	2.9	2.6	2.2	3.1
	Sierra Pacific Power	A	A	6	3.0/2.6	3.1/2.7	2.9/2.6	3.3/3.0	2.9	2.3	2.2	2.4
	So. Carolina E&G	A	A	5	2.3/1.8	2.5/2.0	2.7/2.3	2.8/2.3	2.7	2.9	2.3	2.5
	Tucson Elec. Pwr.	A	A+	4	2.9/2.4	2.9/2.3	2.6/1.9	3.2/2.6	3.5	2.6	1.7	2.4
‡ x	Union Electric	A	A	7	3.0/2.6	3.2/2.8	3.2/2.9	2.8/2.6	2.9	2.5	1.9	2.4
*	Virginia E&P	A	A	7	2.3/1.9	2.4/1.9	2.4/2.0	2.4/1.9	2.4	2.3	1.9	2.5
	Washington Water Power	A	A	7	2.8/2.6	3.0/2.8	3.0/2.8	2.1/1.9	2.7	2.4	2.3	2.4
			High		5.2/5.1	4.5/4.4	4.3/4.3	4.3/4.1	4.2	3.9	3.3	4.7
		Range -	Low		1.8/1.2	1.6/1.1	1.7/1.2	2.1/1.7	1.7	1.7	1.4	2.0
			Median		2.9/2.6	3.0/2.6	3.0/2.8	2.8/2.4	2.8	2.5	2.3	2.7
	Split A/BBB or Baa/A											
	Central Maine Power	A	BBB+	7	3.1/2.7	3.2/2.7	3.1/2.5	2.5/2.1	2.5	2.6	2.4	3.0
‡	Colum. & So. Ohio Elec.	A	BBB+	7	2.3/2.0	2.0/1.6	1.7/1.3	2.4/1.9	2.5	2.5	1.6	2.3
‡	Jersey Central P&L (GPU)	Baa	A-	7	2.4/1.9	2.6/2.1	2.6/2.2	3.0/2.5	2.6	2.4	2.5	2.5
‡	Monongahela Power (AYP)	Baa	A-	8	2.1/1.8	2.1/1.8	2.0/1.7	2.2/1.9	2.2	2.5	2.7	3.0
‡	Pennsylvania Power (OEC)	Baa	A	8	2.3/1.8	2.2/1.7	2.0/1.6	2.3/1.6	2.4	3.1	3.1	2.5
‡	Potomac Edison (AYP)	Baa	A-	8	1.9/1.7	1.6/1.5	1.5/1.4	2.2/2.1	2.7	2.9	1.7	2.4
‡	Toledo Edison	Baa	A-	7	2.7/2.2	2.6/2.2	2.8/2.2	2.3/1.1	2.6	2.8	2.2	3.1
	United Illum. (Debs.)	A	BBB		2.4/1.9	2.3/1.9	2.1/1.7	2.6/2.3	2.2	2.1	2.3	2.7
			High		3.1/2.7	3.2/2.7	3.1/2.5	3.0/2.5	2.7	2.9	3.1	3.1
		Range -	Low		1.9/1.7	1.6/1.5	1.5/1.3	2.2/1.1	2.2	2.1	1.6	2.3
			Median		2.4/1.9	2.3/1.9	2.1/1.7	2.4/2.0	2.5	2.6	2.4	2.6
	Straight Baa/Bbb											
‡	Alabama Power (SO)	Baa	BBB-	9	1.5/1.1	1.5/1.2	1.5/1.1	2.5/1.9	2.1	2.5	2.2	3.1
‡ x	Appalachian Power (AYP)	Baa	BBB-	9	1.8/1.5	1.8/1.5	1.7/1.4	1.6/1.4	2.0	1.9	2.0	2.1
