<u>Missouri Gas Energy</u> Table of Contents to the Financial Supporting Exhibit of Frank J. Hanley

	Schedule No.
Summary of Cost of Capital and Fair Rate of Return	FJH-1
Standard & Poor's Public Utility Rating Methodology Profile and Revised Public Utility Financial Benchmarks	FJH-2
Financial Profile of the Proxy Group of Four Gas Distribution Companies	FJH-3
Financial Profile of the Proxy Group of Eight Value Line Gas Distribution Companies	FJH-4
Financial Profile of Southern Union Company	FJH-5
Capital Structure and Related Ratios	FJH-6
Debt Cost Rates	FJH-7
Inadequacy of DCF Return Related to Book Value	FJH-8
Indicated Common Equity Cost Rate Using the Discounted Cash Flow Model	FJH-9
Derivation of Dividend Yield for Use in the Discounted Cash Flow Model	FJH-10
Current Institutional Holdings	FJH-11
Projected Growth for Use in the Discounted Cash Flow Model	FJH-12
Indicated Common Equity Cost Rate Using the Risk Premium Model	FJH-13
Excerpt from <u>Stocks, Bonds, Bills and Inflation:</u> Valuation Edition 2005 Yearbook	FJH-14
Indicated Common Equity Cost Rate Using the Capital Asset Pricing Model	FJH-15
Indicated Common Equity Cost Rate Using Comparable Earnings Analysis	FJH-16
Authorized Returns on Common Equity for Natural Gas Distribution Companies January 2004–December 2005	FJH-17

Missouri Gas Energy Summary of Cost of Capital and Fair Rate of Return Based on Hypothetical Capital Structure Ratios

Type of Capital	Ratios (1)	Cost Rate	<u> </u>	Weighted Cost Rate
Long-Term Debt	44 09 %	6 57	% (2)	2 90 %
Shorl-Term Debt Tolal Debt	<u>9,91</u> 54 00 (5)	5 47	(3)	<u>0,54</u> 3.44
Common Equity	46.00	11 95	(4)	5.50
Tolai	<u> 100.00 </u> %			<u>8.94</u> %

Notes:

- (1) A hypothetical capital structure consisting of 54 00% debt and 46.00% equity is utilized for cost of capital purposes for the following reasons:
 - (a) Southern Union Company's transformation from a utility to a gas transportation and energy services company. As George L. Lindemann, Southern Union's chairman, President and CEO has stated: "The sale of these assets is part of the continuing transformation of Southern Union Company from a utility to a leader in the natural gas transportation and services industry" in addition Eric D. Herschmann, senior executive vice president of Southern Union stated: "We believe this transaction [sale of New England Gas Company Rhode Island Assets]. as well as our company's output the restriction will further enhance value for our shareholders" (Business Wire February 16, 2006)
 - (b) The pending sale of New England Gas Company's Rhode island assets to National Grid PLC as noted in (1) (a)
 - (c) The pending sale of PG Energy to UGI Utilities. Inc.
 - (d) Because the cost of common equity is expectational and Southern Union is positioning itself as a gas transportation and energy services company (see (1) (a) above), investors no longer view Southern Union as a regulated natural gas distribution utility. Southern Union's cost of common equity is not applicable to PG Energy, a regulated natural gas distribution utility.
 - (e) The use of the proceeds from the sales cited in (1) (b) and (1) (c) above to help fund the acquisition of Sid Richardson Energy Services.
- (2) From page 1 of Schedule 7
- (3) Estimated short-term debt cost rate is based upon the six-quarter average beginning with the first quarter of 2006 and ending with the second quarter 2007 of the 3-month LIBOR rate of 4.97% (as can be gleaned from the information shown on page 7 of Schedule 13) plus 0 50% (50 basis points). Thus, 5.47% = 4.97% + 0.50%
- (4) Based upon informed judgment from the entire study, the principal results of which are summarized on page 2 of this Schedule
- (5)

The 54 00% total debt ratio has been allocated between long-term and short-term debt based upon the midpoint of the average long-term and short-term debt ratios of the proxy group of four gas distribution companies and the proxy group of eight Value Line gas distribution companies for the five quarkers ended December 31. 2005 as shown on pages 3 and 4 of Schedule 6 of this Exhibit The allocation is derived as follows:

Average for the five quarters ended December 31, 2005		up of Four Gas on Companies		Proxy Group of Eight Value Line Gas Distribution Companies		
	Ratios	% to Total	Ratios	% to Total		
Long-Term Debt Short-Term Debt	42.36 % <u>8.76</u>	82 86 % 17.14_	41 26 % 10.05	80.41 % 19,59_		
Total Debt	<u>51.12</u> %	100.00 %	<u>51,31</u> %	<u>100.D0</u> %		

Midpoint of the Proxy Group of Four Gas Distribution Companies and the Proxy Group of Eight Value Line Gas Distribution Companies

		subblief Gongaliaa	
		% to	
	Ratios	Total	
Long-Term Debt	41.81 %	8164 %	
Short-Term Debt	9.41	18.36	
Total Debt	<u>51.22</u> %	<u>100.00</u> %	

Therefore, the hypothetical long-term debt ratio of 44 09% is derived as 81 64% $^{\circ}$ 54 00% and the short-term debt ratio of 9 91% is derived as 18 36% $^{\circ}$ 54 00%

Missouri Gas Energy Brief Summary of Common Equity Cost Rate

Line No.	-	Principal Methods	Proxy Group of Four Gas Distribution Companies	Proxy Group of Eight Value Line Gas Distribution Companies	Southern Union Company
1		Discounled Cash Flow Model (1)	10 43 %	10 41 %	10.98 %
2.		Risk Premium Model (2)	10 53	10.48	1106
З.		Capital Asset Pricing Model (3)	10 44	10 25	11 09
4.		Comparable Earnings Analysis (4)	14 26	14.37	13 88
5	A	Indicated Common Equity Cost Rate before Investment Risk Adjustments	11 42 %	11 38 %	11.75 %
	B	Adjusted Discounted Cash Flow Model (DCF) (5)	11 69	11 60	12.32
6		Indicated Common Equity Cost Rate Before Adjustments for Unique Risk		11 50 %	12 00
7.	А	Adjustments for Unique Risk Due to smaller relative size		0 30 (8)	0 50 (6)
	B	Due to Lack of Protection from the Vagaries of Weather		0.15 (7)	
8		Common Equily Cost Rate after Investment Risk Adjustment		<u>11.95</u> %	12.50 %
9		Recommendation		1.95%	

See pages 3 and 4 for notes

Missouri Gas Energy Notes to Brief Summary of Cost of Equity

Jan. 2006 (4.36%) and Feb. 2006 (4.47%) commercial paper rate, from Federal Reserve Statistical Release H.15.

t = tax rate, i.e., 35%. MD = average long-term debt ratio based upon a market-value capital structure, using the fair value of long-term debt at March 17, 2006 from pages 6 to 8 of this schedule.

MS = average short-term debt ratio based upon a market-value capital structure, using the book value of short-term debt March 17, 2006 from pages 6 to 8 of this schedule.

ME = average common equity ratio based upon a market-value capital structure at March 17, 2006.

d = cost rate of preferred stock, i.e., 6.12%, the average of the Jan. 2006 (6.14%) and Feb. 2006(6.10%) yields on Moody's A rated public utility preferred stocks.

rated public utility preferred stocks. MP = average preferred stock ratio based upon a market-value capital structure at March 17, 2006, assuming preferred stock has a market-to-book ratio of 1.00, from pages 6 to 8 of this schedule.

From these "unlevered" costs of common equity, 8.93% (4 LDCs), 9.05% (8 LDCs) and 8.70% (Southern Union), the cost of common equity using the average book value capital structure ratios of the proxy groups can be derived as follows:

$$k_{u} = k_{e} + [\{(k_{u}-l)^{*}(1-t)^{*}(BD/BE)\} + \{(k_{u}-l_{s})^{*}(1-t)^{*}(BS/BE)\} + \{(k_{u}-d)^{*}(BP/BE)\}]$$

For the Proxy Group of Four Gas Distribution Companies:

11.69% = 8.93%+- [{(8.93% - 5.79%)*(1 - 35%)*(41.52%/45.00%)} + {(8.93% - 4.42%)*(1 - 35%)*(13.48%/45.00)} + {(8.93-6.12)*{ 0.0%/45.00}}]

For the Proxy Group of Eight Value Line Gas Distribution Companies:

11.60% = 9.05% + [{(9.05% - 5.79%)*(1-35%)*(41.64%/47.43%)}+ {(9.05% - 4.42%)*(1-35%)*(10.69%/47.43)}+{(9.05-6.12)*(0.24%/47.43)}]

For Southern Union Company:

12.32% = 8,70% + [{ (8.70% - 5.79%) * (1 – 35%) * (48.89% /36.50%) } + { (8.70% - 4.42%) * (1 – 35%) * (9.44% / 36.50) } + { (8.70-6.12) * (5.17% / 36.50) }]

Where:

k_u = cost of common equity for a firm with 100% common equity.
 k_e = cost of common equity based upon book value capital structure ratios.

I = cost rate of debt, i.e., 5.79%, the average of the Jan. 2006 (5.75%) and Feb. 2006 (5.82%) yields on Moody's A rated public utility debt.

I, = cost rate of short-term debt, i.e., 4.42%, the average of the Jan. 2006 (4.36%) and Feb. 2006 (4.47%) commercial paper rate, from Federal Reserve Statistical Release H 15.

t = tax rate, i.e., 35%.

BD = average debt ratio based upon the carrying value of longterm debt at March 17, 2006 from pages 6 to 8 of this schedule. BS = average short-term debt ratio based upon a book value capital structure, using the book value of short-term debt at Missouri Gas Energy Notes to Brief Summary of Cost of Equity

Jan. 2006 (4.36%) and Feb. 2006 (4.47%) commercial paper rate, from Federal Reserve Statistical Release H.15. t = tax rate, i.e., 35%.

MD = average long-term debt ratio based upon a market-value capital structure, using the fair value of long-term debt at March 17, 2006 from pages 6 to 8 of this schedule.

MS = average short-term debt ratio based upon a market-value capital structure, using the book value of short-term debt March 17, 2006 from pages 6 to 8 of this schedule.

ME = average common equity ratio based upon a market-value capital structure at March 17, 2006

d = cost rate of preferred stock, i.e., 6.12%, the average of the Jan. 2006 (6.14%) and Feb. 2006(6.10%) yields on Moody's A rated public utility preferred stocks.

MP = average preferred stock ratio based upon a market-value capital structure at March 17, 2006, assuming preferred stock has a market-to-book ratio of 1.00, from pages 6 to 8 of this schedule.

From these "unlevered" costs of common equity, 8.93% (4 LDCs), 9.05% (8 LDCs) and 8.70% (Southern Union), the cost of common equity using the average book value capital structure ratios of the proxy groups can be derived as follows:

$$k_{u} = k_{e} + [\{(k_{u} - I)^{*}(1 - I)^{*}(BD/BE)\} + \{(k_{u} - I_{s})^{*}(1 - I)^{*}(BS/BE)\} + \{(k_{u} - d)^{*}(BP/BE)\}\}$$

For the Proxy Group of Four Gas Distribution Companies:

11.69% = 8_93%+-[{(8.93% - 5.79%)*(1 - 35%)*(41.52%/45.00%)} +{(8.93% - 4.42%)*(1 - 35%)*(13.48%/45.00)}+{(8.93-6.12)*(0.0%/45.00}}]

For the Proxy Group of Eight Value Line Gas Distribution Companies:

11.60% = 9.05% + [{(9.05% - 5.79%) *(1-35%) *(41.64%/47.43%)} + {(9.05% - 4.42%) *(1-35%) * (10.69%/47.43)} + {(9.05-6.12) *(0.24%/47.43)}]

For Southern Union Company:

12.32% = 8.70% + [{ (8.70% - 5.79%) * (1 - 35%) * (48.89% /36.50%) } + { (8.70% - 4.42%) * (1 - 35%) * (9.44% / 36.50) } + { (8.70-6.12) * (5.17% / 36.50) }]

Where:

 $k_u = \text{cost}$ of common equity for a firm with 100% common equity. $k_e = \text{cost}$ of common equity based upon book value capital structure ratios.

