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Exhibit No.: Issue: Witness: Sponsoring Party: Type of Exhibit: Case No.: Date Testimony Prepared:

Rate of Return Matthew J. Barnes MoPSC Staff Direct Testimony GR-2006-0387 September 13, 2006

### **MISSOURI PUBLIC SERVICE COMMISSION**

## UTILITY SERVICES DIVISION

### **DIRECT TESTIMONY**

OF

### **MATTHEW J. BARNES**

### **ATMOS ENERGY CORPORATION**

CASE NO. GR-2006-0387

Jefferson City, Missouri September 2006

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Section 1.

STaff Exhibit No. 101 Case No(s). <u>GR-2006-03</u> Date <u>11-30-06</u> Rptr <u>PF</u>

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#### BEFORE THE PUBLIC SERVICE COMMISSION

#### **OF THE STATE OF MISSOURI**

In the Matter of Atmos Energy Corporation's Tariff ) Revision Designed to Consolidate Rates and ) Implement a General Rate Increase for Natural Gas ) Service in the Missouri Service Area of the ) Company.

Case No. GR-2006-0387

#### AFFIDAVIT OF MATTHEW J. BARNES

STATE OF MISSOURI	)	
	)	SS.
COUNTY OF COLE	)	

Matthew J. Barnes, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Direct Testimony in question and answer form, consisting of <u>19</u> pages to be presented in the above case; that the answers in the foregoing Direct Testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true and correct to the best of his knowledge and belief.

1 Dames

Matthew J. Barnes

Subscribed and sworn to before me this  $\frac{g}{2000}$  day of September 2006.

D. SUZIE MANKIN Notary Public - Notary Seal State of Missouri County of Cole My Commission Exp. 07/01/2008

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1		DIRECT TESTIMONY	
2		OF	
3		MATTHEW J. BARNES	
4		ATMOS ENERGY CORPORATION	
5		CASE NO. GR-2006-0387	
6	Q.	Please state your name.	
7	А.	My name is Matthew J. Barnes.	
8	Q.	Please state your business address.	
9	А.	My business address is P.O. Box 360, Jefferson City, Missouri, 65102.	
10	Q.	What is your present occupation?	
11	А.	I am employed as a Utility Regulatory Auditor III for the Missouri Public	
12	Service Com	mission (Commission). I accepted the position of Utility Regulatory Auditor I	
13	in June 2003	and have since been promoted.	
14	Q.	Were you employed before you joined the Commission's Staff (Staff)?	
15	А.	Yes, I was employed by the Missouri Department of Natural Resources	
16	(MDNR). Prior to MDNR I was employed by the Missouri Department of Conservation as		
17	an Auditor A	.ide.	
18	Q.	What is your educational background?	
19	А.	I earned a Bachelor of Science degree in Business Administration with an	
20	emphasis in Accounting from Columbia College in December 2002. I earned a Masters in		
21	Business Administration with an emphasis in Accounting from William Woods University in		
22	May 2005.		

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1	Q. Have you filed testimony in other cases before this Commission?
2	A. Yes. I filed Supplemental Direct Testimony in BPS Telephone Company
3	Case No. TC-2002-1076, Rebuttal Testimony in Sprint Nextel Case No. IO-2006-0086,
4	Rebuttal Testimony in Alltel Missouri Inc. Case No. TM-2006-0272, and Direct and Rebuttal
5	Testimony in KCP&L Case No. ER-2006-0314. The issue I covered in BPS Telephone
6	Company Case No. TC-2002-1076 was rate of return. This case was settled. The issues I
7	covered in Alltel Missouri Inc. Case No. TM-2006-0272 and Sprint Nextel Case No.
8	10-2006-0086 was the spin-off of their regulated landline operations into a new separate
9	company. I analyzed indicative credit rating reports from the three major credit rating
10	agencies (Standard & Poor's, Moody's, and Fitch) that discussed the potential credit rating, a
11	reasonable dividend payout ratio and cash flows to the new spin-off companies. I then used
12	the indicative credit rating reports and compared the potential credit rating, dividend payout
13	ratio, and cash flows of the spin-off companies to a group of similar telephone companies.
14	These two cases were presented to the Commission and discussed during an on-the-record
15	presentation. Both cases were approved by the Commission. The issue I covered in KCP&L
16	Case No. ER-2006-0314 was rate-of-return. This case is still pending.
17	Q. Have you participated in other rate cases in the past?
18	A. Yes. I participated in AmerenUE Case No. GR-2003-0517, Aquila, Inc. Case
19	No. ER-2004-0034, Empire ER-2004-0570, and Missouri American Water, Case

21 the department manager and Auditor IV concerning rate of return.

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No. WR-2003-0500. I was involved in preparing the schedules and review of testimony for

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1	Q.	Have you made recommendations in any other cases before this Commission?
2	А.	Yes, I have made recommendations on finance, merger and acquisition cases
3	before this Co	ommission.
4	Q.	Have you attended any schools, conferences or seminars specific to utility
5	finance and ut	tility regulation?
6	А.	Yes. I attended The Rate Case Process in Missouri presented by Staff of the
7	Missouri Pub	lic Service Commission in March 2005. I have also attended the Financial
8	Research Inst	itute seminars in 2003 and 2004 that covered topics such as rate of return,
9	restructuring of	of electric utility companies and the future operations of utility companies.
10	Q.	What is the purpose of your testimony in this case?
11	А.	I present the Staff's recommendation to the Commission of a fair and
12	reasonable rat	e of return for the Missouri jurisdictional gas utility rate base of Atmos Energy
13	Corporation (A	Atmos or Company).
14	Q.	Have you prepared a written analysis of the cost of capital for Atmos?
15	А.	Yes. I am sponsoring a study entitled "An Analysis of the Cost of Capital for
16	Atmos Energy	y Corporation, Case No. GR-2006-0387" consisting of 21 schedules which are
17	attached to thi	is direct testimony (see Schedule 1 for a list of these schedules).
18	EXECUTIVE	ESUMMARY
19	Q.	Please provide an executive summary of your testimony.
20	А.	I present the Staff's recommendation that the Commission authorize an
21	overall rate of	f return (ROR) of 7.12 percent to 7.46 percent for Atmos. This rate-of-return
22	recommendati	ion is based on a recommended return on common equity of 8.59 percent to

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9.39 percent applied to Atmos' June 30, 2006, common equity ratio of 42.41 percent. The 1 2 recommendation is driven by my comparable company analysis using the discounted cash flow (DCF) model. I believe the DCF model is the most reliable model available. 3 I used an embedded-cost-of-long-term-debt of 6.03 percent based on Atmos' 4 5 embedded-cost-of-long-term-debt provided in response to Data Request 0068. I used Atmos' actual consolidated capital structure, which includes all of Atmos' 6 7 operations, as of June 30, 2006 as the basis for the Staff's capital structure recommendation. 8 I included the amount of Atmos' non-regulated debt in developing the Staff's consolidated 9 capital structure recommendation. How did you determine the Staff's recommended cost of common equity? 10 Q. 11 I determined the Staff's recommended cost of common equity by applying the Α. 12 DCF model to a comparable group of natural gas distribution companies. I then evaluated a 13 number of factors to test the reasonableness of this recommendation. A complete and 14 detailed explanation of the Staff's recommended cost of common equity starts on page 13, 15 line 10 of this testimony. 16 LEGAL PRINCIPLES

Q. What legal principles do you understand constitute the basis for the
assessment of the justness and reasonableness of rate-of-return recommendations?

A. I understand that the Bluefield Water Works and Improvement Company (1923) (Bluefield) and the Hope Natural Gas Company (1944) (Hope) cases have been cited as the two most influential cases for the legal framework to determine a fair and reasonable rate of return.

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1	Q.	What do you understand to be the teachings of the <i>Bluefield</i> case?
2	А.	In the Bluefield case the Supreme Court ruled that a fair return would be:
3		1. A return "generally being made at the same time" in that "general part
4		of the country;"
5		2. A return achieved by other companies with "corresponding risks and
6		uncertainties;" and
7		3. A return "sufficient to assure confidence in the financial soundness of
8		the utility."
9	The C	ourt specifically stated:
10 11 12 13 14 15 16 17 18 19 20 21 22 23 24		A public utility is entitled to such rates as will permit it to earn a return on the value of the property which it employs for the convenience of the public equal to that generally being made at the same time and in the same general part of the country on investments in other business undertakings which are attended by corresponding risks and uncertainties; but it has no constitutional right to profits such as are realized or anticipated in highly profitable enterprises or speculative ventures. The return should be reasonably sufficient to assure confidence in the financial soundness of the utility and should be adequate, under efficient and economical management, to maintain and support its credit and enable it to raise the money necessary for the proper discharge of its public duties. A rate of return may be reasonable at one time and become too high or too low by changes affecting opportunities for investment, the money market and business conditions generally.
25	Q.	What do you understand to be the teachings of the Hope case?
26	А.	In the Hope case, the Court stated that:
27 28 29 30 31 32 33		The rate-making process $\ldots$ , <i>i.e.</i> , the fixing of "just and reasonable" rates, involves a balancing of the investor and the consumer interests. Thus we stated $\ldots$ that "regulation does not insure that the business shall produce net revenues" $\ldots$ it is important that there be enough revenue not only for operating expenses but also for the capital costs of the business. These include service on the debt and dividends on the stock $\ldots$ . By that standard the return to the equity owner should

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1 2 3 4	be commensurate with returns on investments in other enterprises having corresponding risks. That return, moreover, should be sufficient to assure confidence in the financial integrity of the enterprise, so as to maintain its credit and to attract capital.
5	The Hope case restates the concept of comparable returns to include those achieved
6	by other enterprises that have "corresponding risks." The Supreme Court also noted in this
7	case that regulation does not guarantee profits to a utility company.
8	Q. Do you have any further comments on the use of cost of capital models to
9	determine a fair rate of return?
10	A. Yes. See Schedule A.
11	CURRENT ECONOMIC CONDITIONS
12	Q. What are the main points of the current capital and economic environment that
13	the Commission should consider in determining a reasonable authorized return on common
14	equity (ROE) for Atmos?
15	A. The Federal Reserve (Fed) has been steadily raising the Fed Funds rate by
16	25 basis points at every Federal Open Market Committee (FOMC) meeting since June 30,
17	2004. This began after the Fed had kept the Fed Funds Rate at a 46-year low of 1.00 percent
18	for a full year. The Fed has now raised the Fed Funds Rate seventeen consecutive times to
19	its current level of 5.25 percent. According to a June 30, 2006, issue of the Wall Street
20	Journal:
21 22 23 24 25 26 27 28	"The extent and timing of any additional" rate increases "will depend on the evolution of the outlook for both inflation and economic growth," the Fed said in a statement. By contrast, the Fed's last statement, on May 10, said "some further" rate increases "may yet be needed." The language shift reflects Fed officials' decreased confidence that they know now what they'll do next, given how much rates already

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1 2 3 4 5 6 7 8 9	have risen, its view that the economy is slowing and its concern over an expected rise in inflation that it nonetheless hopes is temporary. The new language doesn't rule out another rate increase, but give the Fed added flexibility to base its decision more on coming economic data than on any previous guidance it gave to markets. The Dow Jones Industrial Average, which was up about 80 points before the statement was released, soared to close 217.24 points higher, a gain of about 2%, its best day in more than three years.
10	Q. What has happened to long-term interest rates since the Fed started to increase
11	the Fed Funds rate from 1.00 percent?
12	A. Long-term interest rates have finally started to respond to the Fed's monetary
13	policy tightening. However, at this time it would be premature to label the increase in
14	long-term interest rates as a trend.
15	Q. How have utility bond yields responded to the tightening of U.S. monetary
16	policy?
17	A. A review of Schedules 5-1 and 5-3 shows that average utility bond yields fell
18	to an average annual yield of 5.39 percent during June 2005, which was the lowest yield in
19	the past 26 years. Utility bond yields have since increased to an average annual yield of
20	6.37 percent in July 2006.
21	Q. Would you explain the changes in utility bond yields and Thirty-Year U.S.
22	Treasury yields in a little more detail?
23	A. Cost of capital changes for utilities are closely reflected in the yields on public
24	utility bonds and yields on Thirty-Year U.S. Treasury Bonds (see attached Schedules 5-1
25	and 5-2). Schedule 5-3, attached to this direct testimony, shows how closely the Mergent's
26	"Public Utility Bond Yields" have followed the yields of Thirty-Year U.S. Treasury Bonds
27	during the period from 1980 to the present. The average spread for this period between these

two composite indices has been 151 basis points, with the spread ranging from a low of 80 basis points to a high of 304 basis points (see attached Schedule 5-4). Although there may be times when utility bond yield changes may lag the yield changes in the Thirty-Year U.S. Treasury Bond, these spread parameters show just how tightly correlated utilities' cost of capital is with the level of interest rates on long-term treasuries. For a detail explanation of historical economic conditions please see Schedule B.

Q. What is the significance of the current economic conditions to Atmos and
what conclusions should the Commission draw from it?

9 Α. The significance of the current economic conditions to Atmos is that yields on 10 public utility bonds and yields on Thirty-year Treasury bonds are low by recent historical 11 standards. An example of recent historical standards is the double digit yields for long-term 12 U.S. Government bonds and corporate bonds from the late 1970's to the mid 1980's. A 13 lower interest rate environment means a lower cost of capital and a higher interest rate 14 environment means a higher cost of capital for a utility. The current yields on 15 U.S. Government bonds and corporate bonds are now more normal by historical standards. 16 The Commission should take the lower and more normal yields on U.S. Government and 17 corporate bonds into consideration when authorizing a rate of return for Atmos. For a history of long-term investment grade Baa (Moody's equivalent of S&P's BBB credit rating) 18 19 corporate bond yields please see Schedule 5-5.

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**ECONOMIC PROJECTIONS** 

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Q. Do you have any information on economic projections?

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A.	Yes. See Schedule C for projections on inflation, interest rates and gross
domestic pro	duct (GDP).
BUSINESS	OPERATIONS OF ATMOS ENERGY CORPORATION
Q.	Please describe Atmos' business operations.
А.	The following is from Atmos' website: www.atmosenergy.com:
	Atmos Energy, the largest pure natural gas distributor in the United States, delivers natural gas to 3.2 million residential, commercial, industrial, agricultural and public-authority customers. Our regulated utility services are provided to more than 1,500 communities in 12 states. For the fiscal year ended September 30, 2005, our utility operations contributed about 60 percent of our consolidated net income. <b>Growing and Working For You</b> Atmos Energy has grown from 279,000 customers in 1983 mainly by acquiring utility assets. Our most recent acquisition was the distribution and pipeline operations of TXU Gas Company, the largest natural gas utility in Texas. Atmos Energy is also the largest natural gas distributor in Louisiana and Mississippi. Because of the geographical breadth of our operations, we benefit
	from diversity in economic conditions, weather patterns, gas supplies and regulatory climates. Efficient and Low Cost
	Atmos Energy is known as one of the most efficient natural gas utilities in the industry because of constant cost management. Our employees keep productivity at industry-leading levels. We serve 730 utility customers per utility employee, as compared with an average of 511 customers per employee served by our peer group. Our utility operation and maintenance expense of \$110 per customer in fiscal 2005 is also lower than our peer group average of \$209 per customer. Our gains in efficiency help us better serve our customers, but never at the expense of safety or service.
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1	Nonutility Operations, Too
2 3 4 5 6 7 8	Atmos Energy's nonutility operations are ranked as one of the leading domestic mid-tier gas marketers. They market natural gas supplies to industrial customers and municipalities in 22 states, arrange for gas transportation and management services and manage company-owned gas storage and pipeline assets, including one of the largest intrastate natural gas pipelines in Texas.
9	Atmos' total operating revenues were \$335,333,000 for the nine months ended
10	June 30, 2006, versus \$340,323,000 for the nine months ended June 30, 2005. These 2006
11	revenues resulted in an overall net income applicable to common stock of \$141,678,000 and
12	earnings per share (EPS) of \$1.75 as compared to the nine months ended June 30, 2005 net
13	income applicable to common stock of \$152,587,000 and an EPS of \$1.94. These revenues
14	and net incomes were generated from total assets of \$5,616,477,000 for the period ended
15	June 30, 2006, and \$5,653,527,000 for the period ended June 30, 2005. These figures were
16	taken from Atmos' Form 10Q SEC filing for the period ended June 30, 2006 from Atmos'
17	company website at <u>www.atmosenergy.com</u> .
18	Q. What are Atmos' current credit ratings?
19	A. Atmos' current Standard & Poor's Corporation's (S&P) corporate credit
20	rating is "BBB" with a Stable outlook, which is two notches above non-investment grade;
21	i.e., junk, status. Atmos' current Moody's corporate credit rating is Baa3 as of March 22,
22	2006, which is equivalent to S&P's BBB- credit rating. Atmos' current Fitch corporate
23	credit rating is BBB+.
24	Q. Do you have historical financial information on Atmos?
25	A. Yes. Schedules 7 and 8 present historical capital structures and selected
26	financial ratios from 2001 through 2005 for Atmos. Atmos' consolidated common equity

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ratio has ranged from a high of 56.65 percent to a low of 42.29 percent from 2001 through 2005. Atmos' consolidated company earned ROE for the last five years has been a low of 7.60 percent in 2004 to a high of 10.40 percent in 2002. Atmos' consolidated company earned 2005 ROE was 8.50 percent. In a June 16, 2006, report in *The Value Line Investment Survey: Ratings & Reports*, Value Line estimates that Atmos' consolidated company projected ROE will be 8.5 percent for 2006 and 9.0 percent for 2007.