‡ x	Arkansas P&L (MSU)	Baa	BBB	7	2.4/1.5	2.5/1.7	2.6/1.8	3.2/2.5	2.3	2.3	2.7	3.0
	Boston Edison	Baa	BBB	7	2.6/2.3	2.6/2.3	2.6/2.3	2.3/2.2	2.3	2.1	1.8	1.9
	Central Vt. Pub. Ser.	Baa	BBB		3.9/3.4	4.3/3.8	4.2/3.8	4.2/4.0	2.8	2.5	1.7	1.5
	Detroit Edison	Baa	BBB-	9	2.5/2.0	2.6/2.2	2.4/1.9	2.6/2.2	2.2	2.1	2.0	2.5
	Georgia Power (SO)	Baa	BBB	7	2.6/2.2	2.7/2.3	2.8/2.4	2.7/2.4	2.7	3.0	1.7	2.3
‡ x	Indiana & Michigan Elec. (AEP)	Baa	BBB	9	2.4/2.0	2.5/2.0	2.4/1.9	2.4/1.9	1.6	1.9	1.4	2.1
‡ x	Louisiana P&L (MSU)	Baa	BBB-	8	2.4/1.9	2.2/1.6	2.1/1.6	2.3/1.9	2.4	2.8	2.7	3.5
‡	Metropolitan Edison (GPU)	Baa	BBB	6	2.5/2.0	2.6/2.1	2.8/2.2	3.2/2.6	3.1	3.5	3.1	3.1
	Nevada Power	Baa	BBB	7	3.0/2.9	2.8/2.7	2.4/2.3	3.1/3.1	2.0	1.6	1.8	2.0
‡ *x	Ohio Power (AEP)	Baa	BBB+	8	2.1/2.0	1.9/1.8	2.0/1.9	2.2/2.0	2.7	2.1	1.7	2.1
‡	Pacific P&L	Baa	BBB+	7	2.3/2.0	2.5/2.1	2.6/2.3	2.3/2.1	2.4	2.2	2.1	2.7
‡	Pennsylvania Electric (GPU)	Baa	BBB	6	3.0/2.7	2.7/2.5	2.6/2.3	2.6/2.2	2.8	2.9	2.5	2.8
	Portland General Elec.	Baa	BBB-	8	2.0/1.4	1.8/1.3	1.8/1.4	1.8/1.5	2.2	2.2	2.1	2.3
x	Pub. Ser. of New Hampshire	Baa	BBB	8	2.8/1.9	2.8/2.2	2.9/2.4	2.4/1.8	2.7	2.7	2.1	2.4
‡	Puget Sound P&L	Baa	BBB	8	2.6/2.2	2.5/2.2	2.6/2.3	2.4/2.2	2.5	2.2	2.2	2.1
‡	San Diego G&E	Baa	BBB	8	2.1/1.8	2.2/1.8	2.3/1.9	2.2/1.8	2.4	1.7	2.4	2.2
	Savannah Electric	Baa	BBB-		1.4/1.4	1.2/1.6	2.4/1.8	2.3/1.9	2.0	2.0	1.7	1.9
‡	Western Mass. Electric (NU)	Baa	BBB	6	2.5/2.1	2.6/2.3	2.5/2.2	2.5/2.2	2.1	1.7	1.9	2.2
			High		3.9/3.4	4.3/3.8	4.2/3.8	4.2/4.0	3.1	3.5	3.1	3.5
		Range -	Low		1.5/1.1	1.5/1.2	1.5/1.1	1.6/1.4	1.6	1.6	1.4	1.5
			Median		2.5/2.0	2.5/2.1	2.5/2.0	2.4/2.2	2.4	2.2	2.1	2.3
	COMPOSITE MEDIAN				3.0/2.6	3.0/2.6	3.0/2.5	2.9/2.6	2.9	2.8	2.4	2.9

