PEOPLES GAS SYSTEM

BEFORE THE

FLORIDA PUBLIC SERVICE COMMISSION

Docket No. 080318-GU

In Re: Petition for rate increase by Peoples Gas System

Submitted for Filing: August 11, 2008

DIRECT TESTIMONY AND EXHIBITS OF:

DONALD A. MURRY, Ph.D.
On Behalf of Peoples Gas System

I. POSITION AND QUALIFICATIONS

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

A. My name is Donald A. Murry. My business address is 5555 North Grand Boulevard, Oklahoma City, Oklahoma 73112.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT POSITION?

A. I am a Vice President and economist with C. H. Guernsey & Company. I work out of the Oklahoma City, Oklahoma and the Tallahassee, Florida offices. I am also a Professor Emeritus of Economics on the faculty of the University of Oklahoma.

Q. WHAT IS YOUR EDUCATIONAL BACKGROUND?

A. I have a B. S. in Business Administration, and a M.A. and a Ph.D. in Economics from the University of Missouri - Columbia.

Q. PLEASE DESCRIBE YOUR PROFESSIONAL BACKGROUND.

A. From 1964 to 1974, I was an Assistant and Associate Professor and Director of Research on the faculty of the University of Missouri - St. Louis. For the period 1974 to 1998, I was a Professor of Economics at the University of Oklahoma, and since 1998, I have been Professor Emeritus at the University of Oklahoma. Until 1978, I also served as Director of the University of Oklahoma's Center for Economic and Management Research. In each of these positions, I directed and performed academic and applied research projects related to energy and regulatory policy. During this time, I also served on several state and national committees associated with energy policy and regulatory matters, and published and presented a number of papers in the field of regulatory economics in the

energy industries.

Q. WHAT IS YOUR EXPERIENCE IN REGULATORY MATTERS?

A. Since 1964, I have consulted for private and public utilities, state and federal agencies, and other industrial clients regarding energy economics and finance and other regulatory matters in the United States, Canada and other countries. In 1971-72, I served as Chief of the Economic Studies Division, Office of Economics of the Federal Power Commission. From 1978 to early 1981, I was Vice President and Corporate Economist for Stone & Webster Management Consultants, Inc. I am now a Vice President with C. H. Guernsey & Company. In all of these positions, I have directed and performed a wide variety of applied research projects and conducted other projects related to regulatory matters. I have assisted both private and public companies and government officials in areas related to the regulatory, financial and competitive issues associated with the restructuring of the utility industry in the United States and other countries.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE OR BEEN AN EXPERT WITNESS IN PROCEEDINGS BEFORE REGULATORY BODIES?

A. Yes, I have appeared before the U.S. District Court-Western District of Louisiana, U.S. District Court-Western District of Oklahoma, District Court-Fourth Judicial District of Texas, U.S. Senate Select Committee on Small Business, Federal Power Commission, Federal Energy Regulatory Commission, Interstate Commerce Commission, Alabama Public Service Commission, Regulatory Commission of Alaska, Arkansas Public Service

Commission, Colorado Public Utilities Commission, Florida Public Service Commission, Georgia Public Service Commission, Illinois Commerce Commission, Iowa Commerce Commission, Kansas Corporation Commission, Kentucky Public Service Commission, Louisiana Public Service Commission, Maryland Public Service Commission, Mississippi Public Service Commission, Missouri Public Service Commission, Nebraska Public Service Commission, New Mexico Public Service Commission, New York Public Service Commission, Power Authority of the State of New York, Nevada Public Service Commission, North Carolina Utilities Commission, Oklahoma Corporation Commission, South Carolina Public Service Commission, Tennessee Public Service Commission, Tennessee Regulatory Authority, The Public Utility Commission of Texas, the Railroad Commission of Texas, the State Corporation Commission of Virginia, and the Public Service Commission of Wyoming.

II. PURPOSE OF TESTIMONY

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

A. Peoples Gas System ("Peoples" or the "Company") has retained me to analyze its current cost of capital and to recommend a rate of return that is appropriate in this proceeding. Peoples, a local distribution company ("LDC") serving retail gas customers in Florida, is a division of Tampa Electric Company which is, in turn, a wholly-owned subsidiary of TECO Energy, Inc. ("TECO Energy").

Q. HOW DID PEOPLES' AFFILIATE RELATIONSHIP WITH TECO

ENERGY AFFECT YOUR ANALYSIS OF THE COST OF CAPITAL IN THIS PROCEEDING?

A. I selected a group of LDCs to serve as proxy companies for Peoples in my analysis because Peoples is not publicly traded and it is only a small component of TECO Energy. Although for comparative purposes, I did review some of the market-based costs of TECO Energy; however, because of the differences, the TECO Energy financial information was not useful for determining the cost of capital of the LDC. Instead, I focused my analysis on the market-based financial information of a group of comparable LDCs.

Q. METHODOLOGICALLY, HOW DID YOU USE THESE LDCS?

A. The comparable companies are the primary focus of my analysis of the cost of capital of Peoples, and I used them as proxies for Peoples. Methodologically, I selected these companies for my analysis because they were comparable to Peoples in key financial statistics. I also analyzed the relative financial and business risks of Peoples and the LDCs.

Q. ARE YOU SPONSORING ANY EXHIBITS WITH YOUR TESTIMONY?

A. Yes. I am sponsoring Exhibits ___(DAM-1) through ___(DAM-25), which are attached to my testimony.

Q. WERE THESE EXHIBITS PREPARED BY YOU OR UNDER YOUR DIRECT SUPERVISION?

A. Yes.

III. UTILITY REGULATION

Q. PLEASE EXPLAIN HOW REGULATORY POLICIES MAY HAVE

AFFECTED YOUR ANALYSIS AND RECOMMENDATION OF THE COST OF CAPITAL IN THIS PROCEEDING.

A. I structured my analysis based on prevailing regulatory policies regarding the natural gas distribution industry. Economies of scale at the distribution level of utility service indicate that duplicative facilities can be economically inefficient. For this reason, analysts have long recognized the potential for market power to exist in franchised utility markets, and this is the principal economic rationale for utility regulation.

Q. HOW DID THIS RATIONALE FOR UTILITY REGULATION INFLUENCE YOUR ANALYSIS AND RECOMMENDATIONS CONCERNING THE APPROPRIATE ALLOWED RETURN FOR PEOPLES IN THIS PROCEEDING?

A. I recognized that a utility market structure and the associated economic rationale implied that an allowed return for Peoples should be sufficient to recover its costs of providing service, but at the same time, not be higher than necessary to attract and maintain capital. This was the objective of my analysis. I also believe this analytical objective is consistent with my understanding of the legal standard of a fair rate of return in regulation.

Q. WHAT DO YOU MEAN BY THE TERMS A "FAIR RATE OF RETURN" AND A "LEGAL STANDARD?"

A. When I used the term "fair rate of return," I was referring to a return that meets the standards set by the United States Supreme Court decisions in *Bluefield Water Works and Improvement Company vs. Public Service Commission*, 262 U.S. 679 (1923), and *Federal Power Commission vs. Hope Natural Gas Company*, 320 U.S. 591 (1944). As an economist, my

understanding of these decisions is that they characterize a "fair rate of return" as one that provides earnings to investors similar to returns on alternative investments in companies of equivalent risk. Such a return will be sufficient to enable the company to compensate investors for assumed risk, attract capital, operate successfully, and maintain its financial integrity. As an economist, I believe one should recognize that this standard implies that utilities typically do not face the same market influences as more competitive markets, and a single supplier is likely to exist in a market because of economies of scale and scope in providing retail service. This market structure is the common economic rationale for regulation.

IV. ECONOMIC ENVIRONMENT

Q. WHAT ECONOMIC FACTORS ARE IMPORTANT TO YOUR ANALYSIS OF PEOPLES' COST OF CAPITAL IN THIS PROCEEDING?

A. Expectations regarding inflation and interest rates are major economic factors that influence investors' decisions. Generally, inflation expectations cause investors to require returns sufficient to compensate for any loss of purchasing power over the life of a security. In many cases, increasing inflation leads to higher long-term interest rates. Higher interest rates, in turn, lead to higher overall costs of capital. In the case of a regulated utility such as Peoples, the regulatory environment is also a critical component of the business environment. Anticipated regulatory actions, as well as forecasts of inflation and interest rates, affect investors' expectations of utility returns and their evaluations of the risks and returns

of alternative investments.

Q. HOW WOULD YOU DESCRIBE THE CURRENT ECONOMIC ENVIRONMENT?

A. Entering the third quarter of 2008, the U.S. economy is facing record oil prices, increasing inflation, a continuation of the housing market contraction, further credit-market write-downs, increasing unemployment, and falling consumer confidence. On July 11th, the price of a barrel of crude oil on the New York Mercantile Exchange traded for over $148 -- the highest price ever recorded and more than double the price from a year earlier. Strong worldwide demand for crude and the low value of the U.S. dollar have some market analysts estimating the price of a barrel of oil could reach $170. On July 2, 2008, the Dow Industrial average closed down 20 percent from October 2007. In May, 2008, consumer prices rose at an annual rate of 4.2 percent while the labor department reported that wholesale prices rose 7.2 percent. According to the Reuters/Jeffries CRB Index of raw materials prices, commodity prices rose to a record on June 26, 2008 and are up 29 percent in 2008.

Financial institution asset write-downs and credit losses have totaled approximately $400 billion since 2007 and an estimated additional $170 billion may have to be written off by the end of 2009. In June 2008, Moody's downgraded bond insurers MBIA and Ambac to A2 and Aa3 respectively, from AAA, which could lead to further downgrades by financial institutions for structured product hedges. These bond insurers play important roles in financial markets and their downgrading could have serious ramifications. Consequently, it is possible the ongoing crises

in the credit and capital markets could re-intensify.

The housing market continues in a severe slump that threatens the prospects for an economic recovery in the second-half of 2008. Rising mortgage rates, stricter borrowing rules, and a glut of unsold homes indicates the housing market still faces a period of adjustment. New home sales fell to an annual rate of 512,000 in May 2008 and they are at their lowest rate since 1991. Housing starts and building permits suggest the slump in housing may intensify. Housing starts in March 2008 of 947,000 stand in stark contrast to 2.3 million housing starts at the peak of the housing cycle in January 2006. Sales of previously owned homes increased 2 percent in May 2008 to a 4.99 percent annual rate from a record low in April 2008, indicating depressed prices are attracting buyers. The May 2008 sales were down 16 percent from May 2007.

First quarter Gross Domestic Product ("GDP") rose at a revised 1.0 percent annual rate as a result of strong U.S. export activity, an increase in government spending, and an increase in inventories. Continued strength in exports, the government's stimulus program, and the lagged effect of the Federal Reserve Board's ("Fed's") seven rate cuts since September 2007 are expected to counter the overall general economic malaise and result in a low increase in economic activity in the second half of 2008, continuing into 2009. *Blue Chip Financial Forecasts*' ("*Blue Chip's*") consensus forecast for GDP is shown in Exhibit ___(DAM-1).

Q. WHY DID YOU USE *BLUE CHIP* INFORMATION AND FORECASTS IN YOUR ANALYSIS?

A. *Blue Chip* is a respected publication that reports the consensus forecasts of

forty-six leading financial forecasters. These consensus forecasts, which embody the expectations of the leading forecasters of major financial institutions, will influence the market. For this reason alone, these forecasts are more likely to move the market than individual forecasts. After all, in this analysis, it is the overall opinion of investors that we are trying to determine, and this is a very likely source of information on which investors will rely.

Q. HAVE THE FEDERAL RESERVE INTEREST RATE CUTS LOWERED RELEVANT LONG-TERM INTEREST RATES?

A. Unfortunately, they have not. The Federal Open Market Committee ("FOMC") has reduced the target federal funds rate seven times since September 2007, a reduction from 5.25 percent to 2.00 percent. However, the aggressive cutting of the federal funds and discount rates by the Fed has not resulted in lower long-term rates to consumers or businesses similar to the reduction in short-term rates. Although the Fed's actions directly affect short-term borrowing rates between banks, long-term rates are set competitively in the marketplace and only are indirectly affected, if at all. As shown on Exhibit ___(DAM-2), rates for long-term Baa/BBB utility bonds are virtually unchanged from a year ago -- 6.53 percent then to 6.48 percent today. Rates for A-rated industrial bonds also are virtually unchanged at 6.21 percent one year ago and 6.19 percent today.

Q. HAS THE FEDERAL RESERVE BOARD UNDERTAKEN ANY EXCEPTIONAL POLICIES IN RESPONDING TO THESE MARKET CONDITIONS?

A. Yes. In December 2007, the Fed announced it would inject emergency

short-term funds into the market through a never-before-used Term Auction Facility ("TAF") to address "heightened liquidity pressures in term funding markets." On May 2, 2008, the Fed announced it would boost the TAF to $150 billion per month from $100 billion per month, the third increase since the program began in December 2007. The TAFs began as a coordinated effort with the central banks of the United Kingdom, Canada, Switzerland, and the European Union to increase short-term funds after losses on subprime mortgages unhinged normal bank lending practices. On March 11, 2008, the Fed announced another new vehicle, the Term Securities Lending Facility ("TSLF"), to address the deepening crisis in the credit markets. Under this new program, the Federal Reserve Board will lend up to $200 billion of Treasury securities to primary dealers to promote liquidity and to foster the functioning of the financial markets generally. The TSLF program subsequently expanded the list of acceptable collateral for loans. In March, the Fed also established the Primary Credit Dealer Facility that made the Fed the lender of last resort to brokers as well as banks. This marked the first time since the 1930's the Fed lent money directly to non-depository institutions.