I = cost rate of debt, i.e., 5.79%, the average of the Jan. 2006 (5.75%) and Feb. 2006 (5.82%) yields on Moody's A rated public utility debt.

I = cost rate of short-term debt, i.e., 4.42%, the average of the Jan. 2006 (4.36%) and Feb. 2006 (4.47%) commercial paper rate, from Federal Reserve Statistical Release H.15. t = tax rate, i.e., 35%.

BD = average debt ratio based upon the carrying value of longterm debt at March 17, 2006 from pages 6 to 8 of this schedule. BS = average short-term debt ratio based upon a book value capital structure, using the book value of short-term debt at

Missouri Gas Energy Notes to Brief Summary of Cost of Equity

March 17, 2006 from pages 6 to 8 of this schedule. d = cost rate of preferred stock, i.e., 6.12%, the average of the Jan. 2006 (6.14%) and Feb. 2006(6.10%) yields on Moody's A rated public utility preferred stocks. BP = average preferred stock ratio based upon a book-value capital structure at March 17, 2006, from pages 6 to 8 of this schedule.

Had the average capital structure of Cascade Natural Gas Company and Northwest Natural Gas Company been used, the adjusted DCF for the group of four gas distribution companies would be 11.46% as shown on page 1 of schedule 9. Had the average capital structure of Cascade Natural Gas Company, The Laclede Group and Northwest Natural Gas been used, the adjusted DCF for the group of eight gas distribution companies would be 11.52% as shown on page 1 of schedule 9.

- (6) Business Risk Adjustment due to PG Energy's greater relative business risk due to its small size vis-à-vis the two proxy groups and Southern Union Company, respectively, as fully determined in Mr. Hanley's accompanying direct testimony.
- (7) As explained in Mr. Hanley's direct testimony, PG Energy does not enjoy protection from the vagaries of weather. Since the majority of the companies in both proxy groups have such clauses (see page 3 of Schedules 3 and 4 of this Exhibit), PG Energy has greater relative risk vis-à-vis the companies in the proxy groups, due to the greater variability of its earnings attributable to the vagaries of weather. In Mr. Hanley's judgment the added risk attributable to the lack of protection from the vagaries of weather is approximately 25 basis points. As shown on Page 3 of Schedule 3, the equivalent of 2 companies in the proxy group of four LDCs, have WNCs in place. This equates to about 50% of the full impact or 13 basis points ((0.25% * 50%) = 0.125%, rounded to 0.13%). It can be determined in similar fashion by reference to Page 3 of Schedule 4, that the equivalent of 5 companies in the proxy group of eight Value Line LDCs enjoy protection from weather, of the full impact or 16 basis points ((0.25% * 625%) = 0.156%, rounded to 0.16%)).

Schedule FJH-1 Page 6 of 23

Capital Siructure Based upon Total Capital for the Proxy Group of Four Cas Distribution Companies Al.September.2005.(1)

	Based Upon Book	Value	Based Upon Market Value Equity at September 3	
	Amouni Outstanding	Ratios	Amount Outstandinn (\$mill,)	Ratios
Cascade Natural Gas Corporation				
Long-Term Debi Short-Term Debi	S 173.84 12.50	57 00 % 4.10	\$ 108.53 12.50	44 39 3 2.94
Total Debt	185.34	61 10	201 13	47 33
Preferred Slock	,			
Common Equily	118.62	38.90	223.61	52.67
Tolal Equily	118.62	38.90	223.81	52.67
Tolal Capilal	<u>\$ 304.96</u>	100.00 %	5 424,94	100.00 1
NICOR Inc.	S 530.40	27 74 %	5 525.00	17 72 5
Short-Term Debt	586.00	30.30	586.00	19.78
Total Debt	1 122 40	58.04	1 111 00	37 50
Proferred Stock Common Equily	B11.30	41.96	1,852.02	62.50
Total Equily	B11.3D	41.96	1,852,02	62.60
Tolal Capital	<u>\$ 1,933.70</u>	100.00 %	5 2,963.02	100.00 5
Iorihwest Natural Gas Company				
ang-Tenn Debi Short-Tenn Debi	5 529.50 126.70	42.60 % 10.19	\$ 579 38 126,70	35 60 5 7.66
Total Debt	656.20	52 70	706.08	42.66
referred Slock	N	•	•	
Iommon Equily	586.93	47.21	949.06	57.34
Total Equily Total Capital	<u>580.93</u> 5 1,243.13	<u>47.21</u> 100.00 %	<u>949.06</u> 5 1,655.14	57.34 100.00 3
i diar Gapital		100.00		107.90
iedmont Natural Gas Co., Inc. ong-Term Debt		38,76 %	S 753.27	27.34 1
ihari-Term Debi	158.50	9.31	158.50	5.76
Total Debi	818.50	48.07	911 77	33.10
referred Stock	-		•	•
Common Equily	<u> </u>	51,93	1,843.05	66.90
Total Equity	884.19	51.93	1,843.05	66.90
Tolal Capital	5 1,762.69	100.00 %	<u>\$ 2,754.82</u>	100.00
Proxy Group of Four Gas Distribution Companies				
ang-Tami Dabi ihori-Tami Dabi	-	41.52 % 13.40		3111 5
Tolal Dobt	-	55.00		40 15
relened Slock		-		• •
Common Equity Total Equity		45,00		59.65 59.85
Total Capital	-	100.00 %		100.00 1
a dhe a Llaíon Came tau				
iouthern Union Company ong-Term Debl hort-Term Debl	S 2 175.79 420.00	48 E9 % 9.44	S 2 313 06 420.00	40.89 5 7.42
Total Debt	2 595 79	58 33	2 733.05	48 31
referred Stock	230 00	517	230.00	4.00
omation Equity Total Equity	1,524.07	<u>36.50</u> 41.07	2,594,37	47.63

(1) Capital Sinucture Based upon Total Capital as of September 2005, except NICOR Northwest Natural and Southern Union. which is December 2005, and for Piedmont Natural Gas which is October 2005.

(2) Book Value Long-lenn debt for Southern Union are based on the corrying amount published by the company in their annual Form 10K.

Source of information: Company Annual Forms 10-K Source of Information: DTN Trading Markols' DTNIQ/Interquote.com

Schedule PJH-1 Page 7 of 23

Copital Structure Based upon Total Copital for the Proxy Group of Eight Value Line Gas Distribution Company ALSoptember 2005/11

	Based Upon Boo	··· · · ···	Equily at Septer	
	Amount Outstanding (5 mill.)	Ratios	Amount Outstanding (\$ mill.)	Ratios
Cascade Natural Gas Corporation	\$ 173.84	57.81 %	\$ 180 63	44 39 %
ihort-Term Debl	12,50	4.10	12.50	2.94
Total Debt	185.34	61 11	201 13	47 33
referred Slock Common Equity	118.62	38.90	223.81	52.67
Total Equity	118.62	38.90	223.01	52.67
Tolal Capilal	<u>\$ 304.96</u>	<u> </u>	<u>\$ 424.94</u>	100.00 %
The Laclede Group, (nc.	S	45.48 %	5 413.52	34 14 %
.ong-Tam Ceb! Slion-Tem Debt	5 360.43	8.62	70.61	5.63
Total Debt	451,64	55 10	484 13	39 97
rolenod Slock Common Equily	1 01 366.53	0 12 44,78	1.61 726.20	0.08 59.95
Total Equity	367,53	44.90	727.21	60.03
Total Capital	S 818.57	100.00 %	5 1.211.34	100.00 %
Total Debt Prelemed Stock	430 90	•	-	20.45 - 73.55
	430 90	50 85	440.90	20.45
Common Equity	438.05	49.95	1.225.07	73.55 73.55
Total Equily Total Capital	438.05 S 876.85	<u>48.85</u> 108.08 %	1,226.07 \$ 1,666.97	100.00 %
	<u>er in de service (, ,), i de services</u>	Mile Leans 2 Annaulus		<u> </u>
NICOR Inc. .ong-Tenn Debl Short-Term Debl	\$ 536.40 596.00	27 74 % 30.30	\$ 525.00 586.00	17 72 5 19.78
Tolal Debi	1 122.40	58.04	1.111.00	37 50
Preferred Stock Common Equily	B11.30	41.95	1.852.02	62.50
Total Equily	811.30	41.96	1,852.02	62.50
Total Capital	<u>\$ 1,933,70</u>	100.00 %	<u>S 2,963.02</u>	190.60
Northwest Natura) Gas Company Long-Terra Dobt	\$ 529.50	42.60 %	s 579.38	35,00 %
Short-Term Debi	126,70	10,19	126.70	7.56
Total Debt	656.20	52 79	706.08	42 50
relanad Slock Jommon Equily	586.93	47.21	949.06	57,34
Total Equity	586.93	47.21	949.06	57.34
	\$ 1,243.13	100.00 %	5 1,655.14	100.00 5

Schedule FJH-1 Page B ol 23

Capital Structure Based upon Total Capital for the Proxy Group of Eight Value Line Gas Distribution Companies and Southern Union Company At September 2005 {1}

	Based Upon Bo	ook Value	Based Upon Market Valu Equily at September	
	Amount Outstanding (\$ mill.)	Ralios	Amount Oulstanding (\$ mill.)	Ralios
Peoples Energy Corporation	S 895.55	52.56 %	\$ 912.80	38.59 9
Short-Term Debl	8.15	0.48	8.15	0.35
Total Debl	903.73	53.04	920.95	38.94
ralemed Slock Common Equity	800.15	46.96	1,444.25	51.05
Total Equity	808.15	46.95	1,444.25	61.06
Tolal Capital	5 1,703.89	\$00.00 %	\$ 2,365.20	100.00 9
riedmont Natural Gas Co., Inc. .org-Term Debt	5 660 00	3876 %	\$ 753.27	27.34 9
itort-Term Debl	158.50	<u>9.31</u>	158.50	5.76
Total Debt	618 50	48 07	911 77	33 10
relerred Slock Jommon Equily	664.19	51.93	1,843.05	66.90
Total Equily	684.19	51,93	1,843.05	66.90
Total Capital	5 1,702.59	100.00 %	S 2,754.82	100.00
hort-Term Debl Tolal Debl referred Slock emmon Equity	40.86 625 08 28 17 893.99	2,64 40,40 1 82 57.78	40.88 667.68 28.20 1,475.74	1.88 30 74 1 30 07.95
Total Equily	<u>922.17</u> \$ 1,547,24	<u> </u>	<u>1.503.94</u> \$ 2,171.02	<u>69.26</u> 100.00
Total Capital roxy Group of Eight Gas Distributio				
Companies ong-Term Debl ihort-Term Debl		41 64 % 10.69		30.26 6.83
Total Dabi		52 33		37 09
referred Slock Common Equily		0.24 47,43		0 17 62.74
Tolal Equity		47.57	-	62,91
Total Capital		100.00 %	a	100.00
Southern Union Company	\$ 2 175.79 (2) 48.69 %	S 2 313 06	40.69
Short-Tenn Dabl	420.00	9.44	420.00	7.42
Total Debi	2 595.79 230 00	56 33 5 17	2.733.06 230.09	48.31 4.06
reterred Stock Common Equity	1,624.07	36.50	2.694.37	47.63
Total Equily	1,654.07	41.87	2,924.37	51.69
Total Capital	<u>5 4,449.86</u>	100.00 %	\$ 5,657.43	100.00 5

(1) Capital Structure Based upon Total Capital as of September 2005, except NICOR NorthwestNatural and Southern Union, which is December 2005, and for Pledmont Natural Gas which is October 2005

(2) Book Value Long-term dolt for New Jersey Resources WGL Holdings and Southern Union are based on the carrying amount published by the companies in their Annual Form 10-Ks.