Atmos' consolidated company historical funds from operations (FFO) interest coverage ratios for the previous five years has ranged from a low of 3.2 times in 2005, to a high of 4.2 times in 2003. Atmos' consolidated company FFO to average total debt ratios for the previous five years has ranged from a low of 14 percent in 2005, to a high of 23 percent in 2003.

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#### DETERMINATION OF THE COST OF CAPITAL

Q. How do you determine a utility company's cost of capital?

14 Α. The total dollars of capital for the utility company are determined as of a 15 specific point in time. This total dollar amount is then apportioned into each specific capital component, i.e. common equity, long-term debt, preferred stock and short-term debt. A 16 weighted cost for each capital component is determined by multiplying each capital 17 18 component ratio by the appropriate embedded cost or by the estimated cost of common 19 equity component. The individual weighted costs are summed to arrive at a total weighted cost of capital. This total weighted average cost of capital (WACC) is synonymous with the 20 21 fair rate of return for the utility company.

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Q. Why is a total WACC synonymous with a fair rate of return?

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1	A. From a financial viewpoint, a company employs different forms of capital to
2	support or fund the assets of the company. Each different form of capital has a cost and these
3	costs are weighted proportionately to fund each dollar invested in the assets.
4	Assuming that the various forms of capital are within a reasonable balance and are
5	costed correctly, the resulting total WACC, when applied to rate base, will provide the funds
6	necessary to service the various forms of capital. Thus, the total WACC corresponds to a fair
7	rate of return for the utility company.
0	
8	CAPITAL STRUCTURE AND EMBEDDED COSTS
9	Q. What capital structure did you use for Atmos?
10	A. The capital structure I have used for this case is Atmos' capital structure on a
11	consolidated basis, as of June 30, 2006. Schedule 9 presents Atmos' capital structure and
12	associated capital ratios. The resulting capital structure consists of 42.41 percent common
13	stock equity, 55.64 percent long-term debt, and 1.95 percent short-term debt.
14	The amount of long-term debt outstanding on June 30, 2006 was \$2,184,082,000 and
15	includes current maturities due within one year. The amount of long-term debt in the capital
16	structure is shown on Schedule 10 attached to this direct testimony.
17	Atmos' short-term debt balance exceeded Construction Work In Progress (CWIP).
18	The difference between short-term debt and CWIP is included in the capital structure because
19	it is assumed that CWIP will eventually be funded with long-term debt. The amount of
20	average short-term debt outstanding on June 30, 2006 was \$158,672,472. This amount is
21	based on a 13 month average as provided by the Company in response to Data Request 0068.
22	The amount of CWIP outstanding on June 30, 2006 was \$82,053,972 as provided in Atmos'

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1	monthly financial report for June 2006 sent to Staff on August 22, 2006. The amount of
2	short-term debt that Staff will include in the capital structure is \$76,618,500 (Short-term debt
3	minus CWIP).
4	Q. What was the embedded-cost-of-short-term-debt for Atmos as of June 30,
5	2006?
6	A. The embedded-cost-of-short-term-debt for Atmos as of June 30, 2006 was
7	6.44 percent as provided by the Company in response to Data Request 0068.
8	Q. What was the embedded-cost-of-long-term-debt for Atmos as of June 30,
9	2006?
10	A. The embedded-cost-of-long-term-debt for Atmos as of June 30, 2006, was
11	6.03 percent.
10	COST OF COMMON EQUITY
12	
13	Q. How did you analyze those factors by which the cost of common equity for
14	Atmos may be determined?
15	A. In order to calculate the cost of common equity for Atmos, I performed a
16	comparable company analysis of eight companies. I have selected the DCF model (explained
17	in detail in Schedule D) as the primary tool to determine the cost of common equity for
18	Atmos, but I also used the CAPM (explained in detail in Schedule E) to check the
19	reasonableness of the DCF results.
20	Q. Can you directly analyze Atmos' cost of common equity?
21	A. Yes. I can directly analyze Atmos' cost of common equity because it is
22	publicly traded and it does pay a dividend.

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1	Q. How did you analyze Atmos' cost of common equity?					
2	A. I decided to do an analysis of the cost of common equity for a comparable					
3	group of natural gas distribution companies because these companies have similar gas					
4	operations that are compa	operations that are comparable to Atmos.				
5	Q. How did you determine which companies were comparable gas utility					
6	companies?					
7	-					
8	March 31, 2006 for the current classification system, which specifies companies that they					
9	consider to be natural gas distribution companies. Because Atmos is a natural gas					
10	distribution utility, this helps ensure the selection of companies that are similar in risk profile					
11	to that of Atmos' business operations. Schedule 12 presents a list of the 14 gas distribution					
12	utility companies that Edward Jones currently classifies as natural gas distribution					
13	companies. I then applied the following criteria to these 14 companies in order to select my					
14	ultimate proxy group:					
15	1. Sto	ock publicly traded: This criterion did not eliminate any companies;				
16 17		formation printed in Value Line: This criterion didn't eliminate any mpanies;				
18 19		n years of data available: This criterion eliminated three additional mpanies;				
20	4. At	least investment grade credit rating: This eliminated one company;				
21 22		vo sources for projected growth available with one of those being om Value Line: This criterion eliminated one additional company.				
23	6. No	Missouri Operations: This eliminated one additional company.				
24	This resulted in a group	of eight publicly-traded gas utility companies. The comparables are				
25	listed on Schedule 13.					

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Q. How did you determine the cost of common equity of each of the
 comparables?

I calculated a DCF cost of common equity for each of the comparables. The 3 Α. first step was to calculate a growth rate. I reviewed the actual dividends per share (DPS), 4 earnings per share (EPS), and book values per share (BVPS) as well as projected EPS growth 5 rates for the comparables. Schedule 14-1 lists the annual compound growth rates for DPS, 6 EPS, and BVPS for the past ten years. Schedule 14-2 lists the annual compound growth rates 7 8 for DPS, EPS, and BVPS for the past five years. Schedule 14-3 presents the averages of the growth rates shown in Schedules 14-1 and 14-2. Schedule 15 presents the average historical 9 growth rates and the projected growth rates for the comparables. The projected EPS growth 10 rates were obtained from three outside sources; I/B/E/S Inc.'s Institutional Brokers Estimate 11 12 System, Standard & Poor's Corporation's Earnings Guide, and The Value Line Investment 13 Survey: Ratings and Reports. The three projected EPS growth rates were averaged to 14 develop an average projected growth rate of 4.75 percent, which was averaged with the historical growth rates to produce a historical and projected growth rate of 4.36 percent. I 15 16 chose to rely on the historical and projected growth rates as my low end growth rate and the 17 projected growth rate as my high end growth rate to arrive at a growth rate range for the 18 comparables of 4.35 percent to 5.15 percent.

The next step was to calculate an expected yield for each of the comparables. The yield term of the DCF model is calculated by dividing the amount of DPS expected to be paid over the next twelve months by the market price per share of the firm's stock. Even though a strict technical application of the model requires the use of a current spot market price, I have chosen to use a monthly average market price for each of the comparables. I

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1	used this averaging technique to minimize the effects on the dividend yield which can occur				
2	due to daily volatility in the stock market. Schedule 16 presents the average high / low stock				
3	price for the period of April 1, 2006, through July 31, 2006, for each comparable. Column 1				
4	of Schedule 17 indicates the expected dividend for each comparable over the next 12 months				
5	as projected by The Value Line Investment Survey: Ratings & Reports, June 16, 2006.				
6	Column 3 of Schedule 17 shows the projected dividend yield for each of the comparables.				
7	The dividend yield for each comparable was averaged to calculate the projected dividend				
8	yield for the comparables of 4.24 percent.				
9	As illustrated in Column 5 of Schedule 17, the average cost of common equity based				
10	on the projected dividend yield added to the average of historical and projected growth				
11	is 8.60. Giving weight to both the projected and historical growth rates, my DCF proxy				
12	group cost of common equity estimation is 8.59 percent to 9.39 percent.				
13	Q. How did you verify the reasonableness of your DCF model-derived cost of				
14	common equity for the comparable company group?				
15	A. I performed a CAPM cost-of-common-equity analysis for the comparables.				
16	Q. What did you use for your risk-free rate?				
17	A. For purposes of this analysis, the risk-free rate I used was the yield on				
18	Thirty-Year U.S. Treasury Bonds. I determined the appropriate rate to be the average yield				
19	for the month of July 2006. The average yield of 5.13 percent was provided on the St. Louis				
20	Federal Reserve website.				
21	For the second variable, beta, I researched Value Line in order to find the betas for				
22	my comparable group of companies. Schedule 18 contains the appropriate betas for the				
23	comparables.				
23	comparables.				

The final term of the CAPM is the market risk premium (R<sub>m</sub> - R<sub>f</sub>). The market risk premium represents the expected return from holding the entire market portfolio less the expected return from holding a risk-free investment.

4 Q. Please explain your application of the CAPM using historical return
5 differences.

A. The first risk premium used was based on the long-term, arithmetic average
from 1926 to 2005, which was 6.50 percent. The second risk premium was based on the
long-term, geometric average from 1926 to 2005, which was determined to be 4.90 percent.
The third risk premium was based on a short-term, geometric average from 1996 to 2005,
which was determined to be 1.48 percent. These risk premiums were taken from Ibbotson
Associates, Inc.'s Stocks, Bonds, Bills, and Inflation: 2006 Yearbook.

12 Schedule 18 presents the CAPM analysis of the comparables using historical actual return spreads to estimate the required equity risk premium. The CAPM analysis produces 13 an estimated cost of common equity of 10.49 percent for the comparables when using the 14 long-term arithmetic average risk premium period; using the long-term geometric average 15 produces an estimated cost of common equity of 9.17 percent and using the short-term 16 risk premium period produces an estimated cost of common equity of 6.35 percent. The 17 long-term arithmetic average risk premium CAPM results would support a higher cost of 18 common equity. The long-term geometric average risk premium CAPM results supports a 19 cost of common equity similar to what is currently produced in performing a DCF analysis. 20

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Q. Would you summarize your cost of common equity analysis for Atmos?

A. I performed a DCF and CAPM cost of common equity analysis on a group of
 eight comparable companies. The results are summarized below.

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1 2	DCF         CAPM (Historical)           Comparable Companies         8.59% - 9.39%         Historical - 10.49%; 9.17%; 6.35%				
3	Q. Based on your analysis, what is your recommended return on common equity				
4	for Atmos in this proceeding?				
5	A. I recommend a return on common equity in the range of 8.59 percent to				
6	9.39 percent based on the results of my comparable-company-DCF analysis.				
7	RATE OF RETURN FOR ATMOS ENERGY CORPORATION				
8	Q. How are the returns you developed for each capital component used in the				
9	ratemaking approach you have adopted for Atmos?				
10	A. The cost of service ratemaking method was adopted in this case. This				
11	approach develops the public utility's revenue requirement. The cost of service (revenue				
12	requirement) is based on the following components: operating costs, rate base and a return				
13	allowed on the rate base (see Schedule 20).				
14	It is my responsibility to calculate and recommend a rate of return that should be				
15	authorized on the Missouri jurisdictional gas utility rate base of Atmos. Under the cost of				
16	service ratemaking approach, a weighted cost of capital in the range of 7.12 to 7.46 percent				
17	was developed for Atmos' gas utility operations (see Schedule 21). This rate was calculated				
18	by applying an embedded-cost-of-long-term-debt of 6.03 percent, an embedded-cost-of-				
19	short-term-debt of 6.44 percent and a cost of common equity range of 8.59 percent to				
20	9.39 percent to a capital structure consisting of 55.64 percent long-term debt, 1.95 percent				
21	short-term debt and 42.41 percent common equity. Therefore, from a financial prospective				
22	I am recommending that Atmos' gas utility operations be allowed to earn a return on its				
23	original cost rate base in the range of 7.12 to 7.46 percent.				

Q.

It is my expert opinion that, through my analysis I have developed a fair and
 reasonable return, which, when applied to Atmos' Missouri jurisdictional rate base, will
 allow Atmos the opportunity to earn the revenue requirement developed in this rate case.

Does this conclude your prepared direct testimony?

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A. Yes, it does.

**TESTIMONY SCHEDULES A THROUGH E** 2 3 ATMOS ENERGY CORPORATION CASE NO. GR-2006-0387 4 5 Is your recommendation of the cost of common equity consistent with a fair 6 **O**. 7 rate of return on common equity? 8 Yes. It is my expert opinion that my recommendation as to the case of Α. 9 common equity is consistent with a fair rate of return on common equity. It is generally 10 recognized that authorizing an allowed return on common equity based on a utility's cost of common equity is consistent with a fair rate of return. It is for this very reason that the 11 12 discounted cash flow (DCF) model is widely recognized as an appropriate model to utilize in 13 arriving at a reasonable recommended return on equity that should be authorized for a utility. 14 The concept underlying the DCF model is to determine the cost of common equity capital to the utility, which reflects the current economic and capital market environment. For example, 15 16 a company may achieve a return on common equity that is higher than its cost of common 17 equity. This situation will tend to increase the share price. However, this does not mean that 18 this past achieved return is the barometer for what would be a fair authorized return in the 19 context of a rate case. It is the lower cost of capital that should be recognized as a fair 20 authorized return. If a utility continues to be allowed a return on common equity that is not 21 reflective of today's current low-cost-of-capital environment, then this will result in the

**MATTHEW J. BARNES** 

22 possibility of excessive returns.

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Schedule A-1

The authorized return should provide a fair and reasonable return to the investors of the company, while ensuring that ratepayers do not support excessive earnings that could result from the utility's monopolistic powers. However, this fair and reasonable rate does not necessarily guarantee revenues or the continued financial integrity of the utility.

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It should be noted that a reasonable return may vary over time as economic conditions, such as the level of interest rates, and business conditions change. Therefore, the past, present and projected economic and business conditions must be analyzed in order to calculate a fair and reasonable rate of return. Q. Please discuss the historical economic conditions in which Atmos has
 operated.

One of the most commonly accepted indicators of economic conditions is the 3 Α. 4 discount rate set by the Federal Reserve Board (Federal Reserve or Fed). The Federal Reserve tries to achieve its monetary policy objectives by controlling the discount rate (the 5 interest rate charged by the Federal Reserve for loans of reserves to depository institutions) 6 7 and the Federal (Fed) Funds Rate (the overnight lending rate between banks). However, 8 recently the Fed Funds Rate has become the primary means for the Federal Reserve to achieve 9 its monetary policy, and the discount rate has become more of a symbolic interest rate. This explains why the Federal Reserve's decisions now focus on the Fed Funds rate and this is 10 reflected in the discussion of interest rates. It should also be noted that on January 9, 2003, 11 the Federal Reserve changed the administration of the discount window. Under the changed 12 13 administration of the discount window an eligible institution does not need to exhaust other 14 sources of funds before coming to the discount window, nor are there restrictions on the purposes for which the borrower can use primary credit. This explains why the discount rate 15 jumped from 0.75 percent to 2.25 percent on January 9, 2003, when the Fed Funds rate didn't 16 17 change. Therefore, discount rates before January 9, 2003, are not comparable to discount 18 rates after January 9, 2003.

At the end of 1982, the U.S. economy was in the early stages of an economic expansion, following the longest post-World War II recession. This economic expansion began when the Federal Reserve reduced the discount rate seven times in the second half of 1982 in an attempt to stimulate the economy. This reduction in the discount rate led to a reduction in the prime interest rate (the rate charged by banks on short-term loans to borrowers with high credit ratings) from 16.50 percent in June 1982, to 11.50 percent in December 1982. The economic expansion continued for approximately eight years until July 1990, when the economy entered into a recession.