On March 16, 2008, the Fed arranged a $30 billion bail out of investment bank Bear Stearns Cos. using J.P. Morgan, another investment bank, as a conduit. The extraordinary measures needed to be taken by the Fed highlight how the crises in the credit and capital markets have increased risks to investors.

Q. WHAT ARE SOME OF THE CONSEQUENCES OF THE CURRENT ECONOMIC SITUATION?

A. Forecasts for economic growth have decreased over the last several months while forecasts of inflation have gone up. *Blue Chip* predicts 0.8 percent real GDP growth for the second quarter of 2008, 1.2 percent real GDP growth for the third quarter, and 0.9 percent growth for the fourth quarter. *Blue Chip* forecasts a 4.2 percent increase in the Consumer Price Index ("CPI") in the third quarter of 2008 and increasing interest rates through the fourth quarter of 2009.

Q. YOU MENTIONED THE INFLATION RATE AS AN IMPORTANT FACTOR TO EXAMINE. WHAT ARE THE CURRENT INFLATION CONSIDERATIONS?

A. The forecast for core inflation, which excludes food and energy prices, is 2.4 percent for 2008, which is above the Fed "comfort zone" of 1 percent to 2 percent. In its June 25, 2008 press release, the FOMC stated, "Although downside risks to growth remain, they appear to have diminished somewhat, and the upside risks to inflation and inflation expectations have increased."

Increasing energy prices and the developing economies continue to exert pressure on world commodity prices and hence, U.S. inflation. Prices paid to factories, farmers and other producers were up 6.5 percent in April. Steel mill products increased 5.5 percent in April and agricultural chemicals were up 5.6 percent. Scrap steel and iron increased 32 percent, the most since July 2004, and scrap copper was up 5.3 percent. The Reuters/University of Michigan Survey of households showed inflation expectations of 5.1 percent for the coming 12 months -- the largest increase since 1982.

Q. WHAT IS THE FORECASTED LEVEL OF BOND INTEREST RATES?

A. Generally, analysts expect long-term bond rates to increase despite the Federal Reserve's efforts to lower short-term rates. For example, in the near-term, *Blue Chip* forecasts show increases from 4.75 percent today to 5.1 percent for the 30-year Treasury through the fourth quarter of 2009. I have shown forecasts for the 10-year and 30-year Treasuries in Exhibit ___(DAM-3). As an example of longer term forecasts, *Value Line* recently predicted the AAA corporate bond yield would increase from 5.6 percent today to 6.5 percent over the 2011-2013 period. As a benchmark for the rates of return set in this proceeding, long-term corporate interest rates are the most relevant for utility returns. I have shown the longer-term forecasts for long-term corporate yields and some Treasury securities in Exhibit ___(DAM-4).

Q. CAN YOU SUMMARIZE HOW THE ECONOMIC ENVIRONMENT WAS IMPORTANT TO YOUR ANALYSIS AND RECOMMENDATIONS IN THIS PROCEEDING?

A. The risks facing the credit and capital markets are significant. Energy prices are at all-time highs and inflation is accelerating. At the same time, utilities are facing record high energy prices, increasing infrastructure and environmental requirements, and increasing operating costs. The challenges facing the credit and capital markets compound the risks to capital-intensive utility companies. Rising inflation and rising interest rates erode earnings and adversely affect the cost of a utility's debt and equity, eroding utility margins. That is, despite the lowering of short-term

rates, the expected increase in long-term interest rates increases the cost of utility securities.

V. METHODOLOGY

Q. HOW DID YOU CONDUCT YOUR ANALYSIS AND DETERMINE YOUR RECOMMENDATION?

A. I studied the current economic environment to provide a perspective for my analysis. The current and forecasted long-term interest rates and investors' fears of inflation are the backdrop for gas distribution utility rates of return at this time. I also noted the current return on common stock equity earned by the comparable companies and Peoples. I reviewed published financial information for Peoples, TECO Energy, the parent company of Peoples, and the comparable natural gas distribution utilities. Because of the recent and prospective volatility of the equities markets, I took special note of the financial and business risks faced by Peoples.

Because Peoples does not have publicly traded common stock, I applied the generally accepted Discounted Cash Flow ("DCF") and Capital Asset Pricing Model ("CAPM") methods to the comparable companies to develop a market-based measure of the cost of common equity of Peoples. The comparable companies are publicly traded LDCs that are similar in many respects to Peoples so, as representative, proxy LDCs, their costs of common equity are also relevant to Peoples.

As an important measure of adequacy in determining a sufficient but not higher than necessary return, I tested my recommended return by evaluating the After-Tax Interest Coverage ratio at my recommended return. Then I compared this coverage to similar coverages for the

comparable LDCs.

Q. IN EXPLAINING YOUR METHODOLOGY IN THIS CASE, YOU SAID YOU USED A GROUP OF COMPARABLE LDCS AS PROXY COMPANIES FOR PEOPLES IN YOUR ANALYSIS. WHAT CRITERIA WERE USED TO SELECT THOSE PROXY LDCS?

A. First, I selected comparable companies -- all publicly traded LDCs -- from a group of primarily gas distribution companies reported on by *Value Line*. Second, because of the importance of size in determining the cost of capital of a utility, I limited the group of distribution companies to firms with a market capitalization of less than $1.7 billion. Third, as a measure of financial health and similar investor expectations, I excluded companies that do not pay a dividend. By selecting a group of publicly-traded LDCs comparable to Peoples with these various characteristics, I could use them as suitable proxies for this analysis.

Q. YOU SAID THAT YOU USED TECO ENERGY MARKET DATA. HOW DID YOUR USE OF THESE DATA TO DEVELOP THE COST OF CAPITAL OF PEOPLES AFFECT YOUR ANALYSIS?

A. Although I recognized TECO Energy as the source of the common equity funds for Peoples and the cost of capital of the two are obviously somewhat related, I did not use the TECO Energy market data in my determination of the appropriate cost of capital for Peoples. The financial information and the cost of capital of the comparable companies are more relevant and the determinant information for establishing an allowed rate of return for Peoples in this proceeding. These companies provide a representative sample of the financial and cost of capital information for a

financially healthy gas distribution utility such as Peoples.

Q. WHY DID YOU NOT USE THE TECO ENERGY INFORMATION IN YOUR ANALYSIS?

A. The risks associated with the recent financial difficulties of TECO Energy are not relevant to measuring the cost of capital of Peoples. Consequently, I did not use the market-based calculations of the cost of capital of TECO Energy and the financial information of TECO Energy had little bearing on my analysis.

Q. CAN YOU EXPLAIN IN MORE DETAIL WHY YOU USED *VALUE LINE* AS THE SOURCE FOR CHOOSING COMPARABLE LDCs FOR YOUR ANALYSIS?

A. *Value Line* is a respected financial information source. It is readily available to investors and often found in most libraries, so it is a source that is likely to influence investors' decisions. A second important consideration for selecting *Value Line* is that it is independent from the investment community. *Value Line* does not underwrite securities. In the past, critics have justifiably condemned organizations that publish financial data while benefiting directly from a relationship with the company under review. In contrast, *Value Line* just sells financial information and does not have this conflict of interest.

Q. WHAT LDCS DID YOU SELECT FOR THE PROXY COMPANIES IN YOUR ANALYSIS OF PEOPLES?

A. The six LDCs that are similar to Peoples are Laclede Group, New Jersey Resources, NICOR, Northwest Natural Gas, South Jersey Industries, and Southwest Gas.

VI. CAPITAL STRUCTURE

Q. WHAT CAPITAL STRUCTURE DID YOU USE IN ESTIMATING PEOPLES' COST OF CAPITAL IN THIS PROCEEDING?

A. For ratemaking purposes in this proceeding, Peoples' capital structure in the projected test year consists of long-term debt of $227,773,987 (39.53 percent), short-term debt of $3,456,397 (0.61 percent), residential customer deposits of $9,338,641 (1.66 percent), commercial customer deposits of $26,309,935 (4.67 percent), tax credits of $7,862 (0.00 percent), inactive customer deposits of $480,368 (0.09 percent), deferred income taxes of $27,670,682 (4.91 percent), and common equity of $273,561,565 (48.54 percent). This capital structure is illustrated in Exhibit ___(DAM-5).

Q. HOW DOES THE CAPITAL STRUCTURE PROJECTED BY PEOPLES FOR RATEMAKING PURPOSES COMPARE WITH THE CAPITAL STRUCTURES OF THE LDCS YOU HAVE USED AS PROXY COMPANIES IN YOUR ANALYSIS?

A. I compared the common equity ratio proposed by Peoples to the common equity ratios of the group of comparable companies. Equity ratio is a most critical component of the capital structure when estimating the cost of common stock. Peoples' common equity ratio of 48.54 percent is low relative to the 56.5 and 58.3 percent average common equity ratio of the comparable gas utilities (for 2007 and estimated 2008, respectively). I have illustrated the common equity ratios of these companies in Exhibit ___(DAM-6). I also show in this schedule the 2007 common equity ratio of TECO Energy of 39.0 percent. This common stock equity ratio is very

low, reflects the recent financial stress and write offs of TECO Energy and is not appropriate for ratemaking for Peoples.

Q. TECO ENERGY AND PEOPLES HAVE DIFFERING COMMON EQUITY RATIOS. HOW DID THESE CAPITAL STRUCTURES INFLUENCE YOUR ANALYSIS?

A. Peoples' common equity ratio for ratemaking is similar to the financial risk profile of the group of comparable companies. TECO Energy has a lower common stock equity ratio of 38.5 percent in 2008 which reflects the extensive write-offs of its merchant investments and the associated financial distress. This further distinguishes it from Peoples and the comparable LDCs.

Q. YOU MENTIONED THAT THIS CAPITAL STRUCTURE IS THE CAPITAL STRUCTURE USED FOR RATEMAKING PURPOSES. IS THERE ANOTHER CAPITAL STRUCTURE THAT SHOULD BE COMPARED TO THE PROXY GROUP?

A. Yes. Since the ratemaking capital structure includes components that analysts typically do not consider as capital structure items, such as customer deposits, deferred taxes and investment tax credits, I have compared a financial capital structure, using only investor sources of capital components, to the capital structures of the proxy group. Removing the "non-typical" components I mentioned previously and focusing on a capital structure comprised of the investor sources only – long term debt, short term debt and common equity – results in a higher equity ratio for Peoples of 54.7 percent. This common equity ratio of Peoples is still comparatively lower than the 58.3 percent equity ratio of

the proxy group. It is also important to note that some regulatory jurisdictions do not include short term debt and customer deposits in the ratemaking capital structure. Since Florida uses these components in setting rates, this should be taken into consideration when comparing the common equity percentage for Peoples to the proxy group.

Q. WHAT HAS PEOPLES PROJECTED AS ITS COST OF SHORT-TERM DEBT?

A. Peoples has projected a cost of short-term debt in the projected test year of 4.50 percent.

Q. WHAT IS PEOPLES' COST OF LONG-TERM DEBT?

A. The embedded weighted average cost of Peoples' long-term debt in the projected test year is 7.20 percent.

Q. WHAT ARE THE COSTS OF THE OTHER CAPITAL STRUCTURE COMPONENTS IN THE PROJECTED TEST YEAR?

A. The costs for the remaining capital structure components, except common equity, are 6.00 percent for residential customer deposits, 7.00 percent for commercial customer deposits, and 0.00 percent for the others.

VII. FINANCIAL RISK

Q. YOU SAID YOU CONSIDERED "FINANCIAL RISKS." WHAT DO YOU MEAN BY THE TERM FINANCIAL RISK?

A. Financial risk is the risk to a company's common stockholders resulting from the company's use of financial leverage. This risk results from using fixed income securities, or debt, to finance the company. Any return to common stockholders is a residual return because it is available only after

a company pays its debt-holders. This means the return on common stock is less certain than the contracted return to debt-holders. Consequently, the common stock equity ratio is a measure of financial risk. The lower the common equity ratio, the greater the relative prior obligation owed to debt-holders, and the greater the risk faced by common stockholders.

Q. YOU SAID PEOPLES' COMMON EQUITY RATIO IS LESS THAN THE AVERAGE EQUITY RATIO OF THE COMPARABLE LDCS. DOES THIS INDICATE THAT PEOPLES' FINANCIAL RISK IS GREATER THAN THE FINANCIAL RISK OF THE PROXY GAS DISTRIBUTORS?

A. Yes. The relative common equity ratios indicate that the proxy companies have less financial exposure than Peoples.

Q. HAVE YOU IDENTIFIED ANY OTHER MEASURES OF FINANCIAL RISK THAT MIGHT BE IMPORTANT IN ANALYZING PEOPLES' COST OF CAPITAL?

A. Yes. I reviewed some published measures that assess the level of financial risk. I examined *Value Line*'s "Financial Strength" and Standard & Poor's ("S&P's") "Bond Ratings." These metrics are shown in Exhibit ___(DAM-7). As illustrated, *Value Line*'s "Financial Strength" is A for three of the six comparable companies. S&P's bond rating for four of the comparable LDCs is A, or higher. From these independent measures of risk, I concluded that the proxy group was, in general, recognized as relatively financially healthy. This indicates that this group is an appropriate proxy group for ratemaking.

VIII. BUSINESS RISK

Q. YOU SAID YOU INVESTIGATED THE "BUSINESS RISK" OF PEOPLES DURING YOUR ANALYSIS. WHAT DO YOU MEAN BY THE TERM BUSINESS RISK?

A. Business risk is the exposure of the returns to common stockholders that results from business operations. At this time, unprecedented high natural gas prices are a particularly significant source of threats to LDCs' margins, and this is a risk to common equity investors.