Source of Information: Company Annual Forms 10-K Source of Information: DTN Trading Markets' DTNIQ/Interquote.com

		격	balson As	Derivation ssociates' Size P	Misso of Investme tremia_for_th	ouri Gas ent Risk re Decli	Missouri Gas Energy Derivation of Investment Risk Adjustment Based upon tlest Size Premua for the Decile Portfolios of the NYSE/	Missouri Gas Energy Derivation of Investment Risk Adjustment Based upon Ibbotson Associates' Size Premia for the Decile Portfolios of the NYSE/AMEX/NAS/DAG	NASDAQ				
							ы			ы	শ		ыл
Líne No.	-1	Total (m)	otal Capitalizz <u>Debt) for</u> (millions)	Capitalization (incl. Short-Term Debt) for the Year 2005 Illons) (thres larger)	-Term arger}	Ma	Aarket Capitalization 2006 (1) (millions)	Market Capitalization on March 17, 2006 (1) (times larger)	,	Applicable Decile of the NYSE/AMEX/ NASDAQ	Applicable Size Premium	, ai 1	Spread from Applicable Size Premium (2)
т. Б	Missouri Gas Energy Based upon the Proxy Group of Four Gas Distribution Companies	69	580.602	(3)		(A)	525.607			8 - 9 (4)	2.61%	(2)	
Ä	Based upon the Proxy Group of Eight Vatue Line Gas Distribution Companies					69	537.626			8 - 9 (4)	2.61%	(2)	
Ċ	Based upon Southern Union Company					60	438.625			9 (4)	2.86%	(5)	
5	Proxy Group of Four Gas Distribution Companies	- va	1,296.120	(9)	2.2	Ś	1,008.297	0.1	_	8 - 7 (7)	1.68%	(8)	0.93%
ю	Proxy Group of Eight Vatue Line Gas Distribution Companies	с 63	1,279.600	(6)	2.2 ×	ю	1,217.526	2.3	×	6 (10)	1.75%	(11)	0.86%
4	Southern Union Company	ч 03	4,449.858	(12)	1.7	ю	2,667.265	6.1		4 (13)	1.07%	(14)	1.54%
							Decile	Number of Companies	, I	Recent Total Market Capitalization (millions)	Recent Average Market (millions)	1	
						す 2 ちゅち 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5 7 5	1 - Largest 2 - Largest 4 5 6 9 9 10 - Smallest	172 177 199 209 219 257 257 257 372 372 372 372 372		\$8,214,688,366 1,722,153,325 894,917,914 548,389,454 400,381,543 325,662,336 264,131,617 219,976,996 230,476,080 185,820,318	\$47,759,816 9,729,680 4,497,075 2,623,873 1,2623,873 1,2623,873 1,2627,171 880,439 591,336 391,301 104,276	Шарана и с	

See page 10 for notes.

Schedule FJH-1 Page 9 of 23

Missouri Gas Energy Derivation of Investment Risk Adjustment Based upon Ibbotson Associates' Size Premia for the Decile Portfolios of the NYSE

Notes:

- (1) From page 11 of this Schedule.
- (2) Line No. 1 Line No. 2 and Line No. 1 Line No. 3 of Columns 3 and 4, respectively. For example, the 0.93% in Column 5, Line No. 2 is derived as follows 0.93% = 2.61% - 1.68%.
- (3) Company-provided rate base at December 31, 2005 presumed to equal total capitalization if it were a stand alone entity rather than a division.
- (4) With an estimated market capitalization of \$525.607 million (based upon the Proxy Group of Four Gas Distribution Companies), \$537.626 (based upon the proxy group of Eight Value Line Gas Distribution Companies) and \$438.625 (based upon Southern Union Company), Missouri Gas Energy falls between the 8th and 9th decile for the two proxy groups, and in the 9th decile for Southern Union, of the NYSE/AMEX/NASDAQ, which have an average market capitalization of \$491.319 and \$391.301, respectively, as shown in the table on the bottom half of page 9 of this Schedule.
- (5) Size premium applicable to the 8th and 9th decile of the NYSE/AMEX/NASDAQ as shown on page 18 of this Schedule.
- (6) From page 1 of Schedule 3
- (7) With an estimated market capitalization of \$1,008.297 million, the proxy group of Four Gas Distribution Companies falls between the 6th and 7th deciles of the NYSE/AMEX/NASDAQ which have an average market capitalization of \$1,073.805 million as can be gleaned from the information shown in the table on the bottom half of page 9 of this Schedule.
- (8) Average size premium applicable to the 6th and 7th deciles of the NYSE/AMEX/NASDAQ as can be gleaned from the information shown on page 18 of this schedule.
- (9) From page 1 of Schedule 4.
- (10) With an estimated market capitalization of \$1,217.526 million, the proxy group of Eight Value Line Gas Distribution Companies falls in the 6th decile of the NYSE/AMEX/NASDAQ which has an average market capitalization of \$1,267.161 as shown in the table on the bottom half of page 9 of this Schedule.
- (11) Average size premium applicable to 6th deciles of the NYSE/AMEX/NASDAQ as can be gleaned from the information shown on page 18 of this schedule.
- (12) From page 1 of Schedule 5.
- (13) With an estimated market capitalization of \$2,667.265 million, Southern Union Company falls in the 4th decile of the NYSE/AMEX/NASDAQ which has an average market capitalization of \$2,623.873 as shown in the table on the bottom half of page 9 of this Schedule.
- (14) Average size premium applicable to 4th deciles of the NYSE/AMEX/NASDAQ as can be gleaned from the information shown on page 18 of this schedule

Source of Information: Ibbotson Associates, <u>Stocks, Bonds, Bills and Inflation – Valuation Edition – 2005</u> <u>Yearbook</u>, Chicago, IL, 2005 Alssouri Gas Energy Market Capitalization of Missouri Gas Energy for the Proxy Group of Pour Gas Disbibution Companies, the Proxy Group of Eight

	ice mer rook served of rook and variable Companies and Southern Unden Company Value Line Gas Distribution Companies and Southern Unden Company	dine Companies and	z - total otto of the second second second to the second s			
	7	N	£	শ	νı	ιœ
Соправу	Commen Stock Shares Ourstanding at September 30, 2005 (1) 8 (*) (* millions)	Book Valve per Share at September 30, 2005 (1) & (*)	Total Contimon Equity at September 30, 2005 (*) (millions 1	Clusing Slock Market Price an March 17, 2005	Markut-lo-Book Radio at March 17, 2006 (2)	Market Capitalization on <u>March 17, 2006 (3)</u> (millions)
Missouri Gaa Energy Based open the Proxy Group of Four Gas Distribution Correaales	NA (4)	(<u>5 267.077 (4)</u>	(1	<u> 196.8</u> % (5)	<u>\$ 525.607</u> (6)
Based upon the Proxy Group of Eight Value Line Gas Distribution Companies					2013 % (7)	<u>\$ 537,626</u> (0)
Based upon Southern Union Company					164.2 % (9)	\$ 438.625 (10)
Proxy Group of Four Gas Distribution Companies Cascade Natural Gas Conneration	11,413	\$ 10.393	5 118-015	\$ 19.610	188.7 %	S 223.809
NICOT IN NICOT IN Northwest Natural Gas Company Pledmont Natural Gas Co., Inc.	41,100 27,621 76,638 76,638 21,738	s 16.669	811.300 586.930 604.592 5 505.615	41.920 34.360 24.030 5 31.963		1,052,024 949,058 1,043,053 S 1,008,237
Proxy Group of Eight Value Line Gas Distribution Companies						
Cascado Natural Gas Corporation The Lactod Group, Inc. New Jersey Resources Corp. NCOR Inc. Northwest Natural Gas Company Peoples Energy Corporation Peoples Energy Corporation Peofron Natural Gas Co. Inc. VIGL Hotdings, Inc.	15,413 21,172 21,172 27,545 44,180 44,180 27,621 38,157 76,698 76,698 06,936	50000000000000000000000000000000000000	5 110.615 366.525 438.002 811.300 811.300 810.154 804.152 684.152 684.152 83.952 5 612.470	5 19.610 34.300 44.251 41.825 34.395 37.859 37.859 24.009 24.009 27.000 5 33.360	188.7 % 198.7 % 2798.5 % 181.7 181.7 180.5 180.5 185.1 195.1 201.3 %	5 223,409 1,226,200 1,226,072 1,832,058 1,832,058 1,442,251 1,442,254 1,475,742 5 1,217,538
Southern Linion Company	110.354	5 14.717	s 1.624.069	5 24.170	164.2 %	\$ 2.667.265
	NA = Nat Avallable					
NOIES:	 Column 3 / Column 1. Column 4 / Column 2. Column 4 / Column 2. Gowan 5 / Column 2. Based upon efficiently Missouri Ges Energy's rate base at December 31, 2005 of 5580.601647 by Mr. Hanley's recommended hypothetical common equity ratio 46.00%. S267,077 = 5580.001647 - 46.00%. 	ouri Gas Enorgy's rate ba 177 = \$380,601647 + 46.0	se at December 31, 2005 10%.	rof 5580.601647 by Mi	. Kanleys recommended (hypothettas common

c) equivation densities. Script Annual Annu Annual Annu

Source of Information: Company Annual Forms 10-K Source of Information: DTN Trading Markets' DTNIQNAIerquote.com

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Valuation Edition 2005 Yearbook

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Chapter 7 Firm Size and Return

The Firm Size Phenomenon

One of the most remarkable discoveries of modern finance is that of a relationship between firm size and return. The relationship cuts across the entire size spectrum but is most evident among smaller companies, which have higher returns on average than larger ones. Many studies have looked at the effect of firm size on return.' In this chapter, the returns across the entire range of firm size are examined.

Construction of the Decile Portfolios

The portfolios used in this chapter are those created by the Center for Research in Security Prices (CRSP) at the University of Chicago's Graduate School of Business. CRSP has refined the methodology of creating size-based portfolios and has applied this methodology to the entire universe of NYSE/AMEX/NASDAQ-listed securities going back to 1926.

The New York Stock Exchange universe excludes closed-end mutual funds, preferred stocks, real estate investment trusts, foreign stocks, American Depository Receipts, unit investment trusts, and Americus Trusts. All companies on the NYSE are ranked by the combined market capitalization of their eligible equity securities. The companies are then split into 10 equally populated groups, or deciles. Eligible companies traded on the American Stock Exchange (AMEX) and the Nasdaq National Market (NASDAQ) are then assigned to the appropriate deciles according to their capitalization in relation to the NYSE breakpoints. The portfolios are rebalanced, using closing prices for the last trading day of March, June, September, and December. Securities added during the quarter are assigned to the appropriate portfolio when two consecutive month-end prices are available. If the final NYSE price of a security that becomes delisted is a month-end price, then that month's return is included in the quarterly return of the security's portfolio. When a month-end NYSE price is missing, the month-end value of the security is derived from merger terms, quotations on regional exchanges, and other sources. If a month-end value still is not determined, the last available daily price is used.

Base security returns are monthly holding period returns. All distributions are added to the month-end prices, and appropriate price adjustments are made to account for stock splits and dividends. The return on a portfolio for one month is calculated as the weighted average of the returns for its individual stocks. Annual portfolio returns are calculated by compounding the monthly portfolio returns.