In December 1990, the Federal Reserve responded to the slumping economy by lowering the discount rate to 6.50 percent (see Schedules 2-1 and 2-2). Over the next yearand-a-half, the Federal Reserve lowered the discount rate another six times to a low of 3.00 percent, which had the effect of lowering the prime interest rate to 6.00 percent (see Schedules 3-1 and 3-2).

In 1993, perhaps the most important factor for the U.S. economy was the passage of 9 the North American Free Trade Agreement (NAFTA). NAFTA created a free trade zone 10 consisting of the United States, Canada and Mexico. The rate of economic growth for the 11 fourth quarter of 1993 was one the Federal Reserve believed could not be sustained without 12 experiencing higher inflation. In the first quarter of 1994, the Federal Reserve took steps to 13 try to restrict the economy by increasing interest rates. As a result, on March 24, 1994, the 14 prime interest rate increased to 6.25 percent. On April 18, 1994, the Federal Reserve 15 announced its intention to raise its targeted interest rates, which resulted in the prime interest 16 rate increasing to 6.75 percent. The Federal Reserve took action again on May 17, 1994, by 17 raising the discount rate to 3.50 percent. The Federal Reserve took three additional restrictive 18 monetary actions, with the last occurring on February 1, 1995. These actions raised the 19 discount rate to 5.25 percent, and in turn, banks raised the prime interest rate to 9.00 percent. 20

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The Federal Reserve then reversed its policy in late 1995 by lowering its target for the Fed Funds Rate by 0.25 percentage points on two different occasions. This had the effect of

Schedule B-2

lowering the prime interest rate to 8.50 percent. On January 31, 1996, the Federal Reserve
 lowered the discount rate to a rate of 5.00 percent.

The actions of the Federal Reserve from 1996 through 2000 were primarily focused on keeping the level of inflation under control, and it was successful. The inflation rate, as measured by the *Consumer Price Index - All Urban Consumers* (CPI), had never been higher than 3.70 percent during this period. The increase in CPI stood at 4.20 percent for the twelve months ending May 31, 2006 (see attached Schedules 4-1, 4-2 and 6).

8 The unemployment rate was 4.60 percent as of May 2006 (see Schedule 6), which is 9 low by historical standards. A lower unemployment rate probably provides the Fed with 10 some comfort to continue to raise the Fed Funds rate if it believes it is needed to contain 11 inflation.

The combination of low inflation and low unemployment had led to a prosperous 12 13 economy from 1993 through 2000 as evidenced by the fact that real gross domestic 14 product (GDP) of the United States increased every quarter during this period. However, GDP actually declined for the first three quarters of 2001, indicating there was a contraction 15 16 in the economy during these three quarters. This contraction of GDP for more than two 17 quarters in a row meets the textbook definition of a recession. According to the National 18 Bureau of Economic Research, the recession began in March of 2001 and ended eight months 19 later. Since the recession ended, GDP had been low up until the second quarter of 2003, but 20 since the second quarter of 2003, GDP has been fairly healthy. GDP grew at a rate of 21 5.60 percent for the second quarter of 2006 (see attached Schedule 6).

Q. What are the inflationary estimations and expectations for 2006 through 2008?
A. The Value Line Investment Survey: Selection & Opinion, August 25, 2006,
estimates inflation to be 3.4 percent for 2006, 2.5 percent for 2007 and 2.3 percent for 2008.
The Congressional Budget Office, The Budget and Economic Outlook: Fiscal Years
2007-2016, issued January 2006, states that inflation is expected to be 2.8 percent for 2006,
2.2 percent for 2007 and 2.2 percent for 2008 (see attached Schedule 6).

Q. What are the interest rate forecasts for 2006, 2007 and 2008 and the current
8 interest rates?

9 Α. Short-term interest rates, those measured by three-month U.S. Treasury Bills, 10 are estimated to be 4.9 percent in 2006, 5.0 percent in 2007 and 4.8 percent in 2008 11 according to Value Line's predictions. Value Line expects the long-term Thirty-Year 12 U.S. Treasury Bonds to average 5.1 percent in 2006, 5.4 percent in 2007 and 5.5 percent in 2008. The current rate for three-month U.S. Treasury Bills was 4.95 percent as of 13 14 July 2006, as noted the St. Federal 1. on Louis Reserve website, http://research.stlouisfed.org/fred2/series/TB3MS/22. The current rate for Thirty-Year U.S. 15 16 Treasury Bonds was 4.87 percent as of September 1, 2006, as noted on the CBS MarketWatch website, http://www.marketwatch.com/tools/marketsummary/default.asp?site=mktw. 17

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Q. What are the growth estimates and expectations for real GDP?

A. GDP is a benchmark utilized by the Commerce Department to measure
economic growth within the U.S. borders. Real GDP is measured by the actual GDP, adjusted
for inflation. Value Line stated that real GDP growth is expected to increase by 3.4 percent in
2006, 2.6 percent in 2007 and 3.1 percent in 2008. The Congressional Budget Office, *The Budget and Economic Outlook: Fiscal Years 2007-2016*, stated that real GDP is expected to

Schedule C-1

1 increase by 3.6 percent in 2006, 3.4 percent in 2007 and 3.1 percent in 2008 (see attached 2 Schedule 6). 3 0. Please summarize the expectations of the economic conditions for the next few 4 years. 5 In summary, when combining the previously mentioned sources, inflation is Α. 6 expected to be in the range of 2.2 to 3.4 percent, increase in real GDP in the range of 2.6 to 7 3.6 percent and long-term interest rates are expected to range from 5.1 to 5.5 percent. 8 Selected excerpts from The Value Line Investment Survey: Selection & Opinion, 9 July 14, 2006, follow: 10 We think we'll get the proverbial soft landing. Following the slower rate of GDP growth indicated for the just-ended quarter, we would 11 12 expect the economy to grow at a similar rate in the third and the fourth 13 quarters. Growth is likely to stay in that range, or even ease a bit 14 further in the first half of 2007 as the effects of higher interest rates 15 and near-record oil prices are increasingly felt within the economy. 16 The Federal Reserve may not have much room to maneuver. The Fed 17 now has raised interest rates at 17 Federal Open Market Committee 18 meetings in a row, dating back to June 2004, taking rates from 1.00% to 5.25% in the process. However, those hikes were enacted in a 19 20 period of strengthening business activity. Now, growth is slowing, 21 and the Fed must be careful not to raise rates too high and risk 22 bringing on a recession. Hopefully, inflation, which heads the list of 23 Fed concerns, will ease in the current half in response to slowing 24 economic growth. 25 We would pay close attention to the signals coming out of the Fed. 26 Recent months have seen a number of Federal Reserve officials warn 27 of rising inflationary pressures. Those warnings typically have 28 preceded rate increases. Should those officials now begin to suggest 29 that slowing GDP growth may be starting to reduce the pricing pressures within the economy, the chances for a relaxation in Fed 30 31 monetary policies would increase. 32 Investor concerns remain high. Not only is the market worried about 33 the Fed and inflation, but it is also fearful about increasing tensions with North Korea and Iran. 34

Please describe the DCF model. Q.

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The DCF model is a market-oriented approach for deriving the cost of 2 Α. common equity. The cost of common equity calculated from the DCF model is inherently capable of attracting capital. This results from the theory that security prices adjust continually over time, so that an equilibrium price exists and the stock is neither undervalued nor overvalued. It can also be stated that stock prices continually fluctuate to reflect the required and expected return for the investor. 7

8 The constant-growth form of the DCF model was used in this analysis. This model 9 relies upon the fact that a company's common stock price is dependent upon the expected cash dividends and upon cash flows received through capital gains or losses that result from 10 stock price changes. The interest rate which discounts the sum of the future expected cash 11 flows to the current market price of the common stock is the calculated cost of common 12 13 equity. This can be expressed algebraically as:

16 where k equals the cost of equity. Since the expected price of a stock in one year is equal to 17 the present price multiplied by one plus the growth rate, equation (1) can be restated as:

$$\frac{\text{Present Price} = \frac{\text{Expected Dividends}}{(1+k)} + \frac{\text{Present Price (1+g)}}{(1+k)}$$
(2)

where g equals the growth rate and k equals the cost of equity. Letting the present price equal 20  $P_0$  and expected dividends equal  $D_1$ , the equation appears as: 21

 $P_0 = \frac{D_1}{(1+k)} + \frac{P_0(1+g)}{(1+k)}$ 22 (3) 23 24

Schedule D-1

1 The cost of equity equation may also be algebraically represented as:

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$$k = \frac{D_1}{P_0} + g$$
(4)

5 Thus, the cost of common stock equity, k, is equal to the expected dividend yield 6 (D<sub>1</sub>/P<sub>0</sub>) plus the expected growth in dividends (g) continuously summed into the future. The 7 growth in dividends and implied growth in earnings will be reflected in the current price. 8 Therefore, this model also recognizes the potential of capital gains or losses associated with 9 owning a share of common stock.

The discounted cash flow method is a continuous stock valuation model. The DCFtheory is based on the following assumptions:

12	1.	Market equilibrium;			
13	2.	Perpetual life of the company;			
14	3.	Constant payout ratio;			
15	4.	Payout of less than 100% earnings;			
16	5.	Constant price/earnings ratio;			
17	6. Constant growth in cash dividends;				
18	7.	Stability in interest rates over time;			
19	8.	Stability in required rates of return over time; and			
20	9.	Stability in earned returns over time.			
21	Flowing from	n these, it is further assumed that an investor's growth horizon is			
22	unlimited and that earnings, book values and market prices grow hand-in-hand. Although the				
23	entire list of the above assumptions is rarely met, the DCF model is a reasonable working				
24	model describing an actual investor's expectations and resulting behaviors.				

Schedule D-2

1	Q. Please describe the CAPM.				
2	A. The CAPM describes the relationship between a security's investment risk and				
3	its market rate of return. This relationship identifies the rate of return which investors expect a				
4	security to earn so that its market return is comparable with the market returns earned by other				
5	securities that have similar risk. The general form of the CAPM is as follows:				
6	$k = R_f + \beta (R_m - R_f)$				
7	where:				
8	k = the expected return on equity for a specific security;				
9	$\mathbf{R}_{\mathbf{f}}$ = the risk-free rate;				
10	$\beta$ = beta; and				
11	$R_m - R_f =$ the market risk premium.				
12	The first term of the CAPM is the risk-free rate $(R_f)$ . The risk-free rate reflects the				
13	level of return that can be achieved without accepting any risk. In reality, there is no such				
14	risk-free asset, but it is generally represented by U.S. Treasury securities.				
15	The second term of the CAPM is beta ( $\beta$ ). Beta is an indicator of a security's				
16	investment risk. It represents the relative movement and relative risk between a particular				
17	security and the market as a whole (where beta for the market equals 1.00). Securities with				
18	betas greater than 1.00 exhibit greater volatility than do securities with betas less than 1.00.				
19	This causes a higher beta security to be less desirable to a risk-averse investor and therefore				
20	requires a higher return in order to attract investor capital away from a lower beta security.				
21	The final term of the CAPM is the market risk premium $(R_m - R_f)$ . The market risk				
22	premium represents the expected return from holding the entire market portfolio less the				
23	expected return from holding a risk-free investment.				

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Schedule E-1

# AN ANALYSIS OF THE COST OF CAPITAL

## FOR

# ATMOS ENERGY CORPORATION

CASE NO. GR-2006-0387

**SCHEDULES** 

BY

## **MATTHEW J. BARNES**

## UTILITY SERVICES DIVISION

MISSOURI PUBLIC SERVICE COMMISSION

**SEPTEMBER 2006** 

#### Atmos Energy Corporation GR-2006-0387

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#### Atmos Energy Corporation GR-2006-0387

Date	Federal Reserve Discount Rate	Federal Reserve Funds Rate	Date	Federal Reserve Discount Rate	Føderal Reserve Funds Rate
07/19/82	11.50%		01/31/96	5.00%	5.25%
07/31/82	11.00%		03/25/97		5.50%
08/14/82	10.50%		12/12/97	5.00%	
08/26/82	10.00%		01/09/98	5.00%	
10/10/82	9.50%		03/06/98	5.00%	
11/20/82	9.00%		09/29/98		5.25%
12/14/82	8.50%		10/15/98	4.75%	5.00%
01/01/83	8.50%		11/17/98	4.50%	4.75%
12/31/83	8.50%		06/30/99	4.50%	5.00%
04/09/84	9.00%		08/24/99	4.75%	5.25%
11/21/84	8.50%		11/16/99	5.00%	5.50%
12/24/84	8.00%		02/02/00	5.25%	5.75%
05/20/85	7.50%		03/21/00	5.50%	6.00%
03/07/86	7.00%		05/19/00	6.00%	6.50%
04/21/86	6.50%		01/03/01	5.75%	6.00%
07/11/86	6.00%		01/04/01	5.50%	6.00%
08/21/86	5.50%		01/31/01	5.00%	5.50%
09/04/87	6.00%		03/20/01	4.50%	5.00%
08/09/88	6.50%		04/18/01	4.00%	4.50%
02/24/89	7.00%		05/15/01	3.50%	4.00%
07/13/90		8.00%	06/27/01	3.25%	3.75%
10/29/90		7.75%	08/21/01	3.00%	3.50%
11/13/90		7.50%	09/17/01	2.50%	3.00%
12/07/90		7.25%	10/02/01	2.00%	2.50%
12/18/90		7.00%	11/06/01	1.50%	2.00%
12/19/90	6.50%	1.0070	12/11/01	1.25%	1.75%
01/09/91		6.75%	11/06/02	0.75%	1.25%
02/01/91	6.00%	6.25%	01/09/03	2,25%**	1.25%
03/08/91		6.00%	06/25/03	2.00%	1.00%
04/30/91	5.50%	5.75%	06/30/04	2 25%	1.25%
08/06/91		5.50%	08/10/04	2.50%	1.50%
09/13/91	5.00%	5.25%	09/21/04	2.75%	1.75%
10/31/91	0.0070	5.00%	11/10/04	3.00%	2.00%
11/06/91	4.50%	4.75%	12/14/04	3.25%	2.25%
12/06/91		4.50%	02/02/05	3.50%	2.50%
12/20/91	3.50%	4.00%	03/22/05	3.75%	2.75%
04/09/92		3.75%	05/03/05	4.00%	3.00%
07/02/92	3.00%	3.25%	06/30/05	4.25%	3.25%
09/04/92		3.00%	08/09/05	4.50%	3.50%
01/01/93			09/20/05	4.75%	3.75%
12/31/93	No Changes	No Changes	11/01/05	5.00%	4.00%
02/04/94		3.25%	12/13/05	5.25%	4.25%
03/22/94		3.50%	01/31/06	5.50%	4.50%
04/18/94		3.75%	03/28/06	5.75%	4.75%
05/17/94	3.50%	4.25%	05/10/06	6.00%	5.00%
08/16/94	4.00%	4.75%	06/29/06	6.25%	5.25%
11/15/94	4.75%	5.50%	0.22/00		
02/01/95	5.25%	6.00%			
07/06/95		5.75%			
12/19/95		5.50%			
		0.007			

#### Federal Reserve Discount Rates Changes and Federal Reserve Funds Rates Changes

\* Staff began tracking the Federal Funds Rate.

\*\*Revised discount window program begins. Reflects rate on primary credit. This revised discount window policy results in incomparability of the discount rates after January 9, 2003 to discount rates before January 9, 2003.

#### Source:

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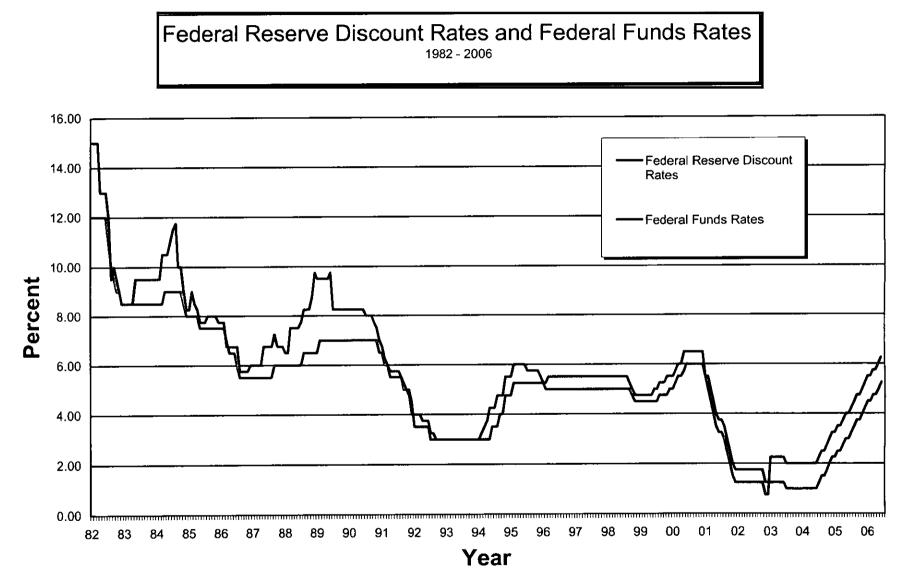
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Federal Reserve Discount rate Federal Reserve Funds rate http://www.newyorkfed.org/markets/statistics/dlyrates/fedrate.html http://www.newyorkfed.org/markets/statistics/dlyrates/fedrate.html

Note: Interest rates as of December 31 for each year are underlined.