Q. CAN YOU EXPLAIN IN MORE DETAIL THE POTENTIAL SOURCES OF BUSINESS RISKS TO LDCS?

A. A pervasive business risk to LDCs is the threat to operating margins resulting from generally declining sales because of such factors as price elasticity, customer by-pass, more energy-efficient buildings and increased appliance efficiencies. In today's gas markets, operating costs are increasing as a result of high gas costs, inflation, and high borrowing costs. High gas costs increase costs to customers and also lead to increases in the LDCs' working capital requirements, short-term debt costs, accounts receivable, and bad debt expenses. To the common equity investors, these added costs threaten the margins they expect and are therefore a threat to capital acquisition.

Q. ARE BUSINESS RISKS IMPORTANT TO LDCS CURRENTLY?

A. Yes. Natural gas prices are at unprecedented, extremely high levels. Additionally, higher prices in other countries have been attracting liquefied natural gas ("LNG") supplies at a time when LNG imports have been emerging as the marginal source of U.S. natural gas supply. All customer groups respond to high gas prices and some demand destruction

is inevitable, especially from anticipated levels based on forecasts that assumed lower gas prices. This substitution and reduction of customer consumption is likely to continue. Often, conservation measures require installing equipment and altering industrial and consumptive practices, and it takes time for their effects to work through the economic system. How investors will respond to these conditions, in an otherwise volatile equities market, is not entirely clear, but investors will perceive them as added risks.

Q. DID YOU REVIEW ANY COMPARABLE MEASURES OF BUSINESS RISK FOR PEOPLES AND THE COMPARABLE COMPANIES?

A. Yes. I reviewed *Value Line*'s measures of "Safety" and "Timeliness." Each of these measures is influenced by business risks, and, for that matter, regulatory risk, which one can think of as a sub-category of business risk. The Safety measure for the comparable companies ranges from "1" to "3," with a "1" being the highest and a "5" the lowest. The Safety ranking for the comparable LDCs is relatively strong. However, *Value Line* considers none of the comparable LDCs as better than an average "3" in Timeliness. I illustrate these rankings in Exhibit ___(DAM-8).

Q. IS PEOPLES SUBJECT TO BUSINESS RISKS SIMILAR TO THOSE OF OTHER LDCS?

A. In some respects the business risk exposure of Peoples is greater than for other LDCs because of the relatively warm climate in the Company's service territory. Peoples' customers can shift consumption in response to

high prices, which is less likely to be the case in markets where heating loads predominate. The customer usage decline in Peoples' service territory is large relative to other LDCs, and this relatively greater risk exposure is likely to continue with high gas prices. As stated in a Baird Utilities Research report dated April 30, 2008, "Peoples Gas 1Q08 net income declined 9% YOY to $10 million from $11.0 million in 1Q07 primarily reflecting lower average retail customer usage due to milder weather conditions and the slowing economy, partially offset by sluggish 0.3% customer growth. The 0.3% customer growth was well below the historical 3%-plus averages. Again reflecting the slowdown in the housing market, with average customer usage patterns continuing to decline."

IX. FINANCIAL STATISTICS

Q. YOU SAID YOU REVIEWED KEY FINANCIAL STATISTICS. WHAT FINANCIAL STATISTICS DID YOU REVIEW?

A. I reviewed common stock earnings, dividend histories and forecasts, dividends declared and the payout ratios and market-price earnings ratios for the comparable LDCs.

Q. WHAT DID THE RECENT COMMON STOCK EARNINGS SHOW?

A. *Value Line* forecasts the proxy LDCs to earn 11.5 percent on common equity in 2008. Notably, *Value Line* predicts that both New Jersey Resources and South Jersey Industries will earn 13.0 percent on common equity this year. I have shown these earnings on common equity in Exhibit ___(DAM-9). As this schedule also shows, the average common

equity earnings for the comparable companies have been in the range of 11.4 to 12.7 percent over the past five years.

Q. WHAT DID YOUR ANALYSIS OF THE DIVIDENDS PAID OUT BY THE COMPARABLE LDCS SHOW?

A. The comparable LDCs have generally experienced a very modest growth in declared dividends over the past five years. I have compared these results in Exhibit ___(DAM-10). The current dividend payout ratios of the comparable LDCs average 56.3 percent. Exhibit ___(DAM-11) contrasts the dividend payout ratios for each of the comparable LDCs.

Q. WHAT DID YOUR REVIEW OF THE PRICE-EARNINGS RATIOS OF THE COMPARABLE COMPANIES SHOW?

A. My Exhibit ___(DAM-12) shows the current average price-earnings ("P/E") ratio for the comparable group of 16.5. From other market information I have reviewed previously, I believe this is representative of the current P/E ratios in the utility industry.

X. COST OF COMMON STOCK

Q. YOU STATED PREVIOUSLY THAT YOU CALCULATED THE COST OF COMMON STOCK FOR PEOPLES. WHAT METHODS DID YOU USE?

A. I used the two generally accepted market-based methods, the DCF and the CAPM, to estimate the cost of common stock in my analysis. I applied each of these methods to estimate the costs of common stock equity for Peoples by estimating the cost of common equity of each of the comparable gas distribution utilities, and I compared the results among these various companies. For each of these two methods, I assessed their

underlying assumptions and their analytical strengths and weaknesses. Subsequently, I evaluated the results from these analyses in the context of current market conditions and the relative risks.

Q. CAN YOU DEFINE THE DISCOUNTED CASH FLOW, OR "DCF" METHODOLOGY FOR MEASURING THE COST OF COMMON EQUITY?

A. The following formula expresses the DCF calculation of an investor's required rate of return:

$$K = D/P + g$$

Where:
- K = cost of common equity
- D = dividend per share
- P = price per share and
- g = rate of growth of dividends, or alternatively, common stock earnings.

In this expression, "K" is the capitalization rate required to convert the stream of future returns into a current value. "D" is the current level of dividends paid to the common stock holders. "P" is the valuation of the common stock by the investors reflected by recent market prices. Consequently, the ratio "D/P" is the current dividend yield on an investment in the company's common stock. The "g" is the growth rate anticipated by the investor.

Q. WHAT ASSUMPTIONS UNDERLYING THE DCF METHOD ARE IMPORTANT WHEN ESTIMATING THE COST OF COMMON EQUITY IN PRACTICE?

A. I believe one can identify the following important underlying assumptions

associated with the basic annually compounded DCF model:

1. Investors are risk averse. That is, for a given return, investors will seek the alternative with the lowest amount of risk. In other words, the greater the risk that investors attribute to a given investment, the greater the return they require from that investment.
2. The discount rate must exceed the growth rate, *i.e.*, "K", in the stated expression, must exceed "*g*". The mathematics associated with the derivation of the basic annually compounded DCF model requires this assumption.
3. The payout and the price earnings ratios remain constant.
4. Expected cash flows consist of dividends and the future sale price of the stock. The sales price in any period will equal the present value of the dividends and the sales price expected after that period including any liquidating dividend. Consequently, the sales price in any period is equal to the present value of all expected future dividends.
5. Dividends are paid annually.
6. There is no external financing.

As noted in these assumptions, expected cash flows consist of dividends and the future sale price of common stock. Common stock earnings are the critical common denominator because earnings make paying dividends possible and retained earnings, invested in the company, provide for the future growth in stock value.

XI. STRENGTHS OF THE DCF

Q. WHAT ARE THE KEY STRENGTHS OF THE DCF METHOD THAT YOU THINK ARE IMPORTANT TO YOUR ANALYSIS?

A. The DCF method is theoretically sound, and this is its greatest strength. It relates an investor's expected return in the form of dividends and capital gains to the value that an investor is willing to pay for those returns. The DCF implies that an investor is willing to pay a market price that is equal to the present value of an anticipated stream of earnings. This relationship theoretically reveals the opportunity cost of investors' funds. In this way, the DCF relates known market price information and the company's dividend and earnings performance to determine the value that investors place on anticipated returns. A practical advantage of the DCF, as a cost of capital tool in a ratemaking proceeding, is that regulatory analysts commonly use it, and participants in proceedings generally understand it.

Q. IS THIS ESTIMATE OF THE COST OF COMMON EQUITY CONSISTENT WITH THE REGULATORY OBJECTIVE OF SETTING AN ALLOWED RETURN EQUAL TO THE RETURNS OF EQUIVALENT RISK?

A. Yes. The DCF develops an estimate of the marginal cost of investing in a given utility, but this may not be sufficient to attract capital in subsequent markets. It is consistent with the principle of setting a return equal to returns of equivalent risk at the margin, but this cost of capital is not necessarily sufficient to assure that a return at this level will attract and maintain capital even in the near term.

XII. WEAKNESSES OF THE DCF

Q. WHAT WEAKNESSES OF THE DCF MAY BE IMPORTANT

WHEN USED IN A RATEMAKING PROCEEDING?

A. A DCF analysis may have either conceptual or data problems or both. As to the conceptual problems, analysts may misinterpret and consequently misapply the DCF because they do not understand the limits of the analysis. For example, a common conceptual problem is the use of historical growth rates in DCF calculations, when these rates are not accurate estimates of investors' expectations of the future returns. Likewise, using dividend growth rates mechanically in a DCF formulation will be misleading if investors are purchasing and selling a stock because of anticipated changes in earnings and potential capital gains. That is, if an assumption (such as dividends being the sole source of value expectations of an investor) is not accurate, then analysts will err if they do not recognize this.

Also, as I stated previously, the DCF method calculates the marginal, or incremental, cost of common stock equity of a company. If analysts do not recognize the theoretical significance of this calculation, they may misapply the results of their calculations. As a marginal cost estimate, the DCF produces an estimate of the minimal return necessary to attract or maintain investments in a company's common stock.

Q. FROM A PRACTICAL STANDPOINT, WHY IS THE MARGINAL COST NATURE OF THE DCF SIGNIFICANT IN A REGULATORY SETTING?

A. If a DCF-based cost of common equity, even if realistically developed, becomes the allowed return for a regulated utility, this will not provide enough cushion so the realized return will be sufficient to attract and

maintain capital. Analysts, interpreting the results of the DCF calculations, may not recognize this. Consequently, the DCF-based calculations may be misleading. In fact, this misunderstanding of the DCF results can virtually assure that a regulated company will not have the opportunity to earn its allowed return.

Q. DO YOU KNOW WHETHER REGULATORY COMMISSIONS HAVE RECOGNIZED THESE LIMITATIONS OF THE DCF?

A. Yes. Regulatory commissions have recognized the difficulties of relying on the raw, unadjusted DCF calculations. In one such example, a regulatory commission recognized that the assumptions underlying the DCF model rarely, if ever, hold true.[1] This commission stated that an "...unadjusted DCF result is almost always well below what any informed financial analyst would regard as defensible and therefore requires an upward adjustment based largely on the expert witness' judgment."[2]

Q. IN ADDITION TO AN ADJUSTMENT BASED ON "EXPERT" JUDGMENT, IN YOUR EXPERIENCE, ARE YOU AWARE OF ANY ATTEMPTS BY REGULATORS AND ANALYSTS TO COMPENSATE FOR THE MARGINAL COST NATURE OF THE DCF?

A. Yes. Both regulators and analysts have often applied compensating adjustments for the marginal cost nature of the DCF method, and they do so in a variety of ways. Although these various adjustments may differ greatly in their approaches, each addresses the inadequacy of the DCF's

[1] Phillips, Charles F., Jr. and Robert G. Brown, *Chapter 9: The Rate of Return,* The Regulation of Public Utilities: Theory and Practice, (1993: Public Utility Reports, Arlington, VA) p. 423.
[2] Ibid, *In re Indiana Michigan Power Company,* 116 PUR4th 1, 17 (Ind. 1990).

marginal cost estimates of the cost of capital in some manner. For example, I have observed such practices as applying a "flotation" adjustment, a "market pressure" adjustment or an adjustment to common equity to reflect the market values of debt and equity.

Q. WHAT IS A FLOTATION ADJUSTMENT?

A. It is a calculation adjustment applied to the DCF to compensate for costs associated with the issuance of new securities.

Q. WHY DO ANALYSTS USE A FLOTATION ADJUSTMENT AS ONE WAY OF ADDRESSING THE MARGINAL COST NATURE OF THE DCF?

A. Analysts apply a flotation adjustment because the market-based DCF estimate of the cost of capital does not account for the costs of issuing common stock. That is, the market-based DCF does not incorporate the unavoidable costs incurred when issuing securities, such as legal fees, investment banker fees and the publication costs of a prospectus. The flotation adjustment attempts to raise the market-measured cost of capital, which is the return required to attract the marginal investor, to the same level as the true cost of capital of the utility.

Q. DID YOU APPLY A FLOTATION ADJUSTMENT IN YOUR DCF ANALYSIS?

A. No, I did not. I believe that recognizing the high end results of the DCF method is usually sufficient compensation for the price impact of flotation costs on a common stock.

Q. IF A UTILITY INCURS FLOTATION COSTS THAT REDUCE THE LEVEL OF FUNDS RECEIVED FROM A STOCK

ISSUANCE, WHY DID YOU NOT APPLY SUCH AN ADJUSTMENT?

A. Although the costs of flotation are inescapable and real, I believe it is an adequate recognition of the marginal cost nature of the DCF, which also recognizes the potential impact of flotation costs, to focus on the higher end of the various DCF results. In my opinion, this normally provides appropriate compensation to attract and maintain investment in a utility's common stock, and it also avoids trying to exact a level of implied precision from the DCF methodology that is not realistic.