Size of the Deciles

Table 7-1 reveals that the top three deciles of the NYSE/AMEX/NASDAQ account for most of the total market value of its stocks. Approximately two-thirds of the market value is represented by the first decile, which currently consists of 172 stocks, while the smallest decile accounts for just over one percent of the market value. The data in the second column of Table 7-1 are averages across all

Rolf W. Banz was the first to document this phenomenon. See Banz, Rolf W. "The Relationship Berween Returns and Market Value of Common Stocks," *Journal of Financial Economics*, Vol. 9, 1981, pp. 3-18.

79 years. Of course, the proportion of market value represented by the various deciles varies from year to year.

Columns three and four give recent figures on the number of companies and their market capitalization, presenting a snapshot of the structure of the deciles near the end of 2004.

Table	7-1
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Size-Decile Portfolios of the NYSE/AMEX/NASDAQ Size and Composition 1926-2004

Decile	Historical Average Percentage of Total Capitalization	Recent Number of Companies	Recent Decile Market Capitalization (in thousands)	Recent Percentage of Total Capitalization
1-Largest	63 31%	172	\$8.214.688.366	63 16%
2	13 97%	177	1,722.153.325	13 24%
3	7 58%	199	894,917,914	6 88%
4	4 74%	209	548.389.454	4.22%
5	3 24%	219	400.381.543	3 08%
6	2.37%	257	325,662,935	2 50%
7	1 73%	300	264,131,617	2.03%
8	1.28%	372	219,976.996	1.69%
9	0.98%	589	230,476,080	1 77%
10-Smallest	0.80%	1,782	185,820,318	1 43%
Mid-Cap 3-5	15.56%	627	1,843.668,910	14 18%
Low-Cap 6–8	5 38%	929	809,771.549	6 23%
Micro-Cap 9-10	1 79%	2.371	416.296.398	3 20%

Source: © 200503 CRSP* Center for Research in Security Prices Graduate School of Business. The University of Chicago Used with permission All rights reserved, www.crsp.uchicago.edu

Historical average percentage of total capitalization shows the average, over the last 79 years, of the decile market values as a percentage of the total NYSE/AMEX/NASDAC calculated each month. Number of companies in deciles, recent market capitalization of deciles, and recent percentage of total capitalization are as of September 30, 2004.

Table 7-2 gives the current breakpoints that define the composition of the NYSE/AMEX/NASDAQ size deciles. The largest company and its market capitalization are presented for each decile. Table 7-3 shows the historical breakpoints for each of the three size groupings presented throughout this chapter. Mid-cap stocks are defined here as the aggregate of deciles 3-5. Based on the most recent data (Table 7-2), companies within this mid-cap range have market capitalizations at or below \$6,241,953,000 but greater than \$1,607,854,000. Low-cap stocks include deciles 6-8 and currently include all companies in the NYSE/AMEX/NASDAQ with market capitalizations at or below \$1,607,854,000 but greater than \$505,437,000. Micro-cap stocks include deciles 9-10 and include companies with market capitalizations at or below \$50,5437,000. The market capitalization of the smallest company included in the micro-capitalization group is currently \$1,393,000.

Firm Size and Return

Table 7-2

Size-Decile Portfolios of the NYSE/AMEX/NASDAQ, Largest Company and its Market Capitalization by Decile September 30, 2004

Decile	Market Capitalization of Largest Company (In thousands)	Сопралу Name
1-Largest	\$342,087.219	General Electric Co.
2	14.096,886	Agilent Technologies Inc.
3	6.241,953	Tenet Healthcare Corp
4	3.464.104	Wellchoice Inc.
5	2.231.707	OGE Energy Corp.
6	1.607,854	Entercom Communications Corp.
7	1,097,603	Vintage Petroleum Inc
8	746.219	Wabash National Corp
9	505.437	World Fuel Services Corp
10-Smallest	262.725	Mastec Inc.

Source: Center for Research in Security Prices. University of Chicago

Presentation of the Decile Data

Summary statistics of annual returns of the 10 deciles over 1926-2004 are presented in Table 7-4. Note from this exhibit that both the average return and the total risk, or standard deviation of annual returns, tend to increase as one moves from the largest decile to the smallest. Furthermore, the serial correlations of returns are near zero for all but the smallest two deciles. Serial correlations and their significance will be discussed in detail later in this chapter.

Graph 7-1 depicts the growth of one dollar invested in each of three NYSE/AMEX/NASDAQ groups broken down into mid-cap, low-cap, and micro-cap stocks. The index value of the entire NYSE/AMEX/NASDAQ is also included. All returns presented are value-weighted based on the market capitalizations of the deciles contained in each subgroup. The sheer magnitude of the size effect in some years is noteworthy. While the largest stocks actually declined in 1977, the smallest stocks rose more than 20 percent. A more extreme case occurred in the depression-recovery year of 1933, when the difference between the first and tenth decile returns was far more substantial. This divergence in the performance of small and large company stocks is a common occurrence.

Table 7-3

Size-Decile Portfolios of the NYSE/AMEX/NASDAQ Largest and Smallest Company by Size Group

from 1926 to1965

	Capitalization of Smallest Compe (in thousands)			ation of Large (in thousand	Сарітани	
Micro-Ca 9-1	Low-Cap 6-8	Mid-Cap 3-5	Micro-Cap 9-10	Low-Cap 6-B	Mld-Cap 3-5	Date (Sept 30)
\$4	\$4,325	\$14,100	\$4.305	\$14.040	\$61.490	1926
\$7	\$4.496	\$15,311	\$4,450	\$14.746	\$65.281	1927
\$13	\$5,119	\$19.050	\$5.074	\$18,975	\$81,998	1928
\$12	\$5,915	\$24.480	\$5,875	\$24,328	\$107,085	1929
\$3	\$3,264	\$13.06B	\$3.219	\$13.050	\$67,808	1930
\$1	\$1,927	\$8.222	\$1.905	\$8.142	\$42.607	1931
\$1	\$477	\$2.196	\$473	\$2,170	\$12.431	1932
\$10	\$1.875	\$7.280	\$1.830	\$7,210	\$40.298	1933
\$6	\$1,673	\$6,734	\$1,669	\$6,669	\$38,129	1934
\$3	\$1,383	\$6.549	\$1,350	\$6.519	\$37.631	1935
\$9(\$2,668	\$11.526	\$2.660	\$11,505	\$46,920	1936
\$68	\$3.539	\$13.635	\$3.500	\$13,601	\$51.750	1937
\$60	\$2,145	\$8,372	\$2,125	\$B,325	\$36,102	938
\$75	\$1.800	\$7.389	\$1.897	\$7,367	\$35,784	939
\$51	\$1.872	\$8,007	\$1.861	\$7.990	\$31.050	940
\$72	\$2,087	\$8.336	\$2,086	\$8.316	\$31,744	941
\$82	\$1.788	\$6.875	\$1.779	\$6.870	\$26,135	942
\$395	\$3.903	\$11,480	\$3.847	\$11,475	\$43.218	943
\$309	\$4.812	\$13.068	\$4,800	\$13.066	\$45,621	944
\$225	\$6.428	\$17,575	\$6,413	\$17,325	\$55.268	945
\$829	\$10.051	\$24,199	\$10,013	\$24.192	\$79.15B	946
\$747	\$6,380	\$17.872	\$5,373	\$17.735	\$57,830	947
\$784	\$7.329	\$19,651	\$7,313	\$19,575	\$67.238	948
\$379	\$5.108	\$14.577	\$5.037	\$14,549	\$55.506	949
\$303	\$6,201	\$18,750	\$6.175	\$15.675	\$65,881	950
\$668	\$7.598	\$22,860	\$7.567	\$22,750	\$82,517	951
\$480	\$8.480	\$25.532	\$8.428	\$25.452	\$97,936	952
\$459	\$8,155	\$25.395	\$8,156	\$25.374	\$98.595	953
\$463	\$8,485	\$29,707	\$8.484	\$29.645	\$125,834	954
\$553	\$12.366	\$41,681	\$12.353	\$41,445	\$170,829	955
\$1.122	\$13.524	\$46.886	\$13,481	\$46.805	\$183.434	956
\$925	\$13.848	\$48.509	\$13,844	\$47.658	\$192.861	957
\$550	\$13.816	\$46.871	\$13,789	\$46,774	\$195.D83	358
\$1.B04	\$19,548	\$64,372	\$19.500	\$64.221	\$253,544	959
\$831	\$19.385	\$61,529	\$19,344	\$61,485	\$246.202	960
\$2.455	\$23.613	\$79,422	\$23,562	\$79.058	\$296,261	961
\$1,018	\$18.968	\$59,143	\$18.952	\$58,866	\$250,433	62 .
\$296	\$23.822	\$71,971	\$23,819	\$71.846	\$308.438	63
\$223	\$25,595	\$79.508	\$25.594	\$79.343	\$344,033	64
\$250	\$28,375	\$84,600	\$28,365	\$84.479	\$363,759	65

Source: Center for Research in Security Prices. University of Chicago

Chapter 7

Table 7-3 (continued)

Size-Decile Portfolios of the NYSE/AMEX/NASDAQ Largest and Smallest Company by Size Group

	Capitali	zation of Large (in thousand		Capitaliza	tion of Smalle (in thousand	
Date (Sept 30)	Mid-Cap 3-5	Low-Cap 6-8	Micro-Cap 9-10	Mid-Cap 3-5	Low-Cap 6-8	Micro-Cap 9-10
1966	\$399.455	\$99,578	\$34,884	\$99,935	\$34,966	\$381
1967	\$459,170	\$117.985	\$42,267	\$118,329	\$42,313	\$381
1968	\$528,326	\$149.261	\$60,351	\$150,128	\$60.397	\$592
1969	\$517,452	\$144,770	\$54,273	\$145.684	\$54.280	\$2,119
1970	\$380,246	\$94,025	\$29,910	\$94,047	\$29.916	\$822
1971	\$542.517	\$145,340	\$45,571	\$145,673	\$45,589	\$865
1972	\$545,211	\$139,647	\$46,728	\$139.710	\$46,757	\$1.031
1973	\$424.584	\$94,809	\$29.601	\$95,378	\$29,606	\$561
1974	\$344,013	\$75,272	\$22,475	\$75,853	\$22,481	\$444
1975	\$465,763	\$96,954	\$28,140	\$97,266	\$28.144	\$540
1976	\$551,071	\$116,184	\$31,987	\$116.212	\$32,002	\$564
1977	\$573.084	\$135,804	\$39,192	\$137,323	\$39,254	\$513
1978	\$572,967	\$159,778	\$46,621	\$160,524	\$46.629	\$830
1979	\$661.336	\$174,480	\$49,088	\$174,517	\$49,172	\$948
1980	\$754,562	\$194.012	\$48,671	\$194,241	\$48,953	\$549
1981	\$954,665	\$259,028	\$71,276	\$261,059	\$71.289	\$1,446
1982	\$762,028	\$205,590	\$54,675	\$206,536	\$54,883	\$1.060
1983	\$1,200.680	\$352.698	\$103,443	\$352,944	\$103,530	\$2,025
1984	\$1,068,972	\$314,650	\$90,419	\$315,214	\$90,659	\$2,093
1985	\$1,432.342	\$367,413	\$93,810	\$368,249	\$94,000	\$760
1986	\$1,857,621	\$444,827	\$109,956	\$445.648	\$109,975	\$706
1987	\$2,059,143	\$467,430	\$112,035	\$468,948	\$112,125	\$1,277
1988	\$1.957,926	\$420,257	\$94.268	\$421,340	\$94,302	\$696
1989	\$2,147,608	\$480,975	\$100.285	\$483,623	\$100,384	\$96
1990	\$2,164.185	\$472,003	\$93.627	\$474.065	\$93.750	\$132
1991	\$2,129,863	\$457,958	\$87,586	\$458,853	\$87.733	\$278
1992	\$2,428,671	\$500,346	\$103,352	\$501,050	\$103,500	\$510
1993	\$2,711,068	\$608,520	\$137.945	\$608,825	\$137,987	\$602
1994	\$2,497,073	\$601,552	\$149,435	\$602.552	\$149,532	\$598
1995	\$2.793,761	\$653,178	\$158.011	\$654,019	\$158,063	\$89
1996	\$3,150.685	\$763.377	\$195,188	\$763,812	\$195,325	\$1,043
1997	\$3,511,132	\$818,299	\$230,472	\$821,028	\$230,554	\$480
1998	\$4,216,707	\$934,264	\$253,329	\$936,727	\$253,336	\$1,671
1999	\$4,251,741	\$875,309	\$218,336	\$875,582	\$218.368	\$1,502
2000	\$4,143,902	\$840,000	\$192,598	\$840,730	\$192,721	\$1,462
2001	\$5,252,053	\$1,114,792	\$269,275	\$1,115.200	\$270,391	\$443
2002	\$5.012,705	\$1,143.845	\$314,042	\$1.144,452	\$314,174	\$501
2003	\$4,794,027	\$1,166,799	\$330,608	\$1,167.040	\$330,797	\$332
2004	\$6,241,953	\$1,607,854	\$505,437	\$1.607,931	\$506,410	\$1.393