### Atmos Energy Corporation GR-2006-0387



Schedule 2-2

SCHEDULE 2-2

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Average Prime Interest Rates

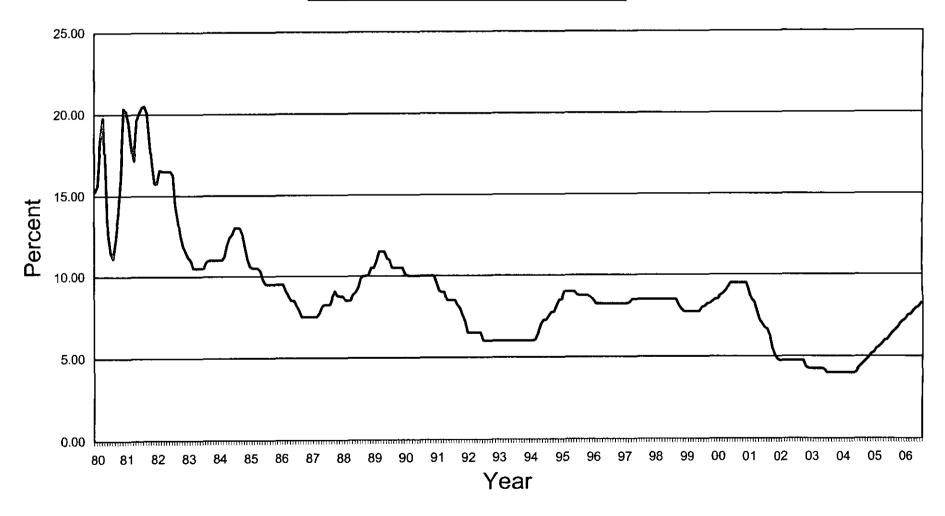
Rate (%) 4.00	<b>9</b> .4	4.00	4.00	4.00	4.00	4.25	4.43	4.58	4.75	4.93	5.15	5.25	5.49	10. 10. 10.	5.75	2.98	6.01	67.9	6.44	6.59	6.75	7.00	cl.7	7.26	7.50	7.53	7.75	1.93	8.02	8.25																		
Mo/Year Jan 2004	Feb	Mar	Aor	May	nur	Jul	Aug	cep.	ti O	Nov	Dec	Jan 2005	Теђ	Mar	Apr	лем.	1	100	Aug	Cep -	5 S	NON	Dec	Jan 2006	<b>5</b> 85	Mar	Apr.	May	June .	VILL																		
Rate (%) 8.50	8.73	8.83	00.6	9.24	6.50	9:50	9:50	9.50	9.50	95.6	9:50	9.05	8.50	8.32	7.80	7.24	6.98	6.75	6.67	6.28	5.53	5.10	4.84	4.75	4.75	4.75	4.75	4.75	4,75	4.75	4.75	4.75	4.75	4.35	4.25	4.25	Q 2	67. <del>4</del>	4.25	4.25	4.22	4.00	<del>4</del> 8	4.00	4.00	4.00	4.00	
MorYear Jan 2000	Feb	Mar	Apr	May	Jun	lul.	Aug	Sep	ö	Nov	Dec	Jan 2001	Feb	Mar	Apr	May	hun	lul,	Aug	Sep	ö	Nov	560	Jan 2002	Feb	Mar	Apr	May	nul	IJ,	Aug	Sep	B S	Nov	Dec	Jan 2003		Mar	Apr	May	Jun	Ę	Aug	Sep	ß	Nov	Dec	
Rate (%) 8.50	8.25	8.25	8.25	8.25	8.25	8.25	8.25	8.25	8.25	8.25	8.25	8.26	8.25	8.30	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.49	8.12	7.89	7.75	7.75	2.1	2	7.75	5.7	7.75	8.00	8.06	8.25	8.25	8.37	8.50	
MorYear Jan 1996	Fab	Mar	Aor	May	Jun	Jul	Aug	Sep	0 O	Nov	Dec D	Jan 1997	Feb	Mar	Apr	May	Jun	۱۰	Aug	Sep	õ	Nov	č	Jan 1996	feb	Mar	Apr	May	nuh	lut,	Аид	Sep	ē.	Nav	Dec	Jan 1999	feb	Mar	Ą	May	hun	Jul	Aug	Sep	ō	Nov	Dec	
Rate (%) 6.50	6.50	659	650	6.50	6.50	6.02	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6 00	6.06	6.45	6:96	7.25	7.25	7.51	7.75	7.75	8.15	8.50	8.50	9.00 5 2 2	8.0	9.00	<b>6</b> .00	00 <sup>.6</sup>	8.80	8.75	8.75	8.75	8.75	8.65	
Mo/Year Jan 1992	La L	Mar	Anr	Mav	Jun	Jul,	Aug	Sep	0 0	Nov	Dec	Jan 1993	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	0q O	Nov	Dec	Jan 1994	Feb	Mar	Apr	May	hun	Jel L	Aug	Sep	ğ	Nov	Dec	Jan 1995	de :	Mar	γo	May	Jun J	٦e	Aug	Sep	ğ	Nov	Dec	
Rate (%) 8.75	8.51	959	5	8.8	9.00	62.6	9.84	10.00	10.00	10.05	10.50	10.50	10.93	11.50	11.50	11.50	11.07	10.98	10.50	10.50	10.50	10.50	10.50	10.11	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	9.52	9.05 5 25	6.6	9.00	8.50	8.50	8.50	8.50	8.20	8.00	1.58	7.21	
MoYear Jan 1988	Eet.	Mar	Arv Arv	May	, nub	Jul I	Aug	Sep	0ct	Nov	Dec	Jan 1969	Feb	Mar	ĄÞ	May	Jun	FI.	Aug	Sep	0ct O	Nov	Ъ С С	Jan 1990	feb	Mar	Apr	May	nır	Ĩ	Aug	Sep	50 0	Nov	Dec	Jan 1991	đen :	Mar	Apr	May	lu	Ju I	Aug	Sep	11 0	Nov	Dec	
Rate (%) 11.00	1.0	11 21	11 00	12.39	12.60	13.00	13,00	12.97	12.58	11.77	11.06	10.61	10.50	10.50	10.50	10.31	9.78	<b>0</b> 976	9:50	9:50	9:50	9.50	9:50	<b>6</b> .50	9.50	9.10	6.83	8.50	8.50	8.16	2.90	7.50	7.50	7.50	7.50	7.50	06.7	1.50	21.75	8.14	8.25	8.25	8.25	8.70	9.07	6.78	8.75	
Mo/Year Jan 1984		uer Mer																																														
Rate (%) 15.25	1 2	20.01 10.01	11 01	16.57	12.63	11.48	11.12	12.23	13.79	16.06	20.35	20.16	19.43	18.05	17.15	19.61	20.03	20.39	20.50	20.08	18.45	16.84	15.75	15.75	16.56	16.50	16.50	16.50	16.50	16.26	14.39	13.50	12.52	11.85	11.50	11.16	10.96	10.50	10.50	10.50	10.50	10.50	10.89	11.00	1.8	11.00	11.00	
Mo/Year Jan 1980		ren Mar			1	-Fri	Aud		t 8	NON	Dec	Jan 1981	Feb	Mar	Apr	May	Jun	lut	Aug	Sep	5 O	Nov	Dec	Jan 1982	Feb	Mar	Apr	May	, non	Jul	Aug	Sep	Oct	Nov	Dec	Jan 1983	Feb	Mar	Apr	May	- Un	lul.	Aud	Sep	oa O	Nov	Å	

SCHEDULE 3-1

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Source: http://research.stlouisted.org/fred2/data/MPRIME.txt

Average Prime Interest Rates 1980 - 2006



Schedule 3-2

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# Rate of Inflation

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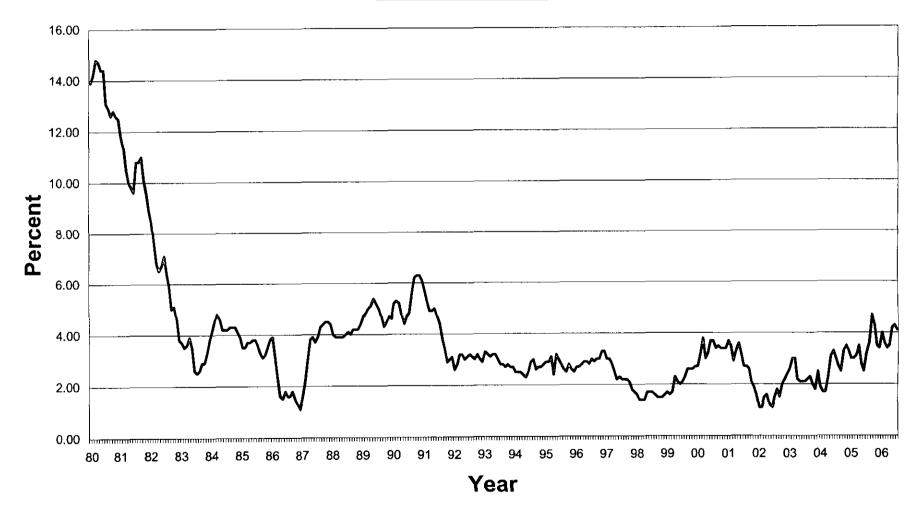
	Dec	AON		Da .	Sep	Aug	Jut	Jun	May	Aor	Mar		Jan 1983	Dec	Nov	Q.	Sep	Aug	jui	Jun .	May	Apr	Mar		Jan 1982	Dec	Nov	0 2	Sep	Aug	Ē		Mav	Apr	Mar	Leh		Nov	ğ	Sep	Aug	Ļ	5	May	Ą	Mar	Feb	Jan 1980	Mo/Year
	3.80	2.00	220	2.90	2.90	2.60	2.50	2.60	3.50	3.90	3.60	3.50	3.70	3.80	4.60	5,10	5.00	5.90	6,40	7.10	6.70	6.50	6.80	7.60	8,40	8.90	9.60	10.10	11.00	10.80	10.80	9.60	9.80	10.00	10.50	11 40	11 2.50	12.60	12,80	12.60	12.90	13.10	14.40	14.40	14.70	14.80	14.20	13.90	Rate (%)
	Dec			ğ	Sep	Aug	Jul	Jun	May	Apr	Mar	Feb	Jan 1987	Dec	Nov	O ct	Sep	Aug	ير ايار	Jun	May	Apr	Mar	Feb	Jan 1986	Dec	Nov	Q.	Sep	Aug	Jul	Jun	Mav	ð,	Mar		Lec	Nov	0 1	Sep	Aug	Jul	Jun	May	Apr	Mar	Feb	Jan 1984	Mo/Year
	4.40		45	4.50	4,40	4.30	3.90	3.70	3.90	3,80	3.00	2.10	1.50	1.10	1.30	1.50	1.80	1.60	1.60	1.80	1.50	1.60	2.30	3.10	3.90	3.80	3.50	3.20	3.10	3.30	3.60	3.80	3.80	3.70	3.70	3.50	3.50	4.10	4,30	4.30	4.30	4.20	4.20	4.20	4.60	4.80	4.60	4.20	Rate (%)
	Dec	,	Nov	g	Seb	Aug	u	Jun	May	Ą	Mar	Feb	Jan 1991	Dec	Νον	Oct	Sep	Aug	Jul	Jun	May	Apr	Mar	Feb	Jan 1990	Dec	Nov	Oct	Sep	Aug	Jul	Jun .	May	Ş	Mar	Feb	Jan 1989	Nov	: Ca	Sep	Aug	Jul	Jun	May	Apr	Mar	Feb	Jan 1968	Mo/Year
	3.10		3.00	2.90	3.40	3,60	4.40	4.70	5.00	4.90	4.90	5.30	5.70	6,10	6.30	6.30	6.20	5.60	4,80	4.70	4.40	4.70	5.20	5.30	5.20	4.60	4.70	4.50	4.30	4.70	5.00	5.20	5,40	5,10	5.00	4.80	4 70	4 40	4.20	4.20	4.00	4.10	4.00	3.90	3.90	3.90	3.90	4.00	Rate (%)
ļ	Dec		Nov	ğ	ag Vag	, Pup	L L	Jun	May	Ą	Mar	Feb	Jan 1995	Dec	Nov	Oct	Sep	Aug	Jul	Jun	May	Apr	Mar	Feb	Jan 1994		Nov	Q Q	Sep	Aug	Jul	Jun	May	Apr	Mar		Jan 1993	NUV	ğ	Sep	Aug	Jul	Jun	May	Ą	Mar	Feb	Jan 1992	Mo/Year
	0c.2	5	2.60	2.80	2.50	2.00	2.60	3,00	3.20	2.40	3.10	2.90	2.90	2.80	2.70	2.70	2.60	3.00	2.90	2.50	2.30	2,40	2.50	2.50	2.50	2.70	2.70	2.80	2.70	2.80	2.80	3.00	3.20	3.20	3,10	3,20	3.30	3 90	320	3.00 10.0	3.10	3.20	3,10	3.00	3.20	3.20	2.80	2.60	Rate (%)
	Dec		Nov	Ca	vep	2 U			May	Apr	Mar	Feb	Jan 1999		Nov	S.	Sep	Aug	Jui	Jun	May	Apr	Mar	Feb	Jan 1998		Nov	: O	Sep	Aug	٦u	Jun	May	Apr	Mar		Jan 1997		2 G	a a a a a a a a a a a a a a a a a a a	Aug	נו	- L	May	Ą	Mar	Feb	Jan 1996	Mo/Year
	2.70	370	2,60	2.00	200	2.00	220	2.50	32	2,30	1.70	1.60	1.70	1,60	1.50	1.50	1.50	1.00	1.70	1.70	1.70	1.40	1,40	1,40	1.00	1.70	1.80	2.10	2.20	2.20	2.20	2.30	2.20	2.50	2.80	3.00	3,00	3.30	3 30	3.00	2.90	3.00	2,80	2,90	2.90	2.80	2.70	2.70	Rate (%)
	Dec	2	Nov	Cat		ς Υ			May	Ş	Mar	reb	Jan 2003	Lec	Nov	Co	Sep	Aug		5	May	Ę	Mar	Feb	Jan 2002	Dec	Nov	0	Sep	Aug	Jul	Jun	May	Ą	Mar	Feb	Jan 2001	Dec		5 <del>6</del>	Aug	. <u>Ju</u>	Jun	May	Ę	Mar	Feb	Jan 2000	Morrear
		ŝ	1,80	2.00	2.00	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	3 200	2 i c	2 2	2.20	3.00	3.00	200	2.5	2.20	2.00	Э. Э.	1.00																								3.70							Rate (%)
																			yını	June	May	þ	Mai	reo	Jan 2000	Dec	NOV	C C	Sep	Aug	Jul	Jun	May	Ą	Mar	Feb	Jan 2005	Dec		Ş	δug	Jul	JUN	May	þ	Mar	Feb		Mo/Year
																			4,10	*.00	4 20	3.50	3 - <del>1</del> 0	3.00	3 60	3,40	3 J. J.	3.50	4.70	3.60	3.20	2.50	2.80	3.50	3.10	3.00	3.00	3.30	3 50	3 30	2 2 2	3,UU	3.00	3.10	2.30	1.70	1.70	1.5	Rate (%)

Source: U.S. Dept of Labor, Bureau of Labor Statistics, Consumer Price Index - All Urban Consumers, Change for 12-Month Period, Bureau of Labor Statistics, <a href="http://www.bjs.gov/schedule/archives/cpi\_nr.htm">http://www.bjs.gov/schedule/archives/cpi\_nr.htm</a>

**SCHEDULE 4-1** 

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Rate of Inflation



**SCHEDULE 4-2** 

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Atmos Energy Corporation GR-2006-0387