Q. WHAT IS A "MARKET PRESSURE" ADJUSTMENT?

A. A market pressure adjustment is compensation for the impact of a common stock issuance on the prices of that common stock. Analysts apply this adjustment because the DCF measured cost of common stock cannot account for the prospective price impact of additional, newly issued shares. This is another instance when the marginal cost of common stock measured prior to this issuance will fail to capture the true cost of capital necessary to attract investors.

Q. ARE YOU RECOMMENDING THAT AN ANALYST SHOULD ADD A MARKET PRESSURE ADJUSTMENT TO A DCF RESULT WHEN DETERMINING A RECOMMENDED ALLOWED RETURN?

A. No. Normally, the higher end of the DCF market-based results will provide an adequate return on common stock for a regulated utility. This is sufficient under most market circumstances. Such a return should be adequate to compensate for the impact of newly issued securities and to

attract investors to newly issued common stock.

Q. WHY WOULD AN ADJUSTMENT TO THE COST OF EQUITY TO REFLECT MARKET VALUES FOR DEBT AND EQUITY BE APPROPRIATE?

A. Regulatory convention dictates that an analyst should use the book values of securities when establishing the capital structure of a utility for ratemaking. However, some analysts adjust the cost of equity for ratemaking to compensate for the difference between market value and book value. Of course, investors must measure the marginal cost returns against the market values of their investment. Some analysts recognize the difference between market valuation and book valuation of common stock to recognize the marginal cost nature of the DCF method.

Q. DID YOU ADJUST PEOPLE'S CAPITAL STRUCTURE FOR THE DIFFERENTIAL IN MARKET VALUE AND BOOK VALUE?

A. No, I did not. As in the cases of the other adjustments that analysts and regulators develop largely to compensate in ratemaking for the marginal cost nature of the DCF technique, I believe that recognizing the high end of the DCF results is adequate.

XIII. DATA USED IN DCF ANALYSIS

Q. YOU DEFINED THE VARIABLES USED IN THE DCF ANALYSIS. WHAT GROWTH RATE DATA DID YOU USE IN YOUR DCF ANALYSIS?

A. I used forecasted earnings growth estimates as the primary measure in my DCF analysis. Forecasts of common stock earnings capture investors' expectations about future returns, and these are the expectations that affect

their decisions to invest. The financial academic literature is replete with findings that analysts' forecasts are superior to historical performance for determining expected growth.

Q. YOU MENTIONED FINDINGS IN THE ACADEMIC LITERATURE. HAVE ANALYSTS PERFORMED STUDIES REGARDING WHICH DATA USED IN A DCF ANALYSIS ARE MOST LIKELY TO CAPTURE INVESTORS' EXPECTATIONS ABOUT FUTURE RETURNS?

A. Yes. As early as 1982, academic studies showed that analysts' forecasts were superior to historical, trended growth rates for DCF analyses.

Q. PLEASE EXPLAIN SOME OF THOSE STUDIES.

A. A number of authors have addressed the merits of analysts' forecasts in a DCF analysis of the cost of capital. For example, a well-known financial textbook by Brigham and Gapenski explains why analysts' growth rate forecasts are the best source for growth measures in a DCF analysis. They state:

> Analysts' growth rate forecasts are usually for five years into the future, and the rates provided represent the average growth rate over the five-year horizon. Studies have shown that analysts' forecasts represent the best source for growth for DCF cost of capital estimates.[3]

Research reported in the academic literature supports this position. For

[3] Brigham, Eugene F., Louis C. Gapenski, and Michael C. Ehrhardt, "Chapter 10: The Cost of Capital," Financial Management Theory and Practice, Ninth Edition (1999: Harcourt Asia, Singapore), p. 381.

example, Gordon, Gordon and Gould found:

> ... the superior performance by KFRG (forecasts of growth by security analysts) should come as no surprise. All four estimates of growth rely upon past data, but in the case of KFRG a larger body of past data is used, filtered through a group of security analysts who adjust for abnormalities that are not considered relevant for future growth.[4]

Q. ARE YOU FAMILIAR WITH ACADEMIC ARTICLES THAT APPLY SPECIFICALLY TO THE DCF GROWTH RATES USED IN REGULATORY PROCEEDINGS?

A. Yes. Timme and Eisemann examined the effectiveness of using analysts' forecasts rather than historical growth rates for determining investors' expectations in rate proceedings. They concluded:

> The results show that all financial analysts' forecasts contain a significant amount of information used by investors in the determination of share prices not found in the historical growth rate... The results provide additional evidence that the historical growth rates are poor proxies for investor expectations; hence they should not be used to estimate utilities' cost of capital.[5]

Q. DO YOU FIND THESE STATEMENTS BY THESE AUTHORS CREDIBLE?

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[4] Gordon, David A., Myron J. Gordon, and Lawrence I. Gould, "Choice among methods of estimating share yield," *Journal of Portfolio Management;* Spring 1989, Volume 15, Number 3, pages 50-55.

[5] Timme, Stephen G. and Peter C. Eisemann, "On the Use of Consensus Forecasts of Growth in the Constant Growth Model: The Case of Electric Utilities," *Financial Management*, Winter 1989, pp. 23-35.

A. Yes. These results are not surprising because investors, when contemplating an investment in a common stock, very frequently review reputable analysts' forecasts. Such information, available to them at the time they contemplate investing, will influence their decision to invest.

Q. IN DEVELOPING YOUR DCF ANALYSIS, DID YOU ALSO REVIEW HISTORICAL COMMON STOCK EARNINGS AND DIVIDEND INFORMATION?

A. Yes. For a historical perspective, I reviewed the common equity earnings and dividend histories of the proxy companies studied. As I stated previously, for analytical purposes and to enhance the reliability of my DCF analysis, I relied principally on forecasted common stock earnings in my DCF analysis.

Q. WHAT DID YOUR REVIEW OF THE GROWTH RATES OF COMMON STOCK EARNINGS AND DIVIDEND HISTORIES SHOW?

A. The most significant observation was that TECO Energy's dividends and earnings both declined significantly by 11.0 percent over the previous five years. Also, the financial decline of TECO Energy reinforced my methodological decision to use the comparable companies as proxies for Peoples in this analysis. Both the historical and forecasted dividend growth rates of the proxy LDCs are lower than the earnings per share growth rates. This is indicative of conservative dividend policies of these companies, which one could expect in the recent volatile markets. I have shown these dividend and earnings per share growth rates in Exhibit ___(DAM-13).

Q. PLEASE ELABORATE ON THE IMPORTANCE OF THE RELATIONSHIP BETWEEN EARNINGS PER SHARE AND DIVIDEND GROWTH RATES.

A. Earnings must be sufficient to support the dividend policies of the companies over time, and many factors influence boards of directors in determining common dividend policies. In the industry generally, the relatively stable dividend growth rates, as compared to common stock earnings, have been observable for many utilities for a number of years. One can determine that this differential reflects a consistent, relatively conservative dividend policy. Previously, I noted that dividend payout ratios have been declining, and this differential in earnings and dividend growth rates is another way of looking at the same phenomenon. This differential is particularly revealing because Congress reduced the tax rates on dividends in 2003. This should make dividends relatively more attractive to investors and might induce boards of directors to increase dividend payouts rather than reduce them. For TECO Energy, the declines in earnings and dividends are especially important, because this means that its market-measured cost of capital may not be a reliable estimate of the cost of capital of Peoples. This confirms my methodological decision to use the comparable LDCs as proxies for Peoples in my analysis.

Q. WHAT WAS THE SOURCE OF THE COMMON STOCK PRICE DATA THAT YOU USED IN YOUR DCF ANALYSIS?

A. I used *YAHOO! Finance* as the source of market price information. I obtained current prices for a recent two-week period and the high and low

share prices for a 52-week period. *YAHOO! Finance* is a widely-used internet portal that provides electronic financial information including daily prices. The current market prices reflect current market valuations. The longer time period recognizes the changing market conditions over time and helps determine a reasonable allowed return to develop rates expected to be in place for the period.

XIV. DCF CALCULATIONS

Q. PLEASE EXPLAIN THE RESULTS OF YOUR DCF CALCULATIONS.

A. In one DCF analysis, I took a relatively long-term outlook by reviewing the combined historical and forecasted dividend growth rates and the common stock prices for the past year. Looking at more current DCF results, I used the longer-term dividend growth rates and market prices from a recent two-week period. As an illustration of the volatility and unreliability of the TECO Energy DCF for measuring the cost of common equity for Peoples for ratemaking, the results are 2.44 percent and 4.00 percent. Because these are less than the current costs of even low-risk U.S. Treasuries, they are not useful in this proceeding. The most important benchmark results were the average for the comparable LDCs, which were 6.94 percent and 7.72 percent. These also are unrealistic because they are similar to the returns on Baa-rated corporate bonds. I illustrate the results of these DCF calculations using the two different price series in Exhibits ___(DAM-14) and ___(DAM-15).

Q. YOU MENTIONED THAT EARNINGS PER SHARE GROWTH IS LIKELY TO BE A MORE RELIABLE ESTIMATE OF THE COST

OF COMMON EQUITY FOR PEOPLES. WHAT WERE THE RESULTS OF YOUR ANALYSIS USING EARNINGS PER SHARE GROWTH RATES?

A. To take a longer-term view of the earnings per share growth, I combined the historical earnings per share growth and the forecasted earnings per share growth. These DCF results are somewhat more credible, but they are still relatively close to the current returns on corporate bonds. This also calls these results into question, so I adopted them along with, and in the context of, other findings. The high end estimates for the proxy LDCs were 10.24 percent and 11.02 percent for the more recent and longer price series respectively. I have illustrated these results in Exhibits ___(DAM-16) and ___(DAM-17).

Q. WHEN YOU DISCUSSED THE PROBLEMS WITH THE DCF ANALYSIS AND FINDINGS REPORTED IN THE ACADEMIC LITERATURE YOU POINTED OUT THE RELIANCE OF INVESTORS ON ANALYSTS' FORECASTS. WHAT WERE THE RESULTS OF YOUR DCF ANALYSIS USING FORECASTED EARNINGS PER SHARE GROWTH RATES?

A. The similar DCF result for the comparable companies using the recent prices was 9.26 percent. The higher end result of the comparable companies' DCFs using the longer price series was 10.04 percent. Exhibits ___(DAM-18) and ___(DAM-19) show these comparative results.

XV. CAPITAL ASSET PRICING MODEL

Q. YOU SAID YOU USED THE CAPITAL ASSET PRICING MODEL IN YOUR ANALYSIS. WHAT IS THE CAPITAL ASSET PRICING

MODEL?

A. The Capital Asset Pricing Model, or "CAPM," is a risk premium method that measures the cost of capital based on an investor's ability to diversify by combining securities of various risks into an investment portfolio. It measures the risk differential, or premium, between a given portfolio and the market as a whole. The diversification of investments reduces the investor's total risk. However, some risk is non-diversifiable, *e.g.*, market risk, and investors remain exposed to that risk. The theoretical expression of the CAPM is:

$$K = R_F + \beta (R_M - R_F)$$

Where: K = the required return

R_F = the risk-free rate

R_M = the required overall market return

β = beta, a measure of a given security's risk relative to that of the overall market.

In this expression, the value of market risk is the differential between the market rate and the "risk-free" rate. Beta is the measure of the volatility, as a measure of risk, of a given security relative to the risk of the market as a whole. By estimating the risk differential between an individual security and the market as a whole, an analyst can measure the relative cost of that security compared to the market as a whole.

XVI. STRENGTHS OF THE CAPM

Q. WHAT ARE THE NOTABLE STRENGTHS OF THE CAPM METHOD?

A. The CAPM is a risk premium method that typically provides a longer-term

perspective of capital costs than more market sensitive methods such as the DCF. The CAPM relates current debt costs to the cost of common stock by linking the incremental cost of capital of an individual company with the risk differential between that company and the market as a whole. Although it is a less refined calculation than the DCF, it is a valuable tool for assessing the general level of the cost of a security. Since the DCF estimates are more sensitive to changes in market prices and earnings, and hence, are more volatile than the CAPM estimates, I have used the CAPM as a stable benchmark of the reasonable cost of common stock of the studied companies. The CAPM will also typically produce relatively similar results for companies in the same industry, whereas the DCF method may produce wide-ranging calculations even among companies in the same industry.

XVII. WEAKNESSES OF THE CAPM

Q. DOES THE CAPM HAVE PROBLEMS THAT MAY BE IMPORTANT WHEN APPLYING IT IN A RATEMAKING PROCEEDING?

A. Yes. The CAPM results are very sensitive to a company's beta. The beta is a single-dimension, market-volatility-over-time, measure of risk. For this reason, the CAPM cannot account for any risks not included as measures of market volatility, and may not identify significant market risks to investors. It may also understate or overstate the cost of capital. Most utilities have betas less than one, and a number of analysts have shown that the CAPM underestimates the cost of capital of companies with betas less than one. This is obviously important when one uses the

CAPM to estimate the cost of capital in a rate proceeding because utilities generally have betas less than one. Also, the academic literature has shown that the standard CAPM underestimates the cost of capital of smaller companies, and this underestimation of capital costs may require an adjustment.

Q. CAN YOU CITE SOURCES IN THE ACADEMIC LITERATURE THAT RECOGNIZE THAT THE CAPM METHOD UNDERESTIMATES THE COST OF CAPITAL OF SMALLER COMPANIES?

