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MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. GR-2006-0387

DIRECT TESTIMONY

OF

DONALD A. MURRY, Ph.D.

ON BEHALF OF

ATMOS ENERGY CORPORATION

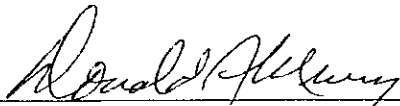
April 2006

Atmos Exhibit No. 14
Case No(s). GR-2006-0387
Date 11-30-06 Rptr PF

County of Franklin)
)
State of Florida)


AFFIDAVIT OF DONALD A. MURRY

Donald A. Murry, being first duly sworn, deposes and says that he is the witness who sponsors the accompanying testimony, that said testimony was prepared by him and under his direction and supervision; that if inquiries were made as to the facts in said testimony and schedules, he would respond as therein set forth; and that the aforesaid testimony and schedules are true and correct to the best of his knowledge, information, and belief.



Donald A. Murry

Subscribed and sworn to before me this 5th day of April, 2006.



Notary Public #

My Commission expires:

August 25, 2007



Wendy Cheree Wood
MY COMMISSION # DD244534 EXPIRES
August 25, 2007
BONDED THRU TROY FAIR INSURANCE, INC.

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**BEFORE THE
MISSOURI PUBLIC SERVICE COMMISSION
DOCKET NO. _____**

**PREPARED DIRECT TESTIMONY
OF
DONALD A. MURRY, Ph.D.**

**On Behalf of
ATMOS ENERGY CORPORATION**

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I. POSITION AND QUALIFICATIONS

14 **Q. Please state your name.**

15 A. My name is Donald A. Murry.

16 **Q. By whom are you employed and in what position?**

17 A. I am a Vice President and economist with C. H. Guernsey & Company. I work out of the
18 Oklahoma City office at 5555 North Grand Boulevard, 73112, and the Tallahassee office.
19 I am also a Professor Emeritus of Economics on the faculty of the University of
20 Oklahoma.

21 **Q. What is your educational background?**

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

24 **Q. Please describe your professional background.**

25 A. From 1964 to 1974, I was an Assistant and Associate Professor and Director of
26 Research on the faculty of the University of Missouri - St. Louis. For the period 1974-98,
27 I was a Professor of Economics at the University of Oklahoma and since 1998 I have
28 been Professor Emeritus at the University of Oklahoma. Until 1978, I also served as
29 Director of the Center for Economic and Management Research. In each of these
30 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

1 national committees associated with energy policy and regulatory matters, published,
2 and presented a number of papers in the field of regulatory economics in the energy
3 industries.

4 **Q. What is your experience in regulatory matters?**

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

16 **Q. Have you previously testified before or been an expert witness in proceedings
17 before regulatory bodies?**

18 A. Yes, I have appeared before the U.S. District Court-Western District of Louisiana, U.S.
19 District Court-Western District of Oklahoma, District Court-Fourth Judicial District of
20 Texas, U.S. Senate Select Committee on Small Business, Federal Power Commission,
21 Federal Energy Regulatory Commission, Interstate Commerce Commission, Alabama
22 Public Service Commission, Alaska Public Utilities Commission, Colorado Public Utilities
23 Commission, Florida Public Service Commission, Georgia Public Service Commission,
24 Illinois Commerce Commission, Iowa Commerce Commission, Kansas Corporation
25 Commission, Kentucky Public Service Commission, Louisiana Public Service
26 Commission, Maryland Public Service Commission, Mississippi Public Service

1 Commission, Missouri Public Service Commission, Nebraska Public Service
2 Commission, New Mexico Public Service Commission, New York Public Service
3 Commission, Power Authority of the State of New York, Nevada Public Service
4 Commission, North Carolina Utilities Commission, Oklahoma Corporation Commission,
5 South Carolina Public Service Commission, Tennessee Public Service Commission,
6 Tennessee Regulatory Authority, Texas Public Utilities Commission, the Railroad
7 Commission of Texas, the State Corporation Commission of Virginia and the Public
8 Service Commission of Wyoming.

9 **II. PURPOSE OF TESTIMONY**

10 **Q. Can you describe the nature of your testimony in this case?**

11 A. Atmos Energy Corporation has retained me to analyze its current cost of capital and to
12 recommend a rate of return that is appropriate in this proceeding. In this testimony, I will
13 refer to Atmos Energy Corporation as "Atmos" or the "Company."

14 **III. COST OF CAPITAL; RETURN ON EQUITY**

15 **Q. What were the steps that you followed during your analysis of an adequate return
16 for Atmos in this case?**

17 A. As a first step, I studied the current economic conditions and the financial markets,
18 especially as they might affect my recommended rate of return. The economic
19 environment is very important to the cost of capital during the period when the rates in
20 this case will be in effect. In particular, I studied the relationships among some of the
21 critical interest rates as they show the alternative returns available to investors currently
22 and in the near future. I reviewed the current capital structure of Atmos, including the
23 capital structure appropriate for Atmos in this proceeding. Next I determined the
24 relevant cost of debt, and then I estimated the cost of common stock equity appropriate
25 for this proceeding. I also reviewed current circumstances of Atmos, including factors
26 that affect the risks of the Company's operations in Missouri. Finally, as I determined an

1 allowed rate of return, I applied tests of financial integrity to verify that my
2 recommendation was sufficient, but not higher than necessary, to attract capital.

3 **Q. Are you sponsoring any exhibits with your testimony?**

4 A. Yes. I am sponsoring an exhibit that I have attached to my testimony which includes
5 Schedules DAM-1 through DAM-29.

6 **Q. Was this exhibit prepared either by you or under your direct supervision?**

7 A. Yes, it was.

8 **Q. How did the practices and procedures of utility regulation affect your cost of
9 capital testimony?**

10 A. From the beginning of my analysis, I based it on the traditional interpretation of the role
11 of regulation in the natural gas distribution industry. Because of the nature of the
12 industry, one presumes the presence of market power in a franchised utility market. This
13 is the principal economic rationale for utility regulation, and I used this as a guide for my
14 approach to measuring the cost of capital of Atmos. Economies of scale at the
15 distribution, or retail level of utility service, indicate that the duplication of facilities by
16 more than one firm may be economically inefficient. In these circumstances, the
17 rationale for regulation is to substitute for the pressures of a more competitive
18 marketplace.

19 **Q. What is the rationale that you used for setting the allowed returns in this
20 regulatory proceeding?**

21 A. The principal rationale, or objective, for setting an allowed return in a regulatory
22 proceeding is to set a return that is sufficient to allow a utility to recover the costs of
23 providing service. This is the rationale that I used in this case. Additionally, this return
24 should not be higher than necessary to attract and maintain invested capital that
25 provides utility service to the ratepayers. This is often called a "fair" rate of return on

1 invested capital. As an economist, I believe that these analytical objectives are
2 consistent with the legal standard of a "fair rate of return" in regulation.

3 **Q. What is the legal standard that you used to measure the "fair rate of return?"**

4 A. As I am using the term "fair rate of return," it is consistent with the return that meets the
5 standards set by the United States Supreme Court decision in *Bluefield Water Works*
6 *and Improvement Company vs. Public Service Commission*, 262 U.S. 679 (1923)
7 ("*Bluefield*"), as further modified in *Federal Power Commission vs. Hope Natural Gas*
8 *Company*, 320 U.S. 591 (1944) ("*Hope*"). From my understanding of these decisions a
9 rate of return is a "fair rate of return" if it provides earnings to investors similar to returns
10 on alternative investments in companies of equivalent risk.

11 This return also will be sufficient to enable the company to operate successfully,
12 maintain its financial integrity, attract capital, and compensate investors for the
13 associated risks of investment. In this analysis of comparable risk I was very sensitive to
14 both the financial risk and the business of Atmos.

15 **Q. You stated that the economic environment was important to the determination of**
16 **the cost of capital. Can you summarize what you learned when you examined the**
17 **current economic environment and expectations regarding interest rates and**
18 **inflation?**

19 A. The U.S economy has shown evidence of a robust recovery from the 1.1 percent
20 annualized growth in real GDP recorded in the fourth quarter of 2005, and most analysts
21 expect it to grow in the first quarter of 2006 at the fastest pace in over two years.
22 According to a survey by the National Association for Business Economics ("NABE"), the
23 economy is expected to grow at an annual rate of 4.5 percent between January and
24 March 2006. Analysts also expect growth for the year to be 3.3 percent as high energy
25 costs and increasing interest rates restrain economic activity somewhat. Overall wages

1 and prices have remained fairly stable, but high energy costs and increasing interest
2 rates are a threat to continued economic expansion. Crude oil trading on the New York
3 Mercantile Exchange is up over 20 percent year-over-year and oil and gas prices remain
4 historically high even though they have retreated from their record high levels.

5 The CPI increased at the fastest rate in 15 years in the 3rd quarter of 2005, but
6 the core rate which excludes food and energy has remained relatively stable at 2.2
7 percent on a year over year basis. Manufacturing activity is increasing nationwide.
8 Employment is increasing moderately, but health care and post-retirement costs remain
9 a concern. The unemployment rate fell to 4.7 percent in January, the lowest level since
10 July 2001. Housing starts increased 14.5 percent in January—the highest annualized
11 rate since 1973—and building permits increased 6.8 percent. Both statistics reflect the
12 record setting unseasonably warm January weather. Conversely, the warm weather
13 caused utility output to plunge over 10 percent.

14 **Q. How has this economic activity affected interest rates?**

15 A. The Federal Open Market Committee ("FOMC") has raised interest rates 15 times since
16 June 2004 and analysts expect the FOMC to continue raising the overnight bank rate to
17 5 percent from the current 4.75 percent rate. In the Fed's semi-annual monetary policy
18 report to Congress on February 15th, new Fed Chairman Ben Bernanke stated,

19 The risk exists that, with aggregate demand exhibiting considerable momentum,
20 output could overshoot its sustainable path, leading ultimately—in the absence of
21 countervailing monetary policy action—to further upward pressure on inflation. In
22 these circumstances, the FOMC judged that some further firming of monetary
23 policy may be necessary, an assessment with which I concur.

24
25 The economy is expanding at a healthy rate, but the Fed has signaled that it will raise
26 interest rates to keep inflation at bay. Schedule DAM-1 shows the Blue Chip consensus
27 forecast for interest rates and inflation. As shown on Schedule DAM-2 the ten-year
28 Treasury and the Baa-corporate rate are currently 4.59 percent and 6.30 percent, and

1 the analysts' consensus is that they will increase in the near-term to 4.90 percent and
2 6.80 percent respectively.

3 **Q. Have you examined the economic environment as it affects the natural gas**
4 **industry?**

5 A. Yes. High natural gas prices remain the top industry concern. Although the price of
6 natural gas has retreated from the record levels experienced following Hurricanes Rita
7 and Katrina, they are still high from a historical perspective. The increased cost of
8 natural gas has raised the industry's business risk. High gas costs lead to significant
9 increases in working capital and short-term debt in order to pay suppliers for gas before
10 recovery from customers. Also, when customer's gas bills are high, they tend to delay
11 payment, thereby further increasing local distribution companies' ("LDC") short-term debt
12 and accounts receivable. Cold weather rules, which limit the LDC's adjustments to
13 accounts receivables, may further increase an LDC's business risk.

14 As the FOMC increases short-term rates, the cost of short-term debt to fund
15 natural gas purchases at significantly higher prices increases. For example, higher short-
16 term debt to fund natural gas purchases at significantly higher prices – in conjunction
17 with higher short-term interest rates – increased Atmos' utility segment interest charges
18 by \$4.3 million for the three months ending December 31, 2005, above the same period
19 ending December 31, 2004. Furthermore, high customer bills associated with purchased
20 gas also lead to increased bad debt expense as low income customers struggle to pay
21 these bills. This is an unfortunate consequence of high gas prices and interest rates, but
22 it also increases the business risk of gas distribution companies.