Source: Center for Research in Security Prices. University of Chicago

Table 7-4

Size-Decile Portfolics of the NYSE/AMEX/NASDAQ, Summary Statistics of Annual Returns 1926-2004

Decile	Geometric Mean	Arithmetic Mean	Standard Deviation	Serial Correlation
1-Largest	9 6%	11.4%	19.27%	0.09
2	10.9	13 2	22.00	0 03
3	11 3	13.8	23.81	-0 02
4	11.3	14 4	26 10	-D.02
5	11 7	15 0	26 94	-0 02
6	11 8	15 5	27 97	O 04
7	11.6	15 7	30.17	0.01
8	11.9	167	33 65	D.04
9	12 2	17 7	36 77	O 05
10-Smallest	14 0	218	45 67	O 15
Mid-Cap, 3–5	11.4	14.2	24 90	-0 02
Low-Cap, 6-8	11.8	15.8	29 68	D 03
Micro-Cap, 9-10	12.8	19 0	39.38	0.08
NYSE/AMEX/NASDAQ				
Total Value-Weighted Index	10 1	12 1	20 32	0 03

Source: Center for Research in Security Prices, University of Chicago

Aspects of the Firm Size Effect

The firm size phenomenon is remarkable in several ways. First, the greater risk of small stocks does not, in the context of the capital asset pricing model (CAPM), fully account for their higher returns over the long term. In the CAPM, only systematic or beta risk is rewarded; small company stocks have had returns in excess of those implied by their betas.

Second, the calendar annual return differences between small and large companies are serially correlated. This suggests that past annual returns may be of some value in predicting future annual returns. Such serial correlation, or autocorrelation, is practically unknown in the market for large stocks and in most other equity markets but is evident in the size premia.

Third, the firm size effect is seasonal. For example, small company stocks outperformed large company stocks in the month of January in a large majority of the years. Such predictability is surprising and suspicious in light of modern capital market theory. These three aspects of the firm size effect—long-term returns in excess of systematic risk, serial correlation, and seasonality—will be analyzed thoroughly in the following sections.



Long-Term Returns in Excess of Systematic Risk

The capital asset pricing model (CAPM) does not fully account for the higher returns of small company stocks. Table 7-5 shows the returns in excess of systematic risk over the past 79 years for each decile of the NYSE/AMEX/NASDAQ. Recall that the CAPM is expressed as follows:

$$k_s = r_t + (\beta_s \times ERP)$$

Table 7-5 uses the CAPM to estimate the return in excess of the riskless rate and compares this estimate to historical performance. According to the CAPM, the expected return on a security should consist of the riskless rate plus an additional return to compensate for the systematic risk of the security. The return in excess of the riskless rate is estimated in the context of the CAPM by multiplying the equity risk premium by β (beta). The equity risk premium is the return that compensates investors for taking on risk equal to the risk of the market as a whole (systematic risk).² Beta measures the extent to which a security or portfolio is exposed to systematic risk.³ The beta of each decile indicates the degree to which the decile's return moves with that of the overall market.

A beta greater than one indicates that the security or portfolio has greater systematic risk than the market; according to the CAPM equation, investors are compensated for taking on this additional risk. Yet, Table 7-5 illustrates that the smaller deciles have had returns that are not fully explainable by their higher betas. This return in excess of that predicted by CAPM increases as one moves from the largest companies in decile 1 to the smallest in decile 10. The excess return is especially pronounced for micro-cap stocks (deciles 9–10). This size-related phenomenon has prompted a revision to the CAPM, which includes a size premium. Chapter 4 presents this modified CAPM theory and its application in more detail.

This phenomenon can also be viewed graphically, as depicted in the Graph 7-2. The security market line is based on the pure CAPM without adjustment for the size premium. Based on the risk (or beta) of a security, the expected return lies on the security market line. However, the actual historic returns for the smaller deciles of the NYSE/AMEX/NASDAQ lie above the line, indicating that these deciles have had returns in excess of that which is appropriate for their systematic risk.

² The equity risk premium is estimated by the 79-year arithmetic mean return on large company stocks, 12.39 percent, less the 79-year arithmetic mean income-return component of 20-year government bonds as the historical riskless rate, in this case 5.22 percent. (It is appropriate, however, to match the maturity, or duration, of the riskless asset with the investment horizon.) See Chapter 5 for more detail on equity risk premium estimation.
3 Historical betas were calculated using a simple regression of the monthly portfolio (decile) total returns in excess of the

³ Historical betas were calculated using a simple regression of the monthly portfolio (decile) total returns in excess of the 30-day U.S. Treasury bill total returns versus the S&P 500 total returns in excess of the 30-day U.S. Treasury bill, January 1926-December 2004. See Chapter 6 for more detail on beta estimation.

Table 7-5

Long-Term Returns In Excess of CAPM Estimation for Decile Portfolios of the NYSE/AMEX/NASDAQ 1926-2004

Declie	Beta"	Arithmetic Mean Return	Realized Return in Excess of Riskless Rate**	Estimated Return In Excess of Riskiess Rate†	Size Premium (Return in Excess of CAPM)
1-Largest	0 91	11.39%	6 16%	6.53%	-0.37%
2	1.04	13.24%	8.02%	7 42%	0 60%
3	1 10	13 84%	8 62%	7.86%	0 75%
4	1 13	14 38%	9 15%	8 08%	1.07%
5	1.16	14.95%	9.74%	8.30%	1.44%
6	1 18	15 46%	10.23%	8.48%	1.75%
7	1 23	15 67%	10 45%	8 83%	1.61%
8	1 28	16 74%	11 51%	9.15%	2.36%
9	1 34	17.71%	12.48%	9 62%	2.86%
10-Smallest	141	21 77%	16.54%	10.14%	6 4 1 %
Mid-Cap. 3-5	1 12	14 19%	8 96%	8 01%	0 95%
Low-Cap, 6-8	1.22	15 76%	10.54%	8 73%	181%
Micro-Cap. 9-10	1 36	18 97%	13 74%	9.72%	4 02%

*Betas are estimated from monthly portfolio total returns in excess of the 30-day U.S. Treasury bill total return versus the S&P 500 total returns in excess of the 30-day U.S. Treasury bill, January 1926–December 2004

"Historical riskless rate is measured by the 79-year arithmetic mean income return component of 20-year government bonds (5.22 percent).

†Calculated in the context of the CAPM by multiplying the equity risk premium by beta. The equity risk premium is estimated by the arithmetic mean total return of the S&P 500 (12.39 percent) minus the arithmetic mean income return component of 20-year government bonds (5.22 percent) from 1925–2004.

Graph 7-2

Security Market Line versus Size-Decile Portfolios of the NYSE/AMEX/NASDAQ 1926-2004



Schedule FJH-1 Page 22 of 23

Further Analysis of the 10th Decile

The size premia presented thus far do a great deal to explain the return due solely to size in publicly traded companies. However, by splitting the 10th decile into two size groupings we can get a closer look at the smallest companies. This magnification of the smallest companies will demonstrate whether the company size to size premia relationship continues to hold true.

As previously discussed, the method for determining the size groupings for size premia analysis was to take the stocks traded on the NYSE and break them up into 10 deciles, after which stocks traded on the AMEX and NASDAQ were allocated into the same size groupings. This same methodology was used to split the 10th decile into two parts: 10a and 10b, with 10b being the smaller of the two. This is equivalent to breaking the stocks down into 20 size groupings, with portfolios 19 and 20 representing 10a and 10b.

Table 7-7 shows that the pattern continues; as companies get smaller their size premium increases. There is a noticeable increase in size premium from 10a to 10b, which can also be demonstrated visually in Graph 7-3. This can be useful in valuing companies that are extremely small. Table 7-6 presents the size, composition, and breakpoints of deciles 10a and 10b. First, the recent number of companies and total decile market capitalization are presented. Then the largest company and its market capitalization are presented.

Breaking the smallest decile down lowers the significance of the results compared to results for the 10th decile taken as a whole, however. The same holds true for comparing the 10th decile with the Micro-Cap aggregation of the 9th and 10th deciles. The more stocks included in a sample the more significance can be placed on the results. While this is not as much of a factor with the recent years of data, these size premia are constructed with data back to 1926. By breaking the 10th decile down into smaller components we have cut the number of stocks included in each grouping. The change over time of the number of stocks included in the 10th decile for the NYSE/AMEX/NASDAQ is presented in Table 7-8. With fewer stocks included in the analysis early on, there is a strong possibility that just a few stocks can dominate the returns for those early years.

While the number of companies included in the 10th decile for the early years of our analysis is low, it is not too low to still draw meaningful results even when broken down into subdivisions 10a and 10b. All things considered, size premia developed for deciles 10a and 10b are significant and can be used in cost of capital analysis. These size premia should greatly enhance the development of cost of capital analysis for very small companies.

Table 7-6

Size-Declie Portfolios 10a and 10b of the NYSE/AMEX/NASDAQ, Largest Company and Its Market Capitalization September 30, 2004

Decile	Recent Number of Companies	Recent Decile Market Capitalization (in thousands)	Market Capitalization of Largest Company (in thousands)	Company Name
10a	532	\$98,581,341	\$262.725	Mastec Inc.
105	1,261	\$83.633.960	\$143.916	Rex Stores Corp

Note: These numbers may not aggregate to equal dacile 10 figures. Source: Center for Research in Security Prices, University of Chicago.

Table 7-7

Long-Term Returns In Excess of CAPM Estimation for Decile Portfolios of the NYSE/AMEX/NASDAQ, with 10th Decile Split 1926-2004

	Beta*	Arithmetic Mean Return	Realized Return in Excess of Riskless Rate**	Estimated Return in Excess of Riskless Rate†	Size Premium (Return in Excess of CAPM)
1-Largest	0.91	11.39%	6 16%	6.53%	-D 37%
2	1 04	13 24%	8 02%	7 42%	0 60%
3	1.10	13.84%	8 62%	7 86%	0 75%
4	1 13	14 38%	9 15%	8 08%	1 07%
5	116	14 96%	9.74%	8.30%	1 44%
6	1 18	15 46%	10 23%	8 48%	1 75%
7	1 23	15 67%	10.45%	8.83%	1 61%
8	1 2B	16 74%	11 51%	9 15%	2 36%
9	1 34	17 71%	12 48%	9.62%	2 86%
10a	1 42	19 95%	14 73%	10 19%	4 54%
10b-Smallest	1 39	25 13%	19 90%	10 00%	9 90%
Mid-Cap. 3-5	1 12	14.19%	8 96%	8 01%	0 95%
Low-Cap. 6-8	1.22	15 76%	10 54%	8 73%	1.81%
Micro-Cap, 9-10	1.36	18.97%	13 74%	9.72%	4 02%

*Belas are estimated from monthly portfolio total returns in excess of the 30-day U.S. Treasury bill total return versus the S&P 500 total returns in excess of the 30-day U.S. Treasury bill, January 1926–December 2004.

**Historical riskless rate is measured by the 79-year arithmetic mean income return component of 20-year government bonds (5.22 percent).

†Calculated in the context of the CAPM by multiplying the equity risk premium by beta. The equity risk premium is estimated by the arithmetic mean total return of the S&P 500 (12 39 percent) minus the arithmetic mean income return component of 20-year government bonds (5.22 percent) from 1926–2004

Graph 7-3

Security Market Line versus Size-Decile Portfolios of the NYSE/AMEX/NASDAQ, with 10th Decile Split 1926-2004



Schedule FJH-2 Page 1 of 15

Standard & Poor's Ratings Services

Standard & Poor's CORPORATE RATINGS CRITERIA

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Dear Reader,

This volume updates the 1994 edition of Corporate Finance Criteria. There are several new chapters, covering our recently introduced Bank Loan Ratings, criteria for "notching" junior obligations, and the role of cyclicality in ratings. Naturally, the ratio medians have been brought up to date.

Standard & Poor's criteria publications represent our endeavor to convey the thought processes and methodologies employed in determining Standard & Poor's ratings. They describe both the quantitative and qualitative aspects of the analysis. We believe that our rating product has the most value if users appreciate all that has gone into producing the letter symbols.

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STANDARD & POORS CORPORATE RATINGS CRITERIA.

Utilities

The utilities rating methodology encompasses two basic components: business risk analysis and financial analysis. Evaluation of industry characteristics, the utility's position within that industry, its regulation, and its management provides the context for assessing a firm's financial condition.

Historical analysis is a tool for identifying strengths and weaknesses, and provides a starting point for evaluating financial condition. Business position assessment is the qualitative measure of a utility's fundamental creditworthiness. It focuses on the forces that will shape the utilities' future.



The credit analysis of utilities is quickly evolving, as utilities are treated less as regulated monopolies and more as entities faced with a host of challengers in a competitive environment. Marketplace dynamics are supplanting the power of regulation, making it critically important to reduce costs and/or market new services in order to thwart competitors' inroads.

Markets and service area economy

Assessing service territory begins with the economic and demographic evaluation of the area in which the utility has its franchise. Strength of long-term demand for the product is examined from a macroeconomic perspective. This enables Standard & Poor's to evaluate the affordability of rates and the staying power of demand.

Standard & Poor's tries to discern any secular consumption trends and, more importantly, the reasons for them. Specific items examined include the size and growth rate of the market, strength of the franchise, historical and projected sales growth, income levels and trends in population, employment, and per capita income. A utility with a healthy economy and customer base—as illustrated by diverse employment opportunities, average or above-average wealth and income statistics, and low unemployment-will have a greater capacity to support its operations.

For electric and gas utilities, distribution by customer class is scrutinized to assess the depth and diversity of the utility's customer mix. For example, heavy industrial concentration is viewed cautiously, since a utility may have significant exposure to cyclical volatility. Alternatively, a large residential component yields a stable and more predictable revenue stream. The largest utility customers are identified to determine their importance to the bottom line and assess the risk of their loss and potential adverse effect on the utility's financial position. Credit concerns arise when individual customers represent more than 5% of revenues. The company or industry may play a significant role in the overall economic base of the service area. Moreover, large customers may turn to cogeneration or alternative power supplies to meet their energy needs, potentially leading to reduced cash flow for the utility (even in cases where a large customer pays discounted rates and is not a profitable account for the utility). Customer concentration is less significant for water and telecommunication utilities.

Competitive position

As competitive pressures have intensified in the utilities industry. Standard & Poor's analysis has deepened to include a more thorough review of competitive position.

Electric utility competition

For electric utilities, competitive factors examined include: percentage of firm wholesale revenues that are most vulnerable to competition; industrial load concentration; exposure of key customers to alternative suppliers; commercial concentrations; rates for various customer classes; rate design and flexibility; production costs, both marginal and fixed; the regional capacity situation; and transmission constraints. A regional focus is evident, but high costs and rates relative to national averages are also of significant concern because of the potential for electricity substitutes over time.

Mounting competition in the electric utility industry derives from excess generating capacity, lower barriers to entering the electric generating business, and marginal costs that are below embedded costs. Standard & Poor's has already witnessed declining prices in wholesale markets, as *de facto* retail competition is already being seen in several parts of the country. Standard & Poor's believes that over the coming years more and more customers will want and demand lower prices. Initial concerns focus on the largest industrial loads, but other customer classes will be increasingly vulnerable. Competition will not necessarSTANDARD & PODR'S CORPORATE RATINGS CRITERIA

ily be driven by legislation. Other pressures will arise from global competition and improving technologies, whether it be the declining cost of incremental generation or advances in transmission capacity or substitute energy sources like the fuel cell. It is impossible to say precisely when wide-open retail competition will occur; this will be evolutionary. However, significantly greater competition in retail markets is inevitable.

Gas utility competition

Similarly, gas utilities are analyzed with regard to their competitive standing in the three major areas of demand: residential, commercial, and industrial. Although regulated as holders of monopoly power, natural gas utilities have for some time been actively competing for energy market share with fuel oil, electricity, coal, solar, wood, etc. The long-term staying power of market demand for natural gas cannot be taken for granted. In fact, as the electric utility industry restructures and reduces costs, electric power will become more cost competitive and threaten certain gas markets. In addition, independent gas marketers have made greater inroads behind the city gate and are competing for large gas users. Moreover, the recent trend by state regulators to unbundle utility services is creating opportunities for outsiders to market niche products. Distributors still have the upper hand, but those who do not reduce and control costs, and thus rates, could find competition even more difficult.

Natural gas pipelines are judged to carry a somewhat higher business risk than distribution companies because they face competition in every one of their markets. To the extent a pipeline serves utilities versus industrial end users, its stability is greater. Over the next five years, pipeline competition will heat up since many service contracts with customers are expiring. Most distributor or end-use customers are looking to reduce pipeline costs and are working to improve their load factor to do so. Thus, pipelines will likely find it difficult to recontract all capacity in coming years. Being the pipeline of choice is a function of attractive transportation rates, diversity and quality of services provided, and capacity available in each particular market. In all cases though, periodic discounting of rates to retain customers will occur and put pressure on profitability.

Water utility competition

As the last true utility monopoly, water utilities face very little competition and there is currently no challenge to the continuation of franchise areas. The only exceptions have been cases where investor-owned water companies have been subject to condemnation and municipalization because of poor service or political motivations. In that regard, Standard & Poor's pays close attention to costs and rates in relation to neighboring utilities and national averages. (In contrast, the privatization of public water facilities has begun, albeit at a slower pace than anticipated. This is occurring mostly in the form of operating contracts and public/private partnerships, and not in asset transfers. This trend should continue as cities look for ways to balance their tight budgets.) Also, water utilities are not fully Immune to the forces of competition; in a few instances wholesale customers can access more than one supplier.

Telephone competition

The Telecommunications Act of 1996 accelerates the continuing challenge to the local exchange companies' (LECs) century-old monopoly in the local loop. Competitive access providers (CAPs), both facilities-based and resellers, are aggressively pursuing customers, generally targeting metropolitan areas, and promising lower rates and better service.

Most long-distance calls are still originated and terminated on the local telephone company network. To complete such a call, the long-distance provider (including AT&T, MCI, Sprint and a host of smaller interexchange carriers or "IXCs") must pay the local telephone company a steep "access" fee to compensate the local phone company for the use of its local network. CAPs, in contrast, build or lease facilities that directly connect customers to their long-distance carrier, bypassing the local telephone company and avoiding access fees, and thereby can offer lower long-distance rates. But the LECs are not standing still: they are combating the loss of business to CAPs by lowering access fees, thereby reducing the economic incentive for a high usage long-distance customer to use a CAP. LECs are attempting to make up for the loss of revenues from lower access fees by increasing basic local service rates (or at least not lowering them), since basic service is far less subject to competition. LECs are improving operating efficiency and marketing high margin, value-added new services. Additionally, in the wake of the Telecommunications Act, LECs will capture at least some of the inter-LATA long-distance market. As a result of these initiatives, LECs continue to rebuild themselves-from the traditional utility monopoly to leaner, more marketing oriented organizations.

While LECs, and indeed all segments of the telecommunications sector, face increasing competition, there are favorable industry factors that tend to offset heightened business risk and auger for overall ratings stability for most LECs. Importantly, telecommunications is a declining-cost business. With increased deployment of fiber optics, the cost of transport has fallen dramatically and digital switching hardware and software have yielded more capable, trouble-free and cost-efficient networks. As a result, the cost of network maintenance has dropped sharply, as illustrated by the ratio of employees per 10,000 access lines, an off cited measurement of efficiency, Ratios as low as 25 employees per 10,000 lines are being seen, down from the typical 40 or more employees per 10,000 ratio of only a few years ago.

In addition, networks are far more capable. They are increasingly digitally switched and able to accommodate high-speed communications. The infrastructure needed to accommodate switched broadband services will be built into telephone networks over the next few years. These advanced networks will enable telephone companies to look to a greater variety of high-margin, value-added services. In addition to those current services such as call waiting or caller ID, the delivery of hundreds of broadcast and interactive video channels will be possible. While these services offer the potential of new revenue streams, they will simultaneously present a formidable challenge. LECs will be entering the new (to them) arena of multimedia entertainment and will have to develop expertise in marketing and entertainment programming acumen; such skills stand in sharp contrast to LECs' traditional strengths in engineering and customer service.

Operations

Standard & Poor's focuses on the nature of operations from the perspective of cost, reliability, and quality of service. Here, emphasis is placed on those areas that require management attention in terms of time or money and which, if unresolved, may lead to political, regulatory, or competitive problems.

Operations of electric utilities

For electrics, the status of utility plant investment is reviewed with regard to generating plant availability and utilization, and also for compliance with existing and contemplated environmental and other regulatory standards. The record of plant outages, equivalent availability, load factors, heat rates, and capacity factors are examined. Also important is efficiency, as defined by total megawatt hour per employee and customers per employee. Transmission interconnections are evaluated in terms of the number of utilities to which the utility in question has access, the cost structures and available generating capacity of these other utilities, and the price paid for wholesale power.

Because of mounting competition and the substantial escalation in decommissioning estimates, significant weight is given to the operation of nuclear facilities. Nuclear plants are becoming more vulnerable to high production costs that make their rates uneconomic. Significant asset concentration may expose the utility to poor performance, unscheduled outages or premature shutdowns, and large deferrals or regulatory assets that may need to be written off for the utility to remain competitive. Also, nuclear facilities tend to represent significant portions of their operators' generating capability and assets. The loss of a productive nuclear unit from both power supply and rate base can interrupt the revenue stream and create substantial additional costs for repairs and improvements and replacement power. The ability to keep these stations running smoothly and economically directly influences the ability to meet electric demand, the stability of revenues and costs, and, by extension, the ability to maintain adequate creditworthiness. Thus, economic operation, safe operation, and long-term operation are examined in depth. Specifically, emphasis is placed on operation and maintenance costs, busbar costs, fuel costs, refueling outages, forced outages, plant statistics, NRC evaluations, the potential need for repairs, operating licenses, decommissioning estimates and amounts held in external trusts, spent fuel storage capacity, and management's nuclear experience. In essence, favorable nuclear operations offer significant opportunities but, if a nuclear unit runs poorly or not at all, the attendant risks can be great.

Operations of gas utilities

For gas pipeline and distribution companies, the degree of plant utilization, the physical condition of the mains and lines, adequacy of storage to meet seasonal needs, "lost and unaccounted for" gas levels, and per-unit nongas operating and construction costs are important factors. Efficiency statistics such as load factor, operating costs per customer, and operating income per employee are also evaluated in comparison to other utilities and the industry as a whole.

Operations of water utilities

As a group, water utilities are continually upgrading their physical plant to satisfy regulations and to develop additional supply. Over the next decade, water systems will increasingly face the task of maintaining compliance, as drinking water regulations change and infrastructure ages. Given that the Safe Drinking Water Act was authorized in 1974, the first generation of treatment plants built to conform with these rules are almost 20 years old. Additionally, because the focus during this period was on satisfying environmental standards, deferred maintenance of distribution systems has been common, especially in older urban areas. The increasing cost of supplying treated water argues against the high level of unaccounted for water witnessed in the industry. Consequently, Standard & Poor's anticipates capital plans for rebuilding distribution lines and major renewal and replacement efforts aimed at treatment plants.

Operations of telephone companies

For telephone companies, cost-of-service analysis focuses on plant capability and measures of efficiency and quality of service. Plant capability is ascertained by looking at such parameters as percentage of digitally switched lines; fiber optic deployment, in particular in those portions of the plant key to network survival; and the degree of broadband capacity fiber and coaxial deployment and broadband switching capacity. Efficiency measures include operating margins, the ratio of employees per 10,000 access lines, and the extent of network and operations consolidation. Quality of service encompasses examination of quantitative measures, such as trouble reports and repeat service calls, as well as an assessment of qualitative factors, that may include service quality goals mandated by regulators.

Regulation

Regulatory rate-setting actions are reviewed on a caseby-case basis with regard to the potential effect on creditworthiness. Regulators' authorizing high rates of return is of little value unless the returns are earnable. Furthermore, allowing high returns based on noncash items does not benefit bondholders. Also, to be viewed positively, regulatory treatment should allow consistent performance from STANDARD & POOR'S CORPORATE RATINGS CRITERIA

period to period, given the importance of financial stability as a rating consideration.

The utility group meets frequently with commission and staff members, both at Standard & Poor's offices and at commission headquarters, demonstrating the importance Standard & Poor's places on the regulatory arena for credit quality evaluation. Input from these meetings and from review of rate orders and their impact weigh heavily in Standard & Poor's analysis.

Standard & Poor's does not "rate" regulatory commissions. State commissions typically regulate a number of diverse industries, and regulatory approaches to different types of companies often differ within a single regulatory jurisdiction. This makes it all but impossible to develop inclusive "ratings" for regulators.

Standard & Poor's evaluation of regulation also encompasses the administrative, judicial, and legislative processes involved in state and federal regulation. These can affect rate-setting activities and other aspects of the business, such as competitive entry, environmental and safety rules, facility siting, and securities sales.

As the utility industry faces an increasingly deregulated environment, alternatives to traditional rate-making are becoming more critical to the ability of utilities to effectively compete, maintain earnings power, and sustain creditor protection. Thus, Standard & Poor's focuses on whether regulators, both state and federal, will help or hinder utilities as they are exposed to greater competition. There is much that regulators can do, from allocating costs to more captive customers to allowing pricing flexibility—and sometimes just stepping out of the way.

Under traditional rate-making, rates and earnings are tied to the amount of invested capital and the cost of capital. This can sometimes reward companies more for justifying costs than for containing them. Moreover, most current regulatory policies do not permit utilities to be flexible when responding to competitive pressures of a deregulated market. Lack of flexible tariffs for electric utilities may lure large customers to wheel cheaper power from other sources.

In general, a regulatory jurisdiction is viewed favorably if it permits earning a return based on the ability to sustain rates at competitive levels. In addition to performancebased rewards or penalties, flexible plans could include market-based rates, price caps, index-based prices, and rates premised on the value of customer service. Such rates more closely mirror the competitive environment that utilities are confronting.

Electric industry regulation

The ability to enter into long-term arrangements at negotiated rates without having to seek regulatory approval for each contract is also important in the electric industry. (While contracting at reduced rates constrains financial performance, it lessens the potential adverse impact in the event of retail wheeling. Since revenue losses associated with this strategy are not likely to be recovered from ratepayers, utilities must control costs well enough to remain competitive if they are to sustain current levels of bondholder protection.)

Natural gas industry regulation

In the gas industry, too, several state commission policies weigh heavily in the evaluation of regulatory support. Examples include stabilization mechanisms to adjust revenues for changes in weather or the economy, rate and service unbundling decisions, revenue and cost allocation between sales and transportation customers, flexible industrial rates, and the general supportiveness of construction costs and gas purchases.

Water industry regulation

In all water utility activities, federal and state environmental regulations continue to play a critical role. The legislative timetable to effect the 1986 amendments to the Safe Drinking Water Act of 1974 was quite aggressive. But environmental standards-setting has actually slowed over the past couple of years due largely to increasing sentiment that the stringent, costly standards have not been justified on the basis of public health. A moratorium on the promulgation of significant new environmental rules is anticipated.

Telecommunications industry regulation

Despite the advances in telecommunications deregulation, analysis of regulation of telephone operators will continue to be a key rating determinant for the foreseeable future. The method of regulation may be either classic rate-based rate of return or some form of price cap mechanism. The most important factor is to assess whether the regulatory framework—no matter which type—provides sufficient financial incentive to encourage the rated company to maintain its quality of service and to upgrade its plant to accommodate new services while facing increasing competition from wireless operators and cable television companies.

Where regulators do still set tariffs based on an authorized return. Standard & Poor's strives to explore with regulators their view of the rate-of-return components that can materially impact reported versus regulatory earnings. Specifically these include the allowable base upon which the authorized return can be earned, allowable expenses, and the authorized return. Since regulatory oversight runs the gamut from strict, adversarial relationships with the regulated operating companies to highly supportive postures, Standard & Poor's probes beyond the apparent regulatory environment to ascertain the actual impact of regulation on the rated company.

Management

Evaluating the management of a utility is of paramount importance to the analytical process since management's abilities and decisions affect all areas of a company's operations. While regulation, the economy, and other outside factors can influence results, it is ultimately the quality of management that determines the success of a company. With emerging competition, utility management will be more closely scrutinized by Standard & Poor's and will become an increasingly critical component of the credit evaluation. Management strategies can be the key determinant in differentiating utilities and in establishing where companies lie on the business position spectrum. It is imperative that managements be adaptable, aggressive, and proactive if their utilities are to be viable in the future; this is especially important for utilities that are currently uncompetitive.

The assessment of management is accomplished through meetings, conversations, and reviews of company plans. It is based on such factors as tenure, industry experience, grasp of industry issues, knowledge of customers and their needs, knowledge of competitors, accounting and financing practices, and commitment to credit quality. Management's ability and willingness to develop workable strategies to address their systems' needs, to deal with the competitive pressures of free market, to execute reasonable and effective long-term plans, and to be proactive in leading their utilities into the future are assessed. Management quality is also indicated by thoughtful balancing of public and private priorities, a record of credibility, and effective communication with the public, regulatory bodies, and the financial community. Boards of directors will receive ever more attention with respect to their role in setting appropriate management incentives.

With competition the watchword, Standard & Poor's also focuses on management's efforts to enhance financial condition. Management can bolster bondholder protection by taking any number of discretionary actions, such as selling common equity, lowering the common dividend payout, and paying down debt. Also important for the electric industry will be creativity in entering into strategic alliances and working partnerships that improve efficiency, such as central dispatching for a number of utilities or locking up at-risk customers through long-term contracts or expanded flexible pricing agreements. Proactive management teams will also seek alternatives to traditional rate-base, rate-of-return rate-making, move to adopt higher depreciation rates for generating facilities, segment customers by individual market preferences, and attempt to create superior service organizations.

In general, management's ability to respond to mounting competition and changes in the utility industry in a swift and appropriate manner will be necessary to maintain credit health.

Fuel, power, and water supply

Assessment of present and prospective fuel and power supply is critical to every electric utility analysis, while gauging the long-term natural gas supply position for gas pipeline and distribution companies and the water resources of a water utility is equally important. There is no similar analytical category for telephone utilities.

Electric utilities

For electric utilities emphasis is placed on generating

reserve margins, fuel mix, fuel contract terms, demandside management techniques, and purchased power arrangements. The adequacy of generating margins is examined nationally, regionally, and for each individual company. However, the reserve margin picture is muddied by the imprecise nature of peak-load growth forecasting, and also supply uncertainty relating to such things as Canadian capacity availability and potential plant shutdowns due to age, new NRC rules, acid rain remedies, fuel shortages, problems associated with nontraditional technologies, and so forth. Even apparently ample reserves may not be what they seem. Moreover, the quality of capacity is just as important as the size of reserves. Companies' reserve requirements differ, depending upon individual operating characteristics.

Fuel diversity provides flexibility in a changing environment. Supply disruptions and price hikes can raise rates and ignite political and regulatory pressures that ultimately lead to erosion in financial performance. Thus, the ability to alter generating sources and take advantage of lower cost fuels is viewed favorably.

Dependence on any single fuel means exposure to that fuel's problems: electric utilities that rely on oil or gas face the potential for shortages and rapid price increases; utilities that own nuclear generating facilities face escalating costs for decommissioning; and coal-fired capacity entails environmental problems stemming from concerns over acid rain and the "greenhouse effect."

Buying power from neighboring utilities, qualifying facility projects, or independent power producers may be the best choice for a utility that faces increasing electricity demand. There has been a growing reliance on purchased power arrangements as an alternative to new plant construction. This can be an important advantage, since the purchasing utility avoids potential construction cost overruns as well as risking substantial capital. Also, utilities can avoid the financial risks typical of a multiyear construction program that are caused by regulatory lag and prudence reviews. Furthermore, purchased power may enhance supply flexibility, fuel resource diversity, and maximize load factors. Utilities that plan to meet demand projections with a portfolio of supply-side options also may be better able to adapt to future growth uncertainties. Notwithstanding the benefits of purchasing, such a strategy has risks associated with it. By entering into a firm long-term purchased power contract that contains a fixed-cost component, utilities can incur substantial market, operating, regulatory, and financial risks. Moreover, regulatory treatment of purchased power removes any upside potential that might help offset the risks. Utilities are not compensated through incentive rate-making; rather, purchased power is recovered dollar-for-dollar as an operating expense.

To analyze the financial impact of purchased power, Standard & Poor's first calculates the net present value of future annual capacity payments (discounted at 10%). This represents a potential debt equivalent—the off-balancesheet obligation that a utility incurs when it enters into a long-term purchased power contract. However, Standard & Poor's adds to the utility's balance sheet only a portion for this amount, recognizing that such a contractual arrangement is not entirely the equivalent of debt. What percentage is added is a function of Standard & Poor's for qualitative analysis of the specific contract and the extent to which market, operating, and regulatory risks are borne for by the utility (the risk factor). For unconditional, take-or-pay contracts, the risk factor range is from 40%-80%, with the average hovering around 60%. A lower risk factor is typically assigned for system purchases from coal-fired autilities and a higher risk factor is usually designated for mult-specific nuclear purchases. The range for take-and-

Gas utilities

pay performance obligations is between 10%-50%.

For gas distribution utilities, long-term supply adequacy obviously is critical, but the supply role has become even more important in credit analysis since the Federal Energy Regulatory Commission's Order 636 eliminated the interstate pipeline merchant business. This thrust gas supply responsibilities squarely on local gas distributors. Standard & Poor's has always believed distributor management has the expertise and wherewithal to perform the job well, but the risks are significant since gas costs are such a large percentage of total utility costs. In that regard, it is important for utilities to get preapprovals of supply plans by state regulators or at least keep the staff and commissioners well informed. To minimize risks, a well-run program would diversify gas sources among different producers or marketers, different gas basins in the U.S. and Canada, and different pipeline routes. Also, purchase contracts should be firm, with minimal take-or-pay provisions, and have prices tied to an industry index. A modest percentage of fixed-price gas is not unreasonable. Contracts, whether of gas purchases or pipeline capacity, should be intermediate term. Staggering contract expirations (preferably annually) provides an opportunity to be an active market player. A modest degree of reliance on spot purchases provides flexibility, as does the use of market-based storage. Gas storage and on-property gas resources such as liquefied natural gas or propane air are effective peak-day and peakseason supply management tools.

Since pipeline companies no longer buy and sell natural gas and are just common carriers, connections with varied reserve basins and many wells within those basins are of great importance. Diversity of sources helps offset the risks arising from the natural production declines eventually experienced by all reserve basins and individual wells. Moreover, such diversity can enhance a pipeline's attractiveness as a transporter of natural gas to distributors and end users seeking to buy the most economical gas available for their needs.

Water utilities

Nearly all water systems throughout the U.S. have ample long-term water supplies. Yet to gain comfort, Standard & Poor's assesses the production capability of treatment plants and the ability to pump water from underground aquifers in relation to the usage demands from consumers. Having adequate treated water storage facilities has become important in recent years and has helped many systems meet demands during peak summer periods. Of interest is whether the resources are owned by the utility or purchased from other utilities or local authorities. Owning properties with water rights provides more supply security. This is especially so in states like California where water allocations are being reduced, particularly since recent droughts and environmental issues have created alarm. Since the primary cost for water companies is treatment, it makes little difference whether raw water is owned or bought. In fact, compliance with federal and state water regulations is very high, and the overall cost to deliver treated water to consumers remains relatively affordable.

Asset concentration in the electric utility industry

In the electric industry, Standard & Poor's follows the operations of major generating facilities to assess if they are well managed or troubled. Significant dependence on one generating facility or a large financial investment in a single asset suggests high risk. The size or magnitude of a particular asset relative to total generation, net plant in service, and common equity is evaluated. Where substantial asset concentration exists, the financial profile of a company may experience wide swings depending on the asset's performance. Heavy asset concentration is most prevalent among utilities with costly nuclear units.

Earnings protection

STANDARD & POOR'S CORPORATE RATINGS CRITERIA

In this category, pretax cash income coverage of all interest charges is the primary ratio. For this calculation, allowance for funds used during construction (AFUDC) is removed from income and interest expense. AFUDC and other such noncash items do not provide any protection for bondholders. To identify total interest expense, the analyst reclassifies certain operating expenses. The interest component of various off-balance-sheet obligations, such as leases and some purchased-power contracts, is included in interest expense. This provides the most direct indication of a utility's ability to service its debt burden.

While considerable emphasis in assessing credit protection is placed on coverage ratios, this measure does not provide the entire earnings protection picture. Also important are a company's earned returns on both equity and capital, measures that highlight a firm's earnings performance. Consideration is given to the interaction of embedded costs, financial leverage, and pretax return on capital.

Capital structure

Analyzing debt leverage goes beyond the balance sheet and covers quasi-debt items and elements of hidden financial leverage. Noncapitalized leases (including sale/leaseback obligations), debt guarantees, receivables financing, and purchased-power contracts are all considered debt equivalents and are reflected as debt in calculating capital structure ratios. By making debt level adjustments, the analyst can compare the degree of leverage used by each utility company.

Furthermore, assets are examined to identify undervalued or overvalued items. Assets of questionable value are discounted to more accurately evaluate asset protection.

Some firms use short-term debt as a permanent piece of their capital structure. Short-term debt also is considered part of permanent capital when it is used as a bridge to permanent financing. Seasonal, self-liquidating debt is excluded from the permanent debt amount, but this situation is rare—with the exception of certain gas utilities. Given the long life of almost all utility assets, short-term debt may expose these companies to interest-rate volatility, remarketing risk, bank line backup risk, and regulatory exposure that cannot be readily offset. The lower cost of shorter-term obligations (assuming a positively sloped yield curve) is a positive factor that partially mitigates the risk of interestrate variability. As a rule of thumb, a level of short-term debt that exceeds 10% of total capital is cause for concern.

Similarly, if floating-rate debt and preferred stock constitute over one-third of total debt plus preferred stock, this level is viewed as unusually high and may be cause for concern. It might also indicate that management is aggressive in its financial policies.

A layer of preferred stock in the capital structure is usually viewed as equity-since dividends are discretionary and the subordinated claim on assets provides a cushion for providers of debt capital. A preferred component of up to 10% is typically viewed as a permanent wedge in the capital structure of utilities. However, as rate-of-return regulation is phased out, preferred stock may be viewed by utilities-as many industrial firms would-as a temporary option for companies that are not current taxpayers that do not benefit from the tax deductibility of interest. Even now, floating-rate preferred and money market perpetual preferred are problematic; a rise in the rate due to deteriorating credit quality tends to induce a company to take out such preferred stock with debt. Structures that convey tax deductibility to preferred stock have become very popular and do generally afford such financings with equity treatment.

Cash flow adequacy

STANDARD & POOR'S CORPORATE HATINGS CRITERIA

Cash flow adequacy relates to a company's ability to generate funds internally relative to its needs. It is a basic component of credit analysis because it takes cash to pay expenses, fund capital spending, pay dividends, and make interest and principal payments. Since both common and preferred dividend payments are important to maintain capital market access, Standard & Poor's looks at cash flow measures both before and after dividends are paid.

To determine cash flow adequacy, several quantitative relationships are examined. Emphasis is placed on cash flow relative to debt, debt service requirements, and capital spending. Cash flow adequacy is evaluated with respect to a firm's ability to meet all fixed charges, including capacity payments under purchased-power contracts. Despite the conditional nature of some contracts, the purchaser is obligated to pay a minimum capacity charge. The ratio used is funds from operations plus interest and capacity payments divided by interest plus capacity payments.

Financial flexibility/capital attraction

Financing flexibility incorporates a utility's financing needs, plans, and alternatives, as well as its flexibility to accomplish its financing program under stress without damaging creditworthiness. External funding capability complements internal cash flow. Especially since utilities are so capital intensive, a firm's ability to tap capital markets on an ongoing basis must be considered. Debt capacity reflects all the earlier elements: earnings protection, debt leverage, and cash flow adequacy. Market access at reasonable rates is restricted if a reasonable capital structure is not maintained and the company's financial prospects dim. The analyst also reviews indenture restrictions and the impact of additional debt on covenant tests.

Standard & Poor's assesses a company's capacity and willingness to issue common equity. This is affected by various factors, including the market-to-book ratio, dividend policy, and any regulatory restrictions regarding the composition of the capital structure.

Schedule FJH-2 Page 10 of 15



Last Week's Rating Reviews and Activity 14

Did You Know?

Last Week's

Financing Activity

Utility Credit Rankings

Electric/Gas/Water			16	
International	• •	• •		



Feature Article
New Business Profile Scores Assigned for
U.S. Utility and Power Companies;
Financial Guidelines Revised
Utility Spotlight
Dynegy Holding's \$1.3 Billion Credit Facility Is Rated 'BB-'7
Special Report
Is the Refinancing Challenge Over for the U.S.
Energy Merchant Sector?
News Comments
Houston Exploration's Rating Is Affirmed, Outlook Revised to Negative
Ratings on TransMontaigne Are Cut to 'BB-'; Off Watch, Outlook Negative
Forest Oil's Rating Is Lowered to 'BB-'; Off Watch, Outlook Stable
Southern Power's 'BBB+' Ratings Are Affirmed After Plant Sale

New Business Profile Scores Assigned for U.S. Utility and Power **Companies; Financial Guidelines Revised**

C tandard & Poor's Ratings Services has assigned new Obusiness profile scores to U.S. utility and power companies to better reflect the relative business risk among companies in the sector. Standard & Poor's also has revised its published risk-adjusted financial guidelines. The new business scores and financial guidelines do not represent a change to Standard & Poor's ratings criteria or methodology, and no ratings changes are anticipated from the new business profile scores or revised financial guidelines

New Business Profile Scores and Revised Financial Guidelines

Standard & Poor's has always monitored changes in the industry and altered its business risk assessments accordingly. This is the first time since the 10-point business pro-

file scale for U.S. investor-owned utilities was implemented that a comprehensive assessment of the benefits and the application of the methodology has been made. The principal purpose was to determine if the methodology continues to provide meaningful differentiation of business risk. The review indicated that while business profile scoring continues to provide analytical benefits, the complete range of the 10-point scale was not being utilized to the fullest extent.

Standard & Poor's has also revised the key financial guidelines that it uses as an integral part of evaluating the credit quality of U.S. utility and power companies. These guidelines were last updated in June 1999. The financial guidelines for three principal ratios (funds from operations (FFO) interest coverage, FFD to total debt, and total debt to total capital) have been broadened so as to be more flexible. Pretax interest cov-







Chart 2

Back to Table of Contents Next Page

Page 2 June 7, 2004

Standard & Poor's Utilities & Perspectives

erage as a key credit ratio was eliminated.

Finally. Standard & Poor's has segmented the utility and power industry into sub-sectors based on the dominant corporate strategy that a company is pursuing Standard & Poor's has published a new U.S. utility and power company ranking list that reflects these sub-sectors.

There are numerous benefits to the reassessment. Fuller utilization of the entire 10-point scale provides a superior relative ranking of qualitative business risk. A revision of the financial guidelines supports the goal of not causing rating changes from the recalibration of the business profiles Classification of companies by sub-sectors will ensure greater comparability and consistency in ratings. The use of industry segmentation will also allow more in-depth statistical analysis of ratings distributions and rating changes.

The reassessment does not represent a change to Standard & Poor's criteria or methodology for determining ratings for utility and power companies. Each business profile score should be considered as the assignment of a new score; these scores do not represent improvement or deterioration in our assessment of an individual company's business risk relative to the previously assigned score. The financial guidelines continue to be risk-adjusted based on historical utility and industrial medians. Segmentation into industry sub-sectors does not imply that specific company characteristics will not weigh heavily into the assignment of a company's business profile score.

Results

Previously, 83% of U.S. utility and power business profile scores fell between '3' and '6', which clearly does not reflect the risk differentiation that exists in the utility and power industry today. Since the 10-point scale was introduced, the industry has transformed into a much less homogenous industry, where the divergence of business risk---particularly regarding management, strategy, and degree of competitive market exposure---has created a much wider spectrum of risk profiles. Yet over the same period, business profile scores actually converged more tightly around a median score of '4'. The new business pro-





Chart 4 Integrated Electric, Gas, and Combination Utilities





Standard & Poor's Utilities & Perspectives
Feature Article

file scores, as of June 2, are shown in Chart 1. The overall median business profile score is now '5'.

Table 1 contains the revised financial guidelines. It is important to emphasize that these metrics are only guidelines associated with expectations for various rating levels. Although credit ratio analysis is an important part of the ratings process, these three statistics are by no means the only critical financial measures that Standard & Poor's uses in its analytical process. We also analyze a wide array of financial ratios that do not have published guidelines for each rating category.

Again, ratings analysis is not driven solely by these financial ratios, nor has it ever been in fact, the new financial guidelines that Standard & Poor's is incorporating for the specified rating categories reinforce the analytical framework whereby other factors can outweigh the achievement of otherwise acceptable financial ratios. These factors include:

Effectiveness of liability and liquidity management;
 Analysis of internal funding sources;

- Return on invested capital;
- The execution record of stated business strategies;
- Accuracy of projected performance versus actual results, as well as the trend;
- Assessment of management's financial policies and attitude toward credit; and
- Corporate governance