THE PEOPLES GAS LIGHT AND COKE COMPANY

Educational Background, Business Experience and Qualifications

to Accompany the
Direct Testimony

of

PAUL R. MOUL
Managing Consultant
P. Moul & Associates

Concerning
Rate of Return

EDUCATIONAL BACKGROUND, BUSINESS EXPERIENCE AND QUALIFICATIONS

I was awarded a degree of Bachelor of Science in Business Administration by Drexel University in 1971. While at Drexel, I participated in the Cooperative Education Program which included employment, for one year, with American Water Works Service Company, Inc., as an internal auditor, where I was involved in the audits of several operating water companies of the American Water Works System and participated in the preparation of annual reports to regulatory agencies and assisted in other general accounting matters.

Upon graduation from Drexel University, I was employed by American Water Works Service Company, Inc., in the Eastern Regional Treasury Department where my duties included preparation of rate case exhibits for submission to regulatory agencies, as well as responsibility for various treasury functions of the thirteen New England operating subsidiaries.

In 1973, I joined the Municipal Financial Services Department of Betz Environmental Engineers, a consulting engineering firm, where I specialized in financial studies for municipal water and wastewater systems.

In 1974, I joined Associated Utility Services, Inc., now known as AUS Consultants. I held various positions with the Utility Services Group of AUS Consultants, concluding my employment there as a Senior Vice President.

In 1994, I formed P. Moul & Associates, an independent financial and regulatory consulting firm. In my capacity as Managing Consultant and for the past twenty-nine years, I have continuously studied the rate of return requirements for cost of service regulated firms. In this regard, I have supervised the preparation of rate of return studies which were employed in connection with my testimony and in the past for other individuals. I have presented direct

testimony on the subject of fair rate of return, evaluated rate of return testimony of other witnesses, and presented rebuttal testimony.

My studies and prepared direct testimony have been presented before thirty (30) federal, state and municipal regulatory commissions, consisting of: the Federal Energy Regulatory Commission; state public utility commissions in Alabama, Connecticut, Delaware, Florida, Georgia, Hawaii, Illinois, Indiana, Iowa, Kentucky, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, New Hampshire, New Jersey, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, South Carolina, Tennessee, Texas, Virginia, and West Virginia; and the Philadelphia Gas Commission. My testimony has been offered in over 200 rate cases involving electric power, natural gas distribution and transmission, resource recovery, solid waste collection and disposal, telephone, wastewater, and water service utility companies. While my testimony has involved principally fair rate of return and financial matters, I have also testified on capital allocations, capital recovery, cash working capital, income taxes, factoring of accounts receivable, and take-or-pay expense recovery. My testimony has been offered on behalf of municipal and investor-owned public utilities and for the staff of a regulatory commission. I have also testified at an Executive Session of the State of New Jersey Commission of Investigation concerning the BPU regulation of solid waste collection and disposal.

I was a co-author of a verified statement submitted to the Interstate Commerce Commission concerning the 1983 Railroad Cost of Capital (Ex Parte No. 452). I was also co-author of comments submitted to the Federal Energy Regulatory Commission regarding the Generic Determination of Rate of Return on Common Equity for Public Utilities in 1985, 1986 and 1987 (Docket Nos. RM85-19-000, RM86-12-000, RM87-35-000 and RM88-25-000).

Further, I have been the consultant to the New York Chapter of the National Association of Water Companies which represented the water utility group in the Proceeding on Motion of the Commission to Consider Financial Regulatory Policies for New York Utilities (Case 91-M-0509). I have also submitted comments to the Federal Energy Regulatory Commission in its Notice of Proposed Rulemaking (Docket No. RM99-2-000) concerning Regional Transmission Organizations and on behalf of the Edison Electric Institute in its intervention in the case of Southern California Edison Company (Docket No. ER97-2355-000).

In late 1978, I arranged for the private placement of bonds on behalf of an investor-owned public utility. I have assisted in the preparation of a report to the Delaware Public Service Commission relative to the operations of the Lincoln and Ellendale Electric Company. I was also engaged by the Delaware P.S.C. to review and report on the proposed financing and disposition of certain assets of Sussex Shores Water Company (P.S.C. Docket Nos. 24-79 and 47-79). I was a co-author of a Report on Proposed Mandatory Solid Waste Collection Ordinance prepared for the Board of County Commissioners of Collier County, Florida.

I have been a consultant to the Bucks County Water and Sewer Authority concerning rates and charges for wholesale contract service with the City of Philadelphia. My municipal consulting experience also included an assignment for Baltimore County, Maryland, regarding the City/County Water Agreement for Metropolitan District customers (Circuit Court for Baltimore County in Case 34/153/87-CSP-2636).

I am a member of the Society of Utility and Regulatory Financial Analysis (formerly the National Society of Rate of Return Analysts) and have attended several Financial Forums sponsored by the Society. I attended the first National Regulatory Conference at the Marshall-Wythe School of Law, College of William and Mary. I also attended an Executive Seminar

sponsored by the Colgate Darden Graduate Business School of the University of Virginia concerning Regulated Utility Cost of Equity and the Capital Asset Pricing Model. In October 1984, I attended a Standard & Poor's Seminar on the Approach to Municipal Utility Ratings, and in May 1985, I attended an S&P Seminar on Telecommunications Ratings.

My lecture and speaking engagements include:

Date	Occasion	Sponsor
April 2006	Thirty-eighth Financial Forum	Society of Utility & Regulatory Financial Analysts
April 2001	Thirty-third Financial Forum	Society of Utility & Regulatory Financial Analysts
December 2000	Pennsylvania Public Utility Law Conference: Non-traditional Players in the Water Industry	Pennsylvania Bar Institute
July 2000	EEI Member Workshop Developing Incentives Rates: Application and Problems	Edison Electric Institute
February 2000	The Sixth Annual FERC Briefing	Exnet and Bruder, Gentile & Marcoux, LLP
March 1994	Seventh Annual Proceeding	Electric Utility Business Environment Conf.
May 1993	Financial School	New England Gas Assoc.
April 1993	Twenty-Fifth Financial Forum	National Society of Rate of Return Analysts
June 1992	Rate and Charges Subcommittee Annual Conference	American Water Works Association
May 1992	Rates School	New England Gas Assoc.
October 1989	Seventeenth Annual Eastern Utility Rate Seminar	Water Committee of the National Association of Regulatory Utility Commissioners Florida Public Service Commission and University of Utah
October 1988	Sixteenth Annual Eastern Utility Rate Seminar	Water Committee of the National Association of Regulatory Utility Commissioners, Florida Public Service

		Commission and University of Utah
May 1988	Twentieth Financial Forum	National Society of Rate of Return Analysts
October 1987	Fifteenth Annual Eastern Utility Rate Seminar	Water Committee of the National Association of Regulatory Utility Commissioners, Florida Public Service Commission and University of Utah
September 1987	Rate Committee Meeting	American Gas Association
May 1987	Pennsylvania Chapter annual meeting	National Association of Water Companies
October 1986	Eighteenth Financial Forum	National Society of Rate of Return
October 1984	Fifth National on Utility Ratemaking Fundamentals	American Bar Association
March 1984	Management Seminar	New York State Telephone Association
February 1983	The Cost of Capital Seminar	Temple University, School of Business Admin.
May 1982	A Seminar on Regulation and The Cost of Capital	New Mexico State University, Center for Business Research and Services
October 1979	Economics of Regulation	Brown University

THE PEOPLES GAS LIGHT AND COKE COMPANY

Financial Exhibits to Accompany
the
Direct Testimony

of

Paul R. Moul

Concerning
Rate of Return

The Peoples Gas Light & Coke Company
Capitalization and Financial Statistics
2001-2005, Inclusive

	2005	2004	2003	2002	2001	
			(Millions of Dollars)			
Amount of Capital Employed						
Permanent Capital	$ 1,136.8	$ 1,138.6	$ 1,149.5	$ 1,088.4	$ 1,075.6	
Short-Term Debt	$ 0.4	$ 31.0	$ 80.3	$ 98.1	$ 200.0	
Total Capital	$ 1,137.1	$ 1,169.6	$ 1,229.9	$ 1,186.5	$ 1,275.6	
						Average
Capital Structure Ratios						
Based on Permanent Capital:						
Long-Term Debt	44.2%	44.1%	43.7% [8]	41.5% [8]	42.0% [8]	43.1%
Preferred Stock	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Common Equity [1]	55.8%	55.9%	56.3%	58.5%	58.0%	56.9%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Based on Total Capital:						
Total Debt incl. Short Term	44.2%	45.6%	47.3%	46.4%	51.1%	46.9%
Preferred Stock	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Common Equity [1]	55.8%	54.4%	52.7%	53.6%	48.9%	53.1%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Rate of Return on Book Common Equity [1]	7.8%	7.1%	12.4%	12.4%	12.2%	10.4%
Operating Ratio [2]	92.7%	92.4%	88.8%	84.5%	90.4%	89.8%
Coverage incl. AFUDC [3]						
Pre-tax: All Interest Charges	4.20 x	4.30 x	6.62 x	6.31 x	4.35 x	5.16 x
Post-tax: All Interest Charges	3.07 x	3.15 x	4.57 x	4.29 x	3.05 x	3.63 x
Overall Coverage: All Int. & Pfd. Div.	3.07 x	3.15 x	4.57 x	4.29 x	3.05 x	3.63 x
Coverage excl. AFUDC [3]						
Pre-tax: All Interest Charges	4.20 x	4.30 x	6.62 x	6.31 x	4.35 x	5.16 x
Post-tax: All Interest Charges	3.07 x	3.15 x	4.57 x	4.29 x	3.05 x	3.63 x
Overall Coverage: All Int. & Pfd. Div.	3.07 x	3.15 x	4.57 x	4.29 x	3.05 x	3.63 x
Quality of Earnings & Cash Flow						
AFC/Income Avail. for Common Equity	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Effective Income Tax Rate	35.1%	35.0%	36.5%	38.1%	38.8%	36.7%
Internal Cash Generation/Construction [4]	93.9%	106.7%	120.5%	160.2%	85.7%	113.4%
Gross Cash Flow/ Avg. Total Debt [5]	23.2%	23.0%	29.7%	30.5%	22.0%	25.7%
Gross Cash Flow Interest Coverage [6]	5.98 x	7.01 x	8.43 x	8.71 x	4.61 x	6.95 x
Common Dividend Coverage [7]	2.34 x	2.29 x	2.10 x	3.47 x	2.26 x	2.49 x

See Page 2 for Notes.

The Peoples Gas Light and Coke Company
Capitalization and Financial Statistics
2001-2005, Inclusive

Notes:

(1) Excluding Accumulated Other Comprehensive Income ("OCI") from the equity account.

(2) Total operating expenses, maintenance, depreciation and taxes other than income as a percentage of operating revenues.

(3) Coverage calculations represent the number of times available earnings, both including and excluding AFUDC (allowance for funds used during construction) as reported in its entirety, cover fixed charges.

(4) Internal cash generation/gross construction is the percentage of gross construction expenditures provided by internally generated funds from operations after payment of all cash dividends.

(5) Gross Cash Flow (sum of net income, depreciation, amortization, net deferred income taxes and investment tax credits, less AFUDC) as a percentage of average total debt.

(6) Gross Cash Flow plus interest charges divided by interest charges.

(7) Common dividend coverage is the relationship of internally generated funds from operations after payment of preferred stock dividends to common dividends paid.

(8) Reclassified adjustable rate bonds as long-term debt.

Source of Information: Utility COMPUSTAT

Gas Group
Capitalization and Financial Statistics [1]
2001-2005, Inclusive

	2005	2004	2003	2002	2001	
			(Millions of Dollars)			
Amount of Capital Employed						
Permanent Capital	$ 1,652.2	$ 1,414.6	$ 1,166.5	$ 1,085.0	$ 1,053.3	
Short-Term Debt	$ 219.0	$ 172.8	$ 258.2	$ 160.5	$ 156.8	
Total Capital	$ 1,871.2	$ 1,587.4	$ 1,424.7	$ 1,245.5	$ 1,210.1	
Market-Based Financial Ratios						Average
Price-Earnings Multiple	16 x	16 x	14 x	16 x	14 x	15 x
Market/Book Ratio	198.8%	189.0%	180.2%	171.3%	183.8%	184.6%
Dividend Yield	3.9%	4.2%	4.7%	5.1%	4.8%	4.5%
Dividend Payout Ratio	61.1%	68.3%	64.3%	83.7%	69.8%	69.4%
Capital Structure Ratios						
Based on Permanent Capital:						
Long-Term Debt	45.8%	45.8%	46.3%	49.7%	50.0%	47.5%
Preferred Stock	0.4%	0.4%	0.3%	0.4%	0.7%	0.4%
Common Equity [2]	53.8%	53.8%	53.4%	49.9%	49.2%	52.0%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Based on Total Capital:						
Total Debt incl. Short Term	52.8%	52.2%	56.5%	56.2%	56.6%	54.9%
Preferred Stock	0.3%	0.3%	0.2%	0.4%	0.7%	0.4%
Common Equity [2]	46.8%	47.4%	43.3%	43.4%	42.7%	44.7%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Rate of Return on Book Common Equity [2]	12.6%	11.7%	13.1%	11.4%	12.8%	12.3%
Operating Ratio [3]	90.3%	89.3%	88.0%	86.0%	88.8%	88.5%
Coverage incl. AFUDC [4]						
Pre-tax: All Interest Charges	4.29 x	4.30 x	4.39 x	3.60 x	3.52 x	4.02 x
Post-tax: All Interest Charges	3.11 x	3.07 x	3.11 x	2.64 x	2.59 x	2.90 x
Overall Coverage: All Int. & Pfd. Div.	3.10 x	3.06 x	3.10 x	2.61 x	2.54 x	2.88 x
Coverage excl. AFUDC [4]						
Pre-tax: All Interest Charges	4.27 x	4.28 x	4.38 x	3.58 x	3.48 x	4.00 x
Post-tax: All Interest Charges	3.09 x	3.05 x	3.09 x	2.62 x	2.56 x	2.88 x
Overall Coverage: All Int. & Pfd. Div.	3.08 x	3.04 x	3.08 x	2.60 x	2.50 x	2.86 x
Quality of Earnings & Cash Flow						
AFC/Income Avail. for Common Equity	0.8%	0.9%	0.9%	1.0%	2.2%	1.2%
Effective Income Tax Rate	35.7%	36.6%	37.4%	37.5%	36.7%	36.8%
Internal Cash Generation/Construction [5]	80.2%	95.6%	123.7%	86.8%	83.0%	93.9%
Gross Cash Flow/ Avg. Total Debt [6]	19.7%	21.8%	23.9%	20.8%	19.9%	21.2%
Gross Cash Flow Interest Coverage [7]	4.46 x	5.33 x	5.84 x	4.63 x	3.95 x	4.84 x
Common Dividend Coverage [8]	2.93 x	3.42 x	3.75 x	3.19 x	2.91 x	3.24 x

See Page 2 for Notes.

Gas Group
Capitalization and Financial Statistics
2001-2005, Inclusive

Notes:

(1) All capitalization and financial statistics for the group are the arithmetic average of the achieved results for each individual company in the group.
(2) Excluding Accumulated Other Comprehensive Income ("OCI") from the equity account.
(3) Total operating expenses, maintenance, depreciation and taxes other than income taxes as a percent of operating revenues.
(4) Coverage calculations represent the number of times available earnings, both including and excluding AFUDC (allowance for funds used during construction) as reported in its entirety, cover fixed charges.
(5) Internal cash generation/gross construction is the percentage of gross construction expenditures provided by internally-generated funds from operations after payment of all cash dividends divided by gross construction expenditures.
(6) Gross Cash Flow (sum of net income, depreciation, amortization, net deferred income taxes and investment tax credits, less total AFUDC) plus interest charges, divided by interest charges.
(7) Gross Cash Flow plus interest charges divided by interest charges.
(8) Common dividend coverage is the relationship of internally-generated funds from operations after payment of preferred stock dividends to common dividends paid.

Basis of Selection:

The Gas Group includes companies that (i) are engaged in the natural gas distribution business, (ii) have publicly-traded common stock, (iii) are contained in The Value Line Investment Survey, (iv) they have a history of increased dividends over the period, (v) they are not currently the target of a merger or acquisition, and (vi) they have at least 70% of their assets subject to utility regulation.

		Corporate Credit Ratings		Stock	S&P Stock	Value Line
Ticker	Company	Moody's	S&P	Traded	Ranking	Beta
ATG	AGL Resources, Inc.	A3	A-	NYSE	A-	0.95
ATO	Atmos Energy Corp.	Baa3	BBB	NYSE	B+	0.75
LG	Laclede Group, Inc.	Baa1	A	NYSE	B+	0.85
NJR	New Jersey Resources Corp	Aa3	A+	NYSE	A	0.80
GAS	NICOR, Inc.	A1	AA	NYSE	B	1.20
NWN	Northwest Natural Gas	A3	AA-	NYSE	B+	0.75
PNY	Piedmont Natural Gas Co.	A3	A	NYSE	A-	0.80
SJI	South Jersey Industries, Inc.	Baa2	BBB+	NYSE	B+	0.70
WGL	WGL Holdings, Inc.	A2	AA-	NYSE	B+	0.80
	Average	A3	A		B+	0.84

Note: Ratings are those of utility subsidiaries

Source of Information: Utility COMPUSTAT
Moody's Investors Service
Standard & Poor's Corporation
S&P Stock Guide

Standard & Poor's Public Utilities
Capitalization and Financial Statistics [1]
2001-2005, Inclusive

	2005	2004	2003	2002	2001	
			(Millions of Dollars)			
Amount of Capital Employed						
Permanent Capital	$ 14,644.5	$ 14,562.2	$ 14,658.8	$ 14,236.2	$ 13,783.4	
Short-Term Debt	$ 485.3	$ 278.7	$ 276.6	$ 952.3	$ 1,204.1	
Total Capital	$ 15,129.8	$ 14,840.9	$ 14,935.4	$ 15,188.5	$ 14,987.5	
Market-Based Financial Ratios						Average
Price-Earnings Multiple	18 x	15 x	13 x	15 x	17 x	16 x
Market/Book Ratio	195.5%	180.1%	149.0%	151.3%	183.6%	171.9%
Dividend Yield	3.7%	3.8%	4.2%	5.0%	4.1%	4.2%
Dividend Payout Ratio	58.9%	73.3%	59.9%	75.3%	64.1%	66.3%
Capital Structure Ratios						
Based on Permanent Captial:						
Long-Term Debt	56.6%	58.3%	59.8%	60.4%	58.9%	58.8%
Preferred Stock	1.2%	1.5%	1.6%	1.8%	2.3%	1.7%
Common Equity [2]	42.2%	40.2%	38.6%	37.8%	38.9%	39.5%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Based on Total Capital:						
Total Debt incl. Short Term	58.5%	59.7%	61.3%	63.5%	62.9%	61.2%
Preferred Stock	1.2%	1.5%	1.6%	1.6%	2.1%	1.6%
Common Equity [2]	40.3%	38.8%	37.2%	34.9%	35.0%	37.2%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Rate of Return on Book Common Equity [2]	10.9%	11.1%	9.8%	7.7%	14.5%	10.8%
Operating Ratio [3]	83.0%	84.5%	84.9%	84.5%	85.9%	84.6%
Coverage incl. AFUDC [4]						
Pre-tax: All Interest Charges	3.01 x	2.88 x	2.51 x	2.36 x	2.84 x	2.72 x
Post-tax: All Interest Charges	2.41 x	2.32 x	2.07 x	1.95 x	2.22 x	2.19 x
Overall Coverage: All Int. & Pfd. Div.	2.37 x	2.28 x	2.03 x	1.90 x	2.17 x	2.15 x
Coverage excl. AFUDC [4]						
Pre-tax: All Interest Charges	2.97 x	2.85 x	2.47 x	2.31 x	2.80 x	2.68 x
Post-tax: All Interest Charges	2.37 x	2.29 x	2.03 x	1.90 x	2.18 x	2.15 x
Overall Coverage: All Int. & Pfd. Div.	2.34 x	2.25 x	1.99 x	1.86 x	2.13 x	2.11 x
Quality of Earnings & Cash Flow						
AFC/Income Avail. for Common Equity	0.9%	3.1%	1.7%	2.6%	2.0%	2.1%
Effective Income Tax Rate	31.6%	26.3%	40.9%	29.4%	28.1%	31.3%
Internal Cash Generation/Construction [5]	110.4%	127.2%	128.0%	90.6%	88.6%	109.0%
Gross Cash Flow/ Avg. Total Debt [6]	19.7%	19.7%	20.3%	18.2%	17.7%	19.1%
Gross Cash Flow Interest Coverage [7]	4.20 x	4.21 x	4.34 x	3.98 x	3.57 x	4.06 x
Common Dividend Coverage [8]	4.12 x	4.83 x	5.20 x	4.07 x	3.83 x	4.41 x

See Page 2 for Notes.

Standard & Poor's Public Utilities
Capitalization and Financial Statistics
2001-2005, Inclusive

Notes:

(1) All capitalization and financial statistics for the group are the arithmetic average of the achieved results for each individual company in the group.
(2) Excluding Accumulated Other Comprehensive Income ("OCI") from the equity account
(3) Total operating expenses, maintenance, depreciation and taxes other than income taxes as a percent of operating revenues.
(4) Coverage calculations represent the number of times available earnings, both including and excluding AFUDC (allowance for funds used during construction) as reported in its entirety, cover fixed charges.
(5) Internal cash generation/gross construction is the percentage of gross construction expenditures provided by internally-generated funds from operations after payment of all cash dividends divided by gross construction expenditures.
(6) Gross Cash Flow (sum of net income, depreciation, amortization, net deferred income taxes and investment tax credits, less total AFUDC) as a percentage of average total debt.
(7) Gross Cash Flow (sum of net income, depreciation, amortization, net deferred income taxes and investment tax credits, less total AFUDC) plus interest charges, divided by interest charges.
(8) Common dividend coverage is the relationship of internally-generated funds from operations after payment of preferred stock dividends to common dividends paid.