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# Average Yields on Mergent's Public Utility Bonds

		and Vote	(76) etec	McNaar	Pate (%)	Mulyaar	Pate (%)	MoNear	Rate (%)	Mc/Year	Rate (%)	MoYear	Rate (%)
lan 1980	12.12	Jan 1984	13.40	Jan 1968	10.75	Jan 1992	8.67	Jan 1996	7.20	Jan 2000	8.22	Jan 2004	6.23
Feb	13.48	Feb	13.50	Feb	10.11	Feb	8.77	Feb	7.37	Feb	8.10	Feb	6.17
Mar	14.33	Mar	14 03	Mar	10.11	Mar	8.84	Mar	7.72	Mar	8.14	Mar	6.01
	13 50	Anr	14 30	Anr	10.53	Anr	8 79	Anr	7.68	Anr	8.14	Aor	6.36
ž	<u>8</u>	ž			17 C	Nev N	64 B	May	8	May	8.55	Mav	6.68
APW -	10.12	A Plus		Á at	12.01	(m)		1	0.0	] ]	6 6 7	Ì	653
5	/R'LL		01.01	5	10.05	į	40 97 97		20 B	3	11		6.34
	1 1 1	- PO	00.41	A 10	9011	410	834	ALLO	7 84	Aid	8.05	Auo	6.18
fin:	1 2 2	ñ.	14.04	find of	10.56	Sec.	62.8		8.01	Sec	8.16	Sec.	6.01
d d	13.53	हेरु	13.68	88	9.92	8	8.44	8	7.76	ö	8.08	ö	5.95
Nor	14 07	Nu	13 15	Nov	68.6	Nov	8.53	Nov	7,48	λογ	8.03	Nov	5.97
ě	14 48	ž	12.96	Dec	10.02	Dec	8.36	Dec	7.58	Ъес	7.79	Dec	5.93
lan 1981	14 22	Jan 1985	12.88	Jan 1989	10.02	Jan 1993	6.23	Jan 1997	67.7	Jan 2001	7.76	Jan 2005	5.80
Eat.	14 84	Fah	13 00	Feb	10.02	Feb	8.00	Feb	7.68	Feb	7,69	Feb	5.64
Mar	14 86	Mar	13.66	Mar	10.16	Mar	7.85	Mar	7.92	Mar	7.59	Mar	5.86
PDL	15.32	Aor	13.42	Apr	10.14	Apr	7.76	Apr	8.08	Apr	7.81	Apr	5.72
Mav	15.84	May	12.89	Mav	9.92	May	7.78	May	7.94	May	7.88	May	5.60
	15.27	- In	11.91	) II	9.49	, nut	7.68	Jun	77.7	, nul	7.75	un	5.39
but	15.87	lot	11.88	Jor	9.34	lut.	7.53	lut	7.52	InL	17.7	٦u	5.50
Aire	16.33	Aud	11.93	Aug	9.37	Aug	7.21	Aug	7.57	Aug	7.57	Aug	5.51
, ues	16.89	Sec	11.95	Seo	9.43	Sep	7.01	Sep	7.50	Sep	7.73	Sep	5.54
d d	16.76	t 8	11.84	00	9.37	ð	6.93	ð	7.37	Ō	7.64	, F	5.79
2012	15.50	À Â	11.33	Ň	9.33	Nov	7.30	Nov	7.24	Nov Nov	7.61	Nov	5.88
Dec	15.77	Dec	10.82	ő	9.31	Dec	7.33	Dec	7.16	Dec	7.86	Dec	5.83
Jan 1982	16.73	Jan 1986	10.66	Jan 1990	9.44	Jan 1994	7.31	Jan 1998	7.03	Jan 2002	7.69	Jan 2006	5.77
te j	16.72	- E	10.16	Feb	<del>9</del> 9.6	Feb	7,44	Feb	60'1	Feb	7.62	Feb	5.83
Mar	16.07	Mar	6.33	Mar	9.75	Mar	7.83	Mar	7.13	Mar	7.83	Mar	5.96
ADI	15.82	Apr	9.02	Apr	9.87	Apr	8.20	Apr	7.12	Apr	7.74	Apr	6.28
May	15.60	May	9.52	May	68.6	May	8.32	May	11.7	May	7.76	Мау	6:39
- Jun	16.18	un	9.51	un	9.69	Jun	8.31	Jun	66.99	Jun	7.67	June	6.39
hut	16.04	InL	9.19	יי	99.66	Jul	8.47	Jul	6.99	Jui	7.54	July	6.37
BuA	15.22	Aug	9.15	Aug	9.84	Burk	8.41	Aug	6.96	<b>A</b> ug	7.34		
Sep	14.56	Sep	9.42	Sep	10.01	Sep	8.65	Sep	6.88	Sep	7.23		
õ	13.88	ß	9.39	St	9.94	ş	8.88	õ	6.88	ođ	7,43		
Nov	13.58	Nov	9.15	Nov	9.76	Nov	00.6	Nov	6.96	Nov	7.31		
Dec	13.55	Ğ	<b>8.9</b> 6	Сес С	9.57	Dec	8.79	Dec	6.84	Č	7.20		
Jan 1983	13.46	Jan 1987	8.77	Jan 1991	9.56	Jan 1995	8.77	Jan 1999	6.87	Jan 2003	7.13		
Feb	13.60	Feb	8.81	Feb	9.31	Feb	8.56	Feb	7.00	Feb	6.92		
Mar	13.28	Mar	8.75	Mar	9.39	Mar	8.41	Mar	7.18	Mar	6.80		
Apr	13.03	Apr	9.30	Apr A	9.30	Apr	8.30	Apr	7.16	Apr	6.68		
May	13.00	May	9.82	May	9.29	May	7.93	May	7.42	May	6.35		
hun	13.17	hun	9.87	lun	9.44	Jun	7.62	h	7.70	hun	6.21		
Jul I	13.28	lul	t0.01	Jul	9.40	, Lui	ET.T	<u>ام</u>	7,66	IP,	6.5 <b>4</b>		
9ng	13.50	Aug	10.33	Aug	9.16	Aug	7.86	Bine	7,86	Aug	6.78		
Sep	13.35	Sep	11.00	Sep	9.03	Sep	7.62	Sep	7.87	Sep	6.58		
8	13.19	ğ	11.32	õđ	8.99	ő	7.46	B	8.02	ö	6.50		
Nov	13.33	Nov	10.82	Nov	8.93	Nov	7.40	Nov	7.86	Nav	4.8		
Dec	13.48	Dec	10.99	Dec	8.76	Dec	7.21	Dec	8.04	Dec	6.36		
į													
Source:			(0 mmm)										
wergen our	D Mexand Ion JA	Wergent Bond Record for June 2000 PU Boins (page o	/n añod) so										

Schedule 5-1

# Average Yields on Thirty-Year U.S. Treasury Bonds

Mo/Year Jan 1980	Rate (%) \$0.60	Mo/Year Jan 1984	Rate (%) 11.75	<u>Mo/Year</u> Jan 1988	Rate (%) 8.83	Mo/Year Jan 1992	Rate (%) 7.58	<u>Mo/Year</u> Jan 1996	Rate (%) 6.05	Mo/Year Jan 2000	Rate (%) 6.63	<u>Mo/Year</u> Jan 2004	Rate (%) 4.99
	12.13	Feb	11.95	Feb	8.43	Feb	7.85	Feb	6.24	Feb	6.23	Feb	4.93
Feb Mar	12.13	Mar	12.38	Mar	8.63	Mar	7.97	Mar	6.60	Mar	6.05	Mar	4.74
Apr	11.40	Apr	12.65	Apr	8.95	Apr	7.96	Apr	6.79	Apr	5.85	Apr	5.14
May	10.36	May	13.43	May	9.23	May	7.89	May	6.93	May	6.15	May	5.42
Jun	9.61	Jun	13.44	Jun	9.00	Jun	7.84	Jun	7.06	Jun	5.93	Jun	5.41
Jul	10.24	Jul	13.21	Jul	9.14	Jul	7.60	Jul	7.03	Jul	5.85	Jul	5.22
Aug	11.00	Aug	12.54	Aug	9.32	Aug	7.39	Aug	6.84	Aug	5.72	Aug	5.06
Sep	11.34	Sep	12.29	Sep	9.06	Sep	7.34	Sep	7.03	Sep	5.83	Sep	4.90
Oct	11.59	Oct	11.98	Oct	8.89	Oct	7.53	Oct	6.81	Oct	5.80	Oct	4.86
Nov	12.37	Nov	11.56	Nov	9.02	Nov	7.61	Nov	6.48	Nov	5.78	Nov	4.89
Dec	12.40	Dec	11.52	Dec	9.01	Dec	7.44	Dec	6.55	Dec	5.49	Dec	4.86
Jan 1981	12.14	Jan 1985	11.45	Jan 1989	8.93	Jan 1993	7.34	Jan 1997	6.83	Jan 2001	5.54	Jan 2005	4.73
Feb	12.80	Feb	11.47	Feb	9.01	Feb	7.09	Feb	6.69	Feb	5.45	Feb	4.55
Mar	12.69	Mar	11.81	Mar	9.17	Mar	6.82	Mar	6.93	Mar	5.34	Mar	4,78
Apr	13.20	Apr	11.47	Apr	9.03	Apr	6.85	Apr	7.09	Apr	5.65	Apr	4.65
May	13.60	May	\$1.05	May	8.83	May	6.92	May	6.94	May	5.78	May	4.49
Jun	12.96	Jun	10.44	Jun	8.27	Jun	6.81	Jun	6.77	Jun	5.67	Jun	4.29
Jul	13.59	Jul	10.50	Jul	8.08	Jul	6.63	Jul	6.51	Jul	5.61	Jul	4.41
Aug	14.17	Aug	10.56	Aug	8.12	Aug	6.32	Aug	6.58	Aug	5.48	Aug	4.46
Sep	14.67	Sep	10.61	Sep	8.15	Sep	6.00	Sep	6.50	Sep	5.48	Sep	4.47
Oct	14.68	Oct	10.50	Oct	8.00	Oct	5.94	Oct	6.33	Oct	5.32	Oct	4.67
Nov	13.35	Nov	10.06	Nov	7.90	Nov	6.21	Nov	6.11	Nov	5.12	Nov	4.73
Dec	13.45	Dec	9.54	Dec	7.90	Dec	6.25	Dec	5.99	Dec	5.48	Dec	4.66
Jan 1982	14.22	Jan 1986	9.40	Jan 1990	8.26	Jan 1994	6.29	Jan 1998	5.81	Jan 2002	5.44	Jan 2006	4.59
Feb	14.22	Feb	8.93	Feb	8.50	Feb	6.49	Feb	5.89	Feb	5.39	Feb	4.58
Mar	13.53	Mar	7.96	Mar	8.56	Mar	6.91	Mar	5.95	Mar	5.71	Mar	4.73
Apr	13.37	Apr	7.39	Apr	8.76	Apr	7.27	Apr	5.92	Apr	5.67	Apr	5.06
May	13.24	May	7.52	May	8.73	May	7.41	May	5.93	May	5.64	May	5.20
Jun	13.92	Jun	7.57	Jun	8.46	Jun	7.40	Jun	5.70	Jun	5.52	Jun	5.16
Jul	13.55	Jul	7.27	Jul	8.50	Jul	7.58	Jul	5.68	Jul	5.38	July	5.13
Aug	12.77	Aug	7.33	Aug	8.86	Aug	7.49	Aug	5.54	Aug	5.08		
Sep	12.07	Sep	7.62	Sep	9.03	Sep	7.71	Sep	5.20	Sep	4.76		
Oct	11.17	Oct	7.70	Oct	8.86	Oct	7.94	Oct	5.01 5.25	Oct	4.93 4.95		
Nov	10.54	Nov	7.52	Nov	8.54	Nov	8.08	Nov	5.25	Nov	4.95		
Dec	10.54	Dec	7.37	Dec	8.24	Dec	7.87	Dec		Dec Jan 2003	4.92		
Jan 1983	10.63	Jan 1987	7.39	Jan 1991	8.27	Jan 1995	7.85	Jan 1999	5.16 5.37		4.94		
Feb	10.88	Feb	7.54	Feb	8.03	Feb	7.61 7.45	Feb	5.58	Feb Mar	4.80		
Mar	10.63	Mar	7.55	Mar	8.29	Mar	7.45	Mar	5.55		4.90		
Apr	10.48	Apr	8.25	Apr	8.21	Apr	6.95	Apr	5.81	Apr	4.90		
Мау	10.53	May	8.78	May	8.27	May	6.57	May	6.04	May	4.33		
Jun	10.93	Jun	8.57	Jun	8.47	Jun	6.72	Jun	5.98	Jun มันโ	4.93		
ມີພ	11.40	jui.	8.64	Jul 5	8.45	Jul		Jul	6.07		4.93		
Aug	11.82	Aug	8.97	Aug	8.14	Aug	6.86 6.55	Aug	6.07	Aug	5.14		
Sep	11.63	Sep	9.59	Sep	7.95	Sep	6.37	Sep	6.26	Sep Oct	5.14 5.16		
Oct	11.58	Oct	9.61	Oct	7.93	Oct	6.37	Oct	6.15	Nov	5.13		
Nov	11.75	Nov	8.95	Nov	7.92	Nov	6.06	Nov Dec	6.35	Dec	5.08		
Oec	11.88	Dec	9.12	Dec	7.70	Dec	0.00	Dec	0.00		3.06		

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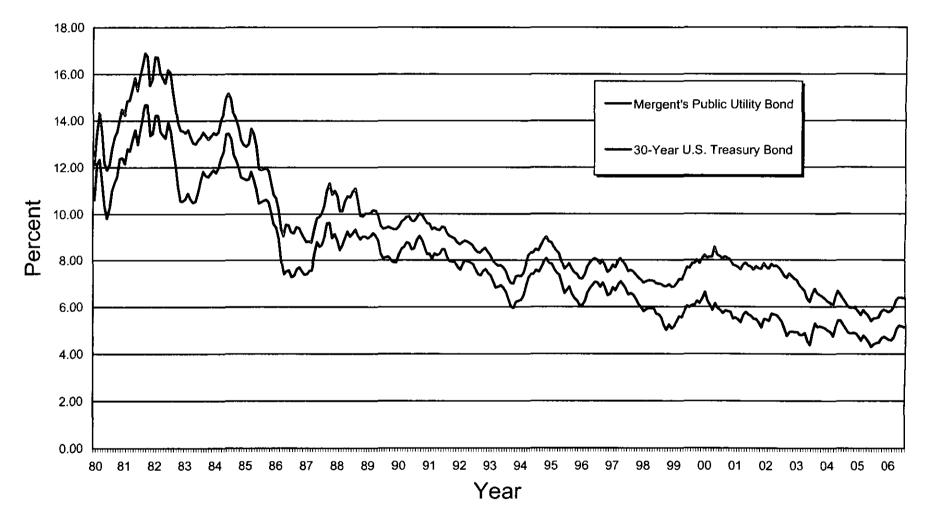
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Sources: http://finance.yahoo.com/g/hp?s≖^TY⊁

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Average Yields on Mergent's Public Utility Bonds and Thirty-Year U.S. Treasury Bonds (1980 - 2006)

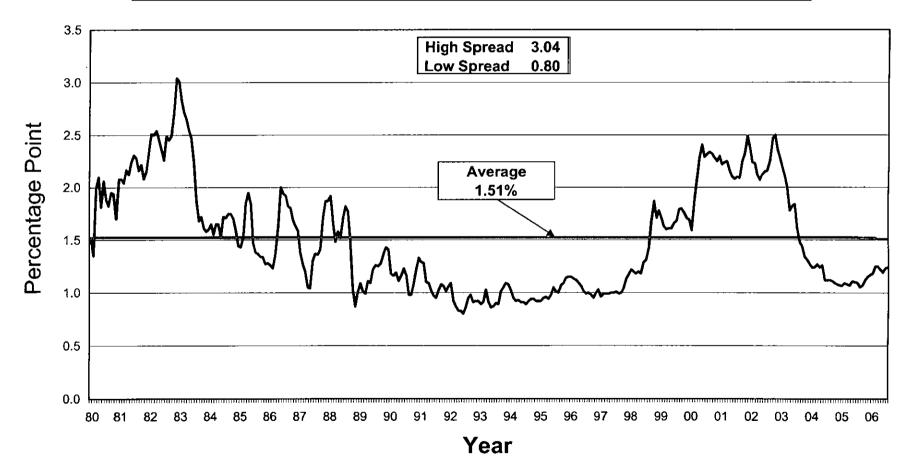




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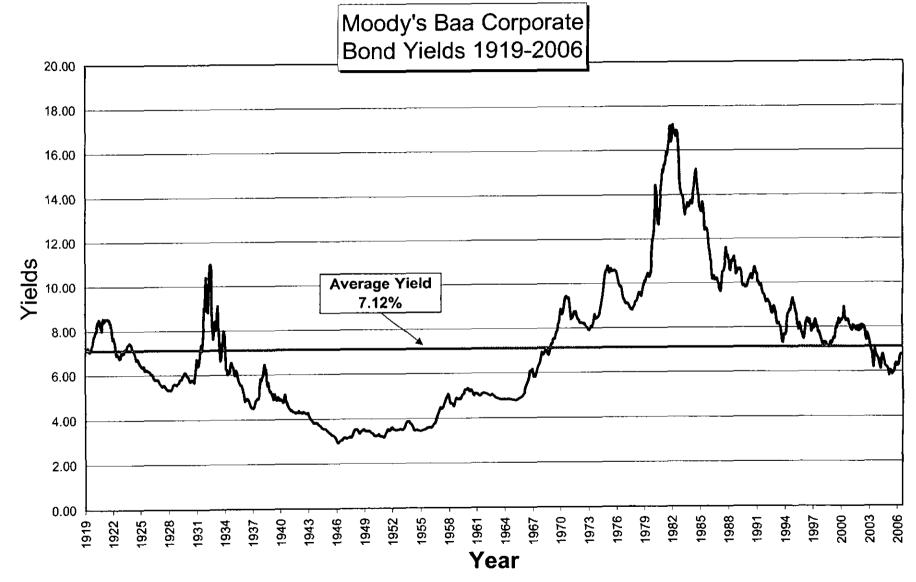
**SCHEDULE 5-3** 

Monthly Spreads Between Yields on Mergent's Public Utility Bonds and Thirty-Year U.S. Treasury Bonds (1980 - 2006)



Schedule 5-4

SCHEDULE 5-4



Source: St. Louis Federal Reserve Website: http://stlouisfed.org

Schedule 5-5

			Eco	nomic Es	timates	and Proj	ections, 2	2006-20	08						
			_		T	- I I	· · · · · · · · · · · · · · · · · · ·								
						-									
							****							1	
			-												-
<b>— — — — — — — — —</b>								+			1 1			-{	
				<del></del> }	++									+ +	+
····		milation Ra			Real GDP	,		nemploym	ent	3.4	No. T-Bill F	Zata	30.Y	ear T-Bond	i Rate
····	~~ <del>\                                   </del>					- <b>-</b>									
Source	2006	2007	2008	2006	2007	2008	2006	2007	2008	2006	2007	2008	2006	2007	2008
Value Line Investment					-										_
Survey - Selection & Opinion	3.40%	2.50%	2.30%	3.40%	2.60%	3.10%	4.70%	4.90%	4.90%	4.90%	5.00%	4.80%	5.10%	5.40%	5.50%
(08-25-06, page 961)															_
The Budget and											- <u> </u>  -			++	
Economic Outlook	2.80%	2.20%	2.20%	3.60%	3.40%	3.10%	5.00%	5.00%	5.20%	4.50%	4.50%	4.40%	N/A	N/A	N/A
FY2007-2016											-				
· · · · · · · · · · · · · · · · · · ·						i									
Current rate	4.10%			2.90%			4.70%			4.95%			4.87%		
									_						
Notes: N.A. = Not Available.		T T	-											_	_
Value Line data for 2006-2008 are estima								_							
CBO data for 2006 and 2007 are forecast	ed, data for 2008 is	projected.							-						
													<u> </u>		
								_			<u>i</u>				
Sources of Current Rates:															
Inflation:	The Bureau of L	_abor Stati	istics, Consi	umer Price Ind	lex - All U	rban Consu	mers, 12-Mon	th Period	Ending, July	31, 2006 (se	e first para	graph).		_ <b>!</b>	
	http://www.bls.g													_	_
GDP:	U.S. Departmen					s for the Qua	Inter Ending J	lune 31, 26	006 (see first	paragraph).	_ !		!	_	_
	http://www.bea.							1							
Unemployment:	The Bureau of I	Labor Stati	stics, Econo	my Situation	Summary	- Unemploy	ment Rate, A	ugust 200	6.						
	http://www.bls.go						_						_		
3-Month Treasury:	St. Louis Feder											1			
	http://research.s														
30-Yr. T-Bond:	CBS MarkefWat														<u> </u>
	http://www.mark	etwatch.col	m/tools/mark	etsummary/de	fault.asp?s	ite=mktw								1	
				i i i i i i i i i i i i i i i i i i i								1			
Other Sources (2006 - 2008):	ValueLine Inves	stment Sur	vey Selectio	n & Opinion,	August 25	, 2006, page	961.								
							1 1					<u> </u>			
	The Congressio	onal Budge	t Office, The	Budget and	Economic	Outlook: F	iscal Years 2	007-2016,	January 2000	6, page 46.				_  -	
······	http://www.cbo.g	ov/ftpdocs	70xx/doc702	7/01-26-Budg	etOutlook.c	odf									

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	Historica	I Consolidated Ca	pital Structures for At	mos Energy Corpora	tion	
		·····	(Millions of Dollars)	······································	· · · · · · · · · · · · · · · · · · ·	
Capital Components	2001	2002	2003	2004	2005	5-Year Average
Common Equity	\$583,864.0	\$573,235.0	\$857,517.0	\$1,133,459.0	\$1,602,422.0	\$950,099.4
Preferred Stock	0.0	0.0	0.0	· · · · · · · · · · · · · · · · · · ·	0.0	\$0.0
Long-Term Debt	713,094.0 *	692,443.0 *	873,263.0 *	867,219.0 *	2,186,368.0 *	\$1,066,477.4
Short-Term Debt	0.0	0.0	0.0	0.0	0.0	\$0.0
Total	\$1,296,958.0	\$1,265,678.0	\$1,730,780.0	\$2,000,678.0	\$3,788,790.0	\$2,016,576.8
Capital Components	2001	2002	2003	2004	2005	5-Year Average
Common Equity	45.02%	45.29%	49.55%	56.65%	42.29%	47.76%
Preferred Stock	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Long-Term Debt	54.98%	54.71%	50.45%	43.35%	57.71%	52.24%
Short-Term Debt	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Source: Atmos Energy C	Corporation's SEC 10-	K for 9/30/2001.				
Atmos Energy C	Corporation's SEC 10-I	< for 9/30/2002.				
Atmos Energy C	Corporation's SEC 10-I	< for 9/30/2003.				
	Corporation's SEC 10-I					
Atmos Energy C	Corporation's SEC 10-	< for 9/30/2005.				
		4.1.4				<u> </u>
Note: *Includes current r	maturities of long-term	debt.				<u> </u>

**SCHEDULE 7** 

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# Selected Financial Ratios for Atmos Energy Corporation

Financial Ratios	2001	2002	2003	2004	2005
Return on Common Equity	9.60%	10.40%	9.30%	7.60%	8.50%
Earnings Per Common Share	\$1.47	\$1.45	\$1.71	\$1.58	\$1.72
Cash Dividends Per Common Share	\$1.16	\$1.18	\$1.20	\$1.22	\$1.24
Common Dividend Payout Ratio	79.00%	82.00%	70.00%	77.00%	73.00%
Year-End Market Price Per Common Share	\$21.60	\$21.50	\$23.94	<b>\$2</b> 5.19	<b>\$</b> 28.25
Year-End Book Value Per Common Share	\$14.31	\$13.75	\$16.66	\$18.05	\$19.90
Year-End Market-to- Book Ratio	1.51 x	1.56 x	1.44 x	1.40 x	1.42 x
Funds From Operations (FFO) Interest Coverage Ratio	4.0 x	3.4 x	4.2 x	4.1 x	3.2 x
FFO/Average Total Debt	20%	17%	23%	22%	14%
Corporate Credit Rating (Standard & Poor's Corporation)	A-	A-	<b>A</b> -	BBB	<b>6</b> 88

#### Formulas:

Common Dividend Payout Ratio = Common Dividends Paid / Earnings Per Common Share.

Year-End Market-to-Book Ratio = Year-End Market Price Per Common Share / Year-End Book Value Per Common Share.

Sources: Standard and Poor's CreditStats, August 11, 2005.

Atmos Energy Corporation's 2005 Annual Report to Shareholders.

Value Line Investment Survey for Atmos Energy Corporation, June 16, 2006.

Standard and Poor's Research Summary: Atmos Energy Corporation, December 29, 2005.

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#### Capital Structure as of June 30, 2006 Atmos Energy Corporation

Capital Component	Am	Dollar ount (000's)	Percentage of Capital
Common Stock Equity	\$	1,664,556	42.41%
Preferred Stock	\$	-	0.00%
Long-Term Debt	\$	2,184,082	55.64%
Short-Term Debt	\$	76,619	1.95%
Total Capitalization	\$	3,925,257	100.00%

## Gas Financial Ratio Benchmark Total Debt / Total Capital

Notes: 1. Long-term Debt at December 31, 2005 is based on the net balance of long-term debt, including current maturities (total principal amount of long-term debt outstanding less unamortized expenses and discounts) shown on Schedule 10. This balance also includes the amount of non-regulated debt.

Source: Reponse to Data Request 0068.

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Atmos Energy Corporation Case No. GR-2006-0387

#### Atmos Energy Corporation

Source: Response to data request 0056.

Consolidated & Utility Long-Term Debt Outstanding w/ calculation of Effective Interest Rates Updated to June 30, 2006

#### Embedded Cost of Long-Term Debt as of June 30, 2006 for Atmos Energy Corporation

Atmo <u>Line</u> (a)	os Energy Corp., Consolidated: <u>Debt Series</u> (b)	Year <u>Issued</u> (c)	Outstanding 6/30/2005 (d)		Outstanding <u>7/31/2005</u> (e)		Outstanding <u>8/31/2005</u> (f)	Outstanding <u>9/30/2005</u> (g)	Outstanding <u>10/31/2005</u> (h)	Outstanding <u>11/30/2005</u> (i)	Outstanding <u>12/31/2005</u> (j)
							\$0	so	\$0		5
	9.76% Sr Note J Hancock due 2004/ RET 2013	1989	\$0		\$0		20	30	D#	30	2
	9.57% Sr Note Var Annuity Life due 2006/RET 2013	1991	-		-		•	-	-	-	
	7.95% Sr Note Var Annuity Life due 2006/RET 2013	1992 1994	•		-		-	-	-	-	-
	8.07% Sr Note Var Annuity Life due 2006/RET 2013 8.26% Sr Note NY Life due 2014/RET 2013	1994	-		-		-	•	•	•	•
	9.40% First Mortgage Bond J due May 2021/RET 2005	1994	-		-		•	-	-	•	-
	10% Senior Notes due Dec 2011	1991	2,303,308		2,303,308		2,303,308	2,303,308	2,303,308	2,303,308	2,303,30
		2001	350,000,000		350,000,000		350,000,000	350,000,000	350,000,000	350,000,000	350,000,00
	7.38% Senior Notes due May 2011 6.75% Debentures Unsecured due July 2028	1998	150,000,000		150.000.000		150,000,000	150,000,000	150,000,000	150,000,000	150,000,00
	5.125% Senior Notes due Feb 2013	2003			250,000,000		250,000,000	250,000,000	250,000,000	250,000,000	250,000,00
	10.43% First Mortgage Bond P due 2017 (eff 2012)		250,000,000								
	••	1987	10,000,000		10,000,000		10,000,000	10,000,000	10,000,000	8,750,000	8,750,00
	9.75% First Mortgage Bond Q due Apr 2020/RET 2005	1990	•		-		-	-		-	-
	9.32% First Mortgage Bond T due June 2021/RET 2005	1991	-		-		-	-	-	-	-
	8.77% First Mortgage Bond U due May 2022/RET 2005	1992	-		-		-	-	•	-	-
	7.50% First Mortgage Bond V due Dec 2007/RET 2005	1992						-		-	
	6.67% MTN A1 due Dec 2025	1995	10,000,000		10,000,000		10,000,000	10,000,000	10,000.000	10,000,000	10,000,00
	6.27% MTN A2 due Dec 2010	1995 2004	10,000,000		10,000,000 300,000,000		10,000,000 300,000,000	10,000,000 300,000,000	10.000,000 300,000,000	10.000,000 300,000,000	10,000,00
	2.465% Sr Note 3Yr Floating due 10/15/2007 4.00% Sr Note due 10/15/2009	2004	300,000,000 400,000,000		400,000,000		400,000,000	400,000,000	400,000,000	400,000,000	300,000,00 400,000,00
	4.00% Sr Note due 10/15/2009	2004	500.000,000		500.000,000		500,000,000	500,000,000	500,000,000	500,000,000	500,000,00
	5.95% Sr Note due 10/15/2034	2004	200,000,000		200,000,000		200,000,000	200,000,000	200,000,000	200,000,000	200,000,00
22	3.95% Sr Note due 10/13/2034	2004	200,000,000		200,000,000		200,000,000	200,000,000	200,000,000	200,000,000	200,000,00
	Dubtered - Utility Lange Terms Dalat		\$ 2,182,303,308		2,162,303,308	e	2 192 202 209	\$ 2,182,303,308	¢ 2 +82 202 208	¢ 2 181 053 308	6 2 181 052 20
	Subtotal Utility Long-Term Debt		a 2,702,000,000	٠	2,102,505,500	•	2,102,303,000	φ2, (b2,500,000	\$2,102,000,000	42,101,000,000	42,101,000,00
24											
25											
	United Cities Propane Gas, Inc.										
27	Baxter, KY – Harlan LP due 03/05				•		-	-	-	-	-
28	Evensville, TN – E-Con due 06/08		336.250		336,250		168,125	168,125	168,125	168,125	168,12
29	Pulaski – Ingas, Ingram & Carvell 06/08		300,000		300,000		300,000	300,000	300,000	300,000	250,00
30	Boone, NC - High Country, Kirby 02/04						· · · · · · · · · · · · · · · · · · ·	<u> </u>			·
31	Total Propane		\$636,250		\$636,250		\$468,125	\$468,125	\$468,125	\$468,125	\$418,12
32											
	United Cities Gas Storage, Inc.										
34	Nations Bk Sr Sec Notes #18 #26 03/07	1991	-		-		•	-	-	-	-
35											
36	Atmos Leasing, Inc.										
37	Industrial Develop Revenue Bond 07/13	1991	1,113,094		1,047,618		1,047,618	1,047,618	1,047,618	1,047,618	1,047,61
38	Atmos Power Sys - Wells Fargo 05/08	2003	2,764,831		2,712,980		2,660,886	2,608,546	2,555,960	2,503,127	2,450,04
39	US Bancorp - 04/09	2004 _	3,948,477		3,870,862		3,792,904	3,714,602	3,635,955	3,556,962	3,477,62
40	Total Long-Term Debt		\$ 2,190,765,960	\$	2,190,571,018	\$		\$ 2,190,142,199			\$ 2,188,446,71
41	Less Unamortized Debt Discount					\$	3,811,639	<u>\$ 3,774,628</u>	\$ 3,737,617	\$ <u>3,7</u> 00,606	\$ 3,663,594.4
42	Annualized Amortization of Debt Exp. & Debt Dsct.										
						\$	2,186,461,202	\$ 2,186,367,572	\$ 2,186,273,350	\$ 2,184,928,534	\$ 2,184,783,12
43											

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# Atmos Energy Corporation Case No. GR-2006-0387

Atmos Energy Corporation Consolidated & Utility Long-Term Debt Outstanding w/ calcut Updated to June 30, 2006

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Line (a)	ios Energy Corp., Consolidated: : <u>Debt Series</u> (b)	Year <u>issued</u> (c)	Outstanding <u>1/31/2006</u> (k)	Outstanding <u>2/28/2006</u> (I)	Outstanding <u>3/31/2006</u> (m)	Outstanding <u>4/30/2006</u> (n)	Outstanding <u>5/31/2006</u> (o)	Outstanding <u>6/30/2006</u> (p)	End <u>Int Rate</u> (q)	Annuel Int at <u>\$/30/2006</u> (r)
1	9.76% Sr Note J Hancock due 2004/ RET 2013	1989	\$0	\$0	\$0	\$0	\$0	\$0	9.76%	0
2	9.57% Sr Note Var Annuity Life due 2006/RET 2013	1991	-		-	-	-		9.57%	0
3	7.95% Sr Note Var Annuity Life due 2006/RET 2013	1992	•	-	-	-	-	-	7.95%	0
4	8.07% Sr Note Var Annuity Life due 2006/RET 2013	1994	-	-	-	-		-	8.07%	0
5	8.26% Sr Note NY Life due 2014/RET 2013	1994	-	-	-	-	-	-	8.26%	. 0
6	9.40% First Mortgage Bond J due May 2021/RET 2005	1991	-	-		-		-	9.40%	0
7	10% Senior Notes due Dec 2011	1991	2,303.308	2,303,308	2,303,308	2,303,308	2,303,308	2,303,308	10.00%	230,331
8	7.38% Senior Notes due May 2011	2001	350,000,000	350,000,000	350,000,000	350,000,000	350,000,000	350,000,000	7.38%	25,812,500
9	6.75% Debentures Unsecured due July 2028	1998	150,000,000	150,000.000	150,000,000	150,000,000	150.000,000	150,000,000	6.75%	10,125,000
10	5.125% Senior Notes due Feb 2013	2003	250,000,000	250,000,000	250,000,000	250,000,000	250,000,000	250.000.000	5.13%	12,812,500
11	10.43% First Mortgage Bond P due 2017 (eff 2012)	1987	8,750,000	8,750,000	8,750,000	8,750,000	8,750,000	8,750.000	10.43%	912,625
12	9.75% First Mortgage Bond Q due Apr 2020/RET 2005	1990	-	-	-		-	-	9.75%	0
13	9.32% First Mortgage Bond T due June 2021/RET 2005	1991	-	-		-	-	-	9.32%	0
14	8.77% First Mortgage Bond U due May 2022/RET 2005	1992	-	-		-	-	-	8.77%	0
15	7.50% First Mortgage Bond V due Dec 2007/RET 2005	1992	•	-	-			-	7.50%	0
16	6.67% MTN A1 due Dec 2025	1995	10,000,000	10,000,000	10,000,000	10.000.000	10,000,000	10.000,000	6.67%	667,000
17	6.27% MTN A2 due Dec 2010	1995	10,000,000	10,000,000	10,000,000	10,000,000	10.000,000	10,000,000	6.27%	627,000
18	2.465% Sr Note 3Yr Floating due 10/15/2007	2004	300,000,000	300,000,000	300,000,000	300,000,000	300,000,000	300,000,000	5.45%	16,356,000
19	4.00% Sr Note due 10/15/2009	2004	400,000,000	400,000,000	400,000,000	400,000,000	400.000,000	400.000.000	4.00%	16,000,000
20	4.95% Sr Note due 10/15/2014	2004	500,000,000	500,000,000	500,000,000	500,000,000	500,000,000	500.000.000	4.95%	24,750,000
21 22	5.95% Sr Note due 10/15/2034	2004	200,000,000	200,000,000	200,000,000	200,000,000	200,000,000	200,000,000	5.95%	11,900,000
23	Subtotal Ublity Long-Term Debl		\$ 2,181,053,308	\$ 2,181,053,308	\$ 2,181,053,308	\$ 2,181,053,308	\$ 2,181,053,308	\$ 2,181,053,308		\$ 120,192,956
24 25										
	United Cities Propane Gas, Inc.									
27	Baxter, KY – Harlan LP due 03/05							_	7.50%	
28	Evensville, TN - E-Con due 06/08		168.125	168.125	168,125	168,125	168.125	168,125	7.00%	
20										11,769
	Putaski – Ingas, Ingram & Carvell 06/08 Research 10 – Mich. Carvella, Michael 06/08		250,000	250,000	250.000	250,000	200.000	200,000	8.00%	16,000
30	Boone, NC – High Country, Kirby 02/04			·	<u> </u>				7.50%	<u> </u>
51 52	Total Propane		\$418,125	\$418,125	\$418,125	\$418,125	\$368,125	\$368,125		\$27,769
3	United Cities Gas Storage, Inc.									
4	Nations Bk Sr Sec Notes #18 #26 03/07	1991	-		-	-	-	-	7.45%	•
15										
6	Atmos Leasing, Inc.									
7	Industrial Develop Revenue Bond 07/13	1991	982,142	982,142	982,142	982,142	982,142	982,142	7.90%	77.589
8	Atmos Power Sys - Wells Fargo 05/08	2003	2,396,712	2,343,128	2,289,292	2,235,203	2,180,859	2,126,259	5.65%	120.134
	US Bancorp - 04/09	2004	3,397,929	3,317,886	3,237,491	3,156,741	3,075,635	2,994,171	5.29%	158,392
	Total Long-Term Debi	-	\$ 2,188,248,215	\$ 2,188,114,589	\$ 2,187,980,358	\$ 2,187,845,519	\$ 2,187,660,069			\$ 120,576,839
11	Less Unamortized Debt Discount		<u>\$ 3,626,583</u>	<u>\$ 3,589,572</u>	<u>\$ 3,552,561</u>	\$ 3,515,550				
12	Annualized Amortization of Debt Exp. & Debt Dsct.									\$ 11,094,525
13		-	\$ 2,184,621,632	\$ 2 184 525 017	\$ 2 184 407 704	\$ 2 184 320 049	\$ 2 184 191 620	\$ 2,184.082,477		\$ 131,671,364
	Effective Avg Cost of Consol Debt	-	¥ 2,104,021,03Z	+ 2.104.023,017	+ 2,10+,421,150	* £,107,0£3,000	+ c, 10-1, 10 1,029	₩ £,104,002,411		↓ 101,011,004

Note: includes current meturities Source: Response to data request 0068.

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p 2 of 3

# Atmos Energy Corporation Case No. GR-2006-0387

Atmos Energy Corporation Consolidated & Utility Long-Term Debt Outstanding w/ calcul

	ated to June 30, 2006				Unamort Debt									p 3 of 3
opu	180 to 30He 30, 2000				Exp 1810						unamort debt exp	unamort loss	debt dsct	p30/3
			Annualized	Annualized	Penalty 1890		4270.30937	4280	4280	4281	1810	1890	2260	2150.20102
<b>A</b> tm	s Energy Corp., Consolidated:	Year	4270 Amort	4280-81 Amort	Dsct 2260			mithly debt exp			Balance	Balance	Balance	Treasury lock
Line	Debt Series	Issued	for T-lock	Debi Exp&Dsct	6/30/2006		6/30/2006	6/30/2006	6/30/2006	6/30/2006	6/30/2006	6/30/2006	6/30/2006	6/30/2006
(a)	(b)	(c)	(t)	(u)	(v)	(w)	0/30/2000	0/30/2000	0/30/2000	0/00/2000	0/30/2000	0/30/2008	0/30/2000	0/30/2000
10/	(2)	(0)	(9	(4)	(*/	()								
1	9.76% Sr Note J Hancock due 2004/ RET 2013	1989		1,362	8,969					114	0	8.968.59		
	9.57% Sr Note Var Annuity Life due 2006/RET 2013	1991		2,908	19,144					242	0	19,143.91		
	7.95% Sr Note Var Annuity Life due 2006/RET 2013	1992		1,435	9,450					120	0	9,449,89		
	8.07% Sr Note Var Annuity Life due 2006/RET 2013	1994		3,771	24,625					314	o o	24,825.16		
	8.26% Sr Note NY Life due 2014/RET 2013	1994		7,050	46,409					587	0	46,409.35		
	9.40% First Mortgage Bond J due May 2021/RET 2005	1991		560,397	8,312,562						0			
7				0	6,312,362 0			-		46,700	0	8,312,562.43		
	10% Senior Notes due Dec 2011	1991									-			
	7.38% Senior Notes due May 2011	2001		502,339	2,426,624			40,111.55	1,750.00		2,325,123.52		101,500	
	6.75% Debentures Unsecured due July 2028 5.125% Senior Notes due Feb 2013	1998		99,938	2,206,969			4,640.68	3,687.50		1.229.781.59		977,188	
		2003		1,033,655	6,804,895			6,522.99	1.770.83	77,844	515,315.91	6,149,683.05	139,896	
	10.43% First Mortgage Bond P due 2017 (eff 2012)	1987		12,224	139,559			1.018.68			139.559.16		i.	
	9.75% First Mortgage Bond Q due Apr 2020/RET 2005	1990		337,581	4,670,340			•		28,132	0	4,670,339.63		
	9.32% First Montgage Bond T due June 2021/RET 2005	1991		362,746	5,411,441			•		30,229	0	5,411,440.55		
	8.77% First Mortgage Bond U due May 2022/RET 2005	1992		368,719	5,838,526			-		30,727	0	5.838,525.80		
	7.50% First Mortgage Bond V due Dec 2007/RET 2005	1992		26,021	37,337			-		2.168	0	37,336.76		
16	6.67% MTN A1 due Dec 2025	1995		7,790	152,458			649.18			152,457.99			
17	6.27% MTN A2 due Dec 2010	1995		15,441	70,575			1,286.75			70,574.71			
18	2.465% Sr Note 3Yr Floating due 10/15/2007	2004		605,023	806,697			50,418,58			806,697.25			
19	4.00% Sr Note due 10/15/2009	2004	2,320,733	995,873	3,319,578		193,394	56.856.12	26,133.33		2,274,244.81		1.045.333	7.735,777
20	4.95% Sr Note due 10/15/2014	2004	3,237,793	453,170	3,776,414		269,816	37,472,48	291.67		3,747.247.66		29,167	26,981.610
21	5.95% Sr Note due 10/15/2034	2004	(7,047)	115,724	3,278,835		(587)	6,265.85	3,377.78		2,130.390.22		1.148,444	(199,667)
22		-												
	Subtotal Utility Long-Term Debt	-	\$ 5,551,479	\$ 5,513,168	\$ 47,361,606		462,623.27	205,242.86	37,011.11	\$ 217,177	<b>\$ 13,391,393</b>	\$ 30,528,685	\$ 3,441,528	34,517,720
24														
25														
	United Cities Propane Gas, Inc.													
27	Baxter, KY – Harlan LP due 03/05				0									
28	Evensville, TN E-Con due 06/08				0									
29	Pulaski Ingas, Ingram & Carvell 06/08				0									
30	Boane, NC High Country, Kirby 02/04				0									
31	Total Propane													
32														
33	United Cities Gas Storage, Inc.													
34	Nations Bk Sr Sec Notes #18 #26 03/07	1991		29,878	29,878			3,243.22			29.87B.05			
35														
36	Atmos Leasing, Inc.													
37	Industrial Develop Revenue Bond 07/13	1991		0	0									
38	Atmos Power Sys - Wells Fargo 05/08	2003		0	0									
	US Bancorp - 04/09	2004		0	0					1				
	Total Long-Term Debt													
41	Less Unamortized Debt Discount	-	\$ 5,551,479	\$ 5,543,046	\$ 47,391,484		462,623	\$ 208,486	\$ 37,011	\$ 217,177	\$ 13,421,271	\$ 30,528,685	\$ 3,441,528	\$ 34,517,720
	Annualized Amortization of Debt Exp. & Debt Dsct.	-						ck	ck	ck	ck	ck	ck	
			abast	at a st			G/L amt	245,497		217,177	13,421,270	30,528,685		34 517 200
43	Effective Avg Cost of Consol Debt		check 5,551,479	check 5,552,087	check 47,391,484		-		-		· · · · · · · · · · · · · · · · · · ·	· ·	3,441,528	34,517,720
							diff g/l vs calc	(0)		(0)	1	0	-	0

Note: includes current maturities

Source: Response to deta request 0068.

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#### Atmos Energy Corporation Missouri Jurisdiction Consolidated Capital Balances and Computation of Short Term Debt effective Interest Rate Updated to June 30, 2006

## Embedded Cost of Short-Term Debt as of June 30, 2006 for Atmos Energy Corporation

		Atmos (	Consolidated Ba	alances	Calc of Atmos Consolidat	ed STD effective	Int Rate	YTD actual
Line		Long-Term	Short-Term		STD	STD	STD	sum (e) /
No.	_	Debt	Debt	Equity	Avg Daily Bal	Int Exp & fees	avg rate	sum (c)
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
1	Jun-05	2,186,880,299	0	1,616,010,26	52			
2	Jul-05	2,186,722,368	34,725,000	1,622,139,21	13 10,569,355	226,191		
3	Aug-05	2,186,461,202	39,775,000	1,601,286,27	73 23,514,032	270,040		
4	Sep-05	2,186,367,572	144,809,035	1,602,421,86	36,963,333	311,336		
5	Oct-05	2,186,273,350	292,312,556	1,605,908,90	156,300,161	743,035		
6	Nov-05	2,184,928,534	345,862,525	1,597,660,02	28 236,930,933	1,033,596		
7	Dec-05	2,184,783,121	474,059,145	1.637.617.36	303,849,194	1,380,906		
8	Jan-06	2,184,621,632	460,001,996	1,674,006,64	45 268,228,226	1,567,670		
9	Feb-06	2,184,525,017	466,770,750	1,677,842,19	186,207,821	845,021		
10	Mar-06	2,184,427,797	262,315.049	1,706,290,71	15 186,226,613	972,660		
11	Apr-06	2,184,329,969	251,840,375	1,690,460,07	148,120,000	851,132		
12	May-06	2,184,181,530	222,250,539	1,667,774,01	19 167,400,000	984,919		
13	Jun-06	2,184,082,478	297,086,920	1,664 555,39	179,760,000	1,034,186		
14						\$10,220,691		
15								
16	Average				\$158,672,472	-	6.44%	6
17					<del></del>			pa.

18 Source: Actuals (b), (c), (d) Atmos Consolidated Balance Sheet; (e) & (f) Treasury Dept STD report & G/L acct analysis FERC 431.

# Criteria for Selecting Comparable Gas Utility Companies

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(1)	(2)	(3)	(4)	(5)	(ñ)		(7)
					Тыр		
					Sources for		Comparable
	Stock	Information	10-Years	At Least Investment	Projected Growth	No	Company
Venically Integrated	Publicly	Printed In	of Data	Grade Credit	Available with Onc	Мізьонгі	Met All
Gas Utility Companies(Ticker)	Traded	Value Line	Available	Rating	trom Value Line	Operations	Criteria
AGL Resources, Inc. (ATG)	Yes white	Ye	Yes	Yes			See SYe Are
Cascade Natural Gas Corp.(CGC)	226 <b>.Yei</b> 377	ALC: Yes	Yes	Yes	Yes 🖉 Vissi	STOYE SET	不安然爱¥自行 M
Delta Natural Gas Company Inc. (DGAS		Yes	No				
Energy West(EWST)	Yes	Yes	No				
EnergySouth, Inc.(ENSI)	Yes	Yes	Yes	Yes	No		
Laciede Group (LG)	Yes	Yes	Yes	Yes	Yes	No	
New Jersey Resources Corp.(NJR)	Yes Yes	≠≥50%Yes ™	Yes	Tel: Yel:			Y WAR YO WAR
Northwest Natural Gas Company(NV	VN) Yes 2			in the Yesting			STATES YOU FANS
Peoples Energy Corporation(PGL)	Tr'Ye Vita	°°°×°Υci − `*	Yes 🖓	Yes 🖓 👘 Yes 🖓 👘			**************************************
Piedmont Natural Gas Co.; Inc.(PNY				Yes Yes The Market	Yes 🛀 🗤 🖉	-36.853 <b>Yes</b> -2176	2000 Yes 25 C
RGC Resources, Inc.(RGCO)	Yes	Yes	No				
Semeo Energy, Inc.(SEN)	Yes	Yes	Yes	No			
South Jersey Industries, Inc.(SJI)	Ye		Yes	Yes			Yes Pres
WGL Holdings, Inc.(WGL)	** Yei 🖓	'a≌ Yes	Yes	Yes	Yes file	₩ <b>eYes</b>	સાન્દ્ર કં <b>શ્વપ્</b> લ પ્રતિવ

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Sources: Columns 1, 2 and 5 = Standard & Poor's RatingsDirect. Columns 3, 4 and 6 = The Value Line Investment Survey: Ratings & Reports, June 16, 2006. Columnn 6 = August 2006 Earnings Guide and I/B/E/S Inc.'s Institutional Brokers Estimate System, August 17, 2006.

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# Comparable Gas Utility Companies for Atmos Energy Corporation

	Ticker	
Number	Symbol	Company Name
1	ATG	AGL Resources, Inc.
2	CGC	Cascade Natural Gas Corp.
3	NJR	New Jersey Resources Corp.
4	NWN	Northwest Natural Gas Co.
5	PGL	Peoples Energy Corp.

**SCHEDULE 13** 

## Ten-Year Dividends Per Share, Earnings Per Share & Book Value Per Share Growth Rates for the Eight Comparable Gas Utility Companies and Atmos Energy Corporation

		10-Year Annual Compound Growth Rates		Average of 10 Year Annual Compound
Company Name	DPS	EPS	BVPS	Growth Rates
AGL Resources, Inc.	1.50%	6.50%	5.50%	4.50%
Cascade Natural Gas Corp.	0.00%	1.50%	0.50%	0.67%
New Jersey Resources Corp.	2.50%	7.50%	5.00%	5.00%
Northwest Natural Gas Co.	1.00%	1.50%	4.00%	2,17%
Peoples Energy Corp.	2.00%	2.00%	2.00%	2.00%
Piedmont Natural Gas Co.	5.50%	5.50%	6.50%	5.83%
South Jersey Industries, Inc.	1.50%	8.00%	5.50%	5.00%
WGL Holdings, Inc.	1.50%	4.50%	4.00%	3.33%
Average	<u>1.94%</u>	4.63%	<u>4.13%</u>	<u>3,56%</u>
Standard Deviation	1.51%	2.51%	1.87%	1.70%
Atmos Energy Corporation	3.00%	4.00%	6.50%	4.50%

Source: The Value Line Investment Survey: Ratings & Reports, June 16, 2006.

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# Five-Year Dividends Per Share, Earnings Per Share & Book Value Per Share Growth Rates for the Eight Comparable Gas Utility Companies and Atmos Energy Corporation

		5-Year Annual Compound Growth Rates	******	Average of 5 Year Annual Compound
Company Name	DPS	EPS	BVPS	Growth Rates
AGL Resources, Inc.	2.00%	13.50%	8.50%	8.00%
Cascade Natural Gas Corp.	0.00%	-3.50%	0.00%	-1.17%
New Jersey Resources Corp.	3.00%	8.50%	7.00%	6.17%
Northwest Natural Gas Co.	1.00%	5.00%	3.50%	3.17%
Peoples Energy Corp.	2.00%	0.00%	0.50%	0.83%
Piedmont Natural Gas Co.	5.00%	5.00%	6.50%	5.50%
South Jersey Industries, Inc.	2.50%	11.50%	13.00%	9.00%
WGL Holdings, Inc.	1.50%	6.00%	3.00%	3.50%
Average	2.13%	5.75%	5.25%	4.38%
Standard Deviation	1.39%	5.25%	4.09%	3.25%
Atmos Energy Corporation	2.00%	6.50%	8.50%	5.67%

Source: The Value Line Investment Survey: Ratings & Reports, June 16, 2006.

# Average of Ten- and Five-Year Dividends Per Share, Earnings Per Share & Book Value Per Share of Growth Rates for the Eight Comparable Gas Utility Companies and Atmos Energy Corporation

	10-Year	5-Year	Average of
	Average	Average	5-Year &
	DPS, EPS &	DPS, EPS &	10-Year
Company Name	BVPS	BVPS	Averages
AGL Resources, Inc.	4.50%	8.00%	6.25%
Cascade Natural Gas Corp.	0.67%	-1.17%	-0.25%
New Jersey Resources Corp.	5.00%	6.17%	5.58%
Northwest Natural Gas Co.	2.17%	3.17%	2.67%
Peoples Energy Corp.	2.00%	0.83%	1.42%
Piedmont Natural Gas Co.	5.83%	5.50%	5.67%
South Jersey Industries, Inc.	5.00%	9.00%	7.00%
WGL Holdings, Inc.	3.33%	3.50%	3.42%
Average	3.56%	4.38%	3.97%
Atmos Energy Corporation	4.50%	5.67%	5.08%

SCHEDULE 14-3

# Historical and Projected Growth Rates for the Eight Comparable Gas Utility Companies and Atmos Energy Corporation

	(1)	(2)	(3)	(4)	(5)	(6)
		Projected				
	Historical	5-Year	Projected	Projected		Average of
	Growth Rate	EPS Growth	5-Year	3-5 Year	Average	Historical
	(DPS, EPS and	IBES	EPS Growth	EPS Growth	Projected	& Projected
Company Name	BVPS)	(Mean)	S&P	Value Line	Growth	Growth
AGL Resources, Inc.	6.25%	4.28%	4.00%	4.00%	4.09%	5.17%
Cascade Natural Gas Corp.	-0.25%	3.00%	3.00%	9.00%	5.00%	2.38%
New Jersey Resources Corp.	5.58%	5.67%	6.00%	4.50%	5.39%	5.49%
Northwest Natural Gas Co.	2.67%	5.96%	6.00%	7.00%	6.32%	4.49%
Peoples Energy Corp.	1.42%	3.95%	4.00%	1.50%	3.15%	2.28%
Piedmont Natural Gas Co.	5.67%	4.33%	4.00%	6.00%	4.78%	5.22%
South Jersey Industries, Inc.	7.00%	6.00%	5.00%	7.00%	6.00%	6.50%
WGL Holdings, Inc.	3.42%	3.75%	4.00%	2.00%	3.25%	3.33%
Average	3.97%	4.62%	4.50%	5.13%	4.75%	4.36%
Atmos Energy Corporation	5.08%	5.38%	6.00%	7.00%	6.13%	5.61%

#### Proposed Range of Growth for Comparables: 4.35%-5.15%

Column 5 = [(Column 2 + Column 3 + Column 4)/3]

Column 6 = [(Column 1 + Column 5)/2]

Sources: Column 1 = Average of 10-Year and 5-Year Annual Compound Growth Rates from Schedule 13-3.

Column 2 = I/B/E/S Inc.'s Institutional Brokers Estimate System, August 17, 2006.

Column 3 = Standard & Poor's Earnings Guide, August 2006.

Column 4 = The Value Line Investment Survey: Ratings and Reports, June 16, 2006.

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# Average High / Low Stock Price for April 2006 through July 2006 for the Eight Comparable Gas Utility Companies and Atmos Energy Corporation

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	April 2006		May 2006		June	2006	July 2006		Average High/Low
	High	Low	High	Low	High	Low	High	Low	Stock
	Stock	Stock	Stock	Stock	Stock	Stock	Stock	Stock	Price
Company Name	Price	Price	Price	Price	Price	Price	Price	Price	(4/06 - 7/06)
AGL Resources, Inc.	\$36.370	\$34.430	\$36.670	\$34.630	\$38.130	\$35.360	\$39.400	\$37.160	\$36.519
Cascade Natural Gas Corp.	\$20.560	\$19.260	\$21.120	\$20.200	\$21.300	\$20.150	\$26.100	\$20.840	\$21.191
New Jersey Resources Corp.	\$46.430	\$43.700	\$45.720	\$42.850	\$47.380	\$43.950	\$50.900	\$46.340	\$45.909
Northwest Natural Gas Co.	\$35.790	\$33.790	\$36.000	\$33.300	\$37.040	\$34.230	\$38.430	\$35.810	\$35.549
Peoples Energy Corp.	\$37.160	\$35.330	\$37.590	\$35.340	\$38.660	\$35.100	\$42.800	\$35.710	\$37.211
Piedmont Natural Gas Co.	\$25.230	\$23.500	\$24.880	\$23.310	\$25.400	\$23.460	\$26.170	\$24.300	\$24.531
South Jersey Industries, Inc.	\$27,480	\$25.800	\$27.890	\$25.630	\$27.520	\$25.800	\$30.000	\$27.200	\$27.165
WGL Holdings, Inc.	\$30.740	\$28.800	\$29.930	\$27.040	\$29.390	\$27.820	\$28.440	\$30.320	\$29.060
Atmos Energy Corporation	\$26.800	\$26.090	\$27.730	\$25.550	\$28.030	\$26.010	\$29.250	\$27.750	\$27.151

Notes:

Column 9 = [ ( Column 1 + Column 2 + Column 3 + Column 4 + Column 5 + Column 6 + Column 7 + Column 8 ) / 8 ].

Sources: S & P Stock Guides: May, June, July, and August 2006.

# Discounted Cash Flow (DCF) Estimated Costs of Common Equity for the Eight Comparable Gas Utility Companies and Atmos Energy Corporation

(2)

(1)

(3)

(4)

(5)

	Expected Annual Dividend	Average High/Low Stock Price	Projected Dividend Vield	Average of Historical & Projected Growth	Estimated Cost of Common Equity		
Company Name	\$1.54	\$36.519	4.22%	5.17%	9.39%		
AGL Resources, Inc.	\$0.96	\$21.191	4.53%	2.38%	6.91%		
Cascade Natural Gas Corp. New Jersey Resources Corp.	\$1.49	\$45.909	3.25%	5.49%	8.73%		
New Jersey Resources Colp. Northwest Natural Gas Co.	\$1.40	\$35.549	3.94%	4.49%	8.43%		
Peoples Energy Corp.	\$2.18	\$37.211	5,86%	2.28%	8.14%		
Piedmont Natural Gas Co.	\$0.98	\$24,531	3,99%	5.22%	9.22%		
South Jersey Industries, Inc.	\$0.94	\$27.165	3.46%	6.50%	9.96%		
WGL Holdings, Inc.	\$1.37	\$29.060	4.70%	3.33%	8.03%		
Average		-	4.24%	4.36%	8.60%		
Atmos Energy Corporation	\$1.27	<b>\$27.151</b>	4.68%	5.61%	10.28%		
		Proposed Di	ividend Yield:		4.24%		
		Proposed R	ange of Growth	: _	4.35% - 5.15%		
		Estimated P	Estimated Proxy Cost of Common Equity:				
			rgy Corporation ojected Growth	Company-Speci	fic Using 10.80%		
			rgy Corporation age Growth	Company-Speci	fic Using 10.06%		

Notes: Column 1 = Estimated Dividends Declared per share represents the average projected dividends for 2006 and 2007.

Column 3 = ( Column 1 /Column 2).

Column 5 = ( Column 3 +Column 4).

Sources: Column 1 = The Value Line Investment Survey: Ratings and Reports, June 16, 2006.

Column 2 = Schedule 15.

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Column 4 = Schedule 14.

SCHEDULE 17

#### Capital Asset Pricing Model (CAPM) Costs of Common Equity Estimates Based on Historical Return Differences Between Common Stocks and Long-Term U.S. Treasuries for the Eight comparable Gas Utility Companies and Atmos Energy Corporation

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
			Arithmetic	Geometric	Geometric	Arithmetic	Geometric	Geometric
			Average	Average	Average	CAPM	CAPM	CAPM
			Market	Market	Market	Cost of	Cost of	Cost of
	Risk	Company's	Risk	Risk	Risk	Common	Common	Common
	Free	Value Line	Premium	Premium	Premium	Equity	Equity	Equity
Company Name	Rate	Beta	(1926-2005)	(1926-2005)	(1996-2005)	(1926-2005)	(1926-2005)	(1996-2005)
AGL Resources, Inc.	5.13%	0.95	6.50%	4.90%	1.48%	11.31%	9.79%	6.54%
Cascade Natural Gas Corp.	5.13%	0.85	6.50%	4.90%	1.48%	10.66%	9.30%	6.39%
New Jersey Resources Corp.	5.13%	0.80	6.50%	4.90%	1.48%	10.33%	9.05%	6.31%
Northwest Natural Gas Co.	5.13%	0.75	6.50%	4.90%	1.48%	10.01%	8.81%	6.24%
Peoples Energy Corp.	5.13%	0.90	6.50%	4.90%	1.48%	10.98%	9.54%	6.46%
Piedmont Natural Gas Co.	5.13%	0.85	6.50%	4.90%	1.48%	10.66%	9.30%	6.39%
South Jersey Industries, Inc.	5.13%	0.70	6.50%	4.90%	1.48%	9.68%	8.56%	6.17%
WGL Holdings, Inc.	5.13%	0.80	6.50%	4.90%	1.48%	10.33%	9.05%	6.31%
Average		0.83				10.49%	9.17%	6.35%
Great Plains Energy	5.13%	0.75	6.50%	<b>4.90%</b>	1.48%	10.01%	8.81%	6.24%

Sources:

- Column 1 = The appropriate yield is equal to the average 30-year U.S. Treasury Bond yield for July 2006 which was obtained from the St. Louis Federal Reserve website at http://research.stlouisfed.org/fred2/series/GS30/22.
- Column 2 = Beta is a measure of the movement and relative risk of an individual stock to the market as a whole as reported by the Value Line Investment Survey: Ratings & Reports, June 16, 2006.
- Column 3 = The Market Risk Premium represents the expected return from holding the entire market portfolio less the expected return from holding a risk free investment. The appropriate Market Risk Premium for the period 1926 - 2005 was determined to be 6.50% based on an arithmetic average as calculated in Ibbotson Associates, Inc.'s Stocks, Bonds, Bills, and Inflation: 2006 Yearbook.
- Column 4 = The Market Risk Premium represents the expected return from holding the entire market portfolio less the expected return from holding a risk free investment. The appropriate Market Risk Premium for the period 1926 - 2005 was determined to be 4.90% based on a geometric average as calculated in Ibbotson Associates, Inc.'s Stocks, Bonds, Bills, and Inflation: 2006 Yearbook.
- Column 5 = The Market Risk Premium represents the expected return from holding the entire market portfolio less the expected return from holding a risk free investment. The appropriate Market Risk Premium for the period 1996 - 2005 was determined to be 2.29% as calculated in Ibbotson Associates, Inc.'s Stocks, Bonds, Bills, and Inflation: 2006 Yearbook.

Column 6 = (Column 1 + (Column 2 \* Column 3)).

Column 7 = (Column 1 + (Column 2 \* Column 4)).

Column 8 = (Column 1 + (Column 2 \* Column 5)).

# Selected Financial Ratios for the Eight Comparable Gas Utility Companies and Atmos Energy Corporation

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	2005 Common Equity Ratio	2005 Long-Term Debt Ratio	Funds From Operations Interest Coverage	Funds From Operations to Total Debt	Market- to-Book Value	2005 Return on Common Equity	2006 Projected Return on Common Equity_	Bond Rating
Company Name AGL Resources, Inc.	48.10%	51.90%	4.10 x	18.6%	1.81 x	12.90%	13.00% *	A-
Cascade Natural Gas Corp.	40.60%	59.40%	3.50 x	18.5%	1.78 x	7.80%	9.00% *	BBB+
New Jersey Resources Corp.	58.00%	42,00%	5.00 x	20.0%	2.03 x	17.00%	16.00% *	A+
Northwest Natural Gas Co.	53.00%	47.00%	4.10 x	19.1%	1.55 x	9.90%	10.00% *	AA-
Peoples Energy Corp.	47.20%	52.80%	4.90 x	21.0%	1.65 x	10.80%	9.00% *	A-
Piedmont Natural Gas Co.	58.60%	41.40%	4.40 x	52.0%	1.93 x	11.50%	11.00% *	A
South Jersey Industries, Inc.	55.10%	44.90%	N/A	20.0%	1.83 x	12.40%	13.00% *	BBB+
WGL Holdings, Inc.	58.60%	39.50%	5.00 x	23.5%	<u>1.43</u> x	12.00%	10.00% *	<u> </u>
Average	52.40%	47.36%	<u>4.43</u> x	24.1%	<u> </u>	<u>    11.79%                                    </u>	11.38%	<u> </u>
Atmos Energy Corporation	42.30%	57.70%	<b>3.20</b> x	14.0%	1 <b>.25</b> x	8.50%	8.50% *	BBB

#### Sources:

The Value Line Investment Survey Ratings & Reports, June 16, 2006: for columns (1), (2), (6) and (7). Standard & Poor's RatingsDirect and Response to Staff Data Request 0031 for columns (3), (4). AUS Utility Reports, July 2006 for column (5).

Note: \* Estimated.

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# **Public Utility Revenue Requirement**

or

# **Cost of Service**

The formula for the revenue requirement of a public utility may be stated as follows :

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Equation 1 :	Revenue Requirement = Cost of Service				
	or				
Equation 2 :	R R = O + ( V - D ) R				

The symbols in the second equation are represented by the following factors :

RR	=	Revenue Requirement
0	=	Prudent Operating Costs, including Depreciation and Taxes
v	=	Gross Valuation of the Property Serving the Public
D	=	Accumulated Depreciation
(V-D)	z	Rate Base (Net Valuation)
(V-D)R	=	Retum Amount (\$\$) or Earnings Allowed on Rate Base
R	=	iL+dP+kE or Overall Rate of Return (%)
i	=	Embedded Cost of Debt
L	=	Proportion of Debt in the Capital Structure
d	=	Embedded Cost of Preferred Stock
Р	=	Proportion of Preferred Stock in the Capital Structure
k	=	Required Return on Common Equity (ROE)
E	=	Proportion of Common Equity in the Capital Structure

# Weighted Cost of Capital as of June 30, 2006 for Atmos Energy Corporation

Capital Component		Weighted Cost of Capital Using Common Equity Return of:			
	Percentage of Capital	Embedded Cost	8.59%	8.99%	9.39%
Common Stock Equity	42.41%		3.64%	3.81%	3.98%
Preferred Stock	0.00%	0.00%	0.00%	0.00%	0.00%
Long-Term Debt	55.64%	6.03%	3.36%	3.36%	3.36%
Short-Term Debt	1.95%	6.44%	0.13%	0.13%	0.13%
Total	100.00%		7.12%	7.29%	7.46%

Notes:

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See Schedule 9 for the Capital Structure Ratios.

Source: Embedded Cost of Long-term Debt is from response to data request 0068.

**SCHEDULE 21**