23 **Q. You stated that you determined the appropriate capital structure for Atmos to use**
24 **in your cost of capital calculation. What is the appropriate capital structure for**
25 **Atmos in this proceeding?**

1 A. As I have illustrated in Schedule DAM-3, the total capital for the Company is projected to
2 be \$3,869,079,175 at June 30, 2006. As this schedule also shows, the estimated Long-
3 Term Debt is \$2,184,082,467, or 56.45 percent of total capital, and the Common Equity
4 is \$1,684,996,708, or 43.55 percent of total capital. These capital structure ratios, along
5 with a return on equity reflecting the greater financial risk associated with this capital
6 structure, is appropriate for calculating the weighted average cost of capital in this
7 proceeding.

8 **Q. What did you determine is the cost of the long-term debt that is appropriate for**
9 **this proceeding?**

10 A. The appropriate calculated cost of long-term debt is 5.96 percent. This is the weighted
11 average of the projected 13 months ended June 30, 2006. I have illustrated this
12 calculation in Schedule DAM-4.

13 **Q. You did not include any short-term debt in your capital structure. Were there any**
14 **special reasons for excluding short-term debt from the capital structure for**
15 **ratemaking in this proceeding?**

16 A. First, the Company projects no short term debt for the relevant period. For this reason
17 alone, I believe that short-term debt does not belong in the capital structure of Atmos for
18 ratemaking purposes. In addition, I believe that short-term debt belongs in a utility's
19 capital structure for ratemaking only if the company uses short-term debt as part of its
20 permanent capital. That is, permanent capital is the capital that supports a utility's assets
21 providing services to utility customers. Because Atmos' short-term debt can fluctuate to
22 a level where it completely disappears, it cannot be part of the permanent capital
23 supporting the utility's assets.

1 **Q. In reaching your determination of whether short-term debt belongs in the Atmos**
2 **capital structure for ratemaking, did you happen to evaluate the cost of short-term**
3 **debt?**

4 A. As I was not including short-term debt in the Company's capital structure, I did not study
5 Atmos' cost of short-term borrowing in any detail. However, the cost of short-term is
6 relatively high when compared to the embedded cost of long-term debt of Atmos. As
7 everyone knows, the costs of short-term debt and short-term securities have increased
8 sharply in recent months. I am aware that the cost of short-term borrowing of Atmos in
9 December, 2005 was 6.91 percent. This is significantly higher than the embedded cost
10 of long-term debt in this proceeding.

11 **Q. You stated that you estimated the cost of common stock equity for Atmos. What**
12 **was the nature of your analysis of the cost of common stock equity of Atmos?**

13 A. I used two methodologies for estimating equity cost; both are methods that analysts
14 commonly use in utility rate proceedings. First, I used the Discounted Cash Flow ("DCF")
15 analysis. From my experience, I have found that the DCF is the method that analysts
16 most commonly use to estimate the cost of common equity of a utility in a rate
17 proceeding. In addition to developing the DCF cost of common equity for Atmos, I
18 applied a similar methodology to calculate the cost of common equity for a group of
19 comparable, publicly traded gas distribution utilities. As a second method, I used the
20 Capital Asset Pricing Model ("CAPM"). In this second analysis, I also compared the
21 results for Atmos to the results for the same comparable group of companies, applying
22 the CAPM method.

23 **Q. What criteria did you use to select the utilities that you identified as comparable to**
24 **Atmos for your analysis?**

1 A. I first selected the comparable companies from a group of gas distribution companies
2 reported by *Value Line*. In this selection process, I used criteria that were similar to
3 characteristics of Atmos in order to develop comparative capital costs based on
4 somewhat similar financial circumstances. Second, I linked the group of distribution
5 companies to firms with a market capitalization of at least \$1 billion. Third, I excluded
6 companies that do not pay a dividend and do not have a common equity ratio of at least
7 forty percent.

8 **Q. Why is using criteria similar to Atmos important for selecting a group of**
9 **companies?**

10 A. Methodologically, it is important to determine the risks and the associated costs of
11 common stock equity of gas distribution utilities that are as similar to Atmos as possible.
12 Only in this way can one draw inferences from the analysis of comparable utilities. If the
13 companies are not comparable, analytically one would need to measure the cost of the
14 risk differential between Atmos and the companies to which it is being compared. In this
15 sense, the selection of the comparable companies is a form of pulling a representative
16 "sample" so when an analyst develops measures of the cost of common stock of the
17 comparable companies, these measures are meaningful. That is, as mentioned
18 previously, the regulatory objective is to determine the cost of investing in securities of
19 equivalent risks. By selecting companies for comparison that are like Atmos as
20 measured by significant financial determinants, I am compiling a group of utilities with
21 risks comparable to Atmos in many key respects.

22 **Q. What companies did you determine were comparable to Atmos?**

23 A. I selected a group of eight natural gas companies that are similar in many respects to
24 Atmos. This group of companies includes the following: AGL Resources, Keyspan, New

1 Jersey Resources, NICOR, Inc., Peoples Energy Corporation, Piedmont Natural Gas,
2 Southwest Gas and WGL Holdings, Inc.

3 **Q. Of the companies in this group, did any have any special considerations?**

4 A. At least one special instance is worthy of note. Keyspan was just acquired by National
5 Grid, a British company. At the time that I gathered the data for this analysis, this
6 developing merger had not yet affected the market information for Keyspan. I reviewed
7 the history of the market prices for Keyspan to verify this. Consequently, although at the
8 time of this testimony the merger has just been announced, I did not think this justified
9 removing the company from the comparable group. The financial data, including the
10 market information, was still relevant for this comparative analysis.

11 **Q. You stated previously that you were very sensitive to both the financial risk and
12 the business risk of Atmos' operations. What did you mean by that statement?**

13 A. Financial risk to the common stock holders is the risk exposure of returns to common
14 stock because of the prior claims of debt instruments. The lower the common stock
15 equity ratio, the greater the risk exposure to the returns to common stock. Consequently,
16 I studied the common stock equity ratios of Atmos and other natural gas distributors. The
17 business risk is the risk exposure to the common stockholders as a result of the vagaries
18 of business operations. For example, the impact of the business environment that I
19 discussed previously on Atmos' common stock earnings is a business risk. I also
20 reviewed indices of business risk as reported by financial analysts.

21 **Q. Explain your study of common equity ratios of Atmos and other natural gas
22 distributors.**

23 A. I compared the common stock levels of Atmos with those maintained by each of the
24 comparable gas distribution companies that I selected for comparison. To put my

1 analysis in a broader concept, I also reviewed the common equity ratios of all of the gas
2 distribution companies listed by *Value Line*.

3 **Q. Can you explain the results of your analysis?**

4 A. Atmos' common stock equity ratio, as reported by *Value Line*, is at present significantly
5 lower than the average common equity ratio of the comparable companies. The estimate
6 for Atmos for 2005 of 42 percent is significantly lower than the average of the
7 comparable gas distribution utilities, which is 53 percent. Although the common equity I
8 recommend in this proceeding is slightly higher at 43.55 percent, this is still much lower
9 than the average of the comparable utilities. I have illustrated this comparison in
10 Schedule DAM-5. Moreover, as this schedule also shows, *Value Line* is forecasting that
11 this relatively low common equity ratio will continue to the 2008-2010 period. From the
12 standpoint of the comparable risks of Atmos and the comparable companies and the
13 adequacy of allowed returns, Atmos' low common equity ratio is a very important
14 consideration.

15 **Q. Why is Atmos' relatively low common equity ratio so important?**

16 A. As I stated, the common stock equity ratio is the primary indicator of the financial risk to
17 the common stock holders. The lower common stock equity ratio indicates that Atmos'
18 common stock holders have more exposure to the financial risk of prior claims to returns
19 by senior securities than do the stockholders of the comparable companies.

20 **Q. How did this low common equity and the associated financial risk affect your
21 analysis and determination of the cost of common stock?**

22 A. I took this low common stock equity and the financial risk to Atmos' common stock
23 holders into account in my further analysis. That is, because of this risk differential, one
24 could expect the cost of common equity for Atmos to be higher than the cost of common

1 equity of the comparable companies, and I used this observation to calibrate the
2 mechanical calculations and results of my DCF and CAPM analyses.

3 **Q. Are you aware of other regulatory effects of the relatively low common equity**
4 **ratio?**

5 A. I think that it is worth noting that if a utility has a low common equity ratio, the resulting
6 overall total cost of capital for ratemaking will be lower. This is simply because common
7 equity is the highest cost source of capital, and the lower this component, all things
8 equal, the lower will be the total cost of capital for ratemaking.

9 **Q. Recognizing the higher financial risk of Atmos, did you find that Atmos' returns to**
10 **common stock have been higher than the comparable companies' because of this**
11 **risk?**

12 A. No. Paradoxically, I found that the common stock earnings of Atmos have been lower
13 than the average of the earnings of the comparable companies. As I have illustrated in
14 Schedule DAM-6, for each of the years from 2001 to the present, Atmos' returns on
15 common equity are less than the average returns of the comparable companies. For
16 example, the 2005 *Value Line* estimate for Atmos is only 8.5 percent as a return on
17 common stock. For the comparable companies the average return on common stock is
18 11.5 percent for 2005. As the chart in Schedule DAM-7 shows, the differential between
19 earnings of Atmos and all of the LDCs, as reported by *Value Line*, has become larger as
20 Atmos fell further behind in the last two years.

21 **Q. Did you determine if Atmos' low level of common stock earnings affected the**
22 **Company's ability to maintain its dividend in recent years?**

23 A. Yes. I reviewed the dividends of Atmos in recent years as reported by *Value Line*. As
24 Schedule DAM-8 shows, Atmos has maintained a very stable, low dividend growth over

the past five years. This policy is conservative and shows a lesser growth in dividends than the average for the comparable gas distribution utilities.

Q. Did you determine Atmos' payout ratio for the same period?

A. Yes, as Schedule DAM-9 shows, Atmos' dividend payout has averaged 76.2 percent over the most recent five year period. Although, as this schedule shows, this dividend payout is slightly higher than the payouts of comparable companies during this period, it falls within the range of the dividend payouts of the comparable companies. These payouts range from 53.0 percent to 80.6 percent.

Q. In your analysis of dividends and earnings did you evaluate the relative market acceptance of the common stock of Atmos and the other gas distribution companies that you analyzed in your comparative analysis?

A. Yes, I reviewed the common stock price earnings ("P/E") ratios of Atmos and the comparable companies. At present, the P/E ratios of Atmos and these other gas distribution utilities are similar. Atmos' market price earnings ratio at 15 times is at the low end of the range of these companies. However, most notably, *Value Line* is predicting a decline in Atmos' price earnings ratio to 13.0 times by the 2008-2010 period. By comparison, *Value Line* forecasts an average price earnings ratio of 16.2 times at the same time for the comparable companies. I have shown these comparisons in Schedule DAM-10.

Q. Did you attempt to determine why *Value Line* may be predicting a lower price earnings ratio for Atmos than for these comparable gas distribution companies?

A. Obviously, one cannot be certain when reviewing these different ratios as to their causes, but one factor stands out. This is the projected number of shares outstanding. Atmos' major acquisition of Texas gas properties, which was largely with debt, is the source of the current low common equity ratio. Because of this any analyst would expect

1 Atmos to increase its common equity by issuing common stock. In fact, I understand that
2 the Company is on a course that will accomplish this. *Value Line's* recognition of this
3 growth of common stock is apparent in the published data, as I have reported in
4 Schedule DAM-11. Consequently, as this schedule shows, *Value Line's* forecast of
5 growth in shares outstanding for Atmos is much higher than for any of the comparable
6 gas distribution companies. In fact, every one of these comparable companies has a
7 very small growth or an actual decline in forecasted shares outstanding.

8 **Q. Why is this projected increase in common stock outstanding and a decline in the**
9 **price earnings ratio of Atmos important?**

10 A. These comparisons emphasize the importance for Atmos to maintain an adequate return
11 on common stock in order to issue common stock at favorable prices. As I illustrated
12 previously, the earnings on common stock of Atmos are already very low relative to
13 other gas distribution utilities.