PUBLIC UTILITY COMMISSION OF TEXAS

TEXAS POWER AND LIGHT COMPANY
FINANCIAL ADEQUACY MEASURES
(40% CWIP)

	TP	1980	1981
Internal Cash Generation			
Return	186,736	188,819	189,928
(Interest)	(70,351)	(76,351)	(82,351)
(Pref. Stock Div.)	(17,853)	(18,602)	(20,852)
(Common Stock Div.)	(63,800)	(61,886)	(68,817)
Depreciation	67,818	69,074	72,128
Deferred Taxes	22,284	22,284	22,284
ITC	33,179	25,710	24,042
TOTAL AVAILABLE	158,013	149,048	136,362
Construction	308,846	263,890	250,836
% Cash Generation	51.2%	56.5%	54.4%
AFUDC As Percent Net Income Available For Common			
Return	186,736	188,819	189,928
(Interest)	(70,351)	(76,351)	(82,351)
(Pref. Stock Div.)	(17,853)	(18,602)	(20,852)
AFUDC	20,791	24,734	26,541
TOTAL AVAILABLE	119,323	118,600	113,266
% AFUDC	17.4%	20.9%	23.4%
Interest Coverage Excluding AFUDC			
Return	186,736	188,819	189,928
FIT	104,741	101,406	97,513
TOTAL AVAILABLE	291,477	290,225	287,438
Coverage	4.14		
(Supplemental)	~~4.44X~~ (~~3.70X~~) 3.44	3.80X	3.49X
Interest Coverage Including AFUDC			
Return	186,736	188,819	189,928
FIT	104,741	101,406	97,513
AFUDC	20,791	24,734	26,541
TOTAL AVAILABLE	312,268	314,959	313,982
Coverage	4.44X	4.13X	3.81X
(Supplemental)	(3.70X)		
Cash Cov. of Common Div.			
Internal Cash	158,013	149,007	136,362
Common Stock Div.	63,800	61,886	68,817
TOTAL AVAILABLE	221,813	210,893	205,179
Coverage	3.48X	3.41X	2.98X

Kilgore Revised

PUBLIC UTILITY COMMISSION OF TEXAS

TEXAS POWER AND LIGHT COMPANY
FINANCIAL ADEQUACY MEASURES
(40% CWIP)

Internal Cash Generation	IP	1980	1981
Return	186,733	188,865	189,925
(Interest)	(70,351)	(76,351)	(82,351)
(Pref. Stock Div.)	(17,853)	(18,602)	(20,852)
(Common Stock Div.)	(63,800)	(61,886)	(68,817)
Depreciation	67,954	69,210	72,264
Deferred Taxes	21,993	21,993	21,993
ITC	33,179	25,710	24,042
TOTAL AVAILABLE	157,855	148,939	136,204
Construction	308,846	263,890	250,836
% Cash Generation	51.1%	56.4%	54.3%
AFUDC As Percent Net Income Available For Common			
Return	186,733	188,865	189,925
(Interest)	(70,351)	(76,351)	(82,351)
(Pref. Stock Div.)	(17,853)	(18,602)	(20,852)
AFUDC	20,791	24,734	26,541
TOTAL AVAILABLE	119,320	118,646	113,262
% AFUDC	17.4%	20.8%	23.4%
Interest Coverage Excluding AFUDC			
Return	186,733	188,865	189,925
FIT	103,976	100,638	96,475
TOTAL AVAILABLE	290,709	289,503	286,400
Coverage	4.13X	3.79X	3.48X
(Supplemental)	(3.44X)		
Interest Coverage Including AFUDC			
Return	186,733	188,865	189,925
FIT	103,976	100,638	96,475
AFUDC	20,791	24,734	26,541
TOTAL AVAILABLE	311,500	314,237	312,941
Coverage	4.43X	4.12X	3.80X
(Supplemental)	(3.69X)		
Cash Coverage Of Common Div.			
Internal Cash	157,855	148,939	136,204
Common Stock Div.	63,800	61,886	68,817
TOTAL AVAILABLE	221,655	210,825	205,021
Coverage	3.47X	3.41X	2.98X

PUBLIC UTILITY COMMISSION OF TEXAS

Exhibit JWK-15
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TEXAS POWER & LIGHT COMPANY
GROWTH IN BASE RATE REVENUE COMPONENTS

	Number of Customers	% Change	KWH Sales (000)(1)	% Change	KW Demand (1)	% Change
1974	559,984	----	15312	----	4071	----
1975	574,498	2.59	16061	4.89	4121	1.23
1976	597,438	3.99	16949	5.53	4283	3.93
1977	622,408	4.18	19023	12.24	4477	4.53
1978	654,097	5.09	21095	10.89	4926	10.03
AVERAGE		3.96		8.34		4.88

(1) excludes interruptible sales to large commercial customer