Source of Information: Annual Reports to Shareholders
Utility COMPUSTAT

Standard & Poor's Public Utilities

Company Identities [1]

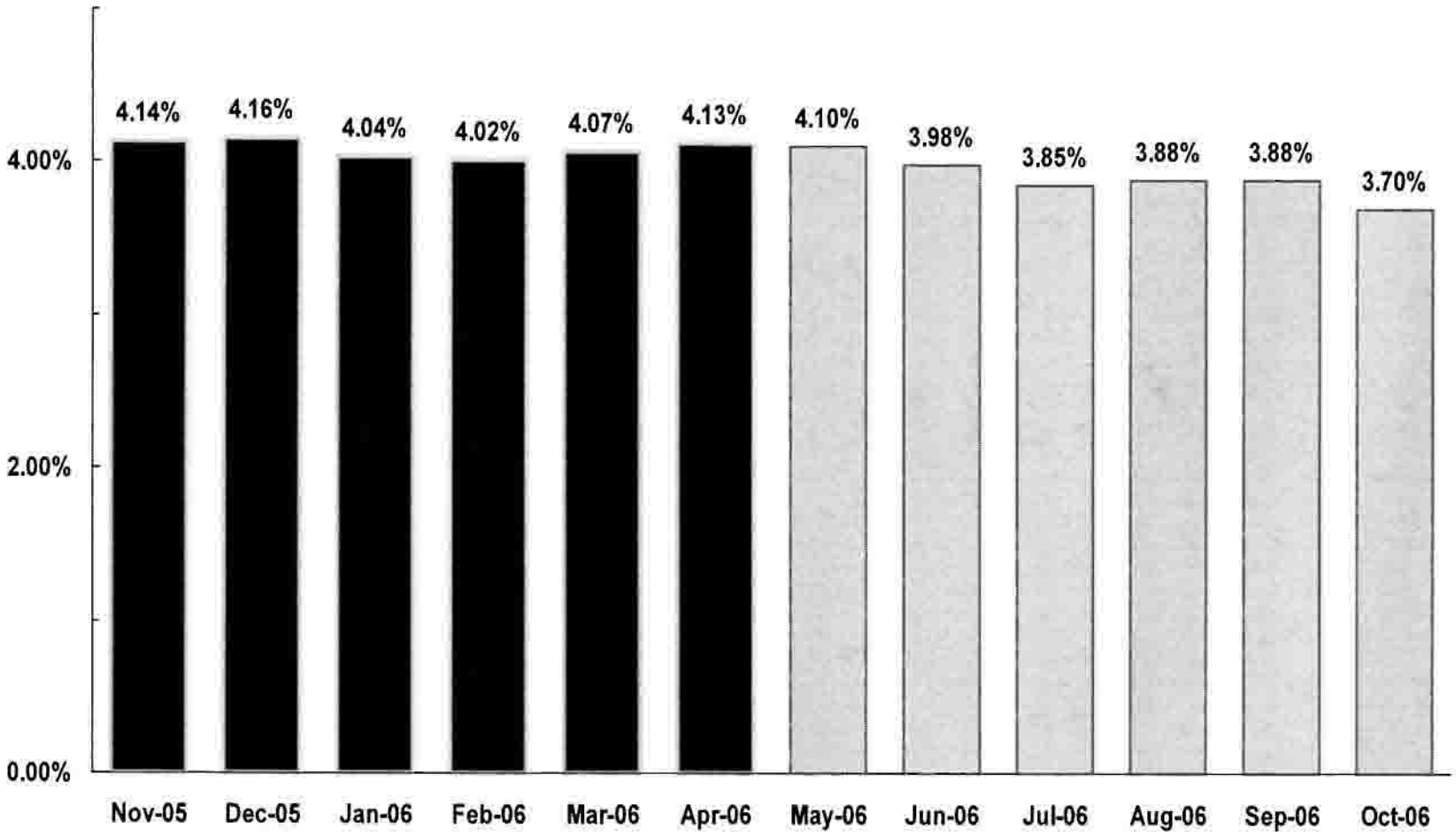
	Ticker	Credit Rating [2] Moody's	Credit Rating [2] S&P	Common Stock Traded	S&P Stock Ranking	Value Line Beta
Allegheny Energy	AYE	Baa3	BB+	NYSE	B-	1.85
Ameren Corporation	AEE	A2	BBB+	NYSE	A-	0.75
American Electric Power	AEP	Baa2	BBB	NYSE	B	1.20
CMS Energy	CMS	Ba1	BB	NYSE	C	1.45
CenterPoint Energy	CNP	Baa3	BBB	NYSE	B	0.65
Consolidated Edison	ED	A1	A	NYSE	B+	0.65
Constellation Energy Group	CEG	A3	BBB+	NYSE	B	0.95
DTE Energy Co.	DTE	Baa1	BBB	NYSE	B+	0.70
Dominion Resources	D	Baa1	BBB	NYSE	B+	0.95
Duke Energy	DUK	Baa2	BBB	NYSE	B+	1.20
Edison Int'l	EIX	Baa1	BBB+	NYSE	B	1.05
Entergy Corp.	ETR	Baa2	BBB	NYSE	B+	0.85
Exelon Corp.	EXC	A3	BBB+	NYSE	B+	0.80
FPL Group	FPL	A1	A	NYSE	A-	0.80
FirstEnergy Corp.	FE	Baa2	BBB	NYSE	B+	0.75
Keyspan Energy	KSE	A3	A	NYSE	B	0.85
NICOR Inc.	GAS	A1	AA	NYSE	B	1.15
NiSource Inc.	NI	Baa2	BBB	NYSE	B	0.80
PG&E Corp.	PCG	Baa1	BBB	NYSE	B	1.10
PPL Corp.	PPL	Baa1	A-	NYSE	B	1.00
Peoples Energy	PGL	A1	A-	NYSE	B	0.85
Pinnacle West Capital	PNW	Baa2	BBB-	NYSE	A-	0.90
Progress Energy, Inc.	PGN	Baa1	BBB	NYSE	B+	0.80
Public Serv. Enterprise Inc.	PEG	Baa1	BBB	NYSE	B+	0.90
Sempra Energy	SRE	A2	A	NYSE	B	1.00
Southern Co.	SO	A2	A	NYSE	A-	0.65
TECO Energy	TE	Baa2	BBB-	NYSE	B-	1.00
TXU CORP	TXU	Baa3	BBB-	NYSE	B	1.05
Xcel Energy Inc	XEL	A3	BBB+	NYSE	B	0.80
Average for S&P Utilities		Baa1	BBB+		B	0.95

Note: [1] Includes companies contained in S&P Utility Compustat. AES Corp. and Dynegy, Inc. are not included.
[2] Ratings are those of utility subsidiaries

Source of Information: Moody's Investors Service
Standard & Poor's Corporation
Standard & Poor's Stock Guide
Value Line Investment Survey for Windows

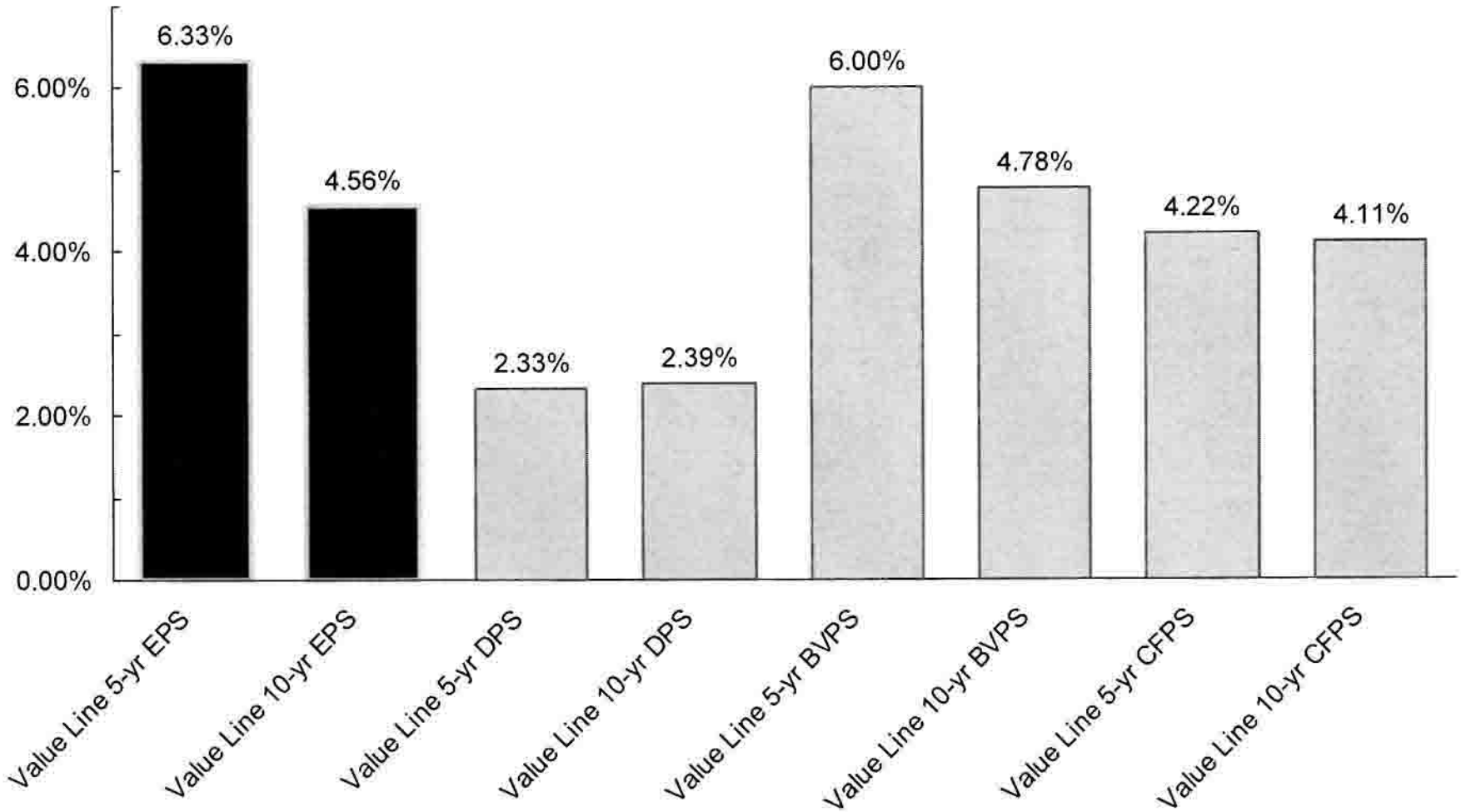
Gas Group

Monthly Dividend Yields



Gas Group

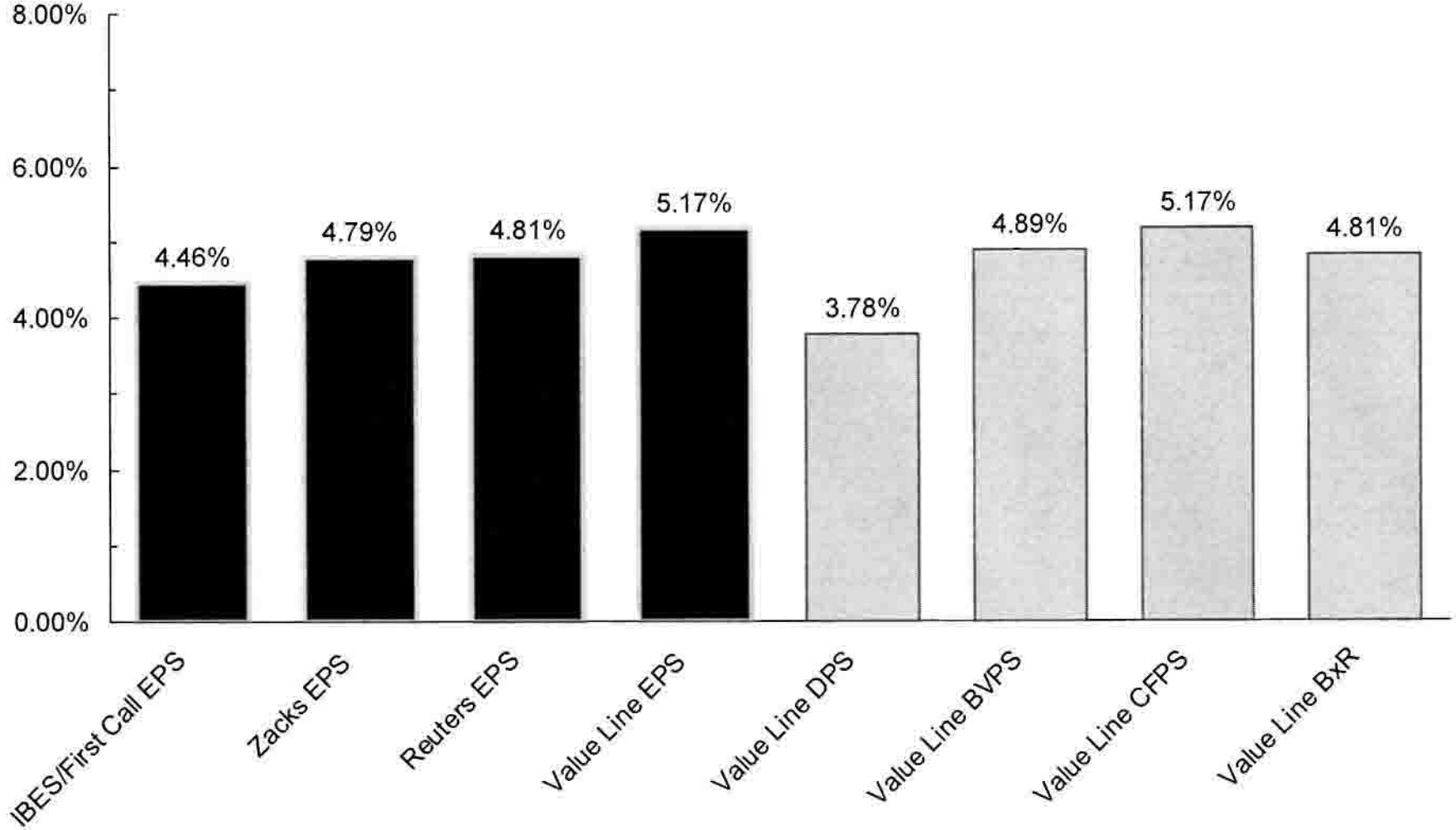
Historical Growth Rates



Earnings per Share=EPS Book Values per Share=BVPS
Dividends per Share=DPS Cash Flow per Share=CFPS
Percent Retained to Common Equity=BxR

Gas Group

Five-Year Projected Growth Rates



Earnings per Share=EPS Book Values per Share=BVPS
Dividends per Share=DPS Cash Flow per Share=CFPS
Percent Retained to Common Equity=BxR

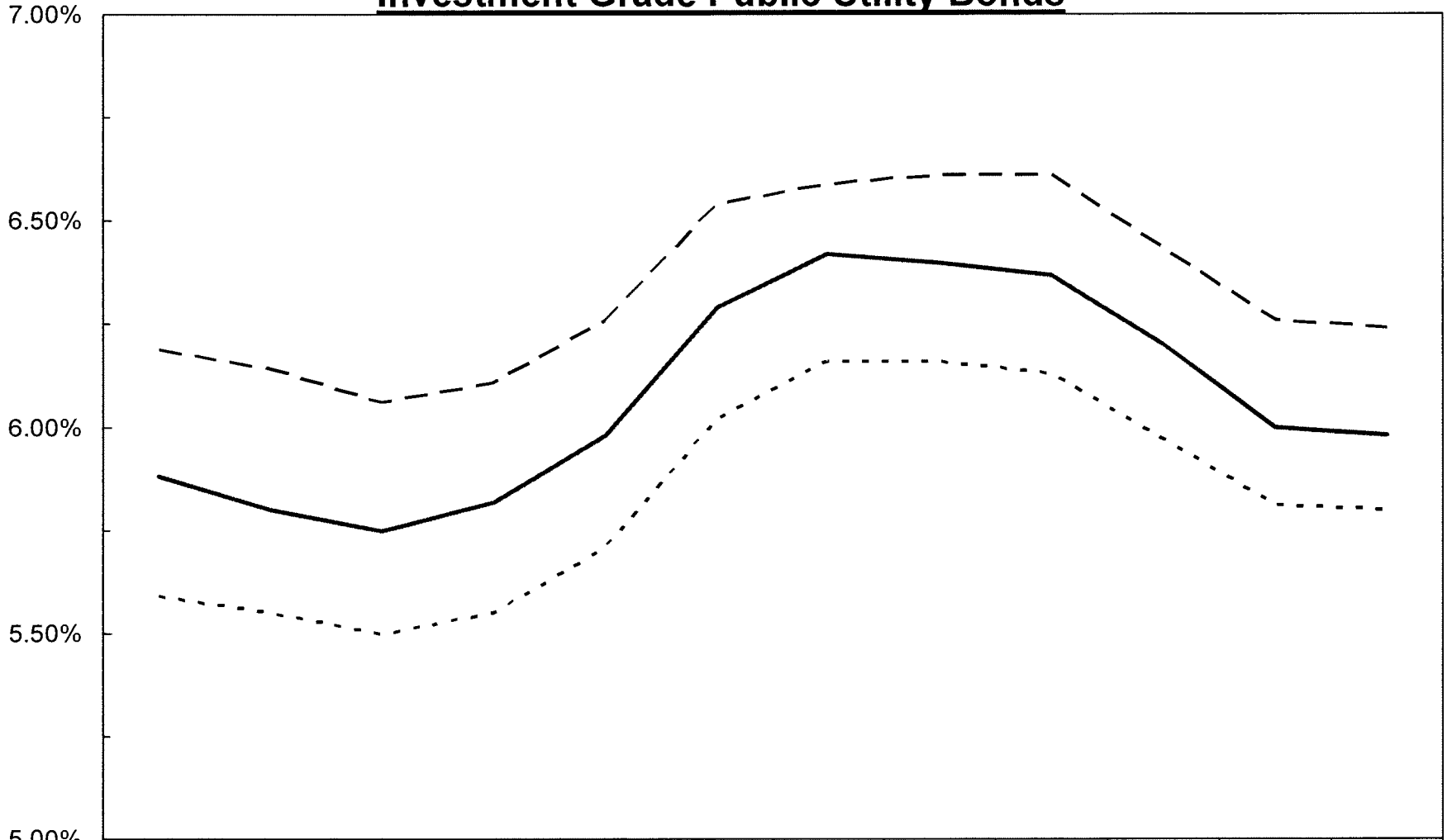
Natural Gas Industry
Analysis of Public Offerings of Common Stock
Years 2001-2005

	WGL Holdings	UTILICORP	MDU Resources	AGL RESOURCES	SOUTHERN UNION CO.	ATMOS ENERGY	VECTREN CORP.	SEMPRA ENERGY	PIEDMONT NATURAL
Date of Offering	6/26/2001	1/25/2002	11/29/2002	2/11/2003	6/5/2003	6/18/2003	8/7/2003	10/8/2003	1/20/2004
No. of shares offered (000)	1,790	11,000	2,100	5,600	9,500	4,000	6,500	15,000	4,250
Dollar amt. of offering ($000)	$ 47,847	$ 253,000	$ 50,400	$ 123,200	$ 152,000	$ 101,240	$ 148,265	$ 420,000	$ 180,625
Price to public	$ 26.730	$ 23.000	$ 24.200	$ 22.000	$ 16.000	$ 25.310	$ 22.810	$ 28.000	$ 42.500
Underwriter's discounts and commission	$ 0.895	$ 0.748	$ 0.720	$ 0.770	$ 0.560	$ 1.013	$ 0.798	$ 0.840	$ 1.490
Gross Proceeds	$ 25.835	$ 22.252	$ 23.480	$ 21.230	$ 15.440	$ 24.297	$ 22.012	$ 27.160	$ 41.010
Estimated company issuance expenses	$ 0.031	NA	$ 0.092	$ 0.045	$ 0.089	$ 0.095	$ 0.046	$ 0.033	NA
Net proceeds to company per share	$ 25.804	$ 22.252	$ 23.388	$ 21.185	$ 15.351	$ 24.202	$ 21.966	$ 27.127	$ 41.010
Underwriter's discount as a percent of offering price	3.3%	3.3%	3.0%	3.5%	3.5%	4.0%	3.5%	3.0%	3.5%
Issuance expense as a percent of offering price	0.1%	NA	0.4%	0.2%	0.6%	0.4%	0.2%	0.1%	NA
Total Issuance and selling expense as as a percent of offering price	3.4%	3.3%	3.4%	3.7%	4.1%	4.4%	3.7%	3.1%	3.5%

	UGI CORP.	NORTHWEST NATURAL	LACLEDE GROUP	SOUTHERN UNION CO.	AQUILA	ATMOS ENERGY	AGL RESOURCES	SOUTHERN UNION CO.	SEMCO Energy	Average
Date of Offering	3/18/2004	3/30/2004	5/6/2004	7/26/2004	8/18/2004	10/21/2004	11/19/2004	2/7/2006	8/9/2006	
No. of shares offered (000)	7,500	1,200	1,500	11,000	40,000	14,000	9,600	14,913	4,300	
Dollar amt. of offering ($000)	$ 240,750	$ 37,200	$ 40,200	$ 206,250	$ 102,000	$ 346,500	$ 297,696	$ 342,999	$ 27,176	
Price to public	$ 32.100	$ 31.000	$ 26.800	$ 18.750	$ 2.550	$ 24.750	$ 31.010	$ 23.000	$ 6.320	
Underwriter's discounts and commission	$ 1.404	$ 1.010	$ 0.871	$ 0.656	$ 0.099	$ 0.990	$ 0.930	$ 0.700	$ 0.253	
Gross Proceeds	$ 30.696	$ 29.990	$ 25.929	$ 18.094	$ 2.451	$ 23.760	$ 30.080	$ 22.300	$ 6.067	
Estimated company issuance expenses	$ 0.020	$ 0.146	$ 0.067	$ 0.091	NA	NA	$ 0.042	$ 0.067	$ 0.070	
Net proceeds to company per share	$ 30.676	$ 29.844	$ 25.862	$ 18.003	$ 2.451	$ 23.760	$ 30.038	$ 22.233	$ 5.997	
Underwriter's discount as a percent of offering price	4.4%	3.3%	3.3%	3.5%	3.9%	4.0%	3.0%	3.0%	4.0%	3.5%
Issuance expense as a percent of offering price	0.1%	0.5%	0.3%	0.5%	NA	NA	0.1%	0.3%	1.1%	0.4%
Total Issuance and selling expense as as a percent of offering price	4.5%	3.8%	3.6%	4.0%	3.9%	4.0%	3.1%	3.3%	5.1%	3.9%

Source of Information: Public Utility Financial Tracker

Interest Rates for
Investment Grade Public Utility Bonds



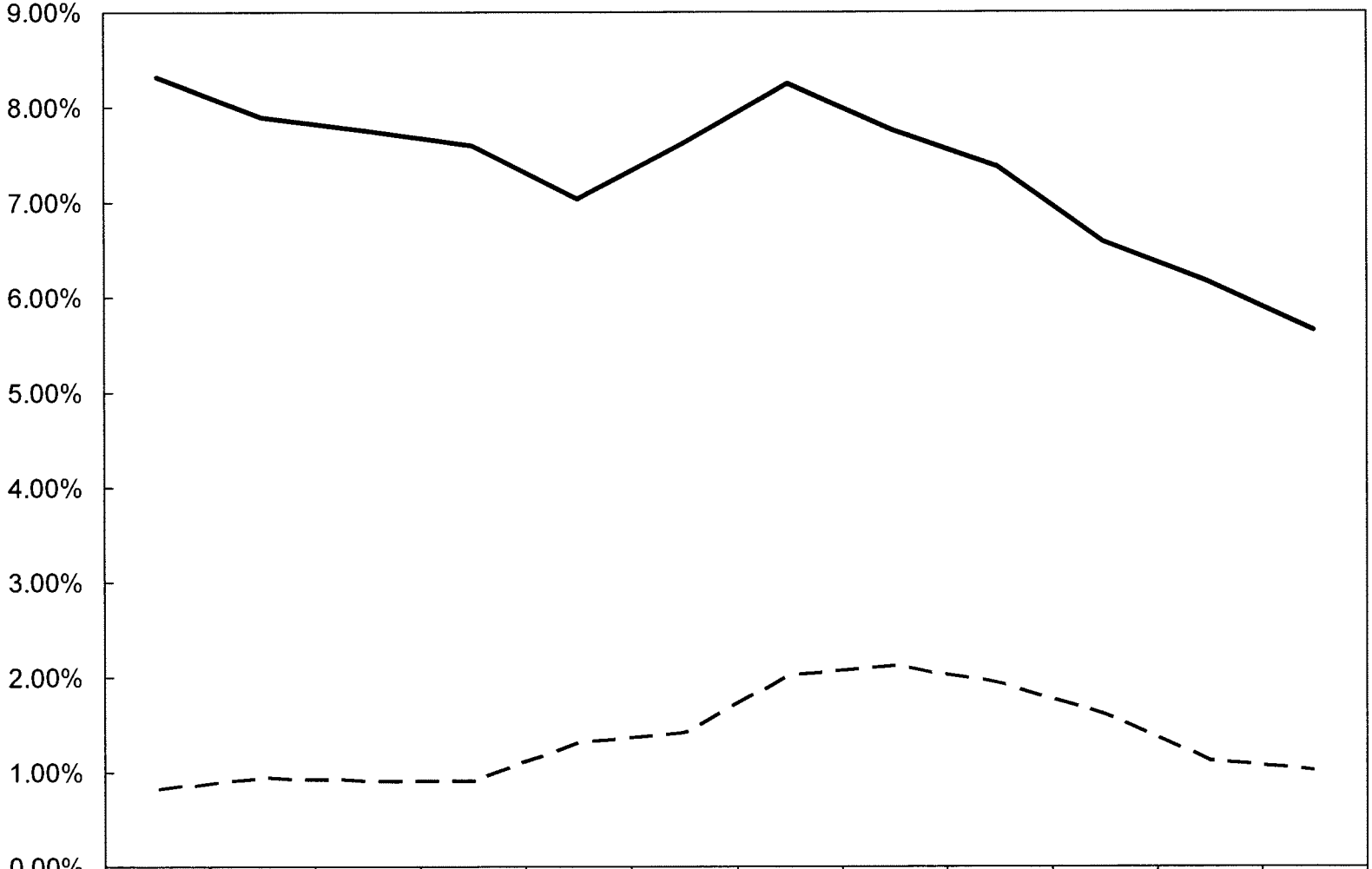
	Nov-05	Dec-05	Jan-06	Feb-06	Mar-06	Apr-06	May-06	Jun-06	Jul-06	Aug-06	Sep-06	Oct-06
- - - - Aa	5.59%	5.55%	5.50%	5.55%	5.71%	6.02%	6.16%	6.16%	6.13%	5.97%	5.81%	5.80%
——— A	5.88%	5.80%	5.75%	5.82%	5.98%	6.29%	6.42%	6.40%	6.37%	6.20%	6.00%	5.98%
— — Baa	6.19%	6.14%	6.06%	6.11%	6.26%	6.54%	6.59%	6.61%	6.61%	6.43%	6.26%	6.24%