14 **Q. If Atmos needs to issue common stock in large measure because of acquiring**
15 **assets in Texas, is this an appropriate cost of capital for a rate case in Missouri?**

16 A. Yes, it is for two reasons. First, the current low common equity ratio for Atmos is a result
17 of this asset acquisition with debt, and this is a low-cost capital structure when it is used
18 for determining rates in this case. This capital structure results in a low cost of total
19 capital. In addition, because of the forthcoming issuance of common stock, and the
20 prediction of a low price earnings ratio, it is imperative that Atmos maintain a minimally
21 sufficient return to compete for equity investors.

22 **Q. You mentioned the DCF method for determining cost of common stock. Can you**
23 **define the DCF methodology for measuring cost of common equity?**

24 A. Yes. Typically, the expression of the DCF calculation the investor's required rate of
25 return is:

1 $K = D/P + g$

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

6 In this expression K is a capitalization rate required to convert the stream of future
7 returns into a current value.

8 **Q. You indicated that you chose the DCF technique to measure cost of common
9 stock equity. Why did you select this method for your analysis?**

10 A. The DCF is the most common method that one encounters for measuring the cost of
11 common equity in regulatory proceedings, and it has broad acceptance for this purpose.
12 Plus the method has some analytical advantages. For example, among the principal
13 advantages of the DCF technique is that it is a market-based measure of the cost of
14 capital. In addition, it is theoretically sound. It is also straight-forward and easy to
15 understand. It recognizes investors' expectations, and it uses market price information
16 and the company's dividend and earnings performance to determine the value that an
17 investor places on anticipated returns. Because an investor expects a return on
18 investment in the form of dividends and capital gains, this investor will pay the market
19 price equal to the present value of that stream of earnings. Using these market
20 relationships, we can estimate the opportunity cost of an investor's funds, which is
21 consistent with the regulatory objective of setting an allowed return equal to the returns
22 to investments of equivalent risk.

23 **Q. Do problems arise when using the DCF method in a utility rate proceeding?**

24 A. Yes. Of course, no analytical methodology is without some special limitations, and the
25 DCF is no exception. For example, problems may develop in at least two areas when
26 using the DCF method in a rate case. An important issue is a result of the limitations of
27 data available to the analyst. The DCF measures the value, or market price, that an

1 investor pays for a stream of anticipated earnings. In the real world market prices of
2 securities vary for many reasons. An analyst can measure the earnings expectations of
3 investors only by observing the information available to investors. However, these data
4 may not represent the true expectations of the marginal investors who set the market
5 price for the security. A second set of problems results from an analyst's interpretation of
6 these data, or the analytical use of the data. That is, in trying to interpret the information
7 affecting an investor's expectations of future returns, the analyst may choose among a
8 variety of data sources. Consequently, analysts may have a difficult time discerning what
9 data actually affect investor expectations.

10 **Q. Have analysts performed studies regarding which data are most likely to**
11 **capture investors' expectations about the future returns for a DCF**
12 **analysis?**

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

16 **Q. Can you cite some of the studies that demonstrated that investors look to**
17 **analysts' forecasts when making investment decisions?**

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

22 Analysts' growth rate forecasts are usually for five years into the future,
23 and the rates provided represent the average growth rate over the five-

1 year horizon. Studies have shown that analysts' forecasts represent the
2 best source for growth for DCF cost of capital estimates.¹

3
4 This position is backed up by research reported in the academic literature. For
5 example, Vander Weide and Carleton found:

6 ...overwhelming evidence that the consensus analysts' forecast of future
7 growth is superior to historically oriented growth measures in predicting
8 the firm's stock price... Our results are consistent with the hypothesis that
9 investors use analysts' forecasts, rather than historically oriented growth
10 calculations, in making stock buy-and-sell decisions.²

11
12 **Q. Does any of the academic literature apply specifically to the DCF growth**
13 **rates as used in regulatory proceedings?**

14 **A.** Yes. Timme and Eisemann examined the effectiveness of analysts' forecasts
15 compared to historical growth rates for determining investors' expectations in rate
16 proceedings. They concluded:

17 The results show that all financial analysts' forecasts contain a significant
18 amount of information used by investors in the determination of share
19 prices not found in the historical growth rate...the results provide
20 additional evidence that the historical growth rates are poor proxies for
21 investor expectations; hence they should not be used to estimate utilities'
22 cost of capital.³

23
24 **Q. Do you find these statements by these authors credible?**

25 **A.** These results are not surprising because investors, when contemplating an
26 investment in a common stock, will review reputable analysts' forecasts.
27 Consequently, these forecasts will influence the decision to invest and the
28 valuation of common stocks.

¹ 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.

² Vander Weide, James H. and Willard T. Carleton, "Investor growth expectations: Analysts vs. history," *The Journal of Portfolio Management*, Spring 1988, pp. 78-82.

³ 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.

1 **Q. Are you aware of any other empirical information that focuses on the importance**
2 **of common stock earnings?**

3 A. Yes. In an "event analysis", I compared the market reactions of announced dividends
4 and common stock earnings that were likely to be a surprise to the market. That is, for a
5 group of gas distribution companies I compared the market reactions to dividend
6 announcements and common stock earnings announcements. Specifically, I looked at
7 the price impact of both earnings announcements and dividend announcements that
8 exceeded *Value Line's* projected levels. Among these companies, in the period
9 September 2001 to December 2003, there were 8 dividend announcements and 19
10 common stock announcements that were relevant because they exceeded expectations.

11 **Q. How did you distinguish the ordinary market movements from the investors'**
12 **responses to the dividend and common stock earnings announcements?**

13 A. I developed indices, which were ratios of a utility's common stock price to the Dow Jones
14 Utility Index. In this way, I statistically isolated the impact of these announcements, and I
15 could determine that the price increases were linked to these unexpected
16 announcements. Stated differently, I measured the relative market movements. I have
17 illustrated the percent increase in the market price relative to the utility index for both the
18 unexpected earnings per share and the dividend announcements in Schedule DAM-12.
19 Although I could not assert that all earnings surprises would have as dramatic effect as
20 those shown, but the impact in these cases is very obvious.

21 **Q. Did you also review historical common stock earnings and dividend information?**

22 A. Yes, of course, I did. I focused my analysis principally on forecasted common stock
23 earnings, which is consistent with the economic literature and the event analysis of
24 dividend and common stock earnings. But I also reviewed the history of dividends in the
25 companies studied. As I have illustrated in Schedule DAM-13, the growth in dividends

1 and earnings per share have diverged showing a slower growth in dividends than in
2 earnings. This is not surprising given the shift in the gas industry toward greater
3 competition over this period. Increased competition adds an element of business risk to
4 regulated gas distribution utilities. Under the circumstance, it is prudent for boards of
5 directors to harbor cash and not to increase dividends as much as earnings growth. This
6 observation places a further emphasis on the forecasted earnings per share growth
7 rates in a DCF analysis used for ratemaking purposes.

8 **Q. How did you determine common stock prices for your DCF analysis?**

9 A. I used common stock prices for the past year as reported by the *Wall Street Journal*, and
10 I also used current prices from a recent two-week period as reported by *YAHOO!*
11 *Finance*. Of course I was interested in current market valuations. However, recognizing
12 that rates from this proceeding will be in effect for a number of years, I was interested in
13 the likely effect of changing market prices over a longer time period.

14 **Q. Did you apply the same analysis to the comparable companies that you applied to
15 Atmos?**

16 A. Yes, of course, I was interested in maintaining the same measures for both Atmos and
17 the comparable companies so that one could interpret the results. This is simply sound
18 research design that makes meaningful comparisons between the two possible.

19 **Q. Can you characterize the results of your DCF analysis?**

20 A. Yes. The DCF cost of capital using the dividend growth rate that combined historical and
21 forecasted dividend growth rates and the common stock prices for the past year
22 produced low estimates for both Atmos and the comparable companies. Because of the
23 low historical dividend growth rates that I discussed previously, this is not surprising.
24 However, these results are so close to the current level of short-term debt they are not
25 credible for ratemaking. For example, as shown in Schedule DAM-14, the DCF cost of

1 common stock by this calculation for Atmos was as low as 6.17. As discussed, the cost
2 of short-term debt for Atmos in December 2005 was actually higher, or 6.91 percent. For
3 this reason, as well as the previously discussed reasons, I looked primarily to the results
4 of my analysis of earnings per share growth. The results of these analyses for Atmos are
5 a range from 12.97 to 13.80 percent, as shown in Schedule DAM-15, and they are in the
6 range of 10.20 to 12.04 percent, as shown in Schedule DAM-16.

7 **Q. What did your DCF analyses using current prices show?**

8 A. With a more narrow range of prices and yields, the ranges of the cost of common equity
9 estimates are naturally smaller. Again the DCF results influenced by historical dividend
10 rates are not credible (see Schedule DAM-17.) The current cost of capital measure for
11 Atmos is consequently in the range of 13.55 to 13.60 percent by including the historical
12 earnings estimate. The range is 10.78 to 11.83 percent based strictly on the forecasted
13 earnings per share growth rate. I have illustrated these results in Schedules DAM-18
14 and DAM-19. The cost of capital estimates for the comparable companies verifies that
15 the cost of capital of Atmos is higher as measured by the DCF. Notably, NICOR had a
16 negative growth rate in one of these estimates. Excluding the effects of the negative
17 growth rate, the results of the comparable companies ranged from 7.28 percent to 13.75
18 percent and 6.00 percent to 13.55 percent when I applied the same DCF calculations.
19 Obviously, the estimate for Atmos falls within the range of the DCF results for the
20 comparable gas distribution utilities. I have presented a summary of the DCF results in
21 Schedule DAM-20.

22 **Q. Did the relatively high DCF measured cost of capital for Atmos surprise you when**
23 **you made this calculation?**

24 A. No, it did not. As I pointed out previously, Atmos' recent earnings have been lower than
25 then those of the comparable companies. As the Company's returns grow to the

1 earnings levels of other gas distribution utilities, this necessarily implies a higher growth
2 rate in earnings to catch up. The DCF calculation is sensitive to growth rates, and this
3 implies the need to recognize the relatively high growth rate necessary to bring earnings
4 to current levels of comparable gas distribution utilities.

5 **Q. You stated that you used the capital asset pricing model in your analysis. What is**
6 **the Capital Asset Pricing Model?**

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

$$13 \quad K = R_F + \beta (R_M - R_F)$$

14 Where: K = the required return.
15 R_F = the risk-free rate.
16 R_M = the required overall market return; and
17 β = beta, a measure of security risk relative to the overall market.

18 One should note that the value of market risk is the differential between the market rate
19 and the "risk-free" rate. Beta is the measure of the volatility, as a measure of risk, of a
20 security relative to the market as a whole. By estimating the risk differential between an
21 individual security and the market as a whole, an analyst can measure the relative cost
22 of that security compared to the market as a whole.

23 **Q. How did you apply the CAPM cost of capital result in your analysis?**

24 A. I used the CAPM method primarily as a verification of the DCF analysis. As a risk
25 premium method, it takes current debt costs as a basis, or benchmark, for measuring the
26 cost of common stock. The CAPM links the incremental cost of capital of an individual
27 company with the risk differential between that company and the market as a whole.

1 This is a rather imprecise method, but it is a good tool for assessing the general level of
2 the cost of a security. One benefit of the CAPM for analysis is that, as a risk premium
3 method, it produces a relatively stable measure of the cost of capital.

4 **Q. Please explain the CAPM methodology that you used in your analysis.**

5 A. I applied two different, but complementary approaches to estimate a CAPM cost of
6 capital. One of these methods examines the historical risk premium of common stock
7 over high grade corporate bonds. The other integrates the risk premium of common
8 stocks to long-term government bonds in recent markets. This second method requires
9 an adjustment for a bias in the analysis because of company size. The financial literature
10 has recognized this bias as an empirical problem for a long time, but correcting for this
11 bias is a recent analytical development.