A. Yes. For at least two decades, various authors have reached this conclusion, and together they reveal the empirical consistency of this finding. For example, R. W. Banz[6] and M. R. Reinganum[7] in the 1980's are good references which point out the size bias in the CAPM. Reinganum examined the relationship between the size of the firm and its price-earnings ratio. He found that small firms experienced average returns greater than those of large firms which had equivalent risk as measured by the beta. Of course, the beta is the distinguishing measure of risk in the CAPM. Banz confirmed that beta does not explain all of the returns associated with smaller companies; hence, the CAPM would understate their cost of common equity. In the same time frame, Fama and French confirmed that the Banz analysis consistently rejected the central CAPM hypothesis that beta sufficed to explain the expected return

[6] Banz, R.W., "The Relationship Between Return and Market Value of Common Stock," *Journal of Financial Economics*, March 1981, pp. 3-18.

[7] Reinganum, M. R., "Misspecification of Capital Asset Pricing: Empirical Anomalies Based on Earnings, Yields, and Market Values," *Journal of Financial Economics*, March 1981, pp. 19-46.

of investors.[8]

Q. WHAT DID YOU MEAN WHEN YOU SAID THAT THE CAPM METHOD REQUIRES A SIZE ADJUSTMENT?

A. Although repeated studies showed that the CAPM method possesses a bias that understates the expected returns of small companies, for several years, this remained an empirical observation without a clear remedy. However, Ibbotson Associates developed an adjustment for this bias. Furthermore, Ibbotson is the common source of data for the risk premium used in CAPM analyses. Ibbotson discussed the size bias in the CAPM as follows:

> One of the most remarkable discoveries of modern finance is that of the relationship between firm size and return. The relationship cuts across the entire size spectrum but is most evident among smaller companies, which have higher returns on average than larger ones. Many studies have looked at the effect of firm size on return.[9]

Q. IS THE SIZE BIAS IMPORTANT IN YOUR ANALYSIS OF THE COST OF CAPITAL OF PEOPLES?

A. Yes. In this instance, the LDCs are relatively small compared to all of the companies represented in the equities markets, and the size bias, or alternatively the adjustment necessary to adjust for this bias, is significant.

Q. ARE YOU CERTAIN THAT AN ANALYST SHOULD APPLY THE

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[8] Fama, Eugene F., and Kenneth R. French, "The CAPM is Wanted, Dead or Alive," *The Journal of Finance*, Vol. LI, No. 5, pp. 1947-1958.

[9] Chapter 7: Firm Size and Return, "Ibbotson Associates Stocks, Bonds, Bills, and Inflation: 2008 Yearbook Valuation Edition," edited by James Harrington, p. 129.

CAPM SIZE PREMIUM WHEN ESTIMATING THE COST OF COMMON EQUITY OF A REGULATED UTILTY?

A. Yes. In fact, Ibbotson Associates used an electric utility as an example to illustrate how to apply the size premium when developing a CAPM. I have included a page from that publication that shows this illustration as my Exhibit ___(DAM-20).

Q. IN YOUR ANALYSIS, DID YOU APPLY THE SIZE ADJUSTMENT RECOMMENDED BY IBBOTSON ASSOCIATES?

A. Yes. In my CAPM analysis, for the method requiring a size adjustment, I followed the approach that I discussed and presented previously.

Q. ARE YOU AWARE OF ANY REGULATORY COMMISSIONS THAT HAVE ACCEPTED THIS SIZE ADJUSTMENT TO THE CAPM IN UTILITY RATE PROCEEDINGS?

A. Yes. One example is the Minnesota Public Utilities Commission, which stated the following in the Interstate Power and Light Company case:

> ... the Commission concurs with the Administrative Law Judge in his conclusion that, whatever the merits and applicability of the Ibbotson study, for purposes of this case, it is reasonable to accept its principal conclusion – that size of a firm is a factor in determining risk and return.[10]

XVIII. CAPM METHODOLOGY

Q. PLEASE EXPLAIN THE CAPM METHODOLOGY YOU USED IN YOUR ANALYSIS.

[10] *In the Matter of the Petition of Interstate Power and Light Company for Authority to Increase its Electric Rates in Minnesota,* Docket No. E-001/GR-03-767, p. 12.

A. I applied two different, but complementary, approaches to estimate a CAPM cost of capital. One of these methods examines the historical risk premium of common stock over high grade corporate bonds. In this analysis, I used the long-term Aaa corporate bond rates as reported by the Federal Reserve and an arithmetic mean of the returns on Ibbotson small and large company stocks to estimate historical market returns. From this relationship, I calculated the differential as the historical market risk premium. The other method integrates the risk premium of common stocks to long-term government bonds in recent markets. The "risk free rate" is the current yield on 20-year Treasury bonds as reported by the Federal Reserve. This second method requires an adjustment for the bias because of company size. As I stated, this method for compensating for the size bias is a relatively recent analytical development, and I presented the explanation of how to apply this adjustment previously. The betas in both analyses are as reported by *Value Line*.

Q. ONE OF THE CAPM METHODS THAT YOU DEVELOPED USED HIGH GRADE GOVERNMENT BONDS AS REPRESENTATIVE OF THE MARKET RATES. WHY DID YOU USE THIS METHOD?

A. The Federal Reserve uses short-term Treasuries as a monetary policy vehicle, and the government market actions preclude an accurate, unbiased measurement of market valuations. The government securities are subject to the risk of changing Fed policies. The government securities also have been directly influenced by the "flight-to-quality" in the current volatile markets. Corporate bonds are a step removed from these direct federal policy influences and more representative of market-measured, benchmark

measures for a risk premium analysis.

Q. DOES THE DECLINE IN EARNINGS PER SHARE AND DECLARED DIVIDENDS THAT YOU NOTED PREVIOUSLY AFFECT THE CAPM IN THE SAME WAY THAT IT AFFECTS THE DCF ANALYSIS?

A. No. The decline in earnings and dividends directly influences the mathematical DCF of the cost of capital. The decrease in common stock earnings and dividends will not affect the CAPM calculations in the same direct way. The CAPM has a longer-term, risk premium perspective.

Q. WHAT APPROACHES TO THE CAPM DID YOU USE?

A. As I stated previously, I used two different CAPM analyses based on slightly different assumptions. These two methods provide comparative long-term calculations. They provide complementary CAPM analyses and stable benchmarks for comparison with the more volatile DCF analysis. One of these methods recognized the risk associated with size of company in a rather traditional CAPM methodology, and I applied the compensation method recommended by Ibbotson Associates. The other method used historical market relationships to reveal a risk premium.

Q. HOW DID YOU CALCULATE THE ESTIMATED COST OF COMMON EQUITY USING THE MORE TRADITIONAL CAPM METHOD?

A. In this more traditional method, I used the risk premium of common stocks and the "risk free rate" of 20-year Treasury bonds in current markets as reported by the Federal Reserve. I used the company betas reported by *Value Line* to calculate the "Adjusted Equity Risk Premium".

As this method requires an adjustment for the size bias that I described earlier, I applied the appropriate adjustment recommended by Ibbotson and Associates. The sum of these results is the estimated cost of common equity for the comparable LDCs. Using this method produced an average CAPM result of 12.46 percent for the comparable LDC group. I have illustrated these results in Exhibit ___(DAM-21).

Q. YOU SAID THAT YOU ALSO DEVELOPED A CAPM ANALYSIS THAT WAS BASED ON HISTORICAL MARKET RELATIONSHIPS. WHAT DID THIS METHOD SHOW?

A. The second CAPM method is a method that does not require a separate recognition of the size bias because it embodies the historical relationship between common equity and debt. In this analysis, I used the long-term Aaa corporate bond rates as reported by the Federal Reserve and an arithmetic mean of the returns on Ibbotson Associates' small and large company stocks to estimate the historical market returns. From this relationship, I calculated the differential as the historical market risk premium. Again, I used the betas for the respective companies as reported by *Value Line* to estimate the "Adjusted Risk Premium". Applying this method, the average CAPM estimate for the comparable LDC utilities was 13.01 percent. I calculate and illustrate these results in Exhibit ___(DAM-22).

XIX. CAPM RESULTS

Q. PLEASE EXPLAIN THE RESULTS OF YOUR CAPM ANALYSIS.

A. The results of my two different CAPM analyses for the comparable LDCs are 12.46 percent and 13.01 percent. Because I used the comparable

LDCs as proxies for Peoples, these are the more relevant CAPM results for this proceeding. I have illustrated the CAPM calculations in Exhibits ___(DAM-21) and ___(DAM-22).

XX. TARIFF PROVISIONS

Q. IN YOUR ANALYSIS OF THE COST OF CAPITAL OF PEOPLES, DID YOU HAVE ANY CONCERNS ABOUT THE COMPANY'S RATE STRUCTURE?

A. Yes, I did. Peoples' is maintaining its previous rate structure at a time when many LDCs, including utilities in the comparable, proxy group, are altering, or have altered, their rate design in order to reduce their business risk. Although the LDCs call these individual provisions by various names, they fall under the general term of "decoupling."

Q. WHAT IS THE NATURE OF THIS BUSINESS RISK?

A. This business risk results from a problem in recovering fixed costs through rates because of declining per customer consumption. This risk, a product of high natural gas prices, is the business risk that I discussed earlier. It is a universal problem throughout the industry, and virtually all LDCs face this business risk. However, many have revised their tariffs to try to mitigate their exposure.

Q. CAN YOU IDENTIFY SOME OF THE RATE PROVISIONS THAT ADDRESS THIS BUSINESS RISK?

A. Although I have not made an exhaustive study of the rate provisions addressing this virtually universal business risk, I have noted a number of such provisions in LDC rates, including the comparable companies that I used in my analysis for this proceeding. Of course, weather normalization

provisions are commonplace in regions where a large percentage of revenues are weather sensitive, but many rate provisions address directly the business risks of revenue exposure to customer consumption levels. For example, in Laclede Gas' 2007 rate case, the Missouri Public Service Commission approved rate design changes that would increase the likelihood of recovery of fixed costs and margins despite reductions in sales volumes. Weather and other factors that affect customer usage were the reasons for this provision.[11] New Jersey Natural Gas has both a Conservation Incentive Program (CIP) and a Weather Normalization Clause (WNC).[12] The Oregon Public Utility Commission renewed Northwest Natural Gas' Conservation Tariff as well as a Weather Normalization mechanism.[13] South Jersey Natural Gas has a tariff that provides for a Temperature Adjustment Clause (TAC) and a Conservation Incentive Program (CIP).[14] The California division of Southwest Gas has a Core Fixed Cost Adjustment Mechanism (CFCAM) which accounts for weather deviations from normal levels and customer conservation.[15]

Q. HOW DID THIS BUSINESS RISK AFFECT YOUR ANALYSIS OF THE COST OF COMMON EQUITY OF PEOPLES?

A. Although Peoples has not altered its rate design to mitigate the risk of declining per customer usage, many of the proxy LDCs have such provisions. Therefore, the measured costs of common equity of the proxy group are biased to the low side when used as estimates of the cost of

[11] Laclede Group 2007 10-K Report, page 24.
[12] New Jersey Resource 2007 10-K Report, page 3-4.
[13] Northwest Natural Gas 10-Q Report for the Quarter Ending September 30, 2007, page 19.
[14] South Jersey Industries 10-Q Report for the Quarter Ending September 30, 2007, page 22.
[15] Cal. PUC Sheets 6001-G and 6559-G.

common equity of Peoples. Therefore, I took this risk differential into account in my evaluation of the market-based costs of common equity of the proxy group. From a business risk capital standpoint, Peoples cost of common equity should be above the average cost of common equity of the proxy group.

XXI. RECOMMENDED RETURN

Q. HOW DID YOU DETERMINE A RECOMMENDED ALLOWED RETURN ON COMMON STOCK FOR PEOPLES GAS?

A. I relied on the measures of the costs of common equity of the comparable LDCs as proxies for Peoples, taking into consideration that the current actual market return is 11.5 percent. To interpret the current market measures of the cost of common equity of Peoples, I observed the critical factors of persistent inflationary pressures, capital flight to quality and, despite the Federal Reserve actions to lower short-term interest rates, high and forecasted rising long-term rates. In the current volatile market, not surprisingly, the market-based, estimated cost of capital for the proxy LDC group varied considerably, as shown in Exhibit ___(DAM-23). The results from relevant DCF calculations were 10.04 percent and 11.02 percent. The relevant CAPM results were 12.46 percent and 13.01 percent. Looking to the upper end of the DCF results and the lower end of the CAPM results, the relevant range is from 11.0 to 12.5 percent range. With the benchmark proxy LDCs currently earning 11.5 percent and Peoples' lower common equity, and therefore higher financial risk, I believe that a return slightly above the proxy companies is appropriate for Peoples in this proceeding.

Q. WHAT IS YOUR RECOMMENDED RETURN ON COMMON EQUITY FOR PEOPLES IN THIS PROCEEDING?

A. I am recommending an allowed return for Peoples in this proceeding of 11.50 percent. In addition to the market based estimates of the cost of common equity of the proxy LDCs, I especially noted the relatively low common equity ratio and high financial risk of Peoples as compared to the proxy LDCs, and the rising long-term corporate interest rates in a very volatile market.

Q. WHAT IS THE TOTAL COST OF CAPITAL THAT YOU ARE RECOMMENDING FOR PEOPLES IN THIS PROCEEDING?

A. When incorporated in Peoples' capital structure for the projected test year, an allowed return on common equity of 11.50 percent produces a total cost of capital of 8.88 percent. I have illustrated the calculation of this total cost of capital in Exhibit ___(DAM-24).

XXII. FINANCIAL INTEGRITY TEST

Q. YOU SAID YOU TESTED YOUR RECOMMENDED RETURN TO VERIFY ITS ADEQUACY AND APPROPRIATENESS FOR PEOPLES. WHAT WAS THE NATURE OF THIS TEST?

A. I compared the After-Tax Interest Coverage ratio at my recommended allowed return on common equity to the current After-Tax Interest Coverage ratios of the proxy LDCs. The After-Tax Interest Coverage is a straight-forward comparison of available funds to interest payments. It is a measure of a company's ability to meet fixed interest obligations and a quick test of the financial integrity of the Company at my recommended allowed return. That is, the higher the coverage ratio, the greater the

likelihood that the returns from operations at my recommended allowed return will be sufficient to meet my fixed interest obligations.

Q. WHAT DID YOUR COMPARISON OF AFTER-TAX INTEREST COVERAGE RATIOS FOR PEOPLES AT YOUR RECOMMENDED ALLOWED RETURN SHOW?

A. The After-Tax Interest Coverage ratio for the comparable LDCs is 3.75 times and the After-Tax Interest Coverage ratio for Peoples at my recommended allowed return and the appropriate capital structure in this proceeding is 2.69 times. This confirms that my recommended allowed return for Peoples is very conservative relative to the coverages of other LDCs in current markets. I illustrate this comparison in Exhibit ___(DAM-25). If anything, these coverages call into question whether my recommended return will be adequate to attract capital if market volatility continues or worsens.

XXIII. SUMMARY

Q. PLEASE SUMMARIZE YOUR TESTIMONY.

A. First, in order to analyze the current cost of capital and to recommend a rate of return and capital structure appropriate for Peoples in this proceeding, I studied the current background economic environment. I then determined the appropriate capital structure and the cost of debt for this proceeding. Methodologically, as Peoples is not publicly traded, I relied on the relevant financial and market information and current levels of returns of a proxy group of LDCs.

Based on Peoples' capital structure in the projected test year, I noted that the Company's common equity ratio is lower and of higher risk

than the average of the proxy, comparable LDCs.

As market measures of the cost of common stock, I applied two methods, namely the Discounted Cash Flow and Capital Asset Pricing Models, to the group of proxy companies for my market analysis of the costs of common equity for Peoples. The relevant results ranged from 10.04 percent to 13.01 percent, with a relevant range of 11.0 to 12.5 percent. As an important measure of current market returns, the average return on common stock for the proxy, comparable LDCs is currently 11.5 percent.

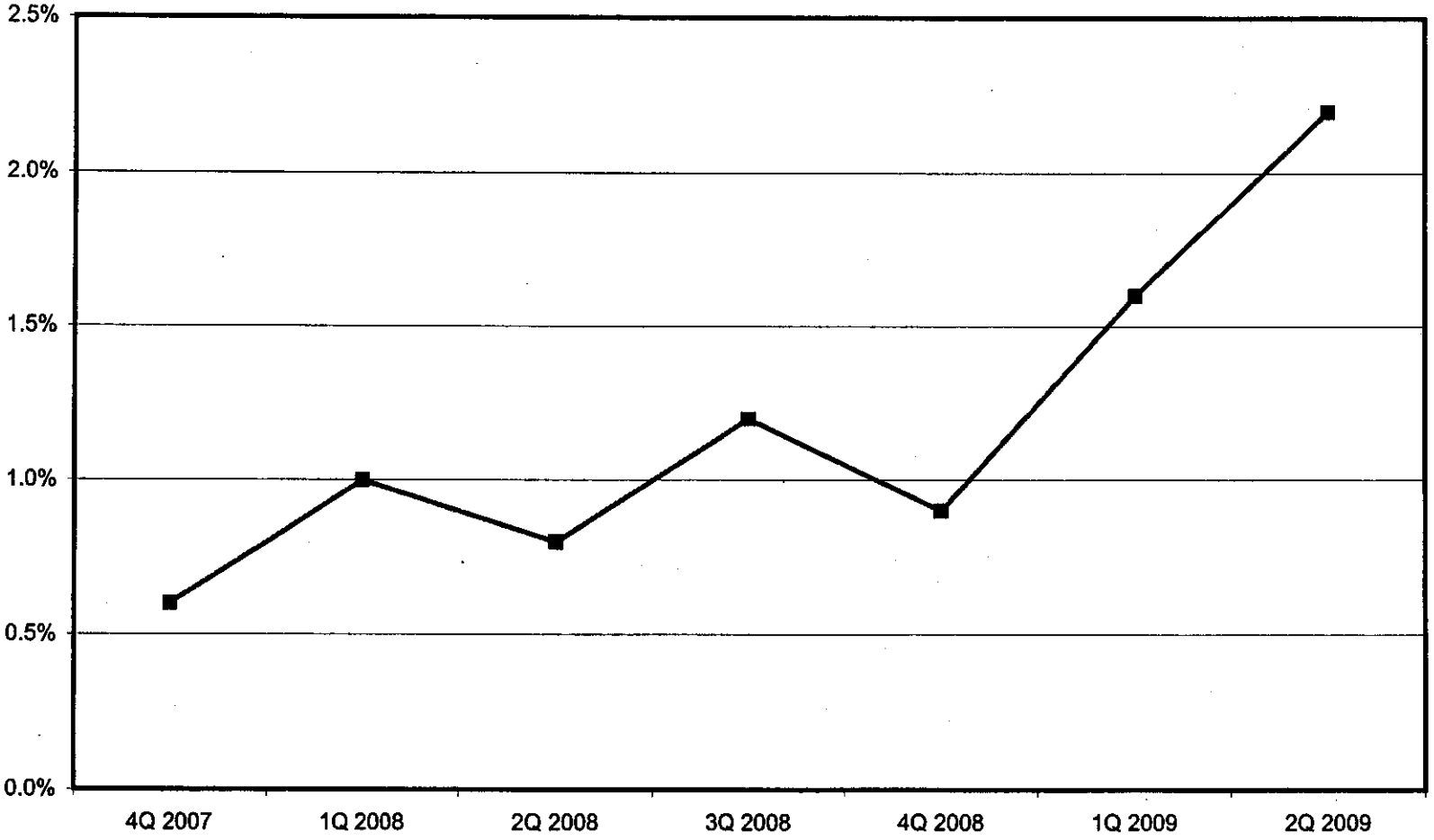
Recognizing the recent market volatility, inflationary pressures, and rising long-term corporate interest rates, and significantly, that Peoples has a lower common equity ratio and higher financial risk than the proxy LDCs, I am recommending an allowed return on common equity of 11.50 percent for the Company. Based on the costs of the other capital components in Peoples' capital structure in the projected test year, I am recommending a return on total capital of 8.88 percent for Peoples.

Finally, I compared the After-Tax Interest Coverage for Peoples at my recommended allowed return to the current After-Tax Interest Coverage for the comparable, proxy LDCs. At my recommended allowed return of 11.50 percent the After-Tax Interest Coverage for Peoples will be 2.69 times. The comparable companies currently have a much higher After-Tax Interest Coverage of 3.75 times. This confirms that my recommended allowed return is very conservative.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes, it does.

Peoples Gas System
Real GDP Consensus Forecast



Source: Blue Chip Financial Forecasts, July 1, 2008

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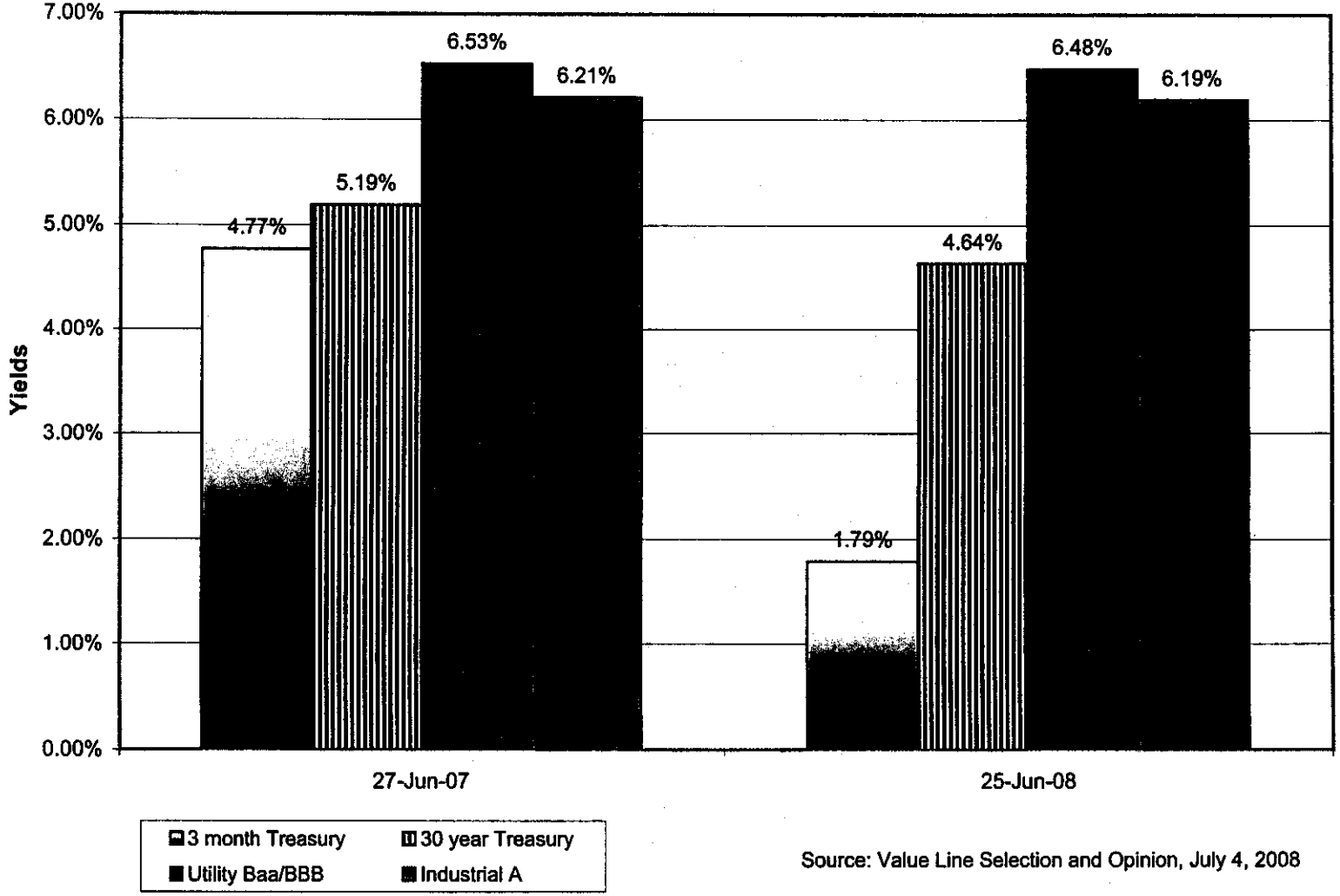
Peoples Gas System
Comparison of Selected Bond Yields



Source: Value Line Selection and Opinion, July 4, 2008

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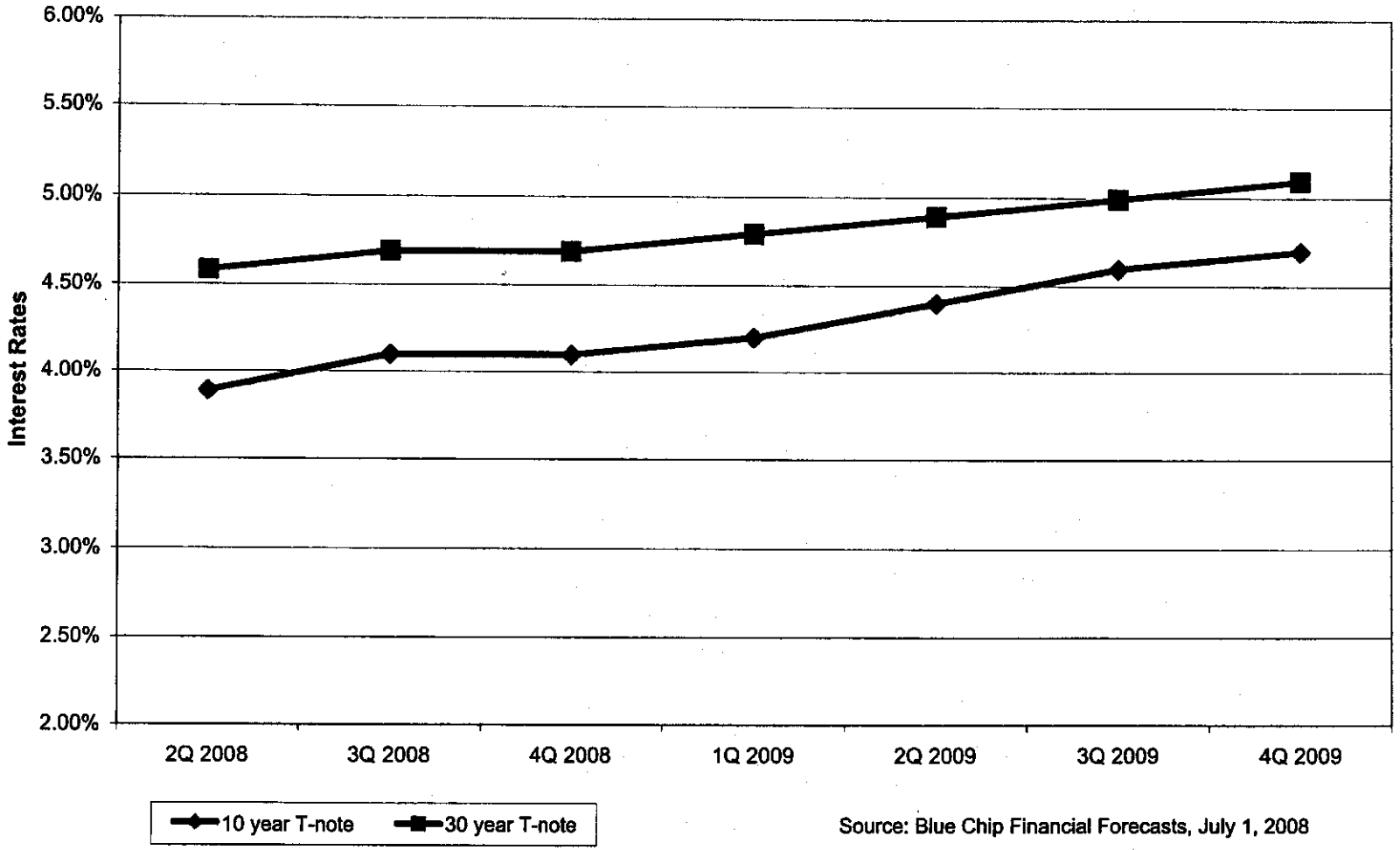
Peoples Gas System
Blue Chip Treasury Forecasts



Source: Blue Chip Financial Forecasts, July 1, 2008

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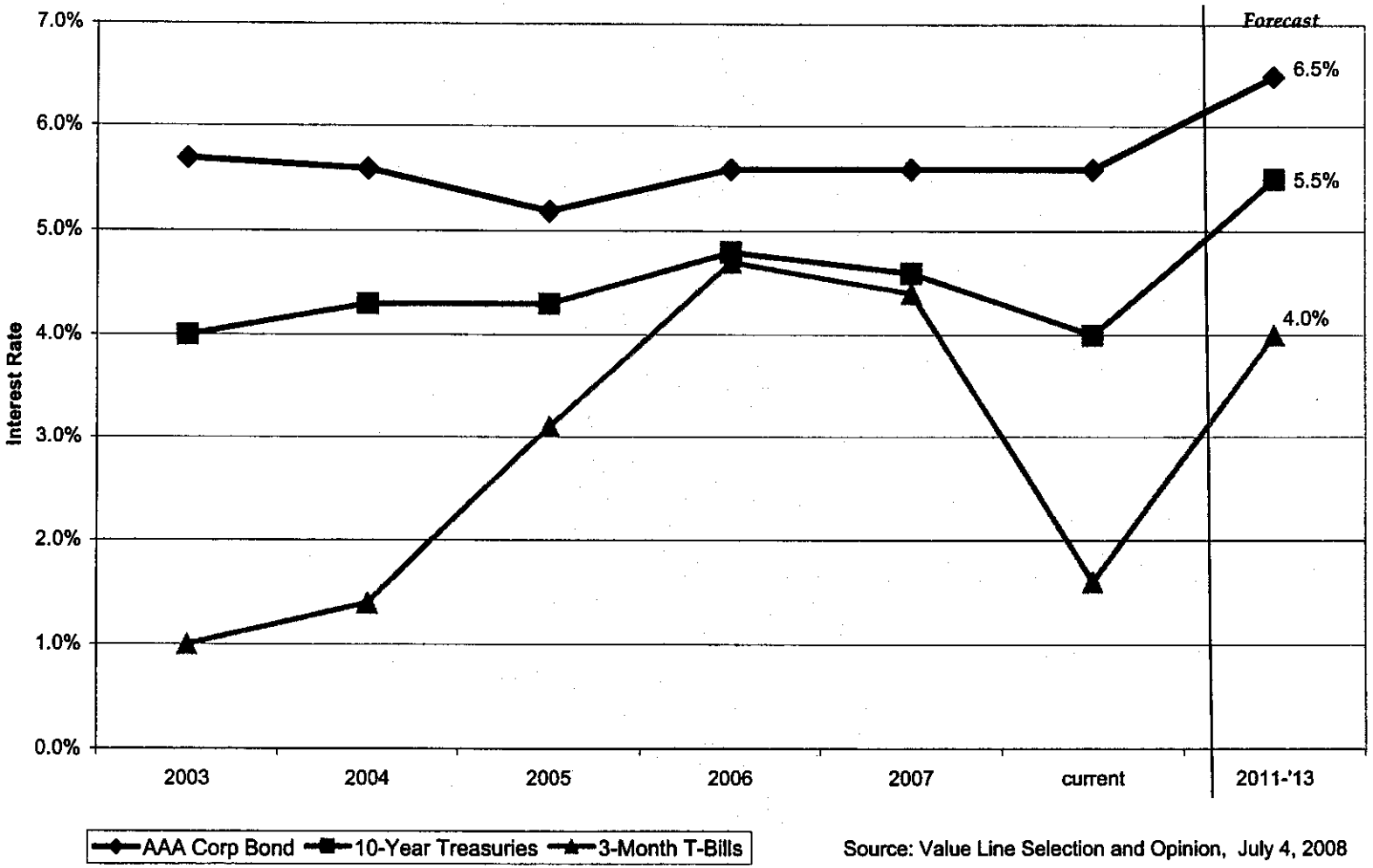
Peoples Gas System
Value Line Interest Rates and Forecasts
2003- 2013



Source: Value Line Selection and Opinion, July 4, 2008

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Peoples Gas System

Proposed Capital Structure

As of December 31, 2009

Item	Amount	Share
Long-Term Debt	$222,773,987	39.53%
Short-Term Debt	$3,456,397	0.61%
Customer Deposits - Residential	$9,338,641	1.66%
Customer Deposits - Commerical	$26,309,935	4.67%
Tax Credits	$7,862	0.00%
Customer Deposits - Inactive	$480,368	0.09%
Deferred Income Taxes	$27,670,682	4.91%
Common Equity	$273,561,565	48.54%
Totals	$563,599,437	100.00%

Source: Peoples Gas Company Work Papers

Peoples Gas System

Comparable Gas Companies

Comparison of Common Equity Ratios

Company	2004	2005	2006	2007	2008E	Forecast '11-'13
TECO Energy, Inc.	24.9%	30.0%	35.0%	39.0%	38.5%	42.0%
Laclede Group	48.3%	51.8%	50.4%	54.6%	55.0%	53.0%
New Jersey Resources	59.7%	58.0%	65.2%	62.7%	66.0%	73.0%
Nicor, Inc.	60.1%	62.5%	63.7%	69.0%	73.0%	80.0%
Northwest Natural Gas	54.0%	53.0%	53.7%	53.7%	53.0%	52.0%
South Jersey Industries	51.0%	55.1%	55.3%	57.3%	58.5%	59.0%
Southwest Gas	35.8%	36.2%	39.4%	41.9%	44.5%	48.0%
Comparable Companies' Averages	51.5%	52.8%	54.6%	56.5%	58.3%	60.8%

Source: Value Line Investment Survey

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Comparable Gas Companies

Comparison of Financial Strength and Bond Ratings

Company	Value Line Financial Strength	S&P Rating
TECO Energy, Inc.	B	BBB-
Laclede Group	B+	A
New Jersey Resources	A	A
Nicor, Inc.	A	AA
Northwest Natural Gas	A	AA-
South Jersey Industries	B++	BBB+
Southwest Gas	B	BBB-

Sources: Value Line Investment Survey
www.standardandpoors.com

Peoples Gas System

Comparable Gas Companies

Comparison of Value Line's Safety and Timeliness Rank

	Safety Rank	Timeliness Rank
TECO Energy, Inc.	3	3
Laclede Group	2	3
New Jersey Resources	1	3
Nicor, Inc.	3	3
Northwest Natural Gas	1	4
South Jersey Industries	2	3
Southwest Gas	3	3
Comparable Companies' Average	2.0	3.2

Source: Value Line Investment Survey

Peoples Gas System

Comparable Gas Companies

Comparison of Returns on Common Equity

	2004	2005	2006	2007	2008E	Five Year Average
TECO Energy, Inc.	10.7%	13.3%	14.1%	13.2%	10.0%	12.3%
Laclede Group	10.1%	10.9%	12.5%	11.6%	12.0%	11.4%
New Jersey Resources	15.3%	17.0%	12.6%	10.1%	13.0%	13.6%
Nicor, Inc.	13.1%	12.5%	14.7%	14.3%	11.0%	13.1%
Northwest Natural Gas	8.9%	9.9%	10.9%	12.5%	11.5%	10.7%
South Jersey Industries	12.5%	12.4%	16.3%	12.8%	13.0%	13.4%
Southwest Gas	8.3%	6.4%	8.9%	8.5%	8.5%	8.1%
Comparable Companies' Averages	11.4%	11.5%	12.7%	11.6%	11.5%	11.7%

Source: Value Line Investment Survey

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Peoples Gas System

Comparable Gas Companies

Comparison of Declared Dividends

	2004	2005	2006	2007	2008E
TECO Energy, Inc.	0.76	0.76	0.76	0.78	0.80
Laclede Group	1.35	1.37	1.40	1.45	1.49
New Jersey Resources	0.87	0.91	0.96	1.01	1.11
Nicor, Inc.	1.86	1.86	1.86	1.86	1.86
Northwest Natural Gas	1.30	1.32	1.39	1.44	1.52
South Jersey Industries	0.82	0.86	0.92	1.01	1.10
Southwest Gas	0.82	0.82	0.82	0.86	0.90
Comparable Companies Averages	1.17	1.19	1.23	1.27	1.33

Source: Value Line Investment Survey

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Comparable Gas Companies

Comparison of Dividend Payout Ratios

	2004	2005	2006	2007	2008E	Five Year Average
TECO Energy, Inc.	106%	75%	65%	61%	82%	77.8%
Laclede Group	73%	72%	59%	63%	56%	64.6%
New Jersey Resources	49%	50%	50%	64%	53%	53.2%
Nicor, Inc.	84%	81%	65%	62%	79%	74.2%
Northwest Natural Gas	69%	63%	59%	52%	57%	60.0%
South Jersey Industries	52%	50%	37%	48%	49%	47.2%
Southwest Gas	49%	65%	42%	44%	44%	48.8%
Comparable Companies' Averages	62.7%	63.5%	52.0%	55.5%	56.3%	58.0%

Source: Value Line Investment Survey

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Comparable Gas Companies

Comparison of Average Annual Price-Earnings Ratio

Company	2004	2005	2006	2007	Current
TECO Energy, Inc.	19.3	17.1	13.8	13.3	20.5
Laclede Group	15.7	16.2	13.6	14.2	15.2
New Jersey Resources	15.3	16.8	16.1	21.6	16.6
Nicor, Inc.	15.9	17.3	15.0	15.0	17.5
Northwest Natural Gas	16.7	17.0	15.9	16.7	17.3
South Jersey Industries	14.1	16.6	11.9	17.2	16.9
Southwest Gas	14.3	20.6	15.9	18.4	15.3
Comparable Companies' Averages	15.3	17.4	14.7	17.2	16.5

Source: Value Line Investment Survey

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Comparable Gas Companies

Discounted Cash Flow Growth Rate Summary

	Value Line						Projections		
	2003 TO 2012 Estimate			Five Year Historical			Value Line		Yahoo!
	EPS	DPS	Book Value	EPS	DPS	Book Value	EPS	DPS	EPS
TECO Energy, Inc.	6.4%	-1.5%	2.0%	-11.0%	-11.0%	-9.0%	4.5%	3.0%	5.9%
Laclede Group	6.6%	2.3%	5.6%	9.5%	1.0%	4.5%	4.5%	2.5%	3.5%
New Jersey Resources	5.4%	5.6%	9.6%	6.0%	4.0%	10.0%	6.5%	6.0%	6.0%
Nicor, Inc.	4.4%	0.0%	4.8%	-1.5%	1.0%	4.0%	4.5%	0.0%	4.2%
Northwest Natural Gas Co.	7.5%	4.4%	3.4%	6.5%	2.0%	3.5%	7.0%	5.5%	4.9%
South Jersey Industries, Inc.	8.9%	5.6%	6.9%	12.0%	3.5%	13.5%	6.0%	5.5%	6.6%
Southwest Gas Corp.	7.9%	2.9%	3.9%	6.0%	0.0%	3.5%	7.0%	4.0%	5.7%
Comparable Companies' Averages	6.78%	3.47%	5.70%	6.42%	1.92%	6.50%	5.92%	3.92%	5.14%

Sources:
Value Line Investment Survey
Yahoo! Finance

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Comparable Gas Companies

Dividend Growth Rate DCF Using Current Share Prices

	Share Prices		Current	Current Yields		2002-04	2011-13E	Growth	Cost of Capital	
	Low	High	Dividend	Low	High	DPS	DPS	Rate	Low	High
TECO Energy, Inc.	20.19	20.82	0.80	3.84%	3.96%	1.03	0.90	-1.52%	2.32%	2.44%
Laclede Group	40.00	40.76	1.49	3.66%	3.73%	1.34	1.65	2.31%	5.97%	6.04%
New Jersey Resources	33.25	33.85	1.11	3.28%	3.34%	0.83	1.36	5.59%	8.87%	8.93%
Nicor, Inc.	40.72	41.64	1.86	4.47%	4.57%	1.85	1.86	0.04%	4.51%	4.61%
Northwest Natural Gas Co.	45.43	46.24	1.52	3.29%	3.35%	1.28	1.88	4.39%	7.68%	7.74%
South Jersey Industries, Inc.	36.14	36.83	1.10	2.83%	2.88%	0.78	1.28	5.61%	8.44%	8.49%
Southwest Gas Corp.	30.67	31.23	0.90	2.88%	2.93%	0.82	1.06	2.89%	5.78%	5.83%
Comparable Companies' Averages	38.03	38.76	1.33	3.40%	3.47%	1.15	1.52	3.47%	6.87%	6.94%

Sources:
Value Line Investment Survey
Yahoo! FINANCE

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Comparable Gas Companies

Dividend Growth Rate DCF Using 52-Week Share Prices

	Share Prices		2008	52 Week Yields		2002-04	2011-13E	Growth	Cost of Capital	
	Low	High	Dividend	Low	High	DPS	DPS	Rate	Low	High
TECO Energy, Inc.	14.48	21.57	0.80	3.71%	5.52%	1.03	0.90	-1.52%	2.19%	4.00%
Laclede Group	28.84	41.57	1.49	3.58%	5.17%	1.34	1.65	2.31%	5.90%	7.48%
New Jersey Resources	29.62	53.90	1.11	2.06%	3.75%	0.83	1.36	5.59%	7.65%	9.34%
Nicor, Inc.	32.35	48.20	1.86	3.86%	5.75%	1.85	1.86	0.04%	3.90%	5.79%
Northwest Natural Gas Co.	40.98	50.89	1.52	2.99%	3.71%	1.28	1.88	4.39%	7.38%	8.10%
South Jersey Industries, Inc.	31.20	39.32	1.10	2.80%	3.53%	0.78	1.28	5.61%	8.41%	9.13%
Southwest Gas Corp.	25.14	38.22	0.90	2.35%	3.58%	0.82	1.06	2.89%	5.25%	6.47%
Comparable Companies' Averages	31.36	45.35	1.33	2.94%	4.25%	1.15	1.52	3.47%	6.41%	7.72%

Sources:
Value Line Investment Survey
Yahoo! FINANCE

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Comparable Gas Companies

Earnings Growth Rate DCF Using Current Share Prices

	Share Prices		Current	Current Yields		2002-04	2011-13E	Growth	Cost of Capital	
	Low	High	Dividend	Low	High	EPS	EPS	Rate	Low	High
TECO Energy, Inc.	20.19	20.82	0.80	3.84%	3.96%	0.86	1.50	6.38%	10.22%	10.34%
Laclede Group	40.00	40.76	1.49	3.66%	3.73%	1.61	2.85	6.58%	10.23%	10.30%
New Jersey Resources	33.25	33.85	1.11	3.28%	3.34%	1.56	2.50	5.38%	8.66%	8.72%
Nicor, Inc.	40.72	41.64	1.86	4.47%	4.57%	2.40	3.55	4.43%	8.90%	9.00%
Northwest Natural Gas Co.	45.43	46.24	1.52	3.29%	3.35%	1.75	3.35	7.50%	10.79%	10.85%
South Jersey Industries, Inc.	38.14	38.83	1.10	2.83%	2.88%	1.39	3.00	8.92%	11.76%	11.81%
Southwest Gas Corp.	30.67	31.23	0.90	2.88%	2.93%	1.32	2.60	7.85%	10.74%	10.79%
Comparable Companies' Averages	38.03	38.76	1.33	3.40%	3.47%	1.67	2.98	6.78%	10.18%	10.24%

Sources:
Value Line Investment Survey
Yahoo! FINANCE

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Comparable Gas Companies

Earnings Growth Rate DCF Using 52-Week Share Prices

	Share Prices		2008	52 Week Yields		2002-04	2011-13E	Growth	Cost of Capital	
	Low	High	Dividend	Low	High	EPS	EPS	Rate	Low	High
TECO Energy, Inc.	14.48	21.57	0.80	3.71%	5.52%	0.86	1.50	6.38%	10.08%	11.90%
Laclede Group	28.84	41.57	1.49	3.58%	5.17%	1.61	2.85	6.58%	10.16%	11.74%
New Jersey Resources	29.62	53.90	1.11	2.06%	3.75%	1.56	2.50	5.38%	7.44%	9.13%
Nicor, Inc.	32.35	48.20	1.86	3.86%	5.75%	2.40	3.55	4.43%	8.29%	10.18%
Northwest Natural Gas Co.	40.98	50.89	1.52	2.99%	3.71%	1.75	3.35	7.50%	10.49%	11.21%
South Jersey Industries, Inc.	31.20	39.32	1.10	2.80%	3.53%	1.39	3.00	8.92%	11.72%	12.45%
Southwest Gas Corp.	25.14	38.22	0.90	2.35%	3.58%	1.32	2.60	7.85%	10.21%	11.43%
Comparable Companies' Averages	31.36	45.35	1.33	2.94%	4.25%	1.67	2.98	6.78%	9.72%	11.02%

Sources:
Value Line Investment Survey
Yahoo! FINANCE

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Comparable Gas Companies

Projected Growth Rate DCF Using Current Share Prices

	Share Prices		Current	Current Yields		EPS Estimates		Cost of Capital	
	Low	High	Dividend	Low	High	Value Line	Yahoo!	Low	High
TECO Energy, Inc.	20.19	20.82	0.80	3.84%	3.96%	4.50%	5.88%	8.34%	9.84%
Laclede Group	40.00	40.76	1.49	3.66%	3.73%	4.50%	3.50%	7.16%	8.23%
New Jersey Resources	33.25	33.85	1.11	3.28%	3.34%	6.50%	6.00%	9.28%	9.84%
Nicor, Inc.	40.72	41.64	1.86	4.47%	4.57%	4.50%	4.20%	8.67%	9.07%
Northwest Natural Gas Co.	45.43	46.24	1.52	3.29%	3.35%	7.00%	4.88%	8.17%	10.35%
South Jersey Industries, Inc.	38.14	38.83	1.10	2.83%	2.88%	6.00%	6.60%	8.83%	9.48%
Southwest Gas Corp.	30.67	31.23	0.90	2.88%	2.93%	0.00%	5.67%	2.88%	8.60%
Comparable Companies' Averages	38.03	38.76	1.33	3.40%	3.47%	4.75%	5.14%	7.50%	9.26%

Sources:
Value Line Investment Survey
Yahoo! FINANCE

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Comparable Gas Companies

Projected Growth Rate DCF Using 52-Week Share Prices

	Share Prices		2008	52 Week Yields		EPS Estimates		Cost of Capital	
	Low	High	Dividend	Low	High	Value Line	Yahoo!	Low	High
TECO Energy, Inc.	14.48	21.57	0.80	3.71%	5.52%	4.50%	5.88%	8.21%	11.40%
Laclede Group	28.84	41.57	1.49	3.58%	5.17%	4.50%	3.50%	7.08%	9.67%
New Jersey Resources	29.62	53.90	1.11	2.06%	3.75%	6.50%	6.00%	8.06%	10.25%
Nicor, Inc.	32.35	48.20	1.86	3.86%	5.75%	4.50%	4.20%	8.06%	10.25%
Northwest Natural Gas Co.	40.98	50.89	1.52	2.99%	3.71%	7.00%	4.88%	7.87%	10.71%
South Jersey Industries, Inc.	31.20	39.32	1.10	2.80%	3.53%	6.00%	6.60%	8.80%	10.13%
Southwest Gas Corp.	25.14	38.22	0.90	2.35%	3.58%	0.00%	5.67%	2.35%	9.25%
Comparable Companies' Averages	31.36	45.35	1.33	2.94%	4.25%	4.75%	5.14%	7.04%	10.04%

Sources:
Value Line Investment Survey
Yahoo! FINANCE

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Should the yield on a Treasury bond or a Treasury strip be used to represent the riskless rate? In most cases the yield on a Treasury coupon bond is most appropriate. If the asset being measured spins off cash periodically, the Treasury bond most closely replicates this characteristic. On the other hand, if the asset being measured provides a single payoff at the end of a specified term, the yield on a Treasury Strip would be more appropriate.

CAPM Modified for Firm Size

One of the important characteristics not necessarily captured by the Capital Asset Pricing Model is what is known as the size effect. This is discussed in detail in Chapter 7. The need for this premium when using the CAPM arises because, even after adjusting for the systematic (beta) risk of small stocks, they outperform large stocks. The betas for small companies tend to be greater than those for large companies; however, these higher betas do not account for all of the risks faced by those who invest in small companies.[2] This premium can be added directly to the results obtained using the CAPM:

$$k_s = r_f + (\beta_s \times ERP) + SP_s$$

where all of the variables are as given in the previous section on the CAPM, and SP_s is the appropriate size premium based on the firm's equity market capitalization. The market capitalization of company s will determine the relevant size premium: mid-cap, low-cap, or micro-cap.

Suppose we wish to calculate the cost of equity for a small electric utility company. To better account for both the industry risk and the firm size, we wish to use the modified CAPM approach. The company has a market capitalization of $135 million and falls within the micro-cap size group. Assume that the beta of the company is 0.53. The key variables for calculating the cost of equity using this size-premium-adjusted CAPM are:

Risk-free rate	= 4.5 percent
Expected equity risk premium	= 7.1 percent
The appropriate size premium	= 3.7 percent

Using the modified CAPM equation, the cost of equity for the electric utility company is:

$$k_s = r_f + (\beta_s \times ERP) + SP_s = 4.5\% + (0.53 \times 7.1\%) + 3.7\% = 12.0\%$$

The beta-adjusted size premium is the most appropriate for use with this model. Please note that the size premia commonly referred to in this publication are the beta-adjusted size premia, unless stated otherwise. The non-beta-adjusted size premia already account for the added return generally attributed to the higher betas of small companies. The non-beta-adjusted size premium makes the assumption that the beta of the company is the same as that of the small stock portfolio. If the non-beta-adjusted

2 In general, small company betas are expected to be higher than large company betas. This, however, does not hold for all time periods. Chapter 6 discusses in more detail the measurement of beta for small stocks.

Peoples Gas System

Comparable Gas Companies

Size Adjusted Capital Asset Pricing Model

	Risk Free Return	Beta	Equity Risk Premium	Adjusted Equity Risk Premium	Size Premium	Cost of Equity
TECO Energy, Inc.	4.60%	0.95	7.10%	6.75%	0.92%	12.27%
Laclede Group	4.60%	0.90	7.10%	6.39%	1.65%	12.64%
New Jersey Resources	4.60%	0.85	7.10%	6.04%	1.65%	12.29%
Nicor, Inc.	4.60%	0.95	7.10%	6.75%	1.65%	13.00%
Northwest Natural Gas Co.	4.60%	0.80	7.10%	5.68%	1.65%	11.93%
South Jersey Industries, Inc.	4.60%	0.85	7.10%	6.04%	1.65%	12.29%
Southwest Gas Corp.	4.60%	0.90	7.10%	6.39%	1.65%	12.64%
Comparable Companies' Average	4.60%	0.88	7.10%	6.21%	1.65%	12.46%

Sources :
Value Line Investment Survey
Ibbotson Associates 2008 SBBI Yearbook: Valuation Edition
Federal Reserve Statistical Release

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Comparable Gas Companies

Historical Capital Asset Pricing Model

	Market Total Returns	Long-Term Corporate Bonds Return	Risk Premium	Beta	Adjusted Risk Premium	Aaa Corporate Bonds Return	Cost of Equity
TECO Energy, Inc.	14.70%	6.20%	8.50%	0.95	8.08%	5.57%	13.65%
Laclede Group	14.70%	6.20%	8.50%	0.90	7.65%	5.57%	13.22%
New Jersey Resources	14.70%	6.20%	8.50%	0.85	7.23%	5.57%	12.80%
Nicor, Inc.	14.70%	6.20%	8.50%	0.95	8.08%	5.57%	13.65%
Northwest Natural Gas Co.	14.70%	6.20%	8.50%	0.80	6.80%	5.57%	12.37%
South Jersey Industries, Inc.	14.70%	6.20%	8.50%	0.85	7.23%	5.57%	12.80%
Southwest Gas Corp.	14.70%	6.20%	8.50%	0.90	7.65%	5.57%	13.22%
Comparable Companies' Average	14.70%	6.20%	8.50%	0.88	7.44%	5.57%	13.01%

Sources :
Value Line Investment Survey
Ibbotson Associates 2008 SBBI Yearbook: Valuation Edition
Federal Reserve Statistical Release

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Comparable Gas Companies

Summary of Financial Analysis

Method	TECO Energy, Inc.		Comparable Gas Companies	
	Low	High	Low	High
Capital Asset Pricing Model	12.27%	13.65%	12.46%	13.01%
Earnings Growth DCF Analysis	10.08%	11.90%	9.72%	11.02%
Projected Growth DCF Analysis	8.21%	11.40%	7.04%	10.04%

Peoples Gas System

Proposed Cost of Capital

As of December 31, 2009

Item	Amount	Share	Embedded Cost	Weighted Cost
Long-Term Debt	$222,773,987	39.53%	7.20%	2.85%
Short-Term Debt	$3,456,397	0.61%	4.50%	0.03%
Customer Deposits - Residential	$9,338,641	1.66%	6.00%	0.10%
Customer Deposits - Commerical	$26,309,935	4.67%	7.00%	0.33%
Tax Credits	$7,862	0.00%	0.00%	0.00%
Customer Deposits - Inactive	$480,368	0.09%	0.00%	0.00%
Deferred Income Taxes	$27,670,682	4.91%	0.00%	0.00%
Common Equity	$273,561,565	48.54%	11.50%	5.58%
Totals	$563,599,437	100.00%		8.88%

Source: Peoples Gas Company Work Papers

Peoples Gas System

Comparable Gas Distribution Companies

Comparison of After-Tax Times Interest Earned Ratios

Peoples Gas System	@11.5% ROE	2.69
Laclede Group		3.49
New Jersey Resources		4.59
Nicor, Inc.		5.17
Northwest Natural Gas		3.39
South Jersey Industries		3.95
Southwest Gas		1.90
Comparable Companies' Average		3.75

Source : Value Line Investment Survey