Interest Rates for Investment Grade Public Utility Bonds
Yearly for 2001-2005
and the Twelve Months Ended October 2006

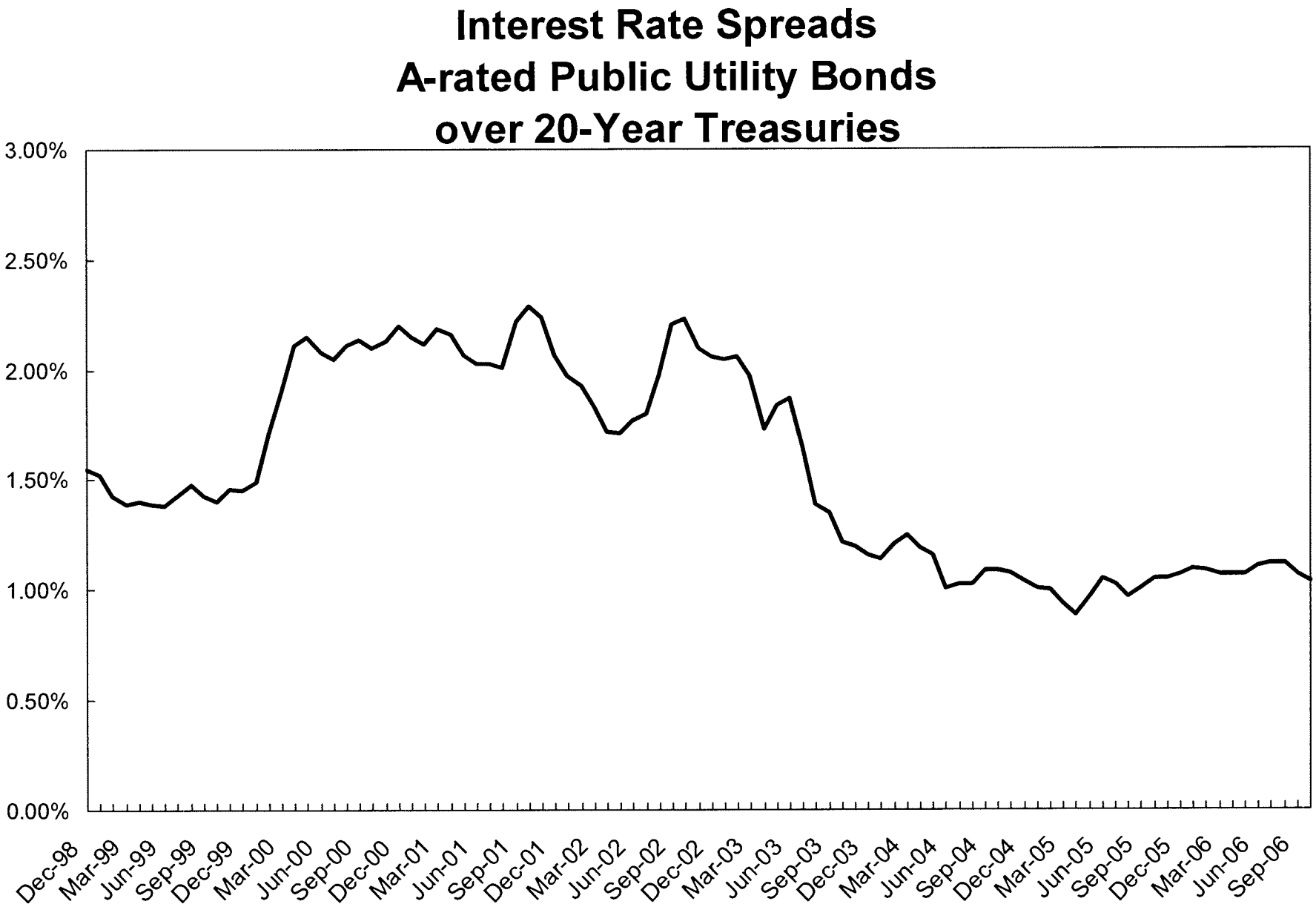
Years	Aa Rated	A Rated	Baa Rated	Average
2001	7.58%	7.76%	8.03%	7.72%
2002	7.19%	7.37%	8.02%	7.53%
2003	6.40%	6.58%	6.84%	6.61%
2004	6.04%	6.16%	6.40%	6.20%
2005	5.44%	5.65%	5.93%	5.67%
Five-Year Average	6.53%	6.70%	7.04%	6.75%
Months				
Nov-05	5.59%	5.88%	6.19%	5.88%
Dec-05	5.55%	5.80%	6.14%	5.83%
Jan-06	5.50%	5.75%	6.06%	5.77%
Feb-06	5.55%	5.82%	6.11%	5.83%
Mar-06	5.71%	5.98%	6.26%	5.98%
Apr-06	6.02%	6.29%	6.54%	6.28%
May-06	6.16%	6.42%	6.59%	6.39%
Jun-06	6.16%	6.40%	6.61%	6.39%
Jul-06	6.13%	6.37%	6.61%	6.37%
Aug-06	5.97%	6.20%	6.43%	6.20%
Sep-06	5.81%	6.00%	6.26%	6.03%
Oct-06	5.80%	5.98%	6.24%	6.01%
Twelve-Month Average	5.83%	6.07%	6.34%	6.08%
Six-Month Average	6.01%	6.23%	6.46%	6.23%
Three-Month Average	5.86%	6.06%	6.31%	6.08%

Source: Mergent Bond Record

Yields on A-rated Public Utility Bonds and Spreads over 20-Year Treasuries



	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
A-rated Public Utility	8.31%	7.89%	7.75%	7.60%	7.04%	7.62%	8.24%	7.76%	7.37%	6.58%	6.16%	5.65%
Spread vs. 20-year	0.82%	0.94%	0.92%	0.91%	1.32%	1.42%	2.01%	2.13%	1.94%	1.62%	1.12%	1.01%


Interest Rate Spreads
A-rated Public Utility Bonds
over 20-Year Treasuries
3.00%
2.50%
2.00%
1.50%
1.00%
0.50%
0.00%
Dec-98
Mar-99
Jun-99
Sep-99
Dec-99
Mar-00
Jun-00
Sep-00
Dec-00
Mar-01
Jun-01
Sep-01
Dec-01
Mar-02
Jun-02
Sep-02
Dec-02
Mar-03
Jun-03
Sep-03
Dec-03
Mar-04
Jun-04
Sep-04
Dec-04
Mar-05
Jun-05
Sep-05
Dec-05
Mar-06
Jun-06
Sep-06

Yield Spreads
A rated Public Utility Bonds
over 20-Year Treasuries

Year	A-rated Public Utility	20-Year Treasuries Yield	20-Year Treasuries Spread
Dec-98	6.91%	5.36%	1.55%
Jan-99	6.97%	5.45%	1.52%
Feb-99	7.09%	5.66%	1.43%
Mar-99	7.26%	5.87%	1.39%
Apr-99	7.22%	5.82%	1.40%
May-99	7.47%	6.08%	1.39%
Jun-99	7.74%	6.36%	1.38%
Jul-99	7.71%	6.28%	1.43%
Aug-99	7.91%	6.43%	1.48%
Sep-99	7.93%	6.50%	1.43%
Oct-99	8.06%	6.66%	1.40%
Nov-99	7.94%	6.48%	1.46%
Dec-99	8.14%	6.69%	1.45%
Jan-00	8.35%	6.86%	1.49%
Feb-00	8.25%	6.54%	1.71%
Mar-00	8.28%	6.38%	1.90%
Apr-00	8.29%	6.18%	2.11%
May-00	8.70%	6.55%	2.15%
Jun-00	8.36%	6.28%	2.08%
Jul-00	8.25%	6.20%	2.05%
Aug-00	8.13%	6.02%	2.11%
Sep-00	8.23%	6.09%	2.14%
Oct-00	8.14%	6.04%	2.10%
Nov-00	8.11%	5.98%	2.13%
Dec-00	7.84%	5.64%	2.20%
Jan-01	7.80%	5.65%	2.15%
Feb-01	7.74%	5.62%	2.12%
Mar-01	7.68%	5.49%	2.19%
Apr-01	7.94%	5.78%	2.16%
May-01	7.99%	5.92%	2.07%
Jun-01	7.85%	5.82%	2.03%
Jul-01	7.78%	5.75%	2.03%
Aug-01	7.59%	5.58%	2.01%
Sep-01	7.75%	5.53%	2.22%
Oct-01	7.63%	5.34%	2.29%
Nov-01	7.57%	5.33%	2.24%
Dec-01	7.83%	5.76%	2.07%
Jan-02	7.66%	5.69%	1.97%
Feb-02	7.54%	5.61%	1.93%
Mar-02	7.76%	5.93%	1.83%
Apr-02	7.57%	5.85%	1.72%
May-02	7.52%	5.81%	1.71%
Jun-02	7.42%	5.65%	1.77%
Jul-02	7.31%	5.51%	1.80%
Aug-02	7.17%	5.19%	1.98%
Sep-02	7.08%	4.87%	2.21%
Oct-02	7.23%	5.00%	2.23%
Nov-02	7.14%	5.04%	2.10%
Dec-02	7.07%	5.01%	2.06%
Jan-03	7.07%	5.02%	2.05%
Feb-03	6.93%	4.87%	2.06%
Mar-03	6.79%	4.82%	1.97%
Apr-03	6.64%	4.91%	1.73%
May-03	6.36%	4.52%	1.84%
Jun-03	6.21%	4.34%	1.87%
Jul-03	6.57%	4.92%	1.65%
Aug-03	6.78%	5.39%	1.39%
Sep-03	6.56%	5.21%	1.35%
Oct-03	6.43%	5.21%	1.22%
Nov-03	6.37%	5.17%	1.20%
Dec-03	6.27%	5.11%	1.16%
Jan-04	6.15%	5.01%	1.14%
Feb-04	6.15%	4.94%	1.21%
Mar-04	5.97%	4.72%	1.25%
Apr-04	6.35%	5.16%	1.19%
May-04	6.62%	5.46%	1.16%
Jun-04	6.46%	5.45%	1.01%
Jul-04	6.27%	5.24%	1.03%
Aug-04	6.14%	5.07%	1.07%
Sep-04	5.98%	4.89%	1.09%
Oct-04	5.94%	4.85%	1.09%
Nov-04	5.97%	4.89%	1.08%
Dec-04	5.92%	4.88%	1.04%
Jan-05	5.78%	4.77%	1.01%
Feb-05	5.61%	4.61%	1.00%
Mar-05	5.83%	4.89%	0.94%
Apr-05	5.64%	4.75%	0.89%
May-05	5.53%	4.56%	0.97%
Jun-05	5.40%	4.35%	1.05%
Jul-05	5.51%	4.48%	1.03%
Aug-05	5.50%	4.53%	0.97%
Sep-05	5.52%	4.51%	1.01%
Oct-05	5.79%	4.74%	1.05%
Nov-05	5.88%	4.83%	1.05%
Dec-05	5.80%	4.73%	1.07%
Jan-06	5.75%	4.65%	1.10%
Feb-06	5.82%	4.73%	1.09%
Mar-06	5.98%	4.91%	1.07%
Apr-06	6.29%	5.22%	1.07%
May-06	6.42%	5.35%	1.07%
Jun-06	6.40%	5.29%	1.11%
Jul-06	6.37%	5.25%	1.12%
Aug-06	6.20%	5.08%	1.12%
Sep-06	6.00%	4.93%	1.07%
Oct-06	5.98%	4.94%	1.04%

S&P Composite Index and S&P Public Utility Index
Long-Term Corporate and Public Utility Bonds
Yearly Total Returns
1928-2005

Year	S & P Composite Index	S & P Public Utility Index	Long Term Corporate Bonds	Public Utility Bonds
1928	43.61%	57.47%	2.84%	3.08%
1929	-8.42%	11.02%	3.27%	2.34%
1930	-24.90%	-21.96%	7.98%	4.74%
1931	-43.34%	-35.90%	-1.85%	-11.11%
1932	-8.19%	-0.54%	10.82%	7.25%
1933	53.99%	-21.87%	10.38%	-3.82%
1934	-1.44%	-20.41%	13.84%	22.61%
1935	47.67%	76.63%	9.61%	16.03%
1936	33.92%	20.69%	6.74%	8.30%
1937	-35.03%	-37.04%	2.75%	-4.05%
1938	31.12%	22.45%	6.13%	8.11%
1939	-0.41%	11.26%	3.97%	6.76%
1940	-9.78%	-17.15%	3.39%	4.45%
1941	-11.59%	-31.57%	2.73%	2.15%
1942	20.34%	15.39%	2.60%	3.81%
1943	25.90%	46.07%	2.83%	7.04%
1944	19.75%	18.03%	4.73%	3.29%
1945	36.44%	53.33%	4.08%	5.92%
1946	-8.07%	1.26%	1.72%	2.98%
1947	5.71%	-13.16%	-2.34%	-2.19%
1948	5.50%	4.01%	4.14%	2.65%
1949	18.79%	31.39%	3.31%	7.16%
1950	31.71%	3.25%	2.12%	2.01%
1951	24.02%	18.63%	-2.69%	-2.77%
1952	18.37%	19.25%	3.52%	2.99%
1953	-0.99%	7.85%	3.41%	2.08%
1954	52.62%	24.72%	5.39%	7.57%
1955	31.56%	11.26%	0.48%	0.12%
1956	6.56%	5.06%	-6.81%	-6.25%
1957	-10.78%	6.36%	8.71%	3.58%
1958	43.36%	40.70%	-2.22%	0.18%
1959	11.96%	7.49%	-0.97%	-2.29%
1960	0.47%	20.26%	9.07%	9.01%
1961	26.89%	29.33%	4.82%	4.65%
1962	-8.73%	-2.44%	7.95%	6.55%
1963	22.80%	12.36%	2.19%	3.44%
1964	16.48%	15.91%	4.77%	4.94%
1965	12.45%	4.67%	-0.46%	0.50%
1966	-10.06%	-4.48%	0.20%	-3.45%
1967	23.98%	-0.63%	-4.95%	-3.63%
1968	11.06%	10.32%	2.57%	1.87%
1969	-8.50%	-15.42%	-8.09%	-6.66%
1970	4.01%	16.56%	18.37%	15.90%
1971	14.31%	2.41%	11.01%	11.59%
1972	18.98%	8.15%	7.26%	7.19%
1973	-14.66%	-18.07%	1.14%	2.42%
1974	-26.47%	-21.55%	-3.06%	-5.28%
1975	37.20%	44.49%	14.64%	15.50%
1976	23.84%	31.81%	18.65%	19.04%
1977	-7.18%	8.64%	1.71%	5.22%
1978	6.56%	-3.71%	-0.07%	-0.98%
1979	18.44%	13.58%	-4.18%	-2.75%
1980	32.42%	15.08%	-2.76%	-0.23%
1981	-4.91%	11.74%	-1.24%	4.27%
1982	21.41%	26.52%	42.56%	33.52%
1983	22.51%	20.01%	6.26%	10.33%
1984	6.27%	26.04%	16.86%	14.82%
1985	32.16%	33.05%	30.09%	26.48%
1986	18.47%	28.53%	19.85%	18.16%
1987	5.23%	-2.92%	-0.27%	3.02%
1988	16.81%	18.27%	10.70%	10.19%
1989	31.49%	47.80%	16.23%	15.61%
1990	-3.17%	-2.57%	6.78%	8.13%
1991	30.55%	14.61%	19.89%	19.25%
1992	7.67%	8.10%	9.39%	8.65%
1993	9.99%	14.41%	13.19%	10.59%
1994	1.31%	-7.94%	-5.76%	-4.72%
1995	37.43%	42.15%	27.20%	22.81%
1996	23.07%	3.14%	1.40%	3.04%
1997	33.36%	24.69%	12.95%	11.39%
1998	28.58%	14.82%	10.76%	9.44%
1999	21.04%	-8.85%	-7.45%	-1.69%
2000	-9.11%	59.70%	12.87%	9.45%
2001	-11.88%	-30.41%	10.65%	5.85%
2002	-22.10%	-30.04%	16.33%	1.63%
2003	28.70%	26.11%	5.27%	10.01%
2004	10.87%	24.22%	8.72%	6.03%
2005	4.91%	16.79%	5.87%	3.02%
Geometric Mean	10.03%	8.65%	5.89%	5.47%
Arithmetic Mean	11.99%	11.02%	6.21%	5.75%
Standard Deviation	20.26%	22.67%	8.61%	7.93%
Median	13.38%	11.50%	4.44%	4.55%

Tabulation of Risk Rate Differentials for
S&P Public Utility Index and Public Utility Bonds
For the Years 1928-2005, 1952-2005, 1974-2005, and 1979-2005

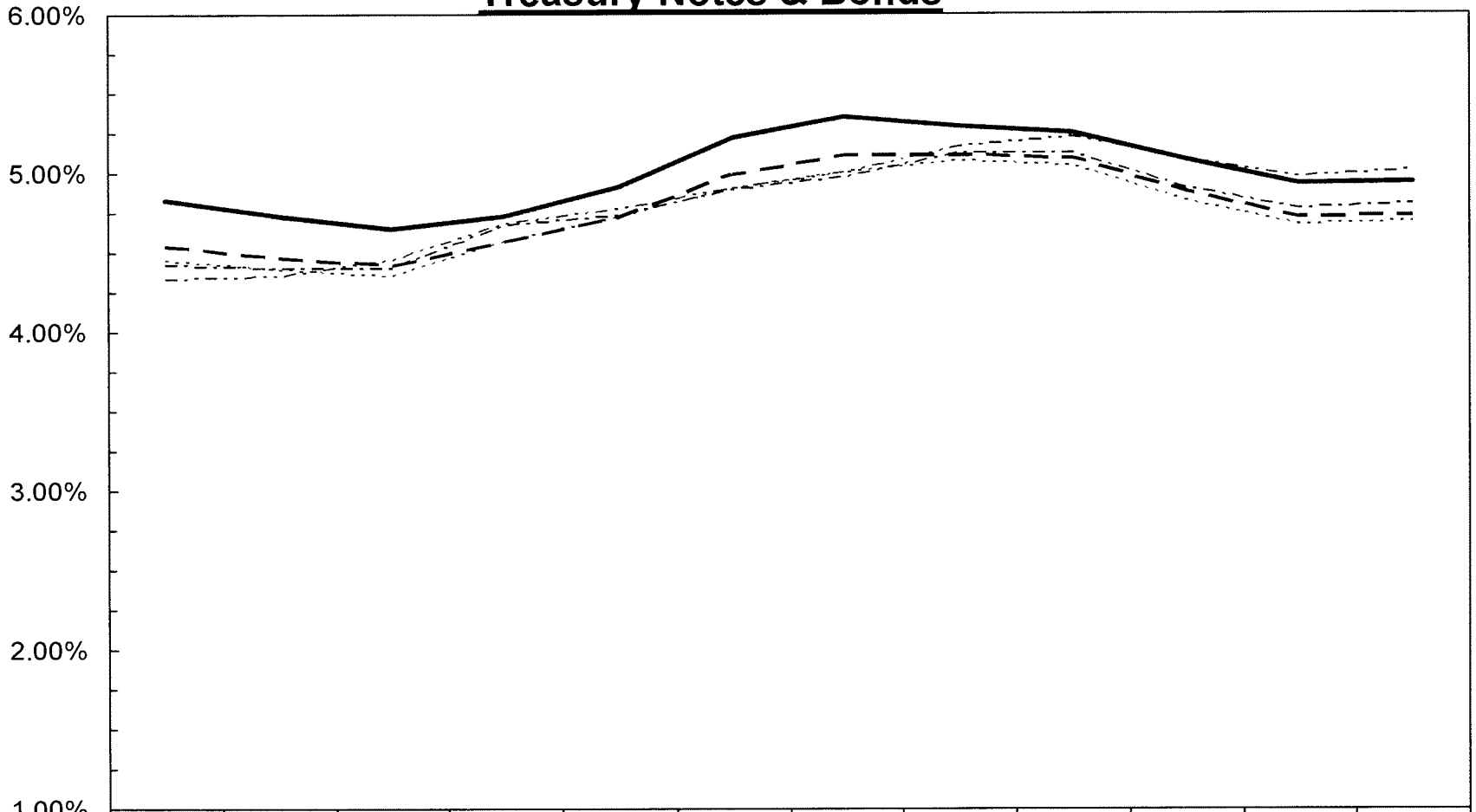
Total Returns	Range: Geometric Mean	Range: Median	Midpoint	Point Estimate: Arithmetic Mean	Average of the Midpoint of Range and Point Estimate
1928-2005					
S&P Public Utility Index	8.65%	11.50%		11.02%	
Public Utility Bonds	5.47%	4.55%		5.75%	
Risk Differential	3.18%	6.95%	5.07%	5.27%	5.17%
1952-2005					
S&P Public Utility Index	10.82%	12.97%		12.37%	
Public Utility Bonds	6.21%	5.08%		6.52%	
Risk Differential	4.61%	7.89%	6.25%	5.85%	6.05%
1974-2005					
S&P Public Utility Index	12.54%	14.95%		14.57%	
Public Utility Bonds	8.70%	9.05%		9.06%	
Risk Differential	3.84%	5.90%	4.87%	5.51%	5.19%
1979-2005					
S&P Public Utility Index	13.15%	15.08%		15.06%	
Public Utility Bonds	9.15%	9.44%		9.49%	
Risk Differential	4.00%	5.64%	4.82%	5.57%	5.20%

Value Line Betas

Gas Group	
AGL Resources, Inc.	0.95
Atmos Energy Corp.	0.75
Laclede Group, Inc.	0.85
New Jersey Resources Corp.	0.80
NICOR, Inc.	1.20
Northwest Natural Gas	0.75
Piedmont Natural Gas Co.	0.80
South Jersey Industries, Inc.	0.70
WGL Holdings, Inc.	0.80
Average	0.84

Source of Information:
Value Line Investment Survey
September 15, 2006

Yields on
Treasury Notes & Bonds



	Nov-05	Dec-05	Jan-06	Feb-06	Mar-06	Apr-06	May-06	Jun-06	Jul-06	Aug-06	Sep-06	Oct-06
1-Year	4.33%	4.35%	4.45%	4.68%	4.77%	4.90%	5.00%	5.16%	5.22%	5.08%	4.97%	5.01%
2-Year	4.42%	4.40%	4.40%	4.67%	4.73%	4.89%	4.97%	5.12%	5.12%	4.90%	4.77%	4.80%
5-Year	4.45%	4.39%	4.35%	4.57%	4.72%	4.90%	5.00%	5.07%	5.04%	4.82%	4.67%	4.69%
10-Year	4.54%	4.47%	4.42%	4.57%	4.72%	4.99%	5.11%	5.11%	5.09%	4.88%	4.72%	4.73%
20-Year	4.83%	4.73%	4.65%	4.73%	4.91%	5.22%	5.35%	5.29%	5.25%	5.08%	4.93%	4.94%

Yields for Treasury Constant Maturities
Yearly for 2001-2005
and the Twelve Months Ended October 2006

Years	1-Year	2-Year	3-Year	5-Year	7-Year	10-Year	20-Year
2001	3.49%	3.83%	4.09%	4.56%	4.88%	5.02%	5.63%
2002	2.00%	2.64%	3.10%	3.82%	4.30%	4.61%	5.43%
2003	1.24%	1.65%	2.10%	2.97%	3.52%	4.02%	4.96%
2004	1.89%	2.38%	2.78%	3.43%	3.87%	4.27%	5.04%
2005	3.62%	3.85%	3.93%	4.05%	4.15%	4.29%	4.64%
Five-Year Average	2.45%	2.87%	3.20%	3.77%	4.14%	4.44%	5.14%
Months							
Nov-05	4.33%	4.42%	4.43%	4.45%	4.48%	4.54%	4.83%
Dec-05	4.35%	4.40%	4.39%	4.39%	4.41%	4.47%	4.73%
Jan-06	4.45%	4.40%	4.35%	4.35%	4.37%	4.42%	4.65%
Feb-06	4.68%	4.67%	4.64%	4.57%	4.56%	4.57%	4.73%
Mar-06	4.77%	4.73%	4.74%	4.72%	4.71%	4.72%	4.91%
Apr-06	4.90%	4.89%	4.89%	4.90%	4.94%	4.99%	5.22%
May-06	5.00%	4.97%	4.97%	5.00%	5.03%	5.11%	5.35%
Jun-06	5.16%	5.12%	5.09%	5.07%	5.08%	5.11%	5.29%
Jul-06	5.22%	5.12%	5.07%	5.04%	5.05%	5.09%	5.25%
Aug-06	5.08%	4.90%	4.85%	4.82%	4.83%	4.88%	5.08%
Sep-06	4.97%	4.77%	4.69%	4.67%	4.68%	4.72%	4.93%
Oct-06	5.01%	4.80%	4.72%	4.69%	4.69%	4.73%	4.94%
Twelve-Month Average	4.83%	4.77%	4.74%	4.72%	4.74%	4.78%	4.99%
Six-Month Average	5.07%	4.95%	4.90%	4.88%	4.89%	4.94%	5.14%
Three-Month Average	5.02%	4.82%	4.75%	4.73%	4.73%	4.78%	4.98%

Source: Federal Reserve statistical release H.15

Measures of the Risk-Free Rate

The forecast of Treasury yields
per the consensus of nearly 50 economists
reported in the Blue Chip Financial Forecasts dated October 1, 2006

Year	Quarter	1-Year Treasury Bill	2-Year Treasury Note	5-Year Treasury Note	10-Year Treasury Note	30-Year Treasury Bond
2006	Fourth	5.0%	4.8%	4.8%	4.8%	4.9%
2006	First	5.0%	4.9%	4.8%	4.9%	5.0%
2007	Second	4.9%	4.9%	4.9%	4.9%	5.0%
2007	Third	4.9%	4.8%	4.8%	4.9%	5.0%
2007	Fourth	4.8%	4.8%	4.8%	4.9%	5.1%
2008	First	4.8%	4.8%	4.9%	5.0%	5.1%

THE VALUE LINE Investment Survey®

Part 1 Summary & Index

File at the front of the *Ratings & Reports* binder. Last week's *Summary & Index* should be removed.