12 **Q. You stated that one of your CAPM methods requires an adjustment for a**
13 **company's market capitalization. What is the nature of this adjustment?**

14 A. For a number of years, analysts have shown that the CAPM can understate the returns
15 of smaller firms. Starting with R. W. Banz⁴ and M. R. Reinganum⁵ in the 1980s, the
16 academic literature contained many references to this bias. Reinganum examined the
17 relationship between the size of the firm and its price-earnings ratio, and he found that
18 small firms experienced average returns greater than those of large firms that had
19 equivalent risk as measured by the beta in the CAPM. Banz confirmed the result that
20 beta does not explain all of the returns associated with smaller companies; hence, the
21 CAPM would understate their cost of common equity. In the same time frame, Fama and

⁴ Banz, R.W., "The Relationship Between Return and Market Value of Common Stock," *Journal of Financial Economics*, March 1981, pp. 3-18.

⁵ Reinganum, M. R., "Misspecification of Capital Asset Pricing: Empirical Anomalies Based on Earnings, Yields, and Market Values," *Journal of Financial Economics*, March 1981A, pp. 19-46.

1 French confirmed that the Banz (1981) analysis consistently rejected the central CAPM
2 hypothesis that beta sufficed to explain expected return of investors⁶.

3 **Q. What did you mean when you said that the CAPM method requires an adjustment?**

4 A. Repeated studies showed the CAPM method possessed a bias that understated the
5 expected returns of small companies, and this remained an empirical observation
6 without a clear remedy. However, now Ibbotson Associates, which is the common
7 source of data for the risk premium used in CAPM analyses, has developed the
8 adjustment for this bias. Ibbotson Associates discusses the problem, as follows:

9 "One of the most remarkable discoveries of modern finance is that of the
10 relationship between firm size and return. The relationship cuts across the entire
11 size spectrum but is most evident among smaller companies, which have higher
12 returns on average than larger ones. Many studies have looked at the effect of
13 firm size on return."⁷

14
15 To account for this empirical bias against smaller companies, Ibbotson Associates has
16 prescribed quantitative adjustments to the CAPM, which it publishes in the same source
17 as the data used by many analysts to estimate the risk premium for a CAPM analysis.

18 **Q. Did you apply the Ibbotson Associates' recommended adjustment in your
19 analysis?**

20 A. Yes. In my CAPM analysis, I used the method recommended by Ibbotson Associates to
21 compensate for this inherent data bias.

22 **Q. Please explain the results of your CAPM analysis.**

23 A. These two methods provided comparative calculations, on slightly different assumptions.
24 In this way, they serve as benchmarks for the DCF analysis that I had developed
25 previously. I have illustrated results of these CAPM analyses in Schedules DAM-21 and
26 DAM-22. The estimated costs of common stock are 10.64 percent and 11.42 percent

⁶ 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.

⁷ Chapter 7: Firm Size and Return, "Ibbotson Associates' Stocks Bonds, Bills, and Inflation: 2005 Yearbook Valuation Edition," edited by James Licato, p. 127.

1 from these two analyses for Atmos. For the comparable companies these results are
2 12.26 percent and 12.73 percent.

3 **Q. Why are the CAPM results for Atmos lower than for the comparable companies?**

4 A. The beta, or responsiveness of Atmos' common stock to overall market movements, is
5 less than the average for the comparable companies in recent markets. This is just one
6 measure of risk to investors, but it is the major determinant of the difference among
7 these CAPM estimates.

8 **Q. You indicated earlier that you reviewed current market conditions as a basis for
9 evaluating the results of your analysis. What did you consider?**

10 A. I considered the recent level of common stock valuations, market volatility and the
11 possible significance of the Federal Reserve's recent monetary policy of maintaining
12 high short-term interest rates. Of course, I was interested in the implications of this policy
13 on the cost of capital this proceeding will set.

14 **Q. Why is the level of rates important to your testimony?**

15 A. Significantly, the levels of interest rates are a measure of the return that investors in
16 utility equities might expect from an alternative investment. Consequently, the
17 progressive increase in short-term interest rates that I discussed previously, as
18 incorporated in the risk premium, puts pressure on the returns for common stock returns
19 to increase to attract investors. Relatively speaking, the risk premium between the
20 common stock and debt instruments will remain relatively constant, and consequently,
21 the returns to common stock investments will necessarily increase to attract and
22 maintain capital.

23 **Q. Are you aware of any market evidence that this phenomenon is occurring during
24 the period that interest rates have been progressively increasing?**

1 A. Yes. From 2003 through 2005, a period when the short-term interest rates grew by
2 approximately 220 basis points, the common stock returns for a number of U.S.
3 industries grew by equivalent amounts or more. Using the *Value Line* measures of
4 industry returns, I have shown the growth in common stock earnings over the same
5 period for a group of U. S. industries in Schedule DAM-23. Along with economic
6 expansion, these results are not surprising. These growing industrial returns highlight the
7 alternatives available to potential utility investors in the current market environment. It is
8 clear that during this recent period, a number of industries have experienced increases
9 in common stock earnings that are equal to or greater than the increase in short-term
10 interest rates. Notably, the returns of these non-regulated companies in many cases are
11 much higher than returns to LDCs.

12 **Q. Did you review any other information related to business risks of Atmos?**

13 A. Yes. I reviewed the *Value Line* measures of "Safety Rank" and "Timeliness." These are
14 general measures of common stock safety and investment timeliness, and they
15 incorporate business risk. Atmos' Safety Rank at "2", with "1" being the highest of five
16 categories, is the same as the average for the comparable utilities. Because these
17 rankings are for all common stocks, this indicates that the gas distribution utilities have a
18 somewhat higher Safety Rank than the average common stock in the market place. As
19 to the rank for Timeliness, *Value Line*, by assigning a "4" to Atmos, does not consider
20 the Company's common stocks a "timely" investment when compared to other common
21 stocks. I have illustrated these rankings in Schedules DAM-24 and DAM-25. As this
22 latter schedule also illustrates, *Value Line* does not consider an investment in LDC
23 common stock "timely".

24 **Q. Did you review any other measures of risk of Atmos?**

1 A. Yes. I reviewed the Standard and Poor's bond ratings of Atmos and the comparable
2 companies. As Schedule DAM-26 shows, Atmos' bond rating is BBB. Of the comparable
3 companies only Southwest Gas is lower at BBB-. All of the other comparable gas
4 distribution utilities have higher bond ratings of A- or higher.

5 **Q. How has the business risks facing LDCs changed in recent years?**

6 A. High prices of natural gas create demand risk. Competition from alternative fuels is high.
7 Industrial customers can and do switch to alternative fuels when effective cost savings
8 arise. On the supply side, market forces have supplanted the traditional buy-and-sell
9 relationship between LDCs and pipelines. In many respects, pipelines passed the risk of
10 commodity price swings and supply interruptions to the LDCs, and this increases the
11 LDC's business risk. High prices have increased the losses of LDCs because of rising
12 uncollectibles.

13 **Q. Are Atmos' natural gas operations subject to the business risks that you indicate
14 currently affect the gas distribution companies?**

15 A. Yes. As an LDC acquiring gas for its distribution customers and facing the threats of
16 customers seeking cheaper alternatives, Atmos faces the typical business risks in the
17 current markets. High field prices for natural gas have increased Atmos' exposure to
18 competition from other energy sources and exposure to the risk from uncollectibles.

19 **Q. Did you consider any other important business risk factors during your analysis?**

20 A. Yes. One countervailing business risk factor for gas distribution companies in the current
21 natural gas market is a Weather Normalization Adjustment ("WNA"). A WNA will reduce
22 the exposure of a gas distribution company to consumption fluctuations resulting from
23 weather changes. However, a WNA does not remove all of the business risk of weather.
24 This reduction of fluctuation about the expected value of the returns does not alter the
25 level of the expected value.

1 **Q. Did other factors influence your interpretation of the market measured cost of**
2 **capital?**

3 A. Yes. One of the influencing factors was the nature of market-based measures such as
4 the DCF method itself.

5 **Q. What do you mean by the nature of the DCF method itself?**

6 A. The DCF method, because of its theoretical basis, estimates the marginal cost of
7 common stock equity to a company. In this way, it is an estimate of the minimal return
8 necessary to attract marginal, or incremental, investment in common stock equity.
9 However, the method does not account for any other factors that may affect the ability of
10 the company to earn that return. It does not account for influences that are outside the
11 discounted value of expected returns, as discussed previously. Consequently, it does
12 not include a cushion in this calculation to assure, or to even provide a reasonable
13 probability, that the regulated company will earn its allowed return. In order to achieve
14 the objective of the allowed return such a cushion is necessary.

15 **Q. In your experience, is it common for regulators and analysts to recognize this**
16 **characteristic of the DCF method?**

17 A. Yes, it is. Regulators and analysts often use adjustments to compensate for the
18 marginal-cost nature of the DCF calculation. For example, some analysts and regulators
19 specifically apply a flotation adjustment. Flotation costs are especially important in the
20 case of Atmos because of the expected issuance of significant shares of common stock.

21 **Q. Did you calculate a specific flotation adjustment to include in your return**
22 **recommendation?**

23 A. No, I did not apply a specific flotation cost adjustment.

24 **Q. Is recognizing the costs of flotation or the marginal cost nature of the market-**
25 **based measures of the cost of common equity important in this case for Atmos?**

1 A. Yes. The prospective growth in common stock equity from the current level to a level
2 more consistent with industry norms is critical for attracting capital to the Company.

3 **Q. How did you determine a recommended return for Atmos in this proceeding?**

4 A. I took into account the low common stock equity ratio of Atmos and the associated
5 financial risk of this capital structure. Although the capital structure is a low-cost capital
6 structure, to some degree that added risk requires some offset via a slightly higher return
7 to common stock than the average. It is also relevant to setting an allowed return for the
8 future that Atmos has maintained only a nominal growth in dividends over recent years,
9 and, combined with the low returns on common stock, this has resulted in a relatively
10 high dividend payout ratio. In evaluating the calculations of the cost of common equity of
11 Atmos, I noted that results of the DCF analysis using the common stock earnings
12 forecasts were relatively high when compared to the comparable gas distribution utilities.
13 But this is not surprising under the circumstances. Of course, I also relied on my DCF
14 analysis of Atmos' cost of common stock in the context of the similar calculations for the
15 comparable gas distribution companies. I found that the DCF results for Atmos fell
16 outside the ranges of the results for many of the comparable gas distribution utilities
17 when I used similar data and methodologies. The most relevant DCF results for Atmos
18 were the estimates of 10.78 to 11.83 percent for the forecasted earnings per share
19 growth rates with current yield estimates and the 13.55 to 13.60 percent for the
20 combined historical and forecasted earnings per share growth rates with current yield
21 estimates. Finally, I used the two CAPM analyses, which provided ROE estimates of
22 10.64 to 11.42 percent for Atmos. The CAPM analyses estimated the returns of the
23 comparable gas distribution companies to range between 12.26 and 12.73 percent.

24 In today's market environment, I believe the low results are too low for
25 ratemaking purposes, and the higher results are higher than necessary. Consequently,

1 for a recommendation, I looked to the middle of these varied results for a recommended
2 allowed return.

3 **Q. What is your recommendation for a rate of return for common stock in this**
4 **proceeding?**

5 A. Using the previously discussed results, the low end of a reasonable range for Atmos'
6 allowed return in today's market is 11.5 percent. This is also the level of current common
7 stock earnings of the LDCs that have higher common equity ratios. I believe that the
8 upper end of the reasonable range of an allowed return for Atmos is 12.5 percent. For a
9 point estimate, I am recommending an allowed return of 12.0 percent for Atmos in this
10 proceeding. Based on the factors that I discussed previously, I believe that this is an
11 adequate return. I have illustrated this recommended return on common stock and my
12 recommended total return of 8.59 percent in Schedule DAM-27.

13 **Q. Did you test the adequacy and appropriateness of your return recommendation?**

14 A. Yes. I compared the after-tax interest coverage ratio, assuming key recommended
15 allowed return of 12.0 percent on common stock equity, with the After-Tax Interest
16 Coverage ratio of the comparable companies. The interest coverage ratio is a measure
17 of adequacy of the allowed return on common stock, because it demonstrates whether
18 there will be sufficient funds available to meet the fixed interest obligations. In this way, I
19 could verify whether this recommendation appeared to be sufficient to attract capital, on
20 one hand, or whether it appeared to be higher than necessary, on the other. Conversely,
21 when compared to comparable companies in the gas distribution industry, the interest
22 coverage ratio demonstrates whether the funds from my recommended allowed return
23 will be higher than industry norms available to meet the fixed interest obligations.

24 **Q. What did your test of the adequacy and appropriateness of your recommended**
25 **return show?**

1 A. I have shown the comparison of the After-Tax Interest Coverage earned ratios of Atmos
2 and the comparable gas distribution utilities in Schedule DAM-28. It shows when all
3 things are considered, my recommended allowed return will result in an After-Tax
4 Interest Coverage of 2.55 times. By comparison, the average After Tax Interest
5 Coverage of the comparable companies is 3.31 times, only one of the comparable
6 companies has a coverage that is lower. That company is Southwest Gas, with coverage
7 of 1.68 times, and this is deficient by any measure. From my experience in reviewing the
8 interest coverage ratios of gas utilities in the markets today, Atmos' coverage at my
9 recommended allowed return is very low. However, from the low common equity ratio,
10 one would expect this. This comparison demonstrates that my mid-point
11 recommendation is barely adequate, and extremely reasonable.

12 **Q. Did you also test the coverage of the high-end of your recommended range of**
13 **returns on common stock to verify that it is not higher than necessary to attain**
14 **and maintain capital?**

15 A. Yes. As further evidence of the reasonableness of my recommended allowed return, I
16 also verified that the 12.5 percent, which was the upper end of the range that I initially
17 considered relevant, was not excessive. With all else equal, at an allowed return of 12.5
18 percent, the After Tax Interest Coverage for Atmos is just 2.62 times. This is also much
19 lower than the average coverage of the comparable gas distribution utilities. I have
20 showed this comparison in Schedule DAM-29.

21 **Q. Does this conclude your direct testimony?**

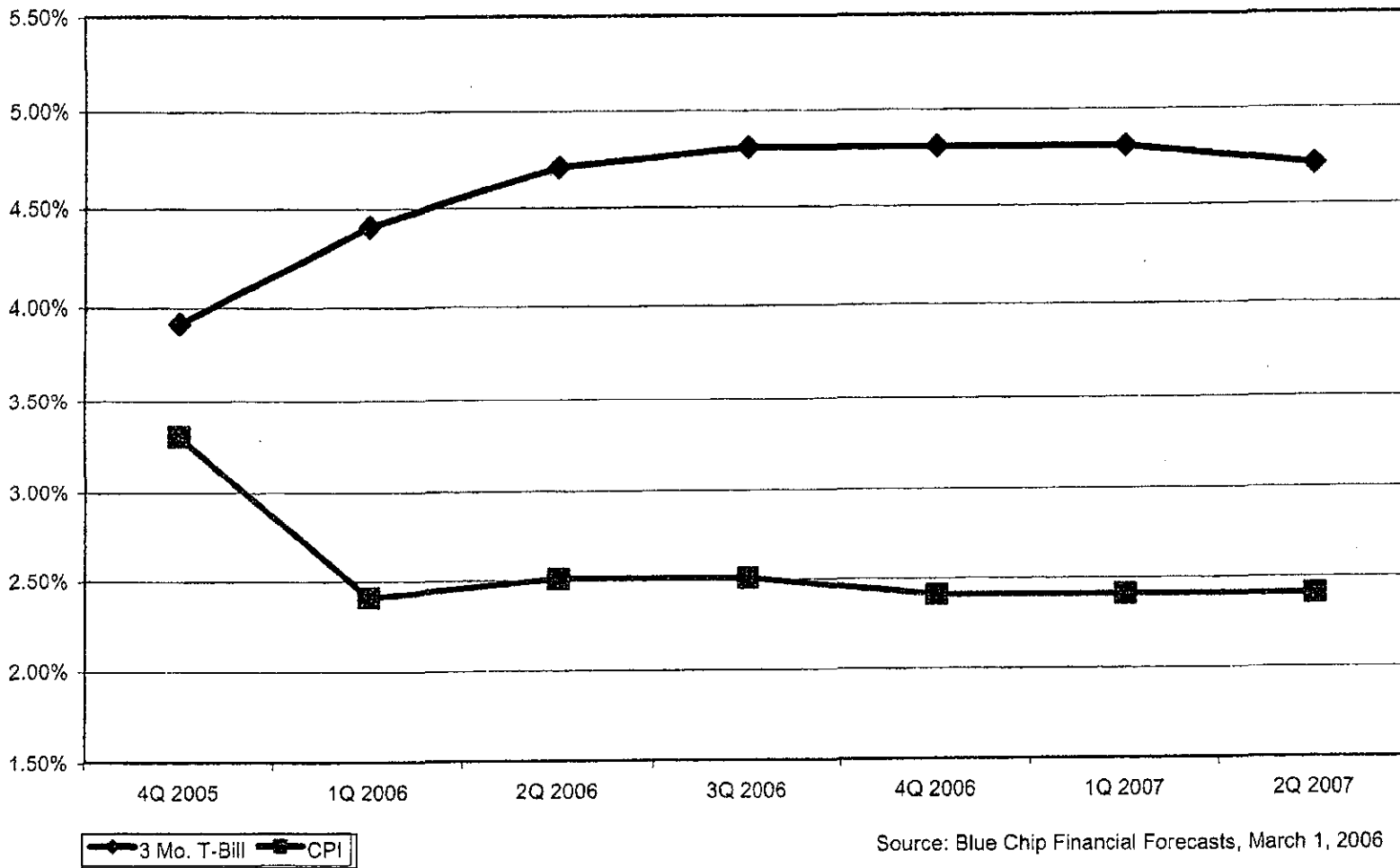
22 A. Yes, it does.

Atmos Energy Corporation

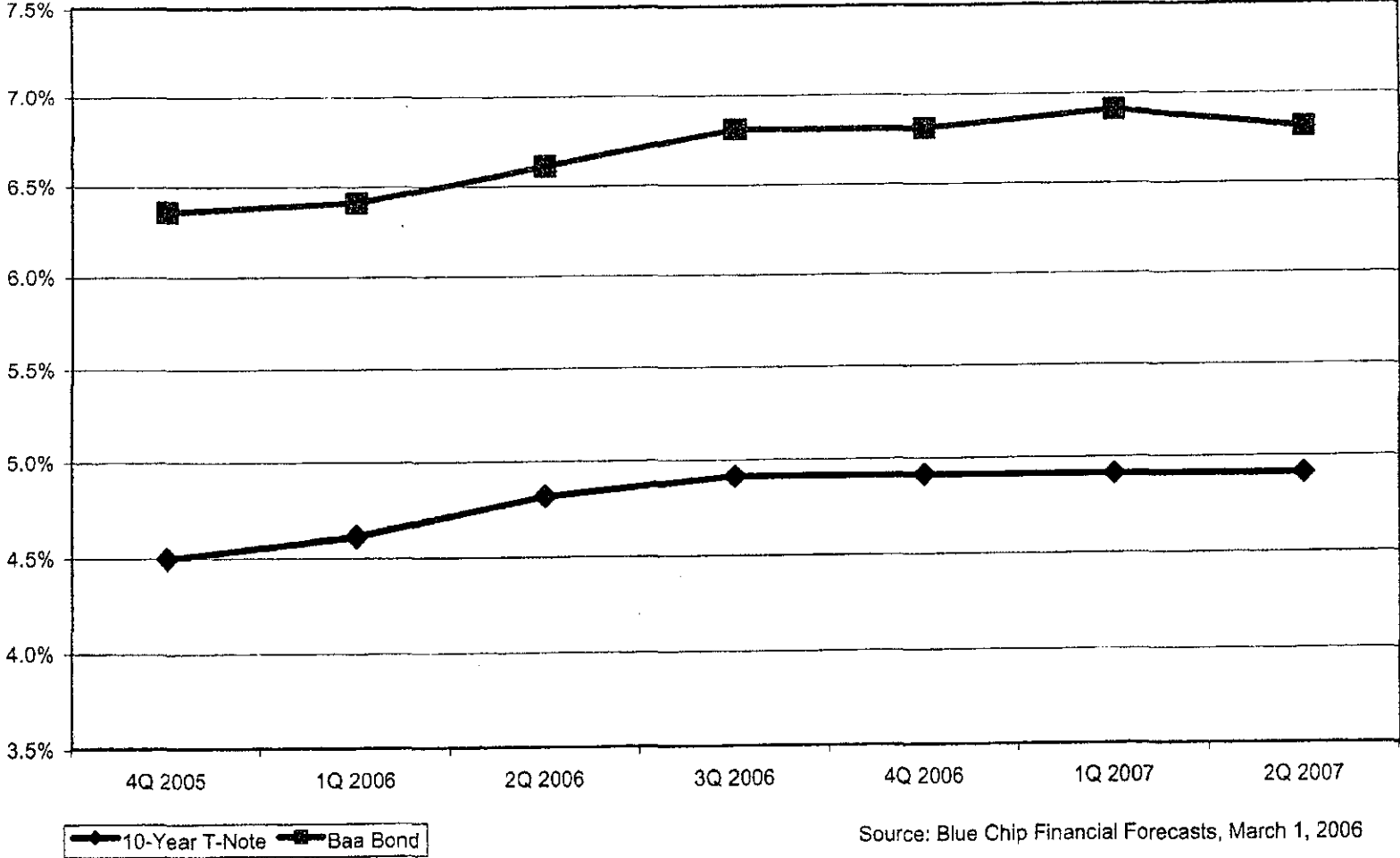
List of Schedules

- Schedule DAM-1: Blue Chip Economic Forecasts
- Schedule DAM-2: Blue Chip Interest Rate Forecasts
- Schedule DAM-3: Proposed Capital Structure
- Schedule DAM-4: Atmos Embedded Cost of Long-Term Debt
- Schedule DAM-5: Comparison of Common Equity Ratios
- Schedule DAM-6: Comparison of Returns on Common Equity
- Schedule DAM-7: Comparison of Returns on Equity Chart
- Schedule DAM-8: Comparison of Dividends per Share
- Schedule DAM-9: Comparison of Dividend Payout Ratios
- Schedule DAM-10: Comparison of Average Annual Price-Earnings Ratios
- Schedule DAM-11: Comparison of Common Shares Outstanding
- Schedule DAM-12: Stock Price Responses to Dividend and EPS Announcements
- Schedule DAM-13: Discounted Cash Flow Growth Rate Summary
- Schedule DAM-14: 52-Week DCF Using Dividend Growth Rates
- Schedule DAM-15: 52-Week DCF Using Earnings Growth Rates
- Schedule DAM-16: 52-Week DCF Using Projected Growth Rates
- Schedule DAM-17: Current DCF Using Dividend Growth Rates
- Schedule DAM-18: Current DCF Using Earnings Growth Rates
- Schedule DAM-19: Current DCF Using Projected Growth Rates
- Schedule DAM-20: Discounted Cash Flow Analysis
- Schedule DAM-21: Size-Adjusted Capital Asset Pricing Model
- Schedule DAM-22: Historical Capital Asset Pricing Model
- Schedule DAM-23: Recent Increase in Returns on Common Equity
- Schedule DAM-24: Comparison of Value Line's Safety Rank
- Schedule DAM-25: Comparison of Value Line's Timeliness Rank
- Schedule DAM-26: Comparison of Standard and Poor's Credit Ratings
- Schedule DAM-27: Projected Thirteen Month Cost of Capital
- Schedule DAM-28: Comparison of After-Tax Times Interest Earned Ratios at Twelve Percent Return on Equity
- Schedule DAM-29: Comparison of After-Tax Times Interest Earned Ratios at Twelve and a Half Percent Return on Equity

Blue Chip Economic Forecasts



Blue Chip Interest Rate Forecasts



Atmos Energy Corporation

Proposed Capital Structure

Projected at June 30, 2006

	Amount Outstanding	Percent of Total
Long Term Debt	\$2,184,082,467	56.45%
Common Equity	\$1,684,996,708	43.55%
Total	\$3,869,079,175	100.00%

Source :
Atmos Energy Corporation Work Papers

Atmos Energy Corporation

Embedded Cost of Long-Term Debt

Projected Thirteen Months Ended June 30, 2006

Assigned Long Term Debt Issues	Outstanding	Effective Rate %	Annualized Interest Expense
10% Senior Notes due Dec 2011	\$2,303,308	10.00%	\$230,331
7.38% Senior Notes due May 2011	\$350,000,000	7.38%	\$25,812,500
6.75% Debentures Unsecured due July 2028	\$150,000,000	6.75%	\$10,125,000
5.125% Senior Notes due Feb 2013	\$250,000,000	5.13%	\$12,812,500
10.43% First Mortgage Bond P due 2017 (eff 2012)	\$8,750,000	10.43%	\$912,625
	\$10,000,000	6.67%	\$667,000
6.27% MTN A2 due Dec 2010	\$10,000,000	6.27%	\$627,000
2.465% Sr Note 3Yr Floating due 10/15/2007	\$300,000,000	4.98%	\$14,925,000
4.00% Sr Note due 10/15/2009	\$400,000,000	4.00%	\$16,000,000
4.95% Sr Note due 10/15/2014	\$500,000,000	4.95%	\$24,750,000
5.95% Sr Note due 10/15/2034	\$200,000,000	5.95%	\$11,900,000
Subtotal -- Utility Long-Term Debt	\$2,181,053,308		\$118,761,956
United Cities Propane Gas, Inc.			
Evensville, TN -- E-Con due 06/08	168,125	7.00%	\$11,769
Pulaski -- Ingas, Ingram & Carvell 06/08	200,000	6.00%	\$12,000
Total Propane	\$368,125		\$23,769
Atmos Leasing, Inc.			
Industrial Develop Revenue Bond 07/13	982,142	7.90%	\$77,589
Atmos Power Sys - Wells Fargo 05/08	2,126,257	5.65%	\$120,134
US Bancorp - 04/09	2,994,164	5.29%	\$158,391
Total Leasing	\$6,102,563		\$356,114
Total Long Term Debt	\$2,187,523,996		\$119,141,839
Less Unamortized Debt Discount	\$3,441,528		
Annualized Amortization of Debt Exp. & Debt Dsct.			\$11,103,566
Effective Avg Cost of Consol Debt	\$2,184,082,467		\$130,245,404
Embedded Cost of Debt			5.96%

Source:

Atmos Energy Corporation Work Papers

Atmos Energy Corporation
 Comparable Gas Companies
 Comparison of Common Equity Ratios

Company	2001	2002	2003	2004	2005E	Forecast '08-'10
Atmos Energy	45.7%	46.1%	49.8%	56.8%	42.0%	48.0%
AGL Resources	38.7%	41.7%	49.7%	46.0%	48.0%	51.0%
Keyspan	37.7%	35.7%	39.1%	46.7%	53.0%	51.0%
New Jersey Resources	49.9%	49.4%	61.9%	59.7%	58.0%	67.0%
NICOR, Inc.	61.7%	64.5%	60.3%	60.1%	60.5%	64.0%
Peoples Energy	55.6%	59.3%	53.3%	49.2%	47.2%	50.5%
Piedmont Natural Gas Company	52.4%	56.1%	57.8%	56.4%	59.0%	63.0%
Southwest Gas	39.6%	34.1%	34.0%	35.8%	38.5%	44.0%
WGL Holdings, Inc.	56.3%	52.4%	54.3%	57.2%	59.4%	61.0%
Comparable Companies' Averages	49.0%	49.2%	51.3%	51.4%	53.0%	56.4%

Source: Value Line Investment Survey

Atmos Energy Corporation

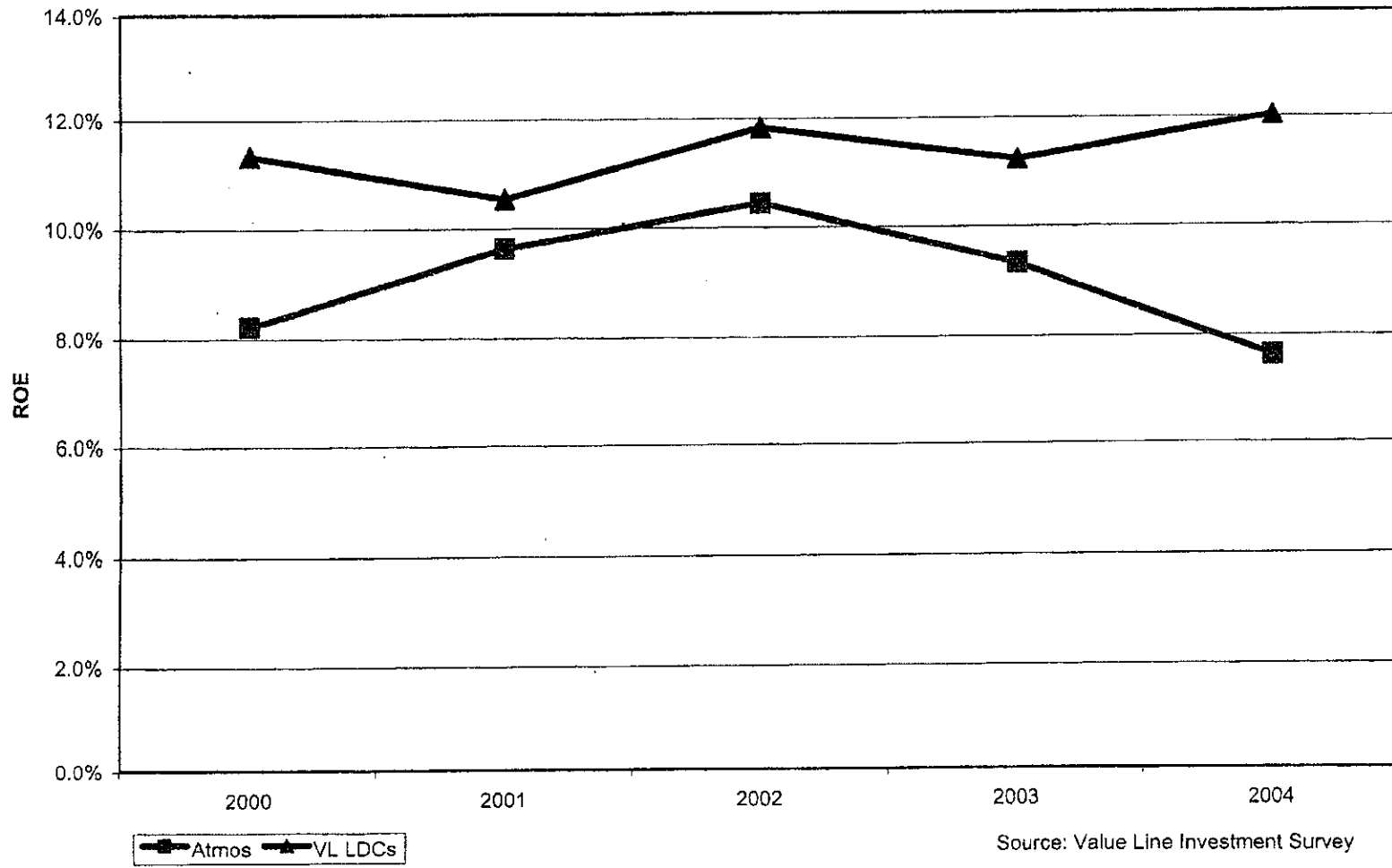
Comparable Gas Companies

Comparison of Returns on Common Equity

	2001	2002	2003	2004	2005E	Five Year Average	Forecast '08-'10
Atmos Energy	9.6%	10.4%	9.3%	7.6%	8.5%	9.1%	9.0%
AGL Resources	12.3%	14.5%	14.0%	11.0%	12.5%	12.9%	12.0%
Keyspan	8.2%	13.3%	11.4%	10.2%	9.5%	10.5%	10.5%
New Jersey Resources	14.9%	15.7%	15.6%	15.3%	17.0%	15.7%	13.5%
NICOR, Inc.	18.7%	17.5%	12.3%	13.1%	13.0%	14.9%	14.5%
Peoples Energy	13.9%	12.3%	12.3%	9.4%	10.8%	11.7%	12.0%
Piedmont Natural Gas Company	11.7%	10.6%	11.8%	11.1%	10.5%	11.1%	12.5%
Southwest Gas	6.6%	6.5%	6.1%	8.3%	7.0%	6.9%	10.5%
WGL Holdings, Inc.	11.2%	7.2%	14.0%	11.7%	11.5%	11.1%	11.0%
Comparable Companies' Averages	12.2%	12.2%	12.2%	11.3%	11.5%	11.9%	12.1%

Source: Value Line Investment Survey

Comparison of Returns on Equity



Atmos Energy Corporation
 Comparable Gas Companies
 Comparison of Dividends per Share

Company	2001	2002	2003	2004	2005E	Growth '01-'05	Forecast '08-'10
Atmos Energy	1.16	1.18	1.20	1.22	1.24	1.68%	1.35
AGL Resources	1.08	1.08	1.11	1.15	1.30	4.29%	1.62
Keyspan	1.78	1.78	1.78	1.79	1.82	0.47%	2.10
New Jersey Resources	1.17	1.20	1.24	1.30	1.36	3.92%	1.62
NICOR, Inc.	1.76	1.84	1.86	1.86	1.86	1.10%	2.02
Peoples Energy	2.04	2.07	2.12	2.16	2.18	1.83%	2.32
Piedmont Natural Gas Company	0.76	0.80	0.82	0.86	0.92	4.50%	1.10
Southwest Gas	0.82	0.82	0.82	0.82	0.82	0.00%	0.82
WGL Holdings, Inc.	1.26	1.27	1.28	1.30	1.32	1.17%	1.43
Comparable Companies' Averages	1.33	1.36	1.38	1.41	1.45	2.16%	1.63

Source: Value Line Investment Survey

Atmos Energy Corporation

Comparable Gas Companies

Comparison of Dividend Payout Ratios

Company	2001	2002	2003	2004	2005E	Five Year Average
Atmos Energy	79%	82%	70%	77%	73%	76.2%
AGL Resources	65%	52%	53%	49%	54%	54.6%
Keyspan	103%	65%	66%	73%	74%	76.2%
New Jersey Resources	59%	56%	51%	49%	50%	53.0%
NICOR, Inc.	58%	63%	88%	84%	84%	75.4%
Peoples Energy	64%	73%	73%	97%	96%	80.6%
Piedmont Natural Gas Company	75%	83%	74%	66%	75%	74.6%
Southwest Gas	71%	70%	72%	49%	58%	64.0%
WGL Holdings, Inc.	67%	112%	56%	65%	63%	72.6%
Comparable Companies' Averages	70.3%	71.8%	66.6%	66.5%	69.3%	68.9%

Source: Value Line Investment Survey

Atmos Energy Corporation

Comparable Gas Companies

Comparison of Average Annual P/E Ratio

Company	2001	2002	2003	2004	Current	Five Year Average	Forecast '08-'10
Atmos Energy	15.6	15.2	13.4	15.9	15.0	15.0	13.0
AGL Resources	14.6	12.5	12.5	13.1	14.1	13.4	15.0
Keyspan	20.8	12.7	13.1	15.3	13.5	15.1	13.5
New Jersey Resources	14.2	14.7	14.0	16.3	15.8	15.0	17.0
NICOR, Inc.	12.8	13.1	15.8	15.9	17.3	15.0	16.0
Peoples Energy	12.3	13.3	13.4	19.1	15.6	14.7	17.0
Piedmont Natural Gas Company	16.7	18.4	16.7	16.6	18.4	17.4	19.0
Southwest Gas	19.0	19.9	19.2	14.3	17.5	18.0	18.0
WGL Holdings, Inc.	14.7	23.1	11.1	14.2	15.0	15.6	14.0
Comparable Companies' Averages	15.6	16.0	14.5	15.6	15.9	15.5	16.2

Source: Value Line Investment Survey

Atmos Energy Corporation

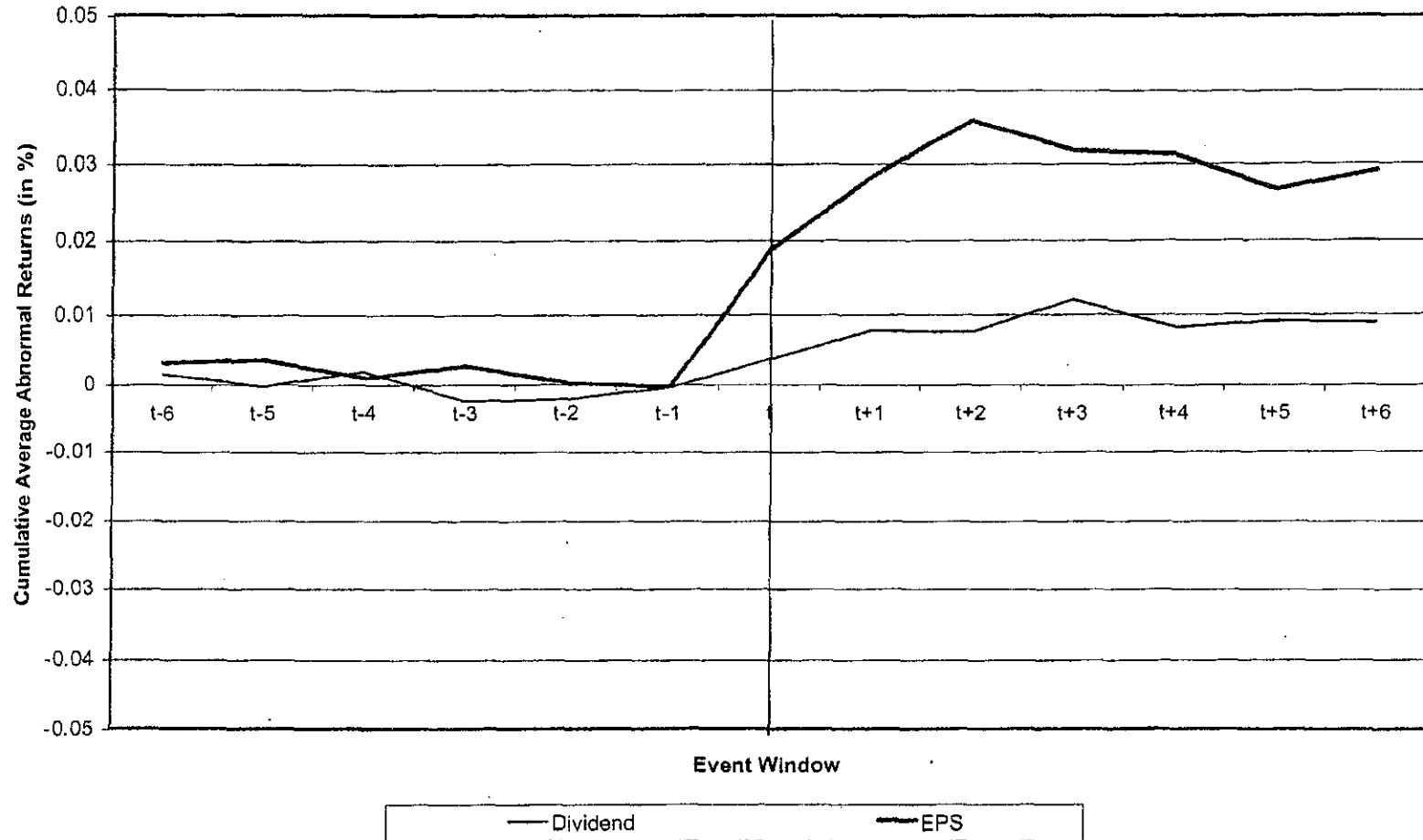
Comparable Gas Companies

Comparison of Common Shares Outstanding

Company	2000	2001	2002	2003	2004	2005E	Forecast '08-'10	Growth 2005-2009E
Atmos Energy	31.95	40.79	41.68	51.48	62.80	80.50	97.00	4.77%
AGL Resources	54.00	55.10	56.70	64.50	76.70	77.40	78.00	0.19%
Keyspan	136.36	139.43	142.42	159.66	160.82	174.50	177.00	0.36%
New Jersey Resources	26.39	26.66	27.67	27.23	27.74	27.55	25.00	-2.40%
NICOR, Inc.	45.49	44.40	44.01	44.04	44.10	44.20	44.50	0.17%
Peoples Energy	35.30	35.40	35.46	36.69	36.69	38.00	35.00	-2.03%
Piedmont Natural Gas Company	63.83	64.93	66.18	67.31	76.67	77.00	74.00	-0.99%
Southwest Gas	31.71	32.49	33.29	34.23	36.79	39.00	41.50	1.57%
WGL Holdings, Inc.	46.47	48.54	48.56	48.63	48.67	48.70	48.80	0.05%

Source: Value Line Investment Survey

**Stock Price Responses to Positive Dividend and EPS Announcements Greater than Expected
(Cumulative Average Abnormal Returns)**



Atmos Energy Corporation

Comparable Gas Companies

Discounted Cash Flow Growth Rate Summary

	2000 TO 2009 Estimate			Value Line Five Year Historical			Projections Value Line		S & P EPS
	EPS	DPS	Book Value	EPS	DPS	Book Value	EPS	DPS	
Atmos Energy Corporation	8.76%	1.96%	8.22%	3.5%	2.5%	6.5%	7.0%	2.0%	6.0%
AGL Resources	9.54%	4.61%	7.89%	11.0%	0.5%	6.0%	5.0%	6.5%	5.0%
Keyspan	6.14%	1.85%	4.10%	21.0%	4.0%	1.5%	1.0%	2.0%	3.0%
New Jersey Resources	6.97%	3.91%	8.46%	8.0%	2.5%	6.0%	6.0%	4.5%	5.0%
NICOR, Inc.	-0.16%	2.25%	2.13%	-0.5%	4.5%	1.0%	2.5%	1.5%	3.0%
Peoples Energy	1.33%	1.68%	1.73%	2.0%	2.0%	2.5%	3.0%	1.5%	4.0%
Piedmont Natural Gas Company	6.61%	4.82%	6.26%	3.0%	5.0%	5.5%	8.0%	5.0%	4.0%
Southwest Gas	8.15%	0.00%	3.77%	1.5%	0.0%	4.0%	10.5%	1.5%	3.0%
WGL Holdings, Inc.	3.82%	1.60%	3.89%	2.0%	1.5%	3.0%	5.0%	2.0%	4.0%
Comparable Companies' Averages	5.30%	2.59%	4.78%	6.00%	2.50%	3.69%	5.13%	3.06%	3.88%

Sources:

Value Line Investment Survey

Standard & Poor's Earnings Guide

Atmos Energy Corporation

Comparable Gas Companies

52-Week Discounted Cash Flow Using Dividend Growth Rates

	Share Prices		2006 Dividend	52 Week Yields		1999-01 DPS	2008-10E DPS	Growth Rate	Cost of Capital	
	Low	High		Low	High				Low	High
Atmos Energy Corporation	25.00	29.97	1.26	4.20%	5.04%	1.13	1.35	1.96%	6.17%	7.00%
AGL Resources	32.23	39.32	1.50	3.81%	4.65%	1.08	1.62	4.61%	8.42%	9.26%
Keyspan	32.66	41.03	1.82	4.44%	5.57%	1.78	2.10	1.85%	6.29%	7.43%
New Jersey Resources	40.68	49.34	1.44	2.92%	3.54%	1.15	1.62	3.91%	6.83%	7.45%
NICOR, Inc.	35.76	42.97	1.86	4.33%	5.20%	1.65	2.02	2.25%	6.58%	7.45%
Peoples Energy	34.34	45.52	2.20	4.83%	6.41%	2.00	2.32	1.68%	6.51%	8.09%
Piedmont Natural Gas Company	21.26	25.80	0.98	3.80%	4.61%	0.72	1.10	4.82%	8.62%	9.43%
Southwest Gas	23.53	28.58	0.82	2.87%	3.48%	0.82	0.82	0.00%	2.87%	3.48%
WGL Holdings, Inc.	28.86	34.79	1.34	3.85%	4.64%	1.24	1.43	1.60%	5.45%	6.24%
Comparable Companies' Averages	31.17	38.42	1.50	3.86%	4.76%	1.30	1.63	2.59%	6.45%	7.35%

Sources:

Value Line Investment Survey

Wall Street Journal

Atmos Energy Corporation

Comparable Gas Companies

52-Week Discounted Cash Flow Using Earnings Growth Rates

	Share Prices		2006 Dividend	52 Week Yields		1999-01 EPS	2008-10E EPS	Growth Rate	Cost of Capital	
	Low	High		Low	High				Low	High
Atmos Energy Corporation	25.00	29.97	1.26	4.20%	5.04%	1.10	2.35	8.76%	12.97%	13.80%
AGL Resources	32.23	39.32	1.50	3.81%	4.65%	1.23	2.80	9.54%	13.35%	14.19%
Keyspan	32.66	41.03	1.82	4.44%	5.57%	1.81	3.10	6.14%	10.58%	11.71%
New Jersey Resources	40.68	49.34	1.44	2.92%	3.54%	1.80	3.30	6.97%	9.89%	10.51%
NICOR, Inc.	35.76	42.97	1.86	4.33%	5.20%	2.84	2.80	-0.16%	4.17%	5.04%
Peoples Energy	34.34	45.52	2.20	4.83%	6.41%	2.75	3.10	1.33%	6.16%	7.73%
Piedmont Natural Gas Company	21.26	25.80	0.98	3.80%	4.61%	0.98	1.75	6.61%	10.41%	11.22%
Southwest Gas	23.53	28.58	0.82	2.87%	3.48%	1.21	2.45	8.15%	11.02%	11.64%
WGL Holdings, Inc.	28.86	34.79	1.34	3.85%	4.64%	1.71	2.40	3.82%	7.67%	8.46%
Comparable Companies' Averages	31.17	38.42	1.50	3.86%	4.76%	1.79	2.71	5.30%	9.16%	10.06%
Comparable Companies' Averages without NICOR									9.87%	10.78%

Sources:

Value Line Investment Survey
Wall Street Journal

Atmos Energy Corporation

Comparable Gas Companies

52-Week Discounted Cash Flow Using Projected Growth Rates

	Share Prices		2006 Dividend	52 Week Yields		EPS Estimates		Cost of Capital	
	Low	High		Low	High	Value Line	S&P	Low	High
Atmos Energy Corporation	25.00	29.97	1.26	4.20%	5.04%	7.00%	6.00%	10.20%	12.04%
AGL Resources	32.23	39.32	1.50	3.81%	4.65%	5.00%	5.00%	8.81%	9.65%
Keyspan	32.66	41.03	1.82	4.44%	5.57%	1.00%	3.00%	5.44%	8.57%
New Jersey Resources	40.68	49.34	1.44	2.92%	3.54%	6.00%	5.00%	7.92%	9.54%
NICOR, Inc.	35.76	42.97	1.86	4.33%	5.20%	2.50%	3.00%	6.83%	8.20%
Peoples Energy	34.34	45.52	2.20	4.83%	6.41%	3.00%	4.00%	7.83%	10.41%
Piedmont Natural Gas Company	21.26	25.80	0.98	3.80%	4.61%	8.00%	4.00%	7.80%	12.61%
Southwest Gas	23.53	28.58	0.82	2.87%	3.48%	10.50%	3.00%	5.87%	13.98%
WGL Holdings, Inc.	28.86	34.79	1.34	3.85%	4.64%	5.00%	4.00%	7.85%	9.64%
Comparable Companies' Averages	31.17	38.42	1.50	3.86%	4.76%	5.13%	3.88%	7.29%	10.33%

Sources:

Value Line Investment Survey

Wall Street Journal

Standard & Poor's Earnings Guide

Atmos Energy Corporation

Comparable Gas Companies

Current Discounted Cash Flow Using Dividend Growth Rates

	Share Prices		Current Dividend	Current Yields		1999-01 DPS	2008-10E DPS	Growth Rate	Cost of Capital	
	Low	High		Low	High				Low	High
Atmos Energy Corporation	26.08	26.33	1.26	4.78%	4.83%	1.13	1.35	1.96%	6.75%	6.79%
AGL Resources	35.64	36.10	1.50	4.16%	4.21%	1.08	1.62	4.61%	8.76%	8.82%
Keyspan	35.68	36.19	1.82	5.03%	5.10%	1.78	2.10	1.85%	6.88%	6.95%
New Jersey Resources	44.03	44.90	1.44	3.21%	3.27%	1.15	1.62	3.91%	7.12%	7.19%
NICOR, Inc.	40.63	41.27	1.86	4.51%	4.58%	1.65	2.02	2.25%	6.76%	6.83%
Peoples Energy	36.49	36.98	2.20	5.95%	6.03%	2.00	2.32	1.68%	7.63%	7.71%
Piedmont Natural Gas Company	23.83	24.11	0.98	4.06%	4.11%	0.72	1.10	4.82%	8.89%	8.93%
Southwest Gas	26.85	27.36	0.82	3.00%	3.05%	0.82	0.82	0.00%	3.00%	3.05%
WGL Holdings, Inc.	30.55	31.00	1.34	4.32%	4.39%	1.24	1.43	1.60%	5.92%	5.98%
Comparable Companies' Averages	34.21	34.74	1.50	4.28%	4.34%	1.30	1.63	2.59%	6.87%	6.93%

Sources:

Value Line Investment Survey

Yahoo! FINANCE

Atmos Energy Corporation

Comparable Gas Companies

Current Discounted Cash Flow Using Earnings Growth Rates

	Share Prices		Current Dividend	Current Yields		1999-01 EPS	2008-10E EPS	Growth Rate	Cost of Capital	
	Low	High		Low	High				Low	High
Atmos Energy Corporation	26.08	26.33	1.26	4.78%	4.83%	1.10	2.35	8.76%	13.55%	13.60%
AGL Resources	35.64	36.10	1.50	4.16%	4.21%	1.23	2.80	9.54%	13.69%	13.75%
Keyspan	35.68	36.19	1.82	5.03%	5.10%	1.81	3.10	6.14%	11.17%	11.24%
New Jersey Resources	44.03	44.90	1.44	3.21%	3.27%	1.80	3.30	6.97%	10.17%	10.24%
NICOR, Inc.	40.63	41.27	1.86	4.51%	4.58%	2.84	2.80	-0.16%	4.35%	4.42%
Peoples Energy	36.49	36.96	2.20	5.95%	6.03%	2.75	3.10	1.33%	7.28%	7.36%
Piedmont Natural Gas Company	23.83	24.11	0.98	4.06%	4.11%	0.98	1.75	6.61%	10.68%	10.73%
Southwest Gas	26.85	27.36	0.82	3.00%	3.05%	1.21	2.45	8.15%	11.15%	11.21%
WGL Holdings, Inc.	30.55	31.00	1.34	4.32%	4.39%	1.71	2.40	3.82%	8.14%	8.20%
Comparable Companies' Averages	34.21	34.74	1.50	4.28%	4.34%	1.79	2.71	5.30%	9.58%	9.64%
Comparable Companies' Averages without NICOR									10.33%	10.39%

Sources:

Value Line Investment Survey

Yahoo! FINANCE

Atmos Energy Corporation

Comparable Gas Companies

Current Discounted Cash Flow Using Projected Growth Rates

	Share Prices		Current Dividend	Current Yields		EPS Estimates		Cost of Capital	
	Low	High		Low	High	Value Line	S&P	Low	High
Atmos Energy Corporation	26.08	26.33	1.26	4.78%	4.83%	7.00%	6.00%	10.78%	11.83%
AGL Resources	35.64	36.10	1.50	4.16%	4.21%	5.00%	5.00%	9.16%	9.21%
Keyspan	35.68	36.19	1.82	5.03%	5.10%	1.00%	3.00%	6.03%	8.10%
New Jersey Resources	44.03	44.90	1.44	3.21%	3.27%	6.00%	5.00%	8.21%	9.27%
NICOR, Inc.	40.63	41.27	1.86	4.51%	4.58%	2.50%	3.00%	7.01%	7.58%
Peoples Energy	36.49	36.96	2.20	5.95%	6.03%	3.00%	4.00%	8.95%	10.03%
Piedmont Natural Gas Company	23.83	24.11	0.98	4.06%	4.11%	8.00%	4.00%	8.06%	12.11%
Southwest Gas	26.85	27.36	0.82	3.00%	3.05%	10.50%	3.00%	6.00%	13.55%
WGL Holdings, Inc.	30.55	31.00	1.34	4.32%	4.39%	5.00%	4.00%	8.32%	9.39%
Comparable Companies' Averages	34.21	34.74	1.50	4.28%	4.34%	5.13%	3.88%	7.72%	9.91%

Sources:

Value Line Investment Survey
 Standard & Poor's Earnings Guide
 Yahoo! FINANCE

Atmos Energy Corporation
 Comparable Gas Companies
 Summary of Discounted Cash Flow Analysis

	Atmos Energy Corporation		Comparable Gas Companies	
	Low	High	Low	High
52-Week Discounted Cash Flow				
Using Earnings Growth Rates	12.97%	13.80%	9.87%	10.78%
Using Projected Growth Rates	10.20%	12.04%	7.29%	10.33%
Current Discounted Cash Flow				
Using Earnings Growth Rates	13.55%	13.60%	10.33%	10.39%
Using Projected Growth Rates	10.78%	11.83%	7.72%	9.91%

Sources: Schedules DAM-15 through DAM-19

Atmos Energy Corporation
 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
Atmos Energy Corporation	4.65%	0.70	7.20%	5.04%	0.95%	10.64%
AGL Resources	4.65%	0.90	7.20%	6.48%	0.95%	12.08%
Keyspan	4.65%	0.85	7.20%	6.12%	0.95%	11.72%
New Jersey Resources	4.65%	0.75	7.20%	5.40%	1.81%	11.86%
NICOR, Inc.	4.65%	1.10	7.20%	7.92%	0.95%	13.52%
Peoples Energy	4.65%	0.85	7.20%	6.12%	1.81%	12.58%
Piedmont Natural Gas Company	4.65%	0.75	7.20%	5.40%	1.81%	11.86%
Southwest Gas	4.65%	0.80	7.20%	5.76%	1.81%	12.22%
WGL Holdings, Inc.	4.65%	0.80	7.20%	5.76%	1.81%	12.22%
Comparable Companies' Average	4.65%	0.85	7.20%	6.12%	1.49%	12.26%

Sources :
 Value Line Investment Survey
 Ibbotson Associates 2005 SBI Yearbook: Valuation Edition
 Federal Reserve Statistical Release

Atmos Energy Corporation

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
Atmos Energy Corporation	14.95%	6.20%	8.75%	0.70	6.13%	5.29%	11.42%
AGL Resources	14.95%	6.20%	8.75%	0.90	7.88%	5.29%	13.17%
Keyspan	14.95%	6.20%	8.75%	0.85	7.44%	5.29%	12.73%
New Jersey Resources	14.95%	6.20%	8.75%	0.75	6.56%	5.29%	11.85%
NICOR, Inc.	14.95%	6.20%	8.75%	1.10	9.63%	5.29%	14.92%
Peoples Energy	14.95%	6.20%	8.75%	0.85	7.44%	5.29%	12.73%
Piedmont Natural Gas Company	14.95%	6.20%	8.75%	0.75	6.56%	5.29%	11.85%
Southwest Gas	14.95%	6.20%	8.75%	0.80	7.00%	5.29%	12.29%
WGL Holdings, Inc.	14.95%	6.20%	8.75%	0.80	7.00%	5.29%	12.29%
Comparable Companies' Average	14.95%	6.20%	8.75%	0.85	7.44%	5.29%	12.73%

Sources :

Value Line Investment Survey

Ibbotson Associates 2005 SBBI Yearbook; Valuation Edition

Federal Reserve Statistical Release

Atmos Energy Corporation

Recent Increase in Returns on Common Equity

By Industry Group

Industry	Earnings 2005	Percent Increase 2003-2005
Building Materials	15.50%	2.00%
Cement & Aggregates	13.00%	4.10%
Chemical/Diversified	18.50%	3.30%
Healthcare Information	7.00%	2.80%
Household Products	38.50%	4.90%
Insurance (Life)	12.00%	2.60%
Machinery	18.00%	6.00%
Railroad	9.50%	0.90%
Tire & Rubber	15.00%	14.70%
Three Month Treasury Bills	3.22%	2.19%

Source: Value Line Investment Survey

Atmos Energy Corporation
Comparable Gas Companies
Comparison of Value Line's Safety Rank

	Safety Rank
Atmos Energy	2
AGL Resources	2
Keyspan	2
New Jersey Resources	2
NICOR, Inc.	3
Peoples Energy	1
Piedmont Natural Gas Company	2
Southwest Gas	3
WGL Holdings, Inc.	1
Comparable Companies' Average	2.0

Source: Value Line Investment Survey

Atmos Energy Corporation
Comparable Gas Companies
Comparison of Value Line's Timeliness Rank

	Timeliness Rank
Atmos Energy	4
AGL Resources	4
Keyspan	4
New Jersey Resources	5
NICOR, Inc.	4
Peoples Energy	5
Piedmont Natural Gas Company	5
Southwest Gas	3
WGL Holdings, Inc.	5
Comparable Companies' Average	4.4

Source: Value Line Investment Survey

Atmos Energy Corporation

Comparable Local Distribution Companies

Comparison of Standard and Poor's Credit Ratings

Company	Rating
Atmos Energy	BBB
AGL Resources	A-
Keyspan	A
New Jersey Resources	A+
NICOR, Inc.	AA
Peoples Energy	A-
Piedmont Natural Gas Company	A
Southwest Gas	BBB-
WGL Holdings, Inc.	AA-
Median Rating	A

Source: www2.standardandpoors.com

Atmos Energy Corporation

Proposed Cost of Capital

Projected Thirteen Months Ended June 30, 2006

	Amount Outstanding	Percent of Total	Embedded Cost	Weighted Cost of Capital
Long Term Debt	\$2,184,082,467	56.45%	5.96%	3.37%
Common Equity	\$1,684,996,708	43.55%	12.00%	5.23%
Total Capital	\$3,869,079,175	100.00%		8.59%

Source :
Atmos Energy Corporation Work Papers

Atmos Energy Corporation

Comparable Gas Companies

Comparison of After-Tax Times Interest Earned Ratios

Atmos Energy Corporation	@12.0% ROE	2.55
AGL Resources		2.96
Keyspan		2.50
New Jersey Resources		4.72
NICOR, Inc.		4.95
Peoples Energy		2.73
Piedmont Natural Gas Company		3.36
Southwest Gas		1.68
WGL Holdings, Inc.		3.60
Comparable Companies' Average		3.31

Source : Value Line Investment Survey

Atmos Energy Corporation
Comparable Gas Companies
Comparison of After-Tax Times Interest Earned Ratios

Atmos Energy Corporation	@12.5% ROE	2.62
AGL Resources		2.96
Keyspan		2.50
New Jersey Resources		4.72
NICOR, Inc.		4.95
Peoples Energy		2.73
Piedmont Natural Gas Company		3.36
Southwest Gas		1.68
WGL Holdings, Inc.		3.60
Comparable Companies' Average		3.31

Source : Value Line Investment Survey