October 6, 2006

TABLE OF SUMMARY & INDEX CONTENTS

Summary & Index Page Number

Industries, in alphabetical order 1
Stocks, in alphabetical order 2-23
Noteworthy Rank Changes 24

SCREENS

Industries, in order of Timeliness Rank 24
Timely Stocks in Timely Industries 25-26
Timely Stocks (1 & 2 for Performance) 27-29
Conservative Stocks (1 & 2 for Safety) 30-31
Highest Dividend Yielding Stocks 32
Stocks with Highest 3- to 5-year Price Potential 32
Biggest "Free Flow" Cash Generators 33
Best Performing Stocks last 13 Weeks 33
Worst Performing Stocks last 13 Weeks 33
Widest Discounts from Book Value 34
Stocks with Lowest P/Es 35
Stocks with Highest P/Es 35
Stocks with Highest Annual Total Returns 36
Stocks with Highest 3- to 5-year Dividend Yield 36
High Returns Earned on Total Capital 37
Bargain Basement Stocks 37
Untimely Stocks (5 for Performance) 38
Highest Dividend Yielding Non-utility Stocks 38
Highest Growth Stocks 39

The Median of Estimated
PRICE-EARNINGS RATIOS
of all stocks with earnings

17.7

26 Weeks Ago	Market Low 10-9-02	Market High 5-5-06
19.2	14.1	19.6

The Median of Estimated
DIVIDEND YIELDS
(next 12 months) of all dividend paying stocks under review

1.7%

26 Weeks Ago	Market Low 10-9-02	Market High 5-5-06
1.6%	2.4%	1.6%

The Estimated Median Price
APPRECIATION POTENTIAL
of all 1700 stocks in the hypothesized economic environment 3 to 5 years hence

45%

26 Weeks Ago	Market Low 10-9-02	Market High 5-5-06
40%	115%	40%

ANALYSES OF INDUSTRIES IN ALPHABETICAL ORDER WITH PAGE NUMBER

Numeral in parenthesis after the industry is rank for probable performance (next 12 months).

	PAGE
Advertising (67)	1919
Aerospace/Defense (19)	543
Air Transport (4)	253
Apparel (43)	1651
Auto & Truck (24)	101
Auto Parts (81)	781
Bank (65)	2101
Bank (Canadian) (68)	1564
Bank (Midwest) (72)	615
Beverage (Alcoholic) (25)	1531
Beverage (Soft Drink) (17)	1537
Biotechnology (58)	666
*Building Materials (34)	845
Cable TV (1)	809
Canadian Energy (26)	426
*Cement & Aggregates (82)	883
Chemical (Basic) (28)	1234
Chemical (Diversified) (35)	1961
Chemical (Specialty) (30)	476
Coal (75)	527
Computers/Peripherals (61)	1101
Computer Software/Svcs (21)	2172
Diversified Co. (47)	1374
Drug (41)	1244
E-Commerce (23)	1439
Educational Services (31)	1578
Electrical Equipment (8)	1001
Electric Util. (Central) (63)	695
Electric Utility (East) (57)	157
Electric Utility (West) (70)	1776
Electronics (12)	1021
Entertainment (52)	1861
Entertainment Tech (92)	1591
Environmental (73)	351
Financial Svcs. (Div.) (38)	2131
Food Processing (55)	1481
Food Wholesalers (95)	1526
Foreign Electronics (10)	1555
*Furn/Home Furnishings (42)	890
Grocery (71)	1514
Healthcare Information (51)	657
Home Appliance (86)	119
*Homebuilding (97)	862
Hotel/Gaming (74)	1876
*Household Products (44)	939
Human Resources (18)	1289
Industrial Services (15)	325
Information Services (59)	374
Insurance (Life) (45)	1199
Insurance (Prop/Cas.) (56)	587
Internet (60)	2229
*Investment Co. (9)	956
Investment Co.(Foreign) (40)	360
Machinery (37)	1331
Manuf. Housing/RV (91)	1547
Maritime (87)	275
Medical Services (36)	632
Medical Supplies (62)	181
Metal Fabricating (46)	565
Metals & Mining (Div.) (2)	1221
Natural Gas (Distrib.) (77)	459
Natural Gas (Div.) (32)	440
Newspaper (80)	1906
Office Equip/Supplies (20)	1129
Oilfield Svcs/Equip. (6)	1938
*Packaging & Container (69)	921
*Paper/Forest Products (85)	906
Petroleum (Integrated) (7)	405
Petroleum (Producing) (66)	1928
Pharmacy Services (14)	771
*Power (93)	970
Precious Metals (11)	1213
Precision Instrument (54)	125
Publishing (39)	1892
Railroad (27)	283
R.E.I.T. (90)	1172
Recreation (83)	1841
Restaurant (89)	292
Retail Automotive (53)	1667
*Retail Building Supply (50)	876
Retail (Special Lines) (64)	1706
Retail Store (16)	1677
Securities Brokerage (22)	1422
Semiconductor (5)	1047
Semiconductor Equip (3)	1086
Shoe (76)	1695
Steel (General) (48)	576
Steel (Integrated) (49)	1412
Telecom. Equipment (33)	745
Telecom. Services (13)	718
Thrift (84)	1161
Tire & Rubber (88)	114
Tobacco (78)	1571
Toiletries/Cosmetics (94)	798
Trucking (29)	265
Water Utility (96)	1417
Wireless Networking (79)	508

*Reviewed in this week's issue.

In three parts: This is Part 1, the Summary & Index. Part 2 is Selection & Opinion. Part 3 is Ratings & Reports. Volume LXII, No. 6.
Published weekly by VALUE LINE PUBLISHING, INC. 220 East 42nd Street, New York, N.Y. 10017-5891

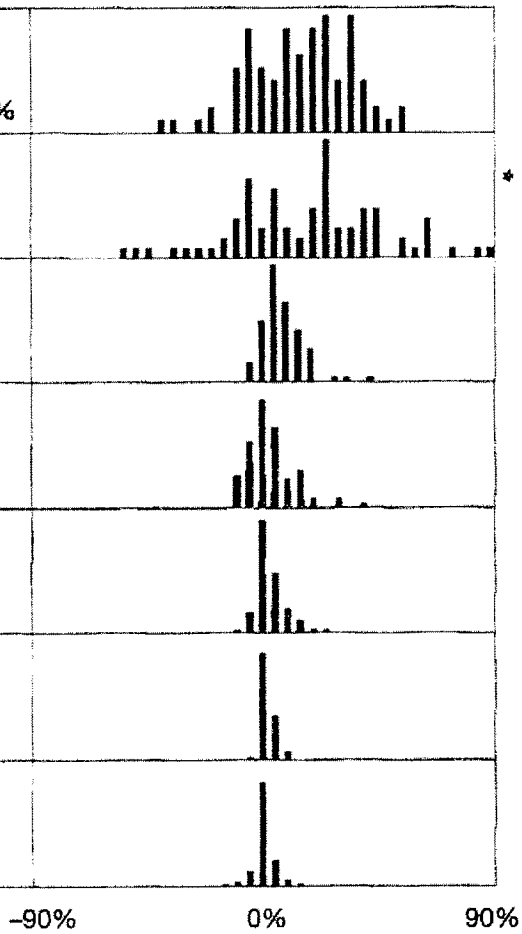
© 2006, Value Line Publishing, Inc. All rights reserved. Factual material is obtained from sources believed to be reliable and is provided without warranties of any kind. THE PUBLISHER IS NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS HEREIN. This publication is strictly for each subscriber's own, non-commercial, internal use. No part of this publication may be reproduced, resold, stored or transmitted in any printed, electronic or other form, or used for generating or marketing any printed or electronic publication, service or product.
See back cover for important disclosures.

Table 2-1

Basic Series: Summary Statistics of Annual Total Returns

from 1926 to 2005

Series	Geometric Mean	Arithmetic Mean	Standard Deviation	Distribution
Large Company Stocks	10.4%	12.3%	20.2%	
Small Company Stocks	12.6	17.4	32.9	*
Long-Term Corporate Bonds	5.9	6.2	8.5	
Long-Term Government	5.5	5.8	9.2	
Intermediate-Term Government	5.3	5.5	5.7	
U.S. Treasury Bills	3.7	3.8	3.1	
Inflation	3.0	3.1	4.3	



*The 1933 Small Company Stocks Total Return was 142.9 percent.

Comparable Earnings Approach
Using Non-Utility Companies with
Timeliness of 3, 4 & 5; Safety Rank of 1, 2 & 3; Financial Strength of B+, B++, & A;
Price Stability of 55 to 100; Betas of .70 to 1.20; and Technical Rank of 2 & 3

Company	Industry	Timeliness Rank	Safety Rank	Financial Strength	Price Stability	Beta	Technical Rank
ABM Industries Inc.	INDUSRV	3	3	B++	80	0.80	3
Aflac Inc.	INSLIFE	3	2	A	85	0.85	3
Air Products & Chem.	CHEMDIV	3	2	B++	90	0.95	3
Albany Int'l 'A'	MACHINE	4	3	B+	65	1.05	3
Alexander & Baldwin	MARITIME	5	3	B+	85	0.95	3
Alliant Techsystems	DEFENSE	3	3	B+	75	0.80	3
Allied Capital Corp.	FINANCL	3	2	B++	80	0.85	3
Altria Group	TOBACCO	4	3	B++	80	0.80	2
Amer. Greetings	PACKAGE	3	3	B+	60	0.85	3
Amer. Int'l Group	FINANCL	3	2	A	70	1.20	3
Amer. Standard	DIVERSIF	3	3	B+	85	0.95	2
AmerisourceBergen	MEDSUPPL	3	3	B++	75	0.75	3
Ametek Inc.	DIVERSIF	3	3	B++	75	1.20	2
Anadarko Petroleum	OILPROD	3	3	A	75	1.00	3
Analogic Corp.	INSTRMNT	5	3	B+	60	0.75	3
Apache Corp.	OILPROD	3	3	A	70	0.95	2
AptarGroup	PACKAGE	4	3	B+	90	0.95	3
Arbitron Inc.	INFOSER	3	3	B+	85	0.75	3
Arch Chemicals	CHEMSPEC	3	3	B+	60	1.00	3
Arrow Int'l	MEDSUPPL	4	2	A	85	0.70	3
Assoc. Banc-Corp	BANKMID	4	2	B++	100	0.90	3
Astoria Financial	THRIFT	4	2	B++	85	0.95	3
Autoliv Inc.	AUTO-OEM	3	3	B++	75	1.15	3
AutoNation Inc.	RETAUTO	3	3	B++	70	1.10	3
Baldor Electric	ELECEQ	3	2	B++	85	1.00	3
Ball Corp.	PACKAGE	3	3	B++	80	0.90	3
Bandag Inc.	TIRE	4	3	B++	80	1.00	3
Bank of Hawaii	BANK	3	3	B+	100	0.85	3
Barnes Group	DIVERSIF	3	3	B+	75	0.90	3
Barr Pharmac.	DRUG	3	3	A	60	0.90	3
Bassett Furniture	FURNITUR	3	3	B+	55	0.95	3
BB&T Corp.	BANK	3	1	A	100	0.90	2
Berry Petroleum 'A'	OILPROD	3	3	B+	60	0.85	2
Biomet	MEDSUPPL	3	2	A	75	0.80	3
Black & Decker	APPLIANC	4	3	B+	75	1.00	3
BOK Financial	BANKMID	3	2	B++	95	0.90	2
Briggs & Stratton	MACHINE	5	3	B+	70	1.05	3
Brink's (The) Co.	DIVERSIF	3	3	B++	60	1.10	3
Bristol-Myers Squibb	DRUG	3	2	A	70	1.05	3
Brunswick Corp.	RECREATE	5	3	B++	80	1.20	3
Buckle (The)Inc.	RETAILSP	5	3	A	70	0.90	2
Cabot Corp.	CHEMDIV	4	3	B++	60	1.00	3
Cardinal Health	MEDSUPPL	3	3	A	80	0.95	3
Carlisle Cos.	TIRE	3	2	A	80	1.05	3
ChoicePoint Inc.	INFOSER	4	3	B+	70	0.90	3
Chubb Corp.	INSPRPTY	3	2	A	80	1.10	3
Cincinnati Financial	INSPRPTY	3	2	B++	100	0.90	3
City National Corp.	BANK	4	2	B++	95	0.80	3
Columbia Sportswear	APPAREL	3	3	B+	55	1.10	3
Comerica Inc.	BANKMID	3	2	A	85	1.00	3
Commerce Bancorp NJ	BANK	4	3	B++	75	0.95	3
Commerce Bancshs.	BANKMID	4	1	A	100	0.85	3
Compass Bancshares	BANK	4	2	B++	95	0.90	2
Con-way Inc.	TRUCKING	4	3	B+	60	1.10	3
Conmed Corp.	MEDSUPPL	5	3	B+	60	1.00	2
ConocoPhillips	OILINTEG	3	2	A	85	0.95	2
Cooper Cos.	MEDSUPPL	5	3	B++	55	0.75	2
Corn Products Int'l	FOODPROC	3	3	B+	75	0.90	3
Costco Wholesale	RETAIL	4	2	A	75	0.85	3
Countrywide Financial	FINANCL	3	3	B++	65	1.10	3
Crane Co.	DIVERSIF	3	3	B+	75	1.05	3
Cullen/Frost Bankers	BANK	3	2	B++	90	0.85	3
Curtiss-Wright	MACHINE	3	3	B++	75	0.80	3
CVS Corp.	DRUGSTOR	3	3	A	65	0.90	3
Cytec Inds.	CHEMDIV	4	3	B+	60	1.15	3
Dade Behring Hldgs.	MEDSUPPL	3	3	B+	70	0.90	3
Deere & Co.	MACHINE	3	2	A	80	1.05	3
Delphi Fin'l 'A'	INSLIFE	3	3	B+	90	0.95	3
Dentsply Int'l	MEDSUPPL	3	2	B++	95	0.70	3
Devon Energy	GASDIVRS	3	3	B++	55	1.10	2
Diebold Inc.	OFFICE	4	2	A	80	0.90	3
Dionex Corp.	INSTRMNT	5	3	B+	80	0.90	3
Dollar General Corp.	RETAIL	4	3	B+	55	1.05	3
Dow Chemical	CHEMICAL	3	3	B++	65	1.10	3
Dow Jones & Co.	NWSPAPER	3	3	B++	75	1.10	3
Downey Fin'l	THRIFT	3	3	B++	75	1.00	3
DST Systems	SOFTWARE	3	3	B++	70	1.20	3
Eastman Chemical	CHEMDIV	3	3	B+	70	1.05	3
Eaton Vance Corp.	FINANCL	3	2	A	80	1.20	3
Ecolab Inc.	CHEMSPEC	3	1	A	95	0.85	2
Edwards Lifesciences	MEDSUPPL	3	2	B++	85	0.75	2
EOG Resources	GASDIVRS	3	3	B++	55	1.05	3
Equifax Inc.	INFOSER	4	3	B++	80	1.05	3
ESCO Technologies	DIVERSIF	4	3	B++	65	0.95	2
Family Dollar Stores	RETAIL	3	3	A	60	0.90	3
Federated Dept. Stores	RETAIL	4	3	B+	65	1.20	3
FedEx Corp.	AIRTRANS	3	3	B++	75	1.05	3
Ferro Corp.	CHEMSPEC	3	3	B+	65	1.10	3
First Horizon National	BANKMID	4	2	B++	95	0.85	3
First Midwest Bancorp	BANKMID	4	2	B++	100	0.90	2
FirstMerit Corp.	BANKMID	3	3	B+	90	0.95	3
Florida Rock	CEMENT	3	3	A	60	1.10	3
Franklin Electric	ELECEQ	3	3	B++	60	0.85	2
Freddie Mac	FINANCL	4	2	A	90	0.85	3
Fuller (H.B.)	CHEMSPEC	3	3	B+	65	1.00	3
G&K Services 'A'	INDUSRV	4	3	B+	60	1.05	3
Graco Inc.	MACHINE	3	2	B++	80	1.00	3
Greater Bay Bancorp	BANK	3	3	B+	55	1.20	3
Griffon Corp.	DIVERSIF	3	3	B+	65	1.00	3
Haemonetics Corp.	MEDSUPPL	3	3	B++	55	0.95	3
Harsco Corp.	METALFAB	3	3	A	85	1.20	3
Harte-Hanks	ADVERT	4	1	A	95	0.90	3
Hasbro Inc.	RECREATE	3	3	B+	75	1.00	3
HCC Insurance Hldgs.	INSPRPTY	3	3	B+	85	0.95	3
Health Mgmt. Assoc.	MEDSERV	3	3	B+	80	0.75	3
Health Net	MEDSERV	3	3	B++	60	0.85	3
Hess Corp.	OILINTEG	3	3	A	60	1.00	2
Hewitt Associates 'A'	HUMAN	4	3	B+	55	0.75	3
Hillenbrand Inds.	DIVERSIF	3	2	A	90	0.75	3
Hormel Foods	FOODPROC	4	1	A	95	0.75	3
Hubbell Inc. 'B'	ELECEQ	3	2	A	80	1.10	3
Huntington Bancshs.	BANKMID	3	2	B++	100	0.90	3
IDEX Corp.	MACHINE	3	3	B+	80	1.00	3
Int'l Game Tech.	HOTELGAM	3	3	B+	60	0.90	3
Int'l Speedway 'A'	RECREATE	3	3	B+	95	0.70	3
Interactive Data	INFOSER	4	2	B++	85	0.90	3
Invacare Corp.	MEDSUPPL	5	3	B+	75	0.80	3
ITT Corp.	DIVERSIF	3	1	A	90	0.85	2
Jack in the Box	RESTRNT	3	3	B+	55	0.90	3
Jacobs Engineering	BUILDING	3	3	B++	60	1.10	3
Johnson Controls	AUTO-OEM	3	2	A	85	1.05	2
Jones Apparel Group	APPAREL	4	3	B++	75	1.05	3
Journal Communications	NWSPAPER	4	3	B+	95	0.85	3
Kaydon Corp.	MACHINE	3	3	B+	75	1.05	3
Kellwood Co.	APPAREL	3	3	B++	70	0.90	2
KeyCorp	BANK	3	3	B+	90	1.00	3
L-3 Communic. Hldgs.	DEFENSE	3	3	B+	60	0.85	3
Lance Inc.	FOODPROC	4	3	B+	70	0.85	2
Lauder (Estee)	COSMETIC	3	2	A	75	0.90	3
Lawson Products	METALFAB	4	3	A	60	0.85	3
Lee Enterprises	NWSPAPER	5	3	B+	100	0.80	3
Lincoln Elec Hldgs.	MACHINE	3	2	A	75	0.95	3
Loews Corp.	FINANCL	3	3	A	85	1.10	2
Longs Drug Stores	DRUGSTOR	3	3	B++	55	0.70	3
Lubrizol Corp.	CHEMSPEC	3	3	B+	85	1.00	3
M&T Bank Corp.	BANK	3	1	A	95	0.95	3
Manor Care	MEDSERV	3	3	B+	70	0.85	2
Manpower Inc.	HUMAN	3	3	A	65	1.20	3
Markel Corp.	INSPRPTY	3	2	B++	95	0.80	2
Marriott Int'l	HOTELGAM	3	3	B++	75	1.05	3
Marshall & Ilsley	BANKMID	3	1	A	95	1.00	2
Martin Marietta	CEMENT	3	3	B++	70	1.15	3
Masco Corp.	BUILDING	4	3	A	70	1.10	3
McClatchy Co.	NWSPAPER	5	1	A	95	0.75	3
Medco Health Solutions	DRUGSTOR	3	2	A	75	0.80	3
Medicis Pharmac.	DRUG	4	3	B++	60	1.10	2
Mercantile Bankshares	BANK	4	2	B++	100	0.90	3
Merck & Co.	DRUG	3	3	A	65	0.85	3
Mercury General	INSPRPTY	5	2	B++	95	0.85	3
Meredith Corp.	PUBLISH	3	1	A	100	0.80	3
Mettler-Toledo Int'l	INSTRMNT	3	3	B+	80	0.95	3
Millipore Corp.	CHEMDIV	3	3	A	70	0.95	3
Minerals Techn.	CHEMSPEC	4	2	B++	85	0.95	3
Murphy Oil Corp.	OILINTEG	3	3	A	65	1.00	2
National City Corp.	BANKMID	4	1	A	95	0.95	3
New York Community	THRIFT	4	3	B+	70	0.95	3
Newell Rubbermaid	HOUSEPRD	3	3	B+	75	0.90	3
Nordson Corp.	MACHINE	4	3	B++	70	1.05	3
Northrop Grumman	DEFENSE	3	2	B++	90	0.70	3
Old Nat'l Bancorp	BANKMID	3	2	B++	100	0.70	3
Old Republic	INSPRPTY	4	2	B++	85	1.05	3
Overseas Shipholding	MARITIME	3	3	B+	65	1.10	2
Owens & Minor	MEDSUPPL	4	3	B+	80	0.90	3
Pall Corp.	CHEMDIV	3	2	A	75	1.05	3
Papa John's Int'l	RESTRNT	3	2	B++	85	0.75	2
People's Bank	THRIFT	3	3	B+	85	0.85	2
Perrigo Co.	DRUG	3	3	B++	55	0.85	3
Pitney Bowes	OFFICE	3	1	A	100	0.90	2
PMI Group	INSPRPTY	3	3	B++	75	1.15	3
PNC Financial Serv.	BANK	3	2	B++	90	1.05	3
Pogo Producing	OILPROD	4	3	B++	65	1.00	2
Polo Ralph Lauren 'A'	APPAREL	3	3	A	60	1.05	3
Popular Inc.	BANK	5	2	B+	100	0.80	3
Praxair Inc.	CHEMSPEC	3	2	B++	90	1.00	3
Principal Fin'l Group	FINANCL	3	2	B++	90	1.00	3
Progressive (Ohio)	INSPRPTY	4	2	A	90	0.90	3
Protective Life	INSLIFE	4	2	B++	95	0.95	3
Prudential Fin'l	INSLIFE	3	2	A	90	1.05	3
Rayonier Inc.	PAPER	4	3	B+	90	1.00	3
Regions Financial	BANK	3	1	A	95	0.95	3
Regis Corp.	COSMETIC	4	3	B+	75	0.90	3
Reinsurance Group	INSLIFE	3	2	B++	85	0.95	3
Republic Services	ENVIRONM	3	3	B+	95	0.80	2
ResMed Inc.	MEDSUPPL	3	3	B++	65	0.90	3
RLI Corp.	INSPRPTY	4	2	B++	85	0.75	3
Rockwell Automation	ELECEQ	3	3	A	60	1.15	3
Rohm and Haas	CHEMSPEC	3	3	B+	75	1.10	3
Rollins Inc.	INDUSRV	3	3	B++	65	0.85	2
Ross Stores	RETAILSP	4	3	A	65	0.95	3
Ruddick Corp.	GROCERY	4	3	B+	85	0.85	3
Schein (Henry)	MEDSUPPL	3	3	B+	75	0.75	3
Scripps (E.W.) 'A'	NWSPAPER	3	2	B+	100	0.85	3
Selective Ins. Group	INSPRPTY	3	3	B+	80	0.90	3
ServiceMaster Co.	INDUSRV	3	3	B+	85	0.85	3
Sigma-Aldrich	CHEMSPEC	3	2	A	90	0.85	3
Smucker (J.M.)	FOODPROC	3	2	B++	85	0.70	2
Sonic Corp.	RESTRNT	3	3	B+	75	0.70	3
Sonoco Products	PACKAGE	3	2	A	90	1.00	3
SRA Int'l Inc.	SOFTWARE	3	3	B++	55	0.80	3
St. Joe Corp.	HOMEBILD	5	1	A	90	0.90	3
Stanley Works	MACHINE	3	3	B++	70	0.95	3
Steak n Shake	RESTRNT	4	3	B++	65	0.95	3
Stride Rite Corp.	SHOE	3	3	B++	60	0.80	3
SunTrust Banks	BANK	3	2	B++	95	0.95	3
Target Corp.	RETAIL	3	3	A	70	1.05	3
Techne Corp.	BIOTECH	3	3	A	55	1.05	3
Tektronix Inc.	INSTRMNT	3	3	B++	60	1.10	3
Teleflex Inc.	DIVERSIF	5	2	B++	80	1.05	3
Tennant Co.	MACHINE	3	2	B++	75	0.95	3
Toro Co.	APPLIANC	3	2	B++	80	0.95	3
U.S. Bancorp	BANKMID	3	3	B++	80	1.15	3
UniFirst Corp.	INDUSRV	4	3	B+	60	0.75	3
Union Pacific	RAILROAD	3	1	A	95	0.90	3
United Stationers	OFFICE	3	3	B+	70	1.05	3
Unitrin Inc.	FINANCL	3	3	B+	85	1.00	3
Universal Corp.	TOBACCO	4	2	B++	95	0.75	3
Universal Health Sv. 'B'	MEDSERV	3	3	B+	75	0.70	3
V.F. Corp.	APPAREL	3	2	A	90	0.95	2
Vulcan Materials	CEMENT	3	2	A	80	1.15	3
Walbec Corp.	MACHINE	3	3	B+	55	0.90	3
Wachovia Corp.	BANK	3	2	A	90	1.05	3
Washington Group Int'l	BUILDING	3	3	B++	75	0.90	3
Washington Mutual	THRIFT	3	2	A	80	0.95	3
Waste Connections	ENVIRONM	4	3	B+	75	0.95	3
Watts Water Techn.	MACHINE	3	3	B+	60	0.95	3
Wausau Paper	PAPER	3	3	B+	65	1.20	3
WD-40 Co.	HOUSEPRD	3	3	B++	65	0.85	3
Webster Fin'l	BANK	4	3	B+	95	0.85	3
Weyerhaeuser Co.	PAPER	4	3	B++	80	1.15	3
Whole Foods Market	GROCERY	3	3	A	55	0.95	3
Wilmington Trust	BANK	3	1	A	95	0.95	3
Wolverine World Wide	SHOE	3	3	A	65	1.00	2
Worthington Inds.	STEEL	3	3	B++	55	1.00	3
XTO Energy	GASDIVRS	3	3	B+	55	0.90	2
Yankee Candle	HOUSEPRD	3	3	B++	65	0.80	3
Zions Bancorp.	BANK	3	2	B++	90	0.95	3
Average		3	3	B++	77	0.94	3
Gas Group	Average	4	2	B++	94	0.84	3

Source of Information: Value Line Investment Survey for Windows, October 6, 2006

Comparable Earnings Approach
Five -Year Average Historical Earned Returns
for Years 2001-2005 and
Projected 3-5 Year Returns

Company	2001	2002	2003	2004	2005	Average	Projected 2009-11
ABM Industries Inc.	12.5%	12.1%	8.2%	9.5%	9.8%	9.9%	14.5%
Aflac Inc.	12.7%	12.9%	14.8%	15.7%	16.3%	14.5%	17.0%
Air Products & Chem.	16.7%	15.0%	13.1%	13.6%	15.6%	14.8%	23.0%
Albany Int'l 'A'	14.9%	13.7%	11.6%	9.8%	12.9%	12.8%	15.0%
Alexander & Baldwin	9.5%	8.0%	10.0%	11.2%	11.7%	10.1%	13.0%
Alliant Techsystems	15.5%	27.0%	28.8%	22.4%	24.5%	23.6%	13.0%
Allied Capital Corp.	14.8%	14.7%	10.0%	12.6%	33.3%	17.1%	21.5%
Altria Group	43.6%	48.3%	36.7%	30.7%	29.9%	37.8%	24.0%
Amer. Greetings	NMF	11.2%	8.3%	7.8%	7.4%	8.7%	8.0%
Amer. Int'l Group	13.3%	11.6%	13.0%	14.3%	10.0%	12.4%	13.0%
Amer. Standard	-	NMF	NMF	NMF	NMF	-	45.0%
AmerisourceBergen	4.9%	10.8%	11.2%	10.8%	8.3%	9.2%	11.5%
Ametek Inc.	19.7%	19.9%	16.6%	17.1%	17.5%	18.2%	15.0%
Anadarko Petroleum	20.5%	11.8%	14.4%	17.2%	22.3%	17.2%	11.0%
Analogic Corp.	5.8%	3.5%	13.9%	2.3%	1.3%	5.4%	6.0%
Apache Corp.	17.3%	11.5%	19.1%	20.4%	24.9%	18.6%	10.5%
AptarGroup	13.8%	11.8%	10.2%	10.7%	12.3%	11.8%	12.5%
Arbitron Inc.	-	-	-	NMF	67.8%	67.8%	33.0%
Arch Chemicals	0.5%	3.8%	4.5%	4.8%	10.8%	4.9%	11.5%
Arrow Int'l	14.3%	13.1%	13.3%	12.5%	8.3%	12.3%	13.0%
Assoc. Banc-Corp	16.8%	16.6%	17.0%	12.8%	13.8%	15.4%	15.5%
Astoria Financial	13.6%	16.0%	14.1%	16.7%	17.3%	15.5%	21.0%
Autoliv Inc.	2.6%	8.8%	10.5%	12.4%	13.1%	9.5%	15.0%
AutoNation Inc.	7.6%	9.8%	9.8%	8.7%	8.5%	8.8%	10.0%
Baldor Electric	8.5%	8.7%	9.5%	12.4%	14.4%	10.7%	14.0%
Ball Corp.	21.0%	32.3%	29.4%	27.7%	34.4%	29.0%	19.5%
Bandag Inc.	8.5%	11.1%	12.6%	10.7%	8.8%	10.3%	9.0%
Bank of Hawaii	9.4%	11.9%	17.0%	21.3%	26.2%	17.2%	19.0%
Barnes Group	9.6%	13.0%	10.3%	10.8%	13.5%	11.4%	13.5%
Barr Pharmac.	17.1%	31.6%	19.3%	11.8%	17.4%	19.4%	17.5%
Bassett Furniture	1.5%	3.3%	2.0%	3.8%	5.0%	3.1%	8.5%
BB&T Corp.	17.9%	17.9%	10.7%	14.3%	14.9%	15.1%	15.5%
Berry Petroleum 'A'	14.3%	17.5%	17.5%	26.3%	33.6%	21.8%	16.5%
Biomet	17.2%	20.4%	22.3%	22.5%	24.8%	21.4%	22.0%
Black & Decker	23.8%	43.6%	36.5%	28.3%	35.7%	33.6%	19.0%
BOK Financial	15.2%	13.8%	12.9%	12.8%	13.1%	13.6%	12.0%
Briggs & Stratton	11.4%	11.8%	15.7%	16.8%	16.1%	14.3%	17.0%
Brink's (The) Co.	9.6%	18.1%	3.7%	14.9%	5.1%	10.3%	12.5%
Bristol-Myers Squibb	44.0%	22.7%	31.7%	23.4%	26.8%	29.7%	18.5%
Brunswick Corp.	7.6%	9.4%	11.4%	15.8%	16.2%	12.1%	11.5%
Buckle (The)Inc.	14.1%	12.1%	11.3%	13.0%	17.3%	13.6%	9.5%
Cabot Corp.	14.3%	12.1%	11.8%	10.2%	11.5%	12.0%	12.5%
Cardinal Health	17.3%	19.0%	18.8%	19.6%	15.5%	18.0%	23.5%
Carlisle Cos.	8.5%	13.1%	14.1%	16.9%	18.3%	14.2%	19.5%
ChoicePoint Inc.	16.3%	19.1%	16.1%	15.0%	16.0%	16.5%	11.0%
Chubb Corp.	1.7%	2.9%	8.8%	13.9%	12.7%	8.0%	11.5%
Cincinnati Financial	3.2%	5.4%	6.2%	8.4%	9.2%	6.5%	8.0%
City National Corp.	16.4%	16.3%	15.3%	15.3%	16.1%	15.9%	16.5%
Columbia Sportswear	25.1%	21.7%	18.7%	17.8%	17.6%	20.2%	14.5%
Comerica Inc.	17.5%	12.1%	12.9%	14.8%	17.0%	14.9%	12.5%
Commerce Bancorp NJ	18.2%	15.8%	15.2%	16.4%	12.3%	15.2%	15.0%
Commerce Bancshs.	14.3%	14.1%	14.2%	15.4%	16.7%	14.9%	13.0%
Compass Bancshares	15.8%	16.3%	18.3%	18.1%	18.0%	17.3%	13.5%
Con-way Inc.	3.8%	8.9%	10.5%	19.4%	24.4%	13.4%	18.0%
Conmed Corp.	8.8%	9.1%	10.2%	11.3%	9.2%	9.7%	10.0%
ConocoPhillips	11.4%	5.1%	13.4%	19.0%	20.3%	13.8%	8.0%
Cooper Cos.	14.5%	15.7%	16.3%	17.1%	7.2%	14.2%	10.5%
Corn Products Int'l	6.7%	7.6%	8.3%	8.7%	7.4%	7.7%	10.5%
Costco Wholesale	12.3%	12.3%	11.0%	11.6%	11.1%	11.7%	11.5%
Countrywide Financial	11.9%	16.3%	29.4%	21.3%	19.7%	19.7%	13.5%
Crane Co.	15.5%	13.9%	13.3%	17.7%	18.1%	15.7%	14.0%
Cullen/Frost Bankers	13.1%	17.4%	16.9%	17.2%	16.8%	16.3%	16.5%
Curtiss-Wright	11.6%	10.1%	10.9%	11.3%	11.8%	11.1%	12.0%
CVS Corp.	14.0%	13.8%	14.1%	13.1%	14.1%	13.8%	13.5%
Cytec Inds.	10.4%	13.3%	12.0%	13.2%	11.4%	12.1%	18.5%
Dade Behring Hldgs.	-	NMF	6.9%	9.5%	14.4%	10.3%	17.0%
Deere & Co.	3.8%	10.1%	16.1%	21.7%	21.1%	14.6%	17.0%
Delphi Fin'l 'A'	NMF	11.1%	10.6%	11.6%	11.7%	11.3%	11.5%
Dentsply Int'l	18.0%	17.5%	15.4%	13.6%	17.4%	16.4%	15.5%
Devon Energy	20.7%	11.8%	15.7%	16.0%	21.3%	17.1%	12.5%
Diebold Inc.	15.6%	16.8%	15.2%	14.6%	11.8%	14.8%	18.0%
Dionex Corp.	24.5%	21.0%	19.7%	22.6%	24.9%	22.5%	21.0%
Dollar General Corp.	19.9%	19.5%	19.7%	20.4%	20.4%	20.0%	18.5%
Dow Chemical	4.4%	3.9%	13.9%	21.2%	27.6%	14.3%	15.0%
Dow Jones & Co.	255.8%	202.5%	60.5%	66.1%	50.4%	127.1%	48.0%
Downey Fin'l	16.4%	13.6%	11.1%	10.7%	18.0%	14.0%	14.0%
DST Systems	13.7%	15.2%	31.9%	28.9%	42.9%	28.5%	41.5%
Eastman Chemical	8.1%	6.7%	7.2%	16.5%	30.1%	13.7%	27.0%
Eaton Vance Corp.	38.5%	32.5%	25.5%	30.9%	35.1%	32.5%	21.0%
Ecolab Inc.	21.4%	21.9%	21.2%	20.0%	19.4%	20.8%	24.5%
Edwards Lifesciences	13.7%	15.4%	15.2%	16.6%	18.1%	15.8%	16.5%
EOG Resources	23.3%	5.5%	19.2%	19.6%	29.5%	19.4%	13.5%
Equifax Inc.	62.5%	86.6%	54.3%	41.2%	26.3%	54.6%	16.5%
ESCO Technologies	6.1%	7.1%	12.0%	12.8%	13.2%	10.2%	15.5%
Family Dollar Stores	19.8%	18.8%	18.9%	19.3%	15.2%	18.4%	16.0%
Federated Dept. Stores	10.9%	11.1%	11.0%	11.2%	8.2%	10.5%	12.0%
FedEx Corp.	11.2%	11.1%	11.4%	13.3%	15.4%	12.5%	13.5%
Ferro Corp.	13.0%	8.5%	5.4%	5.1%	5.2%	7.4%	9.5%
First Horizon National	20.7%	22.3%	25.0%	22.3%	19.1%	21.9%	16.0%
First Midwest Bancorp	18.4%	18.3%	17.8%	18.6%	18.6%	18.3%	20.5%
FirstMerit Corp.	18.0%	16.0%	12.3%	10.5%	13.9%	14.1%	16.5%
Florida Rock	12.6%	13.5%	13.2%	16.7%	21.1%	15.4%	16.0%
Franklin Electric	22.0%	21.0%	17.9%	16.3%	17.7%	19.0%	18.0%
Freddie Mac	15.0%	32.2%	15.3%	9.0%	13.3%	17.0%	14.5%
Fuller (H.B.)	10.2%	6.3%	7.6%	8.4%	10.5%	8.2%	11.0%
G&K Services 'A'	11.2%	11.2%	8.9%	8.3%	8.4%	9.6%	10.0%
Graco Inc.	37.6%	30.8%	51.1%	47.1%	43.7%	42.1%	34.0%
Greater Bay Bancorp	21.3%	17.5%	12.3%	12.2%	12.5%	15.2%	11.0%
Griffon Corp.	10.4%	11.6%	15.1%	16.9%	13.5%	13.5%	18.0%
Haemonetics Corp.	14.7%	12.1%	10.5%	11.2%	11.8%	12.1%	14.0%
Harsco Corp.	13.8%	14.0%	10.8%	12.4%	15.8%	13.4%	15.0%
Harte-Hanks	14.4%	17.0%	15.7%	17.1%	20.4%	16.9%	17.0%
Hasbro Inc.	4.4%	8.9%	15.3%	13.3%	13.8%	11.1%	21.0%
HCC Insurance Hldgs.	7.7%	12.8%	13.7%	11.8%	11.4%	11.4%	13.5%
Health Mgmt. Assoc.	15.6%	18.3%	17.3%	16.4%	15.4%	16.6%	13.5%
Health Net	16.1%	21.4%	25.0%	16.2%	17.7%	19.3%	15.0%
Hess Corp.	19.3%	12.8%	9.5%	15.9%	20.4%	15.6%	9.5%
Hewitt Associates 'A'	-	18.7%	17.1%	15.4%	11.1%	15.6%	12.0%
Hillenbrand Inds.	17.7%	19.8%	21.1%	17.5%	18.8%	19.0%	18.0%
Hormel Foods	18.3%	17.0%	14.8%	15.6%	16.1%	16.4%	16.0%
Hubbell Inc. 'B'	10.9%	13.8%	14.4%	16.4%	16.5%	14.4%	15.5%
Huntington Bancshs.	12.1%	14.8%	17.0%	15.7%	16.1%	15.1%	13.5%
IDEX Corp.	8.2%	10.7%	10.5%	12.1%	13.3%	11.0%	13.0%
Int'l Game Tech.	NMF	20.2%	22.2%	25.3%	22.9%	22.7%	21.5%
Int'l Speedway 'A'	8.5%	17.1%	15.0%	14.7%	15.3%	14.1%	12.0%
Interactive Data	0.7%	9.2%	9.5%	9.4%	11.0%	8.0%	9.5%
Invacare Corp.	15.8%	13.5%	11.6%	10.0%	7.2%	11.6%	9.5%
ITT Corp.	20.4%	30.5%	19.7%	18.7%	18.2%	21.5%	17.0%
Jack in the Box	20.3%	20.1%	18.0%	14.6%	16.2%	17.4%	15.5%

Company	2001	2002	2003	2004	2005	Average	Projected 2009-11
Jacobs Engineering	14.8%	15.9%	15.2%	12.8%	13.2%	14.4%	15.0%
Johnson Controls	16.0%	17.2%	16.0%	15.7%	14.4%	15.9%	17.5%
Jones Apparel Group	12.4%	18.7%	12.9%	11.4%	11.1%	12.9%	10.0%
Journal Communications	-	13.6%	14.4%	16.0%	12.6%	14.2%	11.5%
Kaydon Corp.	9.4%	10.1%	10.9%	12.4%	12.9%	11.1%	14.0%
Kellwood Co.	7.8%	9.2%	11.3%	9.7%	7.5%	9.1%	9.5%
KeyCorp	5.2%	14.3%	13.0%	13.4%	14.9%	12.2%	14.0%
L-3 Communic. Hldgs.	9.5%	9.6%	10.8%	10.1%	11.3%	10.3%	11.5%
Lance Inc.	13.4%	11.0%	13.1%	12.5%	11.4%	12.3%	17.0%
Lauder (Estee)	20.3%	15.8%	18.7%	21.7%	25.8%	20.4%	35.0%
Lawson Products	8.7%	7.7%	9.7%	11.9%	11.6%	9.9%	13.5%
Lee Enterprises	9.7%	9.8%	9.7%	9.8%	10.3%	9.8%	9.5%
Lincoln Elec Hldgs.	16.8%	17.2%	11.7%	14.8%	17.4%	15.6%	15.0%
Loews Corp.	14.4%	8.7%	7.3%	10.5%	6.4%	9.5%	15.5%
Longs Drug Stores	6.7%	5.3%	5.2%	5.0%	8.0%	6.0%	11.0%
Lubrizol Corp.	12.2%	14.5%	9.5%	9.1%	11.0%	11.3%	12.5%
M&T Bank Corp.	13.0%	15.2%	10.7%	12.8%	13.3%	13.0%	12.5%
Manor Care	6.5%	13.0%	13.6%	17.1%	20.8%	14.2%	21.5%
Manpower Inc.	15.3%	11.3%	10.6%	11.3%	12.1%	12.1%	12.5%
Markel Corp.	NMF	3.2%	6.1%	9.8%	7.8%	6.7%	14.5%
Marriott Int'l	11.8%	13.0%	11.6%	4.6%	22.8%	12.8%	18.0%
Marshall & Ilsley	18.3%	16.0%	16.3%	18.1%	15.6%	16.1%	12.0%
Martin Marietta	10.3%	9.0%	8.9%	10.9%	18.0%	11.0%	18.5%
Masco Corp.	13.2%	14.8%	15.7%	19.8%	18.0%	16.3%	20.5%
McClatchy Co.	8.3%	12.5%	11.9%	11.1%	10.3%	10.4%	8.5%
Medco Health Solutions	4.1%	5.4%	8.4%	8.4%	7.8%	6.8%	11.5%
Medicis Pharmac.	10.3%	14.4%	13.7%	12.4%	18.1%	13.8%	12.5%
Mercantile Bankshares	14.7%	14.4%	10.7%	12.0%	12.6%	12.9%	14.0%
Merck & Co.	45.4%	39.3%	42.3%	33.6%	31.1%	38.3%	26.5%
Mercury General	9.8%	10.2%	14.1%	18.4%	15.1%	13.5%	15.0%
Meredith Corp.	17.8%	11.2%	18.4%	18.8%	19.7%	17.2%	20.0%
Mettler-Toledo Int'l	22.5%	19.5%	14.7%	15.0%	19.3%	18.2%	18.5%
Millipore Corp.	19.1%	28.7%	20.4%	16.5%	16.8%	20.3%	19.5%
Minerals Techn.	10.2%	9.1%	7.3%	7.9%	8.9%	8.3%	8.5%
Murphy Oil Corp.	17.6%	8.4%	13.1%	17.8%	21.0%	15.2%	9.5%
National City Corp.	18.8%	19.2%	22.7%	17.1%	15.7%	18.7%	15.0%
New York Community	10.8%	17.3%	11.3%	11.1%	8.8%	11.8%	12.0%
Newell Rubbermaid	13.1%	20.5%	20.2%	21.6%	25.8%	20.2%	21.0%
Nordson Corp.	11.9%	11.7%	11.7%	15.8%	23.7%	15.0%	13.0%
Northrop Grumman	5.5%	4.8%	4.8%	6.4%	7.4%	5.8%	12.0%
Old Nat'l Bancorp	15.5%	14.8%	9.8%	9.6%	12.1%	12.4%	15.5%
Old Republic	12.5%	12.2%	12.6%	10.5%	11.5%	11.9%	10.5%
Overseas Shipholding	11.9%	0.9%	13.5%	22.7%	24.8%	14.8%	11.5%
Owens & Minor	15.8%	18.1%	13.1%	13.1%	13.0%	14.6%	13.0%
Pall Corp.	15.3%	8.9%	15.4%	14.4%	12.4%	13.3%	13.0%
Papa John's Int'l	24.2%	38.4%	23.0%	26.0%	25.7%	27.9%	17.0%
People's Bank	2.6%	5.9%	6.4%	7.8%	9.7%	6.5%	13.0%
Perrigo Co.	10.7%	10.7%	11.8%	12.8%	6.4%	10.4%	15.0%
Pitney Bowes	62.4%	67.0%	52.3%	46.0%	48.1%	55.2%	35.0%
PMI Group	17.5%	15.8%	10.6%	12.3%	12.7%	13.8%	11.0%
PNC Financial Serv.	6.5%	17.5%	15.5%	16.0%	15.5%	14.2%	16.0%
Pogo Producing	10.7%	9.9%	20.3%	15.1%	13.8%	14.0%	8.5%
Polo Ralph Lauren 'A'	16.9%	15.2%	13.0%	15.3%	15.0%	15.1%	12.0%
Popular Inc.	13.4%	14.6%	17.1%	15.8%	15.8%	15.3%	12.5%
Praxair Inc.	19.6%	23.4%	18.8%	19.3%	21.1%	20.4%	22.0%
Principal Fin'l Group	5.8%	9.3%	10.2%	9.8%	10.2%	9.0%	9.5%
Progressive (Ohio)	12.7%	19.1%	24.8%	31.0%	22.8%	22.1%	14.0%
Protective Life	10.1%	10.0%	9.8%	10.9%	12.1%	10.6%	11.5%
Prudential Fin'l	3.9%	5.7%	6.5%	8.6%	11.7%	7.3%	15.5%
Rayonier Inc.	8.0%	7.6%	7.0%	19.7%	13.8%	11.2%	20.5%
Regions Financial	13.1%	14.8%	14.6%	8.1%	9.4%	12.0%	11.0%
Regis Corp.	15.6%	15.8%	15.4%	15.3%	13.8%	15.1%	13.0%
Reinsurance Group	4.0%	10.5%	8.5%	9.9%	8.9%	8.4%	12.0%
Republic Services	12.1%	12.6%	11.3%	12.7%	15.8%	12.9%	20.5%
ResMed Inc.	29.5%	19.4%	16.0%	15.8%	13.7%	18.9%	13.5%
RLI Corp.	9.0%	8.4%	10.6%	10.3%	14.0%	10.5%	12.5%
Rockwell Automation	10.8%	10.8%	13.4%	16.5%	29.7%	16.2%	23.5%
Rohm and Haas	5.0%	10.9%	11.1%	13.1%	17.3%	11.5%	15.5%
Rollins Inc.	19.8%	29.9%	25.8%	26.1%	29.8%	26.3%	19.5%
Ross Stores	28.5%	31.3%	30.2%	23.5%	23.9%	27.5%	28.5%
Ruddick Corp.	10.8%	12.3%	12.1%	11.8%	11.3%	11.7%	12.5%
Schein (Henry)	12.8%	13.7%	13.9%	12.3%	13.2%	13.2%	18.0%
Scripps (E.W.) 'A'	10.6%	15.2%	13.6%	13.8%	13.7%	13.4%	13.0%
Selective Ins. Group	4.5%	6.1%	7.7%	12.8%	14.0%	9.0%	14.5%
ServiceMaster Co.	9.4%	14.0%	19.4%	17.4%	17.1%	15.5%	18.5%
Sigma-Aldrich	17.4%	14.8%	19.3%	19.2%	20.9%	18.3%	18.5%
Smucker (J.M.)	12.2%	9.3%	10.0%	8.9%	9.0%	9.9%	10.0%
Sonic Corp.	19.4%	20.7%	19.7%	16.8%	19.6%	19.6%	15.0%
Sonoco Products	18.5%	16.5%	12.5%	13.8%	15.2%	15.3%	16.5%
SRA Int'l Inc.	17.1%	7.1%	9.4%	11.5%	13.5%	11.7%	15.0%
St. Joe Corp.	10.9%	31.5%	15.6%	17.2%	24.6%	20.0%	25.0%
Stanley Works	24.2%	20.7%	18.8%	20.2%	18.9%	20.8%	16.0%
Steak n Shake	13.1%	13.8%	12.9%	12.6%	11.9%	12.9%	12.5%
Stride Rite Corp.	8.1%	9.5%	9.5%	10.4%	9.2%	9.3%	14.5%
SunTrust Banks	18.4%	15.2%	13.7%	9.8%	11.7%	13.4%	14.0%
Target Corp.	18.1%	17.5%	16.8%	14.5%	17.0%	16.7%	17.0%
Techne Corp.	18.5%	18.6%	19.2%	18.3%	24.7%	19.9%	21.5%
Tektronix Inc.	13.3%	5.1%	4.5%	10.7%	10.4%	8.8%	12.5%
Teleflex Inc.	14.4%	13.7%	10.3%	11.1%	13.1%	12.5%	10.5%
Tennant Co.	3.1%	8.0%	8.5%	8.5%	11.9%	8.0%	12.5%
Toro Co.	14.8%	17.4%	18.5%	26.0%	29.2%	21.2%	33.0%
U.S. Bancorp	15.5%	19.5%	19.3%	21.3%	22.3%	19.8%	20.5%
UniFirst Corp.	7.9%	8.7%	8.7%	9.1%	10.5%	9.0%	10.0%
Union Pacific	8.7%	9.3%	8.5%	6.0%	6.6%	7.8%	9.5%
United Stationers	7.1%	11.7%	12.3%	13.4%	12.7%	11.4%	14.0%
Unitrin Inc.	2.6%	0.0%	5.5%	9.1%	10.0%	5.4%	11.0%
Universal Corp.	21.4%	18.1%	18.3%	13.5%	5.6%	15.4%	13.0%
Universal Health Sv. 'B'	16.2%	19.0%	17.7%	13.2%	13.2%	15.9%	12.0%
V.F. Corp.	14.3%	22.4%	20.1%	18.7%	18.3%	18.8%	17.5%
Vulcan Materials	14.5%	11.2%	12.4%	13.3%	16.2%	13.5%	16.5%
Wabtec Corp.	9.1%	8.8%	9.0%	10.3%	15.2%	10.5%	17.0%
Wachovia Corp.	8.3%	11.9%	13.1%	11.0%	13.5%	11.8%	14.5%
Washington Group Int'l	-	6.3%	6.4%	7.0%	7.9%	6.9%	9.5%
Washington Mutual	22.1%	19.4%	19.2%	11.7%	12.4%	17.0%	15.0%
Waste Connections	10.3%	12.8%	12.2%	10.9%	12.0%	11.6%	16.5%
Watts Water Techn.	12.1%	11.9%	8.6%	9.9%	10.6%	10.6%	13.5%
Wausau Paper	2.6%	6.5%	4.5%	5.7%	1.0%	4.1%	21.0%
WD-40 Co.	30.6%	30.5%	27.9%	22.8%	21.6%	26.7%	18.5%
Webster Fin'l	28.5%	35.6%	40.8%	11.9%	11.4%	25.6%	9.0%
Weyerhaeuser Co.	5.9%	4.5%	5.4%	12.8%	10.6%	7.8%	14.0%
Whole Foods Market	12.8%	14.3%	13.1%	13.9%	12.0%	13.2%	20.0%
Wilmington Trust	18.2%	18.0%	16.8%	15.7%	17.1%	17.2%	14.5%
Wolverine World Wide	12.1%	13.0%	12.0%	14.4%	16.1%	13.5%	17.0%
Worthington Inds.	5.5%	10.0%	11.8%	17.6%	21.9%	13.4%	16.5%
XTO Energy	32.2%	22.7%	19.5%	22.5%	27.5%	24.9%	13.0%
Yankee Candle	32.5%	30.0%	39.3%	46.0%	119.9%	53.5%	NMF
Zions Bancorp.	12.7%	13.4%	13.4%	14.6%	11.3%	13.1%	11.5%
Average						15.9%	15.5%
Median						14.1%	14.5%

STATE OF ILLINOIS

ILLINOIS COMMERCE COMMISSION

THE PEOPLES GAS LIGHT	:	
AND COKE COMPANY	:	
	:	No. 07-____
Proposed General Increase	:	
In Rates for Gas Service	:	

Appendices
to Accompany the
Direct Testimony

of

Paul R. Moul
Managing Consultant
P. Moul & Associates

Concerning
Rate of Return

EVALUATION OF RISK

The rate of return required by investors is directly linked to the perceived level of risk. The greater the risk of an investment, the higher is the required rate of return necessary to compensate for that risk, all else being equal. Because investors will seek the highest rate of return available, considering the risk involved, the rate of return must at least equal the investor-required, market-determined cost of capital if public utilities are to attract the necessary investment capital on reasonable terms.

In the measurement of the cost of capital, it is necessary to assess the risk of a firm. The level of risk for a firm is often defined as the uncertainty of achieving expected performance, and is sometimes viewed as a probability distribution of possible outcomes. Hence, if the uncertainty of achieving an expected outcome is high, the risk is also high. As a consequence, high risk firms must offer investors higher returns than low risk firms which pay less to attract capital from investors. This is because the level of uncertainty, or risk of not realizing expected returns, establishes the compensation required by investors in the capital markets. Of course, the risk of a firm must also be considered in the context of its ability to actually experience adequate earnings which conform with a fair rate of return. Thus, if there is a high probability that a firm will not perform well due to fundamentally poor market conditions, investors will demand a higher return.

The investment risk of a firm is comprised of its business risk and financial risk. Business risk is all risk other than financial risk, and is sometimes defined as the staying power of the market demand for a firm's product or service and the resulting inherent uncertainty of realizing expected pre-tax returns on the firm's assets. Business risk encompasses all operating factors (e.g., productivity, competition, management ability, etc.) that bear upon the expected

24 pre-tax operating income attributed to the fundamental nature of a firm's business. Financial
25 risk results from a firm's use of borrowed funds (or similar sources of capital with fixed
26 payments) in its capital structure (i.e., financial leverage). Thus, if a firm did not employ
27 financial leverage by borrowing any capital, its investment risk would be represented by its
28 business risk.

29 It is important to note that in evaluating the risk of regulated companies, financial
30 leverage cannot be considered in the same context as it is for non-regulated companies.
31 Financial leverage has a different meaning for regulated firms than for non-regulated
32 companies. For regulated public utilities, the cost of service formula gives the benefits of
33 financial leverage to consumers in the form of lower revenue requirements. For non-regulated
34 companies, all benefits of financial leverage are retained by the common stockholder.
35 Although retaining none of the benefits, regulated firms bear the risk of financial leverage.
36 Therefore, a regulated firm's rate of return on common equity must recognize the greater
37 financial risk shown by the higher leverage typically employed by public utilities.

38 Although no single index or group of indices can precisely quantify the relative
39 investment risk of a firm, financial analysts use a variety of indicators to assess that risk. For
40 example, the creditworthiness of a firm is revealed by its bond ratings. If the stock is traded,
41 the price-earnings multiple, dividend yield, and beta coefficients (a statistical measure of a
42 stock's relative volatility to the rest of the market) provide some gauge of overall risk. Other
43 indicators, which are reflective of business risk, include the variability of the rate of return on
44 equity, which is indicative of the uncertainty of actually achieving the expected earnings;
45 operating ratios (the percentage of revenues consumed by operating expenses, depreciation, and
46 taxes other than income tax), which are indicative of profitability; the quality of earnings,

which considers the degree to which earnings are the product of accounting principles or cost deferrals; and the level of internally generated funds. Similarly, the proportion of senior capital in a company's capitalization is the measure of financial risk which is often analyzed in the context of the equity ratio (i.e., the complement of the debt ratio).

COST OF EQUITY--GENERAL APPROACH

Through a fundamental financial analysis, the relative risk of a firm must be established prior to the determination of its cost of equity. With a fundamental risk analysis as a foundation, standard financial models can be employed by using informed judgment. The methods which have been employed to measure the cost of equity include: the Discounted Cash Flow ("DCF") model, the Risk Premium ("RP") approach, the Capital Asset Pricing Model ("CAPM") and the Comparable Earnings ("CE") approach.

The traditional DCF model, while useful in providing some insight into the cost of equity, is not an approach that should be used exclusively. The divergence of stock prices from company-specific fundamentals can provide a misleading cost of equity calculation. As reported in The Wall Street Journal on June 6, 1991, a statistical study published by Goldman Sachs indicated that only 35% of stock price growth in the 1980's could be attributed to earnings and interest rates. Further, 38% of the rise in stock prices during the 1980's was attributed to unknown factors. The Goldman Sachs study highlights the serious limitations of a model, such as DCF, which is founded upon identification of specific variables to explain stock price growth. That is to say, when stock price growth exceeds growth in a company's earnings per share, models such as DCF will misspecify investor expected returns which are comprised of capital gains, as well as dividend receipts. As such, a combination of methods should be used to measure the cost of equity.

The Risk Premium analysis is founded upon the prospective cost of long-term debt, i.e., the yield that the public utility must offer to raise long-term debt capital directly from investors. To that yield must be added a risk premium in recognition of the greater risk of common equity over debt. This additional risk is, of course, attributable to the fact that the payment of interest and principal to creditors has priority over the payment of dividends and return of capital to

equity investors. Hence, equity investors require a higher rate of return than the yield on long-term corporate bonds.

The CAPM is a model not unlike the traditional Risk Premium. The CAPM employs the yield on a risk-free interest-bearing obligation plus a premium as compensation for risk. Aside from the reliance on the risk-free rate of return, the CAPM gives specific quantification to systematic (or market) risk as measured by beta.

The Comparable Earnings approach measures the returns expected/experienced by other non-regulated firms and has been used extensively in rate of return analysis for over a half century. However, its popularity diminished in the 1970s and 1980s with the popularization of market-based models. Recently, there has been renewed interest in this approach. Indeed, the financial community has expressed the view that the regulatory process must consider the returns which are being achieved in the non-regulated sector so that public utilities can compete effectively in the capital markets. Indeed, with additional competition being introduced throughout the traditionally regulated public utility industry, returns expected to be realized by non-regulated firms have become increasing relevant in the ratesetting process. The Comparable Earnings approach considers directly those requirements and it fits the established standards for a fair rate of return set forth in the landmark decisions on the issue of rate of return. These decisions require that a fair return for a utility must be equal to that earned by firms of comparable risk.

DISCOUNTED CASH FLOW ANALYSIS

Discounted Cash Flow ("DCF") theory seeks to explain the value of an economic or financial asset as the present value of future expected cash flows discounted at the appropriate risk-adjusted rate of return. Thus, if $100 is to be received in a single payment 10 years subsequent to the acquisition of an asset, and the appropriate risk-related interest rate is 8%, the present value of the asset would be $46.32 (Value = $100 ÷ (1.08)10) arising from the discounted future cash flow. Conversely, knowing the present $46.32 price of an asset (where price = value), the $100 future expected cash flow to be received 10 years hence shows an 8% annual rate of return implicit in the price and future cash flows expected to be received.

In its simplest form, the DCF theory considers the number of years from which the cash flow will be derived and the annual compound interest rate which reflects the risk or uncertainty associated with the cash flows. It is appropriate to reiterate that the dollar values to be discounted are future cash flows.

DCF theory is flexible and can be used to estimate value (or price) or the annual required rate of return under a wide variety of conditions. The theory underlying the DCF methodology can be easily illustrated by utilizing the investment horizon associated with a preferred stock not having an annual sinking fund provision. In this case, the investment horizon is infinite, which reflects the perpetuity of a preferred stock. If P represents price, Kp is the required rate of return on a preferred stock, and D is the annual dividend (P and D with time subscripts), the value of a preferred share is equal to the present value of the dividends to be received in the future discounted at the appropriate risk-adjusted interest rate, Kp. In this circumstance:

$$P_0 = \frac{D_1}{(1+Kp)} + \frac{D_2}{(1+Kp)^2} + \frac{D_3}{(1+Kp)^3} + \ldots + \frac{D_n}{(1+Kp)^n}$$

If $D_1 = D_2 = D_3 = \ldots D_n$ as is the case for preferred stock, and n approaches infinity, as is the case for non-callable preferred stock without a sinking fund, then this equation reduces to:

$$P_0 = \frac{D_1}{Kp}$$

This equation can be used to solve for the annual rate of return on a preferred stock when the current price and subsequent annual dividends are known. For example, with D_1 = \$1.00, and P_0 = \$10, then Kp = \$1.00 ÷ \$10, or 10%.

The dividend discount equation, first shown, is the generic DCF valuation model for all equities, both preferred and common. While preferred stock generally pays a constant dividend, permitting the simplification subsequently noted, common stock dividends are not constant. Therefore, absent some other simplifying condition, it is necessary to rely upon the generic form of the DCF. If, however, it is assumed that D1, D2, D3, …Dn are systematically related to one another by a constant growth rate (g), so that D0 (1 + g) = D1, D1 (1 + g) = D2, D2 (1 + g) = D3 and so on approaching infinity, and if Ks (the required rate of return on a common stock) is greater than g, then the DCF equation can be reduced to:

$$P_0 = \frac{D_1}{Ks - g} \quad or \quad P_0 = \frac{D_0(1+g)}{Ks - g}$$

which is the periodic form of the "Gordon" model.[1] Proof of the DCF equation is found in all modern basic finance textbooks. This DCF equation can be easily solved as:

[1] Although the popular application of the DCF model is often attributed to the work of Myron J. Gordon in the mid-1950's, J. B. Williams exposited the DCF model in its present form nearly two decades earlier.

$$Ks = \frac{D_0 (1 + g)}{P_0} + g$$

132 which is the periodic form of the Gordon Model commonly applied in estimating equity rates of
133 return in rate cases. When used for this purpose, *Ks* is the annual rate of return on common
134 equity demanded by investors to induce them to hold a firm's common stock. Therefore, the
135 variables D_0, P_0 and *g* must be estimated in the context of the market for equities, so that the rate
136 of return, which a public utility is permitted the opportunity to earn, has meaning and reflects the
137 investor-required cost rate.

138 Application of the Gordon model with market derived variables is straightforward. For
139 example, using the most recent prior annualized dividend (D0) of $0.80, the current price (P0) of
140 $10.00, and the investor expected dividend growth rate (g) of 5%, the solution of the DCF
141 formula provides a 13.4% rate of return. The dividend yield component in this instance is 8.4%,
142 and the capital gain component is 5%, which together represent the total 13.4% annual rate of
143 return required by investors. The capital gain component of the total return may be calculated
144 with two adjacent future year prices. For example, in the eleventh year of the holding period, the
145 price per share would be $17.10 as compared with the price per share of $16.29 in the tenth year
146 which demonstrates the 5% annual capital gain yield.

147 Some DCF devotees believe that it is more appropriate to estimate the required return on
148 equity with a model which permits the use of multiple growth rates. This may be a plausible
149 approach to DCF, where investors expect different dividend growth rates in the near term and
150 long run. If two growth rates, one near term and one long-run, are to be used in the context of a

price (P0) of $10.00, a dividend (D0) of $0.80, a near-term growth rate of 5.5%, and a long-run expected growth rate of 5.0% beginning at year 6, the required rate of return is 13.57% solved with a computer by iteration.

Use of DCF in Ratesetting

The DCF method can provide a misleading measure of the cost of equity in the ratesetting process when stock prices diverge from book values by a meaningful margin. When the difference between share values and book values is significant, the results from the DCF can result in a misspecified cost of equity when those results are applied to book value. This is because investor expected returns, as described by the DCF model, are related to the market value of common stock. This discrepancy is shown by the following example. If it is assumed, hypothetically, that investors require a 12.5% return on their common stock investment value (i.e., the market price per share) when share values represent 150% of book value, investors would require a total annual return of $1.50 per share on a $12.00 market value to realize their expectations. If, however, this 12.5% market-determined cost rate is applied to an original cost rate base which is equivalent to the book value of common stock of $8.00 per share, the utility's actual earnings per share would be only $1.00. This would result in a $.50 per share earnings shortfall which would deny the utility the ability to satisfy investor expectations.

As a consequence, a utility could not withstand these DCF results applied in a rate case and also sustain its financial integrity. This is because $1.00 of earnings per share and a 75% dividend payout ratio would provide earnings retention growth of just 3.125% (i.e., $1.00 x .75 = $0.75, and $1.00 - $0.75 = $0.25 ÷ $8.00 = 3.125%). In this example, the earnings retention growth rate plus the 6.25% dividend yield ($0.75 ÷ $12.00) would equal 9.375% (6.25% + 3.125%) as indicated by the DCF model. This DCF result is the same as the utility's rate of

174 dividend payments on its book value (i.e., $0.75 ÷ $8.00 = 9.375%). This situation provides the
175 utility with no earnings cushion for its dividend payment because the DCF result equals the
176 dividend rate on book value (i.e., both rates are 9.375% in the example). Moreover, if the price
177 employed in my example were higher than 150% of book value, a "negative" earnings cushion
178 would develop and cause the need for a dividend reduction because the DCF result would be less
179 than the dividend rate on book value. For these reasons, the usefulness of the DCF method
180 significantly diminishes as market prices and book values diverge.

181 Further, there is no reason to expect that investors would necessarily value utility stocks
182 equal to their book value. In fact, it is rare that utility stocks trade at book value. Moreover,
183 high market-to-book ratios may be reflective of general market sentiment. Were regulators to
184 use the results of a DCF model that fails to produce the required return when applied to an
185 original cost rate base, they would penalize a company with high market-to-book ratios. This
186 clearly would penalize a regulated firm and its investors that purchased the stock at its current
187 price. When investor expectations are not fulfilled, the market price per share will decline and a
188 new, different equity cost rate would be indicated from the lower price per share. This condition
189 suggests that the current price would be subject to disequilibrium and would not allow a
190 reasonable calculation of the cost of equity. This situation would also create a serious
191 disincentive for management initiative and efficiency. Within that framework, a perverse set of
192 goals and rewards would result, i.e., a high authorized rate of return in a rate case would be the
193 reward for poor financial performance, while low rates of return would be the reward for good
194 financial performance. As such, the DCF results should not be used alone to determine the cost
195 of equity, but should be used along with other complementary methods.

Dividend Yield

The historical annual dividend yields are shown on and Exhibit No. PRM-3 for the Gas Group. The 2001-2005 five-year average dividend yield was 4.5% for the Gas Group. The monthly dividend yields for the past twelve months are shown graphically on Exhibit No. PRM-5. These dividend yields reflect an adjustment to the month-end closing prices to remove the pro rata accumulation of the quarterly dividend amount since the last ex-dividend date.

The ex-dividend date usually occurs two business days before the record date of the dividend (i.e., the date by which a shareholder must own the shares to be entitled to the dividend payment--usually about two to three weeks prior to the actual payment). During a quarter (here defined as 91 days), the price of a stock moves up ratably by the dividend amount as the ex-dividend date approaches. The stock's price then falls by the amount of the dividend on the ex-dividend date. Therefore, it is necessary to calculate the fraction of the quarterly dividend since the time of the last ex-dividend date and to remove that amount from the price. This adjustment reflects normal recurring pricing of stocks in the market, and establishes a price that will reflect the true yield on a stock.

A six-month average dividend yield has been used to recognize the prospective orientation of the ratesetting process as explained in the direct testimony. For the purpose of a DCF calculation, the average dividend yields must be adjusted to reflect the prospective nature of the dividend payments, i.e., the higher expected dividends for the future rather than the recent dividend payment annualized. An adjustment to the dividend yield component, when computed with annualized dividends, is required based upon investor expectation of quarterly dividend increases.

The procedure to adjust the average dividend yield for the expectation of a dividend

219 increase during the initial investment period will be at a rate of one-half the growth component,
220 developed below. The DCF equation, showing the quarterly dividend payments as D0, may be
221 stated in this fashion:

$$K = \frac{D_0(1+g)^0 + D_0(1+g)^0 + D_0(1+g)^1 + D_0(1+g)^1}{P_0} + g$$

222 The adjustment factor, based upon one-half the expected growth rate developed in my direct
223 testimony, will be 2.500% (5.00% x .5) for the Gas Group which assumes that two dividend
224 payments will be at the expected higher rate during the initial investment period. Using the six-
225 month average dividend yield as a base, the prospective (forward) dividend yield would be
226 4.00% (3.90% x 1.02500) for the Gas Group.

227 Another DCF model that reflects the discrete growth in the quarterly dividend (D0) is as
228 follows:

$$K = \frac{D_0(1+g)^{.25} + D_0(1+g)^{.50} + D_0(1+g)^{.75} + D_0(1+g)^{1.00}}{P_0} + g$$

229 This procedure confirms the reasonableness of the forward dividend yield previously calculated.
230 The quarterly discrete adjustment provides a dividend yield of 4.02% (3.90% x 1.03106) for the
231 Gas Group. The use of an adjustment is required for the periodic form of the DCF in order to
232 properly recognize that dividends grow on a discrete basis.

233 In either of the preceding DCF dividend yield adjustments, there is no recognition for the
234 compound returns attributed to the quarterly dividend payments. Investors have the opportunity

$$k = \left[\left(1 + \frac{D_0}{P_0}\right)^4 - 1\right] + g$$

to reinvest quarterly dividend receipts. Recognizing the compounding of the periodic quarterly dividend payments (D0), results in a third DCF formulation:

This DCF equation provides no further recognition of growth in the quarterly dividend. Combining discrete quarterly dividend growth with quarterly compounding would provide the following DCF formulation, stating the quarterly dividend payments (D0):

$$k = \left[\left(1 + \frac{D_0 (1+g)^{.25}}{P_0} \right)^4 - 1 \right] + g$$

A compounding of the quarterly dividend yield provides another procedure to recognize the necessity for an adjusted dividend yield. The unadjusted average quarterly dividend yield was 0.9750% (3.90% ÷ 4) for the Gas Group. The compound dividend yield would be 4.01% (1.009870^4-1) for the Gas Group, recognizing quarterly dividend payments in a forward-looking manner. These dividend yields conform with investors' expectations in the context of reinvestment of their cash dividend.

For the Gas Group, a 4.01% forward-looking dividend yield is the average (4.00% + 4.02% + 4.01% = 12.03% ÷ 3) of the adjusted dividend yield using the form D0 /P0 (1+.5g), the dividend yield recognizing discrete quarterly growth, and the quarterly compound dividend yield with discrete quarterly growth.

Growth Rate

If viewed in its infinite form, the DCF model is represented by the discounted value of an endless stream of growing dividends. It would, however, require 100 years of future dividend payments so that the discounted value of those payments would equate to the present price so that the discount rate and the rate of return shown by the simplified Gordon form of the DCF

model would be about the same. A century of dividend receipts represents an unrealistic investment horizon from almost any perspective. Because stocks are not held by investors forever, the growth in the share value (i.e., capital appreciation, or capital gains yield) is most relevant to investors' total return expectations. Hence, investor expected returns in the equity market are provided by capital appreciation of the investment as well as receipt of dividends. As such, the sale price of a stock can be viewed as a liquidating dividend which can be discounted along with the annual dividend receipts during the investment holding period to arrive at the investor expected return.

In its constant growth form, the DCF assumes that with a constant return on book common equity and constant dividend payout ratio, a firm's earnings per share, dividends per share and book value per share will grow at the same constant rate, absent any external financing by a firm. Because these constant growth assumptions do not actually prevail in the capital markets, the capital appreciation potential of an equity investment is best measured by the expected growth in earnings per share. Since the traditional form of the DCF assumes no change in the price-earnings multiple, the value of a firm's equity will grow at the same rate as earnings per share. Hence, the capital gains yield is best measured by earnings per share growth using company-specific variables.

Investors consider both historical and projected data in the context of the expected growth rate for a firm. An investor can compute historical growth rates using compound growth rates or growth rate trend lines. Otherwise, an investor can rely upon published growth rates as provided in widely-circulated, influential publications. However, a traditional constant growth DCF analysis that is limited to such inputs suffers from the assumption of no change in the price-earnings multiple, i.e., that the value of a firm's equity will grow at the same rate as earnings.

Some of the factors which actually contribute to investors' expectations of earnings growth and which should be considered in assessing those expectations, are: (i) the earnings rate on existing equity, (ii) the portion of earnings not paid out in dividends, (iii) sales of additional common equity, (iv) reacquisition of common stock previously issued, (v) changes in financial leverage, (vi) acquisitions of new business opportunities, (vii) profitable liquidation of assets, and (viii) repositioning of existing assets. The realities of the equity market regarding total return expectations, however, also reflect factors other than these inputs. Therefore, the DCF model contains overly restrictive limitations when the growth component is stated in terms of earnings per share (the basis for the capital gains yield) or dividends per share (the basis for the infinite dividend discount model). In these situations, there is inadequate recognition of the capital gains yields arising from stock price growth which could exceed earnings or dividends growth.

To assess the growth component of the DCF, analysts' projections of future growth influence investor expectations as explained above. One influential publication is The Value Line Investment Survey which contains projections of future growth. The Value Line Investment Survey provides growth estimates which are stated within a common economic environment for the purpose of measuring relative growth potential. The basis for these projections is the Value Line 3 to 5 year hypothetical economy. The Value Line hypothetical economic environment is represented by components and subcomponents of the National Income Accounts which reflect in the aggregate assumptions concerning the unemployment rate, manpower productivity, price inflation, corporate income tax rate, high-grade corporate bond interest rates, and Fed policies. Individual estimates begin with the correlation of sales, earnings and dividends of a company to appropriate components or subcomponents of the future National Income Accounts. These calculations provide a consistent basis for the published forecasts.

301 Value Line's evaluation of a specific company's future prospects are considered in the context of
302 specific operating characteristics that influence the published projections. Of particular
303 importance for regulated firms, Value Line considers the regulatory quality, rates of return
304 recently authorized, the historic ability of the firm to actually experience the authorized rates of
305 return, the firm's budgeted capital spending, the firm's financing forecast, and the dividend
306 payout ratio. The wide circulation of this source and frequent reference to Value Line in
307 financial circles indicate that this publication has an influence on investor judgment with regard
308 to expectations for the future.

309 There are other sources of earnings growth forecasts. One of these sources is the
310 Institutional Brokers Estimate System ("IBES"), which has been published for many years. The
311 IBES service provided data on consensus earnings per share forecasts and five-year earnings
312 growth rate estimates. The publisher of IBES has been purchased by Thomson/First Call. The
313 IBES forecasts have been integrated into the First Call consensus growth forecasts. The earnings
314 estimates are obtained from financial analysts at brokerage research departments and from
315 institutions whose securities analysts are projecting earnings for companies in the First Call
316 universe of companies. Other services that tabulate earnings forecasts and publish them are
317 Zacks Investment Research and Market Guide (which is provided over the Internet by Reuters).
318 As with the First Call forecasts, Zacks and Reuters/Market Guide provide consensus forecasts
319 collected from analysts for most publicly traded companies.

320 In each of these publications, forecasts of earnings per share for the current and
321 subsequent year receive prominent coverage. That is to say, First Call/Thomson, Zacks,
322 Reuters/Market Guide, and Value Line show estimates of current-year earnings and projections
323 for the next year. While the DCF model typically focuses upon long-run estimates of growth,

stock prices are clearly influenced by current and near-term earnings prospects. Therefore, the near-term earnings per share growth rates should also be factored into a growth rate determination.

Although forecasts of future performance are investor influencing[2], equity investors may also rely upon the observations of past performance. Investors' expectations of future growth rates may be determined, in part, by an analysis of historical growth rates. It is apparent that any serious investor would advise himself/herself of historical performance prior to taking an investment position in a firm. Earnings per share and dividends per share represent the principal financial variables which influence investor growth expectations.

Other financial variables are sometimes considered in rate case proceedings. For example, a company's internal growth rate, derived from the rate of return on book common equity and the related retention ratio, is sometimes considered. This growth rate measure is represented by the Value Line forecast "BxR" shown on Exhibit No. PRM-7. Internal growth rates are often used as a proxy for book value growth. Unfortunately, this measure of growth is often not reflective of investor-expected growth. This is especially important when there is an indication of a prospective change in dividend payout ratio, earned return on book common equity, change in market-to-book ratios or other fundamental changes in the character of the business. Nevertheless, I have also shown the historical and projected growth rates in book value per share and internal growth rates.

Leverage Adjustment

As noted previously, the divergence of stock prices from book values creates a conflict within the DCF model when the results of a market-derived cost of equity are applied to the

[2] As shown in a National Bureau of Economic Research monograph by John G. Cragg and Burton G. Malkiel, Expectations and the Structure of Share Prices, University of Chicago Press 1982.

common equity account measured at book value for the purpose of determining the weighted average cost of capital in the ratesetting context. This is the situation today where the market price of stock exceeds its book value for most companies. This divergence of price and book value also creates a financial risk difference, whereby the capitalization of a utility measured at its market value contains relatively less debt and more equity than the capitalization measured at its book value. It is a well-accepted fact of financial theory that a relatively higher proportion of equity in the capitalization has less financial risk than another capital structure more heavily weighted with debt. This is the situation for the Gas Group where the market value of its capitalization contains more equity than is shown by the book capitalization. The following comparison demonstrates this situation where the market capitalization is developed by taking the "Fair Value of Financial Instruments" (Disclosures about Fair Value of Financial Instruments -- Statement of Financial Accounting Standards ("FAS") No. 107) as shown in the annual report for these companies and the market value of the common equity using the price of stock. The comparison of capital structure ratios is:

	Capitalization at Market Value (Fair Value)	Capitalization at Book Value (Carrying Amounts)
Long-term Debt	32.32%	45.79%
Preferred Stock	0.15	0.23
Common Equity	67.52	53.98
Total	100.00%	100.00%

With regard to the capital structure ratios represented by the carrying amounts shown above, there are some variances from the ratios shown on Exhibit No. PRM-3. These variances arise from the use of balance sheet values in computing the capital structure ratios shown on Exhibit No. PRM-3 and the use of the Carrying Amounts of the Financial Instruments according to FAS 107 (the Carrying Amounts were used in the table shown above to be comparable to the Fair

Value amounts used in the comparison calculations).

With the capital ratios calculated above, is necessary to first calculate the cost of equity for a firm without any leverage. The cost of equity for an unleveraged firm using the capital structure ratios calculated with market values is:

$$ku = ke - (((ku - i) 1 t) D / E) - (ku - d) P / E$$

$$8.35\% = 9.01\% - (((8.35\%-6.23\%) .65) 32.32\%/67.52\%) - (8.35\% - 6.23\%)0.15\%/67.52\%$$

where *ku* = cost of equity for an all-equity firm, *ke* = market determined cost equity, *i* = cost of debt[3], *d* = dividend rate on preferred stock[4], *D* = debt ratio, *P* = preferred stock ratio, and *E* = common equity ratio. The formula shown above indicates that the cost of equity for a firm with 100% equity is 8.35% in the case of the Gas Group using the market value of the capitalization. Having determined that the cost of equity for a firm with 100% equity, the rate of return on common equity associated with the book value capital structure is:

$$ke = ku + (((ku - i) 1\text{-}t) D / E) + (ku - d) P / E$$

$$9.53\% = 8.35\% + (((8.35\%-6.23\%).65) 45.79\%/53.98\%) + (8.35\%-6.23\%) 0.23\%/53.98\%$$

---

[3] The cost of debt is the six-month average yield on Moody's “A” rated public utility bonds.

[4] The cost of preferred is the six-month average yield on Moody's "a" rated preferred stock.

FLOTATION COST ADJUSTMENT

The rate of return on common equity must be high enough to avoid dilution when additional common equity is issued. In this regard, the rate of return on book common equity for public utilities requires recognition of specific factors other than just the market-determined cost of equity. A market price of common stock above book value is necessary to attract future capital on reasonable terms in competition with other seekers of equity capital. Non-regulated companies traditionally have experienced common stock prices consistently above book value. For a public utility to be competitive in the capital markets, similar recognition should be provided, given the understated value of net plant investment which is represented by historical costs much lower than current cost. Moreover, the market value of a public utility stock must be above book value to provide recognition of market pressure, issuance and selling expenses which reduce the net proceeds realized from the sale of new shares of common stock. A market price of stock above book value will maintain the financial integrity of shares previously issued and is necessary to avoid dilution when new shares are offered.

The rate of return on common equity should provide for the underwriting discount and company issuance expenses associated with the sale of new common stock. It is the net proceeds, after payment of these costs that are available to the company, because the issuance costs are paid from the initial offering price to the public. Market pressure occurs when the news of an impending issue of new common shares impacts the pre-offering price of stock. The stock price often declines because of the prospect of an increase in the supply of shares. The difficulty encountered in measuring market pressure relates to the time frame considered, general market conditions, and management action during the offering period. An indication of negative market pressure could be the product of the techniques employed to measure pressure and not the

prospect of an additional supply of shares related to the new issue.

Even in the situation where a company will not issue common stock during the near term, the flotation cost adjustment factor should be applied to the common equity cost rate. A public utility must be in a competitive capital attraction posture at all times. To deny recognition of a market value of equity above book value would be discriminatory when other comparable companies receive an allowance in this regard. Moreover, to reduce the return rate on common equity by failing to recognize this factor would likewise result in a company being less competitive in the bond market, because a lower resulting overall rate of return would provide less competitive fixed-charge coverage. It cannot be said that a public utility's stock price already considers an allowance for flotation costs. This is because investors in either fixed-income bonds or common stocks seek their required rate of return by reference to alternative investment opportunities, and are not concerned with the issuance costs incurred by a firm borrowing long-term debt or issuing common equity.

Historical data concerning issuance and selling expenses (excluding market pressure) is shown on Exhibit No. PRM-8. To adjust for the cost of raising new common equity capital, the rate of return on common equity should recognize an appropriate multiple in order to allow for a market price of stock above book value. This would provide recognition for flotation costs, which are shown to be 3.9% for public offerings of common stocks by gas companies from 2001 to 2005. Because these costs are not recovered elsewhere, they must be recognized in the rate of return. Since I apply the flotation cost to the entire cost of equity, I have only used a modification factor of 1.02 which is applied to the unadjusted DCF-measure of the cost of equity to cover issuance expense. If the modification factor were applied to only a portion of the cost of equity, such as just the dividend yield, then a higher factor would be necessary.

INTEREST RATES

Interest rates can be viewed in their traditional nominal terms (i.e., the stated rate of interest) and in real terms (i.e., the stated rate of interest less the expected rate of inflation). Absent consideration of inflation, the real rate of interest is determined generally by supply factors which are influenced by investors' willingness to forego current consumption (i.e., to save) and demand factors that are influenced by the opportunities to derive income from productive investments. Added to the real rate of interest is compensation required by investors for the inflationary impact of the declining purchasing power of their income received in the future. While interest rates are clearly influenced by the changing annual rate of inflation, it is important to note that the expected rate of inflation that is reflected in current interest rates may be quite different than the prevailing rate of inflation.

Rates of interest also vary by the type of interest bearing instrument. Investors require compensation for the risk associated with the term of the investment and the risk of default. The risk associated with the term of the investment is usually shown by the yield curve (i.e., the difference in rates across maturities). The typical structure is represented by a positive yield curve which provides progressively higher interest rates as the maturities are lengthened. Flat (i.e., relatively level rates across maturities) or inverted (i.e., higher short-term rates than long-term rates) yield curves occur less frequently.

The risk of default is typically associated with the creditworthiness of the borrower. Differences in interest rates can be traced to the credit quality ratings assigned by the bond rating agencies, such as Moody's Investors Service, Inc. and Standard & Poor's Corporation. Obligations of the United States Treasury are usually considered to be free of default risk, and hence reflect only the real rate of interest, compensation for expected inflation, and maturity risk.

The Treasury has been issuing inflation-indexed notes which automatically provide compensation to investors for future inflation, thereby providing a lower current yield on these issues.

Interest Rate Environment

Federal Reserve Board ("Fed") policy actions which impact directly short-term interest rates also substantially affect investor sentiment in long-term fixed-income securities markets. In this regard, the Fed has often pursued policies designed to build investor confidence in the fixed-income securities market. Formative Fed policy has had a long history, as exemplified by the historic 1951 Treasury-Federal Reserve Accord, and more recently, deregulation within the financial system which increased the level and volatility of interest rates. The Fed has indicated that it will follow a monetary policy designed to promote non-inflationary economic growth.

As background to the recent levels of interest rates, history shows that the Open Market Committee of the Federal Reserve board ("FOMC") began a series of moves toward lower short-term interest rates in mid-1990 -- at the outset of the previous recession. Monetary policy was influenced at that time by (i) steps taken to reduce the federal budget deficit, (ii) slowing economic growth, (iii) rising unemployment, and (iv) measures intended to avoid a credit crunch. Thereafter, the federal government initiated several bold proposals to deal with future borrowings by the Treasury. With lower expected federal budget deficits and reduced Treasury borrowings, together with limitations on the supply of new 30-year Treasury bonds, long-term interest rates declined to a twenty-year low, reaching a trough of 5.78% in October 1993.

On February 4, 1994, the FOMC began a series of increases in the Fed Funds rate (i.e., the interest rate on excess overnight bank reserves). The initial increase represented the first rise in short-term interest rates in five years. The series of seven increases doubled the Fed Funds

479 rate to 6%. The increases in short-term interest rates also caused long-term rates to move up,
480 continuing a trend which began in the fourth quarter of 1993. The cyclical peak in long-term
481 interest rates was reached on November 7 and 14, 1994 when 30-year Treasury bonds attained an
482 8.16% yield. Thereafter, long-term Treasury bond yields generally declined.

483 Beginning in mid-February 1996, long-term interest rates moved upward from their
484 previous lows. After initially reaching a level of 6.75% on March 15, 1996, long-term interest
485 rates continued to climb and reached a peak of 7.19% on July 5 and 8, 1996. For the period
486 leading up to the 1996 Presidential election, long-term Treasury bonds generally traded within
487 this range. After the election, interest rates moderated, returning to a level somewhat below the
488 previous trading range. Thereafter, in December 1996, interest rates returned to a range of 6.5%
489 to 7.0% which existed for much of 1996.

490 On March 25, 1997, the FOMC decided to tighten monetary conditions through a one-
491 quarter percentage point increase in the Fed Funds rate. This tightening increased the Fed Funds
492 rate to 5.5%. In making this move, the FOMC stated that it was concerned by persistent strength
493 of demand in the economy, which it feared would increase the risk of inflationary imbalances
494 that could eventually interfere with the long economic expansion.

495 In the fourth quarter of 1997, the yields on Treasury bonds began to decline rapidly in
496 response to an increase in demand for Treasury securities caused by a flight to safety triggered
497 by the currency and stock market crisis in Asia. Liquidity provided by the Treasury market
498 makes these bonds an attractive investment in times of crisis. This is because Treasury securities
499 encompass a very large market which provides ease of trading and carry a premium for safety.
500 During the fourth quarter of 1997, Treasury bond yields pierced the psychologically important
501 6% level for the first time since 1993.

Through the first half of 1998, the yields on long-term Treasury bonds fluctuated within a range of about 5.6% to 6.1% reflecting their attractiveness and safety. In the third quarter of 1998, there was further deterioration of investor confidence in global financial markets. This loss of confidence followed the moratorium (i.e., default) by Russia on its sovereign debt and fears associated with problems in Latin America. While not significant to the global economy in the aggregate, the August 17 default by Russia had a significant negative impact on investor confidence, following earlier discontent surrounding the crisis in Asia. These events subsequently led to a general pull back of risk-taking as displayed by banks' growing reluctance to lend, worries of an expanding credit crunch, lower stock prices, and higher yields on bonds of riskier companies. These events contributed to the failure of the hedge fund, Long-Term Capital Management.

In response to these events, the FOMC cut the Fed Funds rate just prior to the mid-term Congressional elections. The FOMC's action was based upon concerns over how increasing weakness in foreign economies would affect the U.S. economy. As recently as July 1998, the FOMC had been more concerned about fighting inflation than the state of the economy. The initial rate cut was the first of three reductions by the FOMC. Thereafter, the yield on long-term Treasury bonds reached a 30-year low of 4.70% on October 5, 1998. Long-term Treasury yields below 5% had not been seen since 1967. Unlike the first rate cut that was widely anticipated, the second rate reduction by the FOMC was a surprise to the markets. A third reduction in short-term interest rates occurred in November 1998 when the FOMC reduced the Fed Funds rate to 4.75%.

All of these events prompted an increase in the prices for Treasury bonds which led to the low yields described above. Another factor that contributed to the decline in yields on long-term

Treasury bonds was a reduction in the supply of new Treasury issues coming to market due to the Federal budget surplus -- the first in nearly 30 years. The dollar amount of Treasury bonds being issued declined by 30% in two years thus resulting in higher prices and lower yields. In addition, rumors of some struggling hedge funds unwinding their positions further added to the gains in Treasury bond prices.

The financial crisis that spread from Asia to Russia and to Latin America pushed nervous investors from stocks into Treasury bonds, thus increasing demand for bonds, just when supply was shrinking. There was also a move from corporate bonds to Treasury bonds to take advantage of appreciation in the Treasury market. This resulted in a certain amount of exuberance for Treasury bond investments that formerly was reserved for the stock market. Moreover, yields in the fourth quarter of 1998 became extremely volatile as shown by Treasury yields that fell from 5.10% on September 29 to 4.70 percent on October 5, and thereafter returned to 5.10% on October 13. A decline and rebound of 40 basis points in Treasury yields in a two-week time frame is remarkable.

Beginning in mid-1999, the FOMC raised interest rates on six occasions, reversing its actions from the fall of 1998. On June 30, 1999, August 24, 1999, November 16, 1999, February 2, 2000, March 21, 2000, and May 16, 2000, the FOMC raised the Fed Funds rate to 6.50%. This brought the Fed Funds rate to its highest level since 1991, and was 175 basis points higher than the level that occurred at the height of the Asian currency and stock market crisis. At the time, these actions were taken in response to more normally functioning financial markets, tight labor markets, and a reversal of the monetary ease that was required earlier in response to the global financial market turmoil.

As the year 2000 drew to a close, economic activity slowed and consumer confidence

began to weaken. In two steps at the beginning and at the end of January 2001, the FOMC reduced the Fed Funds rate by one percentage point. These actions brought the Fed Funds rate to 5.50%. The FOMC described its actions as "a rapid and forceful response of monetary policy" to eroding consumer and business confidence exemplified by weaker retail sales and business spending on capital equipment and cut backs in manufacturing production. Subsequently, on March 20, 2001, April 18, 2001, May 15, 2001, June 27, 2001, and August 21, 2001, the FOMC lowered the Fed Funds in steps consisting of three 50 basis points decrements followed by two 25 basis points decrements. These actions took the Fed Funds rate to 3.50%. The FOMC observed on August 21, 2001:

> "Household demand has been sustained, but business profits and capital spending continue to weaken and growth abroad is slowing, weighing on the U.S. economy. The associated easing of pressures on labor and product markets is expected to keep inflation contained.
>
> Although long-term prospects for productivity growth and the economy remain favorable, the Committee continues to believe that against the background of its long-run goals of price stability and sustainable economic growth and of the information currently available, the risks are weighted mainly toward conditions that may generate economic weakness in the foreseeable future."

After the terrorist attack on September 11, 2001, the FOMC made two additional 50 basis points reductions in the Fed Funds rate. The first reduction occurred on September 17, 2001 and followed the four-day closure of the financial markets following the terrorist attacks. The second reduction occurred at the October 2 meeting of the FOMC where it observed:

> "The terrorist attacks have significantly heightened uncertainty in an economy that was already weak. Business and household spending as a consequence are being further damped. Nonetheless, the long-term prospects for productivity growth and the economy remain favorable and should become evident once the unusual forces restraining demand abate."

Afterward, the FOMC reduced the Fed Funds rate by 50 basis points on November 6, 2001 and by 25 basis points on December 11, 2001. In total, short-term interest rates were reduced by the FOMC eleven (11) times during the year 2001. These actions cut the Fed Funds rate by 4.75% and resulted in 1.75% for the Fed Funds rate.

In an attempt to deal with weakening fundamentals in the economy recovering from the recession that began in March 2001, the FOMC provided a psychologically important one-half percentage point reduction in the federal funds rate. The rate cut was twice as large as the market expected, and brought the Fed Funds rate to 1.25% on November 6, 2002. The FOMC stated that:

> "The Committee continues to believe that an accommodative stance of monetary policy, coupled with still-robust underlying growth in productivity, is providing important ongoing support to economic activity. However, incoming economic data have tended to confirm that greater uncertainty, in part attributable to heightened geopolitical risks, is currently inhibiting spending, production, and employment. Inflation and inflation expectations remain well contained.
>
> In these circumstances, the Committee believes that today's additional monetary easing should prove helpful as the economy works its way through this current soft spot. With this action, the Committee believes that, against the background of its long-run goals of price stability and sustainable economic growth and of the information currently available, the risks are balanced with respect to the prospects for both goals in the foreseeable future."

As 2003 unfolded, there was a continuing expectation of lower yields on Treasury securities. In fact, the yield on ten-year Treasury notes reached a 45-year low near the end of the second quarter of 2003. For long-term Treasury bonds, those yields culminated with a 4.24% yield on June 13, 2003. Soon thereafter, the FOMC reduced the Fed Funds rate by 25 basis

points on June 25, 2003. In announcing its action, the FOMC stated:

> "The Committee continues to believe that an accommodative stance of monetary policy, coupled with still robust underlying growth in productivity, is providing important ongoing support to economic activity. Recent signs point to a firming in spending, markedly improved financial conditions, and labor and product markets that are stabilizing. The economy, nonetheless, has yet to exhibit sustainable growth. With inflationary expectations subdued, the Committee judged that a slightly more expansive monetary policy would add further support for an economy which it expects to improve over time."

Thereafter, intermediate and long-term Treasury yields moved markedly higher. Higher yields on long-term Treasury bonds, which exceeded 5.00% can be traced to: (i) the market's disappointment that the Fed Funds rate was not reduced below 1.00%, (ii) an indication that the Fed will not use unconventional methods for implementing monetary policy, (iii) growing confidence in a strengthening economy, and (iv) a Federal budget deficit that is projected to be $455 billion in 2003 (reported subsequently, the actual deficit was $374 billion) and $475 billion in 2004 (revised subsequently, the estimated deficit is $500 billion in 2004). All these factors significantly changed the sentiment in the bond market.

For the remainder of 2003, the FOMC continued with its balanced monetary policy, thereby retaining the 1% Fed Funds rate. However, in 2004, the FOMC initiated a policy of moving toward a more neutral Fed Funds rate (i.e., removing the bias of abnormal low rates). On June 30, 2004, August 10, 2004, September 21, 2004, November 10, 2004, December 14, 2004, February 2, 2005, March 22, 2005, May 3, 2005, June 30, 2005, August 9, 2005, September 20, 2005, November 1, 2005, December 13, 2005, January 31, 2006, March 28, 2006, May 10, 2006, and June 29, 2006, the FOMC increased the Fed Funds rate in seventeen 25 basis point increments. These policy actions are widely interpreted as part of the process of moving toward a more neutral range for the Fed Funds rate. In its September 20, 2006 press release, the

FOMC stated:

> "The moderation in economic growth appears to be continuing, partly reflecting a cooling of the housing market.
>
> Readings on core inflation have been elevated, and the high levels of resource utilization and of the prices of energy and other commodities have the potential to sustain inflation pressures. However, inflation pressures seem likely to moderate over time, reflecting reduced impetus from energy prices, contained inflation expectations, and the cumulative effects of monetary policy actions and other factors restraining aggregate demand.
>
> Nonetheless, the Committee judges that some inflation risks remain. The extent and timing of any additional firming that may be needed to address these risks will depend on the evolution of the outlook for both inflation and economic growth, as implied by incoming information."

Public Utility Bond Yields

The Risk Premium analysis of the cost of equity is represented by the combination of a firm's borrowing rate for long-term debt capital plus a premium that is required to reflect the additional risk associated with the equity of a firm as explained in Exhibit No. PRM-13F. Due to the senior nature of the long-term debt of a firm, its cost is lower than the cost of equity due to the prior claim which lenders have on the earnings and assets of a corporation.

As a generalization, all interest rates track to varying degrees the benchmark yields established by the market for Treasury securities. Public utility bond yields usually reflect the underlying Treasury yield associated with a given maturity plus a spread to reflect the specific credit quality of the issuing public utility. Market sentiment can also have an influence on the spreads as described below. The spread in the yields on public utility bonds and Treasury bonds varies with market conditions, as does the relative level of interest rates at varying maturities shown by the yield curve.

Pages 1 and 2 of Exhibit No. PRM-9 provide the recent history of long-term public utility

670 bond yields for the rating categories of Aa, A and Baa (no yields are shown for Aaa rated public
671 utility bonds because this index has been discontinued). The top four rating categories of Aaa,
672 Aa, A, and Baa are known as "investment grades" and are generally regarded as eligible for bank
673 investments under commercial banking regulations. These investment grades are distinguished
674 from "junk" bonds which have ratings of Ba and below.

675 A relatively long history of the spread between the yields on long-term A-rated public
676 utility bonds and 20-year Treasury bonds is shown on page 3 of Exhibit No. PRM-9. There, it is
677 shown that those spreads were about the one percentage during for the years 1994 through 1997.
678 With the aversion to risk and flight to quality described earlier, a significant widening of the
679 spread in the yields between corporate (e.g., public utility) and Treasury bonds developed in
680 1998, after an initial widening of the spread that began in the fourth quarter of 1997. The
681 significant widening of spreads in 1998 was unexpected by some technically savvy investors, as
682 shown by the debacle at the Long-Term Capital Management hedge fund. When Russia
683 defaulted its debt on August 17, some investors had to cover short positions when Treasury
684 prices spiked upward. Short covering by investors that guessed wrong on the relationship
685 between corporate and Treasury bonds also contributed to run-up in Treasury bond prices by
686 increasing the demand for them. This helped to contribute to a widening of the spreads between
687 corporate and Treasury bonds.

688 As shown on page 3 of Exhibit No. PRM-9, the spread in yields between A-rated public
689 utility bonds and 20-year Treasury bonds were about one percentage point prior to 1998, 1.32%
690 in 1998, 1.42% in 1999, 2.01% in 2000, 2.13% in 2001, 1.94% in 2002, 1.62% in 2003, 1.12%
691 in 2004, and 1.01% in 2005. As shown by the monthly data presented on pages 4 and 5 of
692 Exhibit No. PRM-9, the interest rate spread between the yields on 20-year Treasury bonds and

A-rated public utility bonds was 1.08 percentage points for the twelve-months ended October 2006. For the six- and three-month periods ending October 2006, the yield spread was 1.09% and 1.08%, respectively.

RISK PREMIUM ANALYSIS

The cost of equity requires recognition of the risk premium required by common equities over long-term corporate bond yields. In the case of senior capital, a company contracts for the use of long-term debt capital at a stated coupon rate for a specific period of time and in the case of preferred stock capital, at a stated dividend rate, usually with provision for redemption through sinking fund requirements. In the case of senior capital, the cost rate is known with a high degree of certainty because the payment for use of this capital is a contractual obligation, and the future schedule of payments is known. In essence, the investor-expected cost of senior capital is equal to the realized return over the entire term of the issue, absent default.

The cost of equity, on the other hand, is not fixed, but rather varies with investor perception of the risk associated with the common stock. Because no precise measurement exists as to the cost of equity, informed judgment must be exercised through a study of various market factors which motivate investors to purchase common stock. In the case of common equity, the realized return rate may vary significantly from the expected cost rate due to the uncertainty associated with earnings on common equity. This uncertainty highlights the added risk of a common equity investment.

As one would expect from traditional risk and return relationships, the cost of equity is affected by expected interest rates. As noted in Exhibit No. PRM-13E, yields on long-term corporate bonds traditionally consist of a real rate of return without regard to inflation, an increment to reflect investor perception of expected future inflation, the investment horizon shown by the term of the issue until maturity, and the credit risk associated with each rating category.

The Risk Premium approach recognizes the required compensation for the more risky common equity over the less risky secured debt position of a lender. The cost of equity stated in terms of the familiar risk premium approach is:

$$k=i+RP$$

where the cost of equity *("k")* is equal to the interest rate on long-term corporate debt *("i")*, plus an equity risk premium *("RP")* which represents the additional compensation for the riskier common equity.

Equity Risk Premium

The equity risk premium is determined as the difference in the rate of return on debt capital and the rate of return on common equity. Because the common equity holder has only a residual claim on earnings and assets, there is no assurance that achieved returns on common equities will equal expected returns. This is quite different from returns on bonds, where the investor realizes the expected return during the entire holding period, absent default. It is for this reason that common equities are always more risky than senior debt securities. There are investment strategies available to bond portfolio managers that immunize bond returns against fluctuations in interest rates because bonds are redeemed through sinking funds or at maturity, whereas no such redemption is mandated for public utility common equities.

It is well recognized that the expected return on more risky investments will exceed the required yield on less risky investments. Neither the possibility of default on a bond nor the maturity risk detracts from the risk analysis, because the common equity risk rate differential (i.e., the investor-required risk premium) is always greater than the return components on a bond. It should also be noted that the investment horizon is typically long-run for both corporate debt and equity, and that the risk of default (i.e., corporate bankruptcy) is a concern

742 to both debt and equity investors. Thus, the required yield on a bond provides a benchmark or
743 starting point with which to track and measure the cost rate of common equity capital. There is
744 no need to segment the bond yield according to its components, because it is the total return
745 demanded by investors that is important for determining the risk rate differential for common
746 equity. This is because the complete bond yield provides the basis to determine the differential,
747 and as such, consistency requires that the computed differential must be applied to the complete
748 bond yield when applying the risk premium approach. To apply the risk rate differential to a
749 partial bond yield would result in a misspecification of the cost of equity because the computed
750 differential was initially determined by reference to the entire bond return.

751 The risk rate differential between the cost of equity and the yield on long-term corporate
752 bonds can be determined by reference to a comparison of holding period returns (here defined
753 as one year) computed over long time spans. This analysis assumes that over long periods of
754 time investors' expectations are on average consistent with rates of return actually achieved.
755 Accordingly, historical holding period returns must not be analyzed over an unduly short period
756 because near-term realized results may not have fulfilled investors' expectations. Moreover,
757 specific past period results may not be representative of investment fundamentals expected for
758 the future. This is especially apparent when the holding period returns include negative returns
759 which are not representative of either investor requirements of the past or investor expectations
760 for the future. The short-run phenomenon of unexpected returns (either positive or negative)
761 demonstrates that an unduly short historical period would not adequately support a risk
762 premium analysis. It is important to distinguish between investors' motivation to invest, which
763 encompass positive return expectations, and the knowledge that losses can occur. No rational
764 investor would forego payment for the use of capital, or expect loss of principal, as a basis for

765 investing. Investors will hold cash rather than invest with the expectation of a loss.

766 Within these constraints, page 1 of Exhibit No. PRM-10 provides the historical holding
767 period returns for the S&P Public Utility Index which has been independently computed and
768 the historical holding period returns for the S&P Composite Index which have been reported in
769 Stocks, Bonds, Bills and Inflation published by Ibbotson & Associates. The tabulation begins
770 with 1928 because January 1928 is the earliest monthly dividend yield for the S&P Public
771 Utility Index. I have considered all reliable data for this study to avoid the introduction of a
772 particular bias to the results. The measurement of the common equity return rate differential is
773 based upon actual capital market performance using realized results. As a consequence, the
774 underlying data for this risk premium approach can be analyzed with a high degree of
775 precision. Informed professional judgment is required only to interpret the results of this study,
776 but not to quantify the component variables.

777 The risk rate differentials for all equities, as measured by the S&P Composite, are
778 established by reference to long-term corporate bonds. For public utilities, the risk rate
779 differentials are computed with the S&P Public Utilities as compared with public utility bonds.

780 The measurement procedure used to identify the risk rate differentials consisted of
781 arithmetic means, geometric means, and medians for each series. Measures of the central
782 tendency of the results from the historical periods provide the best indication of representative
783 rates of return. In regulated ratesetting, the correct measure of the equity risk premium is the
784 arithmetic mean because a utility must expect to earn its cost of capital in each year in order to
785 provide investors with their long-term expectations. In other contexts, such as pension
786 determinations, compound rates of return (as shown by the geometric means) may be
787 appropriate. The median returns are also appropriate in ratesetting because they are a measure

788 of the central tendency of a single period rate of return. Median values have also been
789 considered in this analysis because they provide a return which divides the entire series of
790 annual returns in half and are representative of a return that symbolizes, in a meaningful way,
791 the central tendency of all annual returns contained within the analysis period. Medians are
792 regularly included in many investor-influencing publications.

793 As previously noted, the arithmetic mean provides the appropriate point estimate of the
794 risk premium. As further explained in Exhibit No. PRM-13G, the long-term cost of capital in
795 rate cases requires the use of the arithmetic means. To supplement my analysis, I have also
796 used the rates of return taken from the geometric mean and median for each series to provide
797 the bounds of the range to measure the risk rate differentials. This further analysis shows that
798 when selecting the midpoint from a range established with the geometric means and medians,
799 the arithmetic mean is indeed a reasonable measure for the long-term cost of capital. For the
800 years 1928 through 2005, the risk premiums for each class of equity are:

	S&P Composite	S&P Public Utilities
Arithmetic Mean	5.78%	5.27%
Geometric Mean	4.14%	3.18%
Median	8.94%	6.95%
Midpoint of Range	6.54%	5.07%
Average	6.16%	5.17%

813 The empirical evidence suggests that the common equity risk premium is higher for the S&P
814 Composite Index compared to the S&P Public Utilities.

815 If, however, specific historical periods were also analyzed in order to match more
816 closely historical fundamentals with current expectations, the results provided on page 2 of

Exhibit No. PRM-10 should also be considered. One of these sub-periods included the 54-year period, 1952-2005. These years follow the historic 1951 Treasury-Federal Reserve Accord which affected monetary policy and the market for government securities.

A further investigation was undertaken to determine whether realignment has taken place subsequent to the historic 1973 Arab Oil embargo and during the deregulation of the financial markets. In each case, the public utility risk premiums were computed by using the arithmetic mean, and the geometric means and medians to establish the range shown by those values. The time periods covering the more recent periods 1974 through 2005 and 1979 through 2005 contain events subsequent to the initial oil shock and the advent of monetarism as Fed policy, respectively. For the 54-year, 32-year and 27-year periods, the public utility risk premiums were 6.05%, 5.19%, and 5.20% respectively, as shown by the average of the specific point-estimates and the midpoint of the ranges provided on page 2 of Exhibit No. PRM- 10.

CAPITAL ASSET PRICING MODEL

Modern portfolio theory provides a theoretical explanation of expected returns on portfolios of securities. The Capital Asset Pricing Model ("CAPM") attempts to describe the way prices of individual securities are determined in efficient markets where information is freely available and is reflected instantaneously in security prices. The CAPM states that the expected rate of return on a security is determined by a risk-free rate of return plus a risk premium which is proportional to the non-diversifiable (or systematic) risk of a security.

The CAPM theory has several unique assumptions that are not common to most other methods used to measure the cost of equity. As with other market-based approaches, the CAPM is an expectational concept. There has been significant academic research conducted that found that the empirical market line, based upon historical data, has a less steep slope and higher intercept than the theoretical market line of the CAPM. For equities with a beta less than 1.0, such as utility common stocks, the CAPM theoretical market line will underestimate the realistic expectation of investors in comparison with the empirical market line which shows that the CAPM may potentially misspecify investors' required return.

The CAPM considers changing market fundamentals in a portfolio context. The balance of the investment risk, or that characterized as unsystematic, must be diversified. Some argue that diversifiable (unsystematic) risk is unimportant to investors. But this contention is not completely justified because the business and financial risk of an individual company, including regulatory risk, are widely discussed within the investment community and therefore influence investors in regulated firms. In addition, I note that the CAPM assumes that through portfolio diversification, investors will minimize the effect of the unsystematic (diversifiable) component of investment risk. Because it is not known whether the average

investor holds a well-diversified portfolio, the CAPM must also be used with other models of the cost of equity.

To apply the traditional CAPM theory, three inputs are required: the beta coefficient ("β"), a risk-free rate of return ("Rf"), and a market premium ("Rm - Rf"). The cost of equity stated in terms of the CAPM is:

$$k = Rf + \beta\ (Rm - Rf)$$

As previously indicated, it is important to recognize that the academic research has shown that the security market line was flatter than that predicted by the CAPM theory and it had a higher intercept than the risk-free rate. These tests indicated that for portfolios with betas less than 1.0, the traditional CAPM would understate the return for such stocks. Likewise, for portfolios with betas above 1.0, these companies had lower returns than indicated by the traditional CAPM theory. Once again, CAPM assumes that through portfolio diversification investors will minimize the effect of the unsystematic (diversifiable) component of investment risk. Therefore, the CAPM must also be used with other models of the cost of equity, especially when it is not known whether the average public utility investor holds a well-diversified portfolio.

Risk-Free Rate of Return

Regarding the risk-free rate of return, pages 2 and 3 of Exhibit No. PRM-11 provides the yields on the broad spectrum of Treasury Notes and Bonds. Some practitioners of the CAPM would advocate the use of short-term treasury yields (and some would argue for the yields on 91-day Treasury Bills). Other advocates of the CAPM would advocate the use of longer-term Treasury yields as the best measure of a risk-free rate of return. As Ibbotson has indicated:

> The Cost of Capital in a Regulatory Environment. When discounting cash flows projected over a long period, it is necessary to discount them by a long-term cost of capital. Additionally, regulatory processes for setting rates often specify or suggest that the desired rate of return for a regulated firm is that which would allow the firm to attract and retain debt and equity capital over the long term. Thus, the long-term cost of capital is typically the appropriate cost of capital to use in regulated ratesetting. (Stocks, Bonds, Bills and Inflation - 1992 Yearbook, pages 118-119)

As indicated above, long-term Treasury bond yields represent the correct measure of the risk-free rate of return in the traditional CAPM. Very short-term yields on Treasury bills should be avoided. The yield on 91-day Treasury bills are more volatile than longer-term yields and are greatly influenced by FOMC monetary policy, political, and economic situations. Professor Diana Harrington, one of the foremost advocates of the CAPM, has stated that the use of T-bill rates in the CAPM is empirically inadequate and theoretically suspect.[5] This has been demonstrated by the difference in the return on a zero beta portfolio as compared with the risk-free rate measured by T-bill yields. The zero beta return is higher than the risk-free rate of return. As such, empirical tests of the CAPM indicate that the model may be potentially misspecified when it uses short-term Treasury bill yields as a proxy for the risk-free rate of return.

Beta

The beta coefficient is a statistical measure which attempts to identify the non-diversifiable (systematic) risk of an individual security and measures the sensitivity of rates of

[5] Harrington, D., Modern Portfolio Theory and the Capital Asset Pricing Model, (Prentice Hall, Inc. 1983, p. 108)

return on a particular security with general market movements. Under the CAPM theory, a security that has a beta of 1.0 should theoretically provide a rate of return equal to the return rate provided by the market. When employing stock price changes in the derivation of beta, a stock with a beta of 1.0 should exhibit a movement in price which would track the movements in the overall market prices of stocks. Hence, if a particular investment has a beta of 1.0, a one percent increase in the return on the market will result, on average, in a one percent increase in the return on the particular investment. An investment which has a beta less than 1.0 is considered to be less risky than the market.

The beta coefficient ("β"), the one input in the CAPM application which specifically applies to an individual firm, is derived from a statistical application which regresses the returns on an individual security (dependent variable) with the returns on the market as a whole (independent variable). The beta coefficients for utility companies typically describe a small proportion of the total investment risk because the coefficients of determination (R2) are low.

Page 1 of Exhibit No. PRM-11 provides the betas published by Value Line. By way of explanation, the Value Line beta coefficient is derived from a "straight regression" based upon the percentage change in the weekly price of common stock and the percentage change weekly of the New York Stock Exchange Composite average using a five-year period. The raw historical beta is adjusted by Value Line for the measurement effect resulting in overestimates in high beta stocks and underestimates in low beta stocks. Value Line then rounds its betas to the nearest .05 increment. Value Line does not consider dividends in the computation of its betas.

Market Premium

The final element necessary to apply the CAPM is the market premium. The market premium by definition is the rate of return on the total market less the risk-free rate of return ("Rm - Rf"). In this regard, the market premium in the CAPM has been calculated from the total return on the market of equities using forecast and historical data. The future market return is established with forecasts by Value Line using estimated dividend yields and capital appreciation potential.

I should note that the arithmetic mean must be used in the CAPM because it is a single period model. It is further confirmed by Ibbotson who has indicated:

> *Arithmetic Versus Geometric Differences*
> For use as the expected equity risk premium in the CAPM, the *arithmetic* or *simple difference* of the *arithmetic* means of stock market returns and riskless rates is the relevant number. This is because the CAPM is an additive model where the cost of capital is the sum of its parts. Therefore, the CAPM expected equity risk premium must be derived by arithmetic, *not geometric*, subtraction.
>
> *Arithmetic Versus Geometric Means*
> The expected equity risk premium should always be calculated using the arithmetic mean. The arithmetic mean is the rate of return which, when compounded over multiple periods, gives the mean of the probability distribution of ending wealth values. This makes the arithmetic mean return appropriate for computing the cost of capital. The discount rate that equates expected (mean) future values with the present value of an investment is that investment's cost of capital. The logic of using the discount rate as the cost of capital is reinforced by noting that investors will discount their (mean) ending wealth values from an investment back to the present using the arithmetic mean, for the reason given above. They will therefore require such an expected (mean) return prospectively (that is, in the present looking toward the future) to commit their capital to the investment. (Stocks, Bonds, Bills and Inflation - 1996 Yearbook, pages 153-154)

COMPARABLE EARNINGS APPROACH

The United States Supreme Court has held that:

> 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…. 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. Bluefield Water Works vs. Public Service Commission, 262 U.S. 668 (1923).

Therefore, it is important to identify the returns earned by firms that compete for capital with a public utility. This can be accomplished by analyzing the returns of non-regulated firms that are subject to the competitive forces of the marketplace.

There are two avenues available to implement the Comparable Earnings approach. One method would involve the selection of another industry (or industries) with comparable risks to the public utility in question, and the results for all companies within that industry would serve as a benchmark. The second approach requires the selection of parameters that represent similar risk traits for the public utility and the comparable risk companies. Using this approach, the business lines of the comparable companies become unimportant. The latter approach is preferable with the further qualification that the comparable risk companies exclude regulated firms. As such, this approach to Comparable Earnings avoids the circular reasoning implicit in the use of the achieved earnings/book ratios of other regulated firms. Rather, it provides an indication of an earnings rate derived from non-regulated companies that are subject to competition in the marketplace and not rate regulation. Because regulation is a substitute for competitively-determined prices, the returns realized by non-regulated firms with

comparable risks to a public utility provide useful insight into a fair rate of return. This is because returns realized by non-regulated firms have become increasingly relevant with the trend toward increased risk throughout the public utility business. Moreover, the rate of return for a regulated public utility must be competitive with returns available on investments in other enterprises having corresponding risks, especially in a more global economy.

To identify the comparable risk companies, the Value Line Investment Survey for Windows was used to screen for firms of comparable risks. The Value Line Investment Survey for Windows includes data on approximately 1800 firms. Excluded from the selection process were companies incorporated in foreign countries and master limited partnerships. Value Line's analysis of the companies that it follows includes a wide range of financial and market variables, including nine items that provide ratings for each company. From these nine items, one category has been removed dealing with industry performance because, under the approach employed here, the particular business type is not significant. In addition, two categories have been ignored that deal with estimates of current earnings and dividends because they are not useful for comparative purposes. The remaining six categories provide relevant measures to establish comparability.

In order to implement the Comparable Earnings approach, non-regulated companies were selected from the Value Line Investment Survey for Windows based on six categories of comparability designed to reflect the risk of the Gas Group. These screening criteria were based upon the range as defined by the rankings of the companies in the Gas Group. The items considered were: Timeliness Rank, Safety Rank, Financial Strength, Price Stability, Value Line betas, and Technical Rank. The definitions for each of the six criteria (from the Value Line Investment Survey - Subscriber Guide) follow:

Timeliness Rank

The rank for a stock's probable relative market performance in the year ahead. Stocks ranked 1 (Highest) or 2 (Above Average) are likely to outpace the year-ahead market. Those ranked 4 (Below Average) or 5 (Lowest) are not expected to outperform most stocks over the next 12 months. Stocks ranked 3 (Average) will probably advance or decline with the market in the year ahead. Investors should try to limit purchases to stocks ranked 1 (Highest) or 2 (Above Average) for Timeliness.

Safety Rank

A measure of potential risk associated with individual common stocks rather than large diversified portfolios (for which Beta is good risk measure). Safety is based on the stability of price, which includes sensitivity to the market (see Beta) as well as the stock's inherent volatility, adjusted for trend and other factors including company size, the penetration of its markets, product market volatility, the degree of financial leverage, the earnings quality, and the overall condition of the balance sheet. Safety Ranks range from 1 (Highest) to 5 (Lowest). Conservative investors should try to limit purchases to equities ranked 1 (Highest) or 2 (Above Average) for Safety.

Financial Strength

The financial strength of each of the more than 1,600 companies in the VS II data base is rated relative to all the others. The ratings range from A++ to C in nine steps. (For screening purposes, think of an A rating as "greater than" a B). Companies that have the best relative financial strength are given an A++ rating, indicating an ability to weather hard times better than the vast majority of other companies. Those who don't quite merit the top rating are given an A+ grade, and so on. A rating as low as C++ is considered satisfactory. A rating of C+ is well below average, and C is reserved for companies with very serious financial problems. The ratings are based upon a computer analysis of a number of key variables that determine (a) financial leverage, (b) business risk, and (c) company size, plus the judgment of Value Line's analysts and senior editors regarding factors that cannot be quantified across-the-board for companies. The primary variables that are indexed and studied include equity coverage of debt, equity

coverage of intangibles, "quick ratio", accounting methods, variability of return, fixed charge coverage, stock price stability, and company size.

Price Stability Index

An index based upon a ranking of the weekly percent changes in the price of the stock over the last five years. The lower the standard deviation of the changes, the more stable the stock. Stocks ranking in the top 5% (lowest standard deviations) carry a Price Stability Index of 100; the next 5%, 95; and so on down to 5. One standard deviation is the range around the average weekly percent change in the price that encompasses about two thirds of all the weekly percent change figures over the last five years. When the range is wide, the standard deviation is high and the stock's Price Stability Index is low.

Beta

A measure of the sensitivity of the stock's price to overall fluctuations in the New York Stock Exchange Composite Average. A Beta of 1.50 indicates that a stock tends to rise (or fall) 50% more than the New York Stock Exchange Composite Average. Use Beta to measure the stock market risk inherent in any diversified portfolio of, say, 15 or more companies. Otherwise, use the Safety Rank, which measures total risk inherent in an equity, including that portion attributable to market fluctuations. Beta is derived from a least squares regression analysis between weekly percent changes in the price of a stock and weekly percent changes in the NYSE Average over a period of five years. In the case of shorter price histories, a smaller time period is used, but two years is the minimum. The Betas are periodically adjusted for their long-term tendency to regress toward 1.00.

Technical Rank

A prediction of relative price movement, primarily over the next three to six months. It is a function of price action relative to all stocks followed by Value Line. Stocks ranked 1 (Highest) or 2 (Above Average) are likely to outpace the market. Those ranked 4 (Below Average) or 5 (Lowest) are not expected to outperform most stocks over the next six months. Stocks ranked 3 (Average) will probably advance or

> decline with the market. Investors should use the Technical and Timeliness Ranks as complements to one another.

Value Line data was relied upon because it provides a comprehensive basis for evaluating the risks of the comparable firms. As to the returns calculated by Value Line for these companies, there is some downward bias in the figures shown on page 2 of Exhibit No. PRM-12 because Value Line computes the returns on year-end rather than average book value. If average book values had been employed, the rates of return would have been slightly higher. Nevertheless, these are the returns considered by investors when taking positions in these stocks. Finally, because many of the comparability factors, as well as the published returns, are used by investors for selecting stocks, and to the extent that investors rely on the Value Line service to gauge their returns, it is, therefore, an appropriate database for measuring comparable return opportunities.

Both historical realized returns and forecast returns for non-utility companies have been used. As noted previously, returns for utility companies have not been used so as to avoid the circularity that arises from using regulatory influenced returns to determine a regulated return. It is appropriate to consider a relatively long measurement period in the Comparable Earnings approach in order to cover conditions over an entire business cycle. A ten-year period (5 historical years and 5 projected years) is sufficient to cover an average business cycle. Unlike the DCF and CAPM, the results of the Comparable Earnings method can be applied directly to an original cost rate base because the nature of the analysis relates to book value. Hence, the Comparable Earnings approach does not contain the potential misspecification that results from applying the result of market models to an original cost rate base when prices and book values diverge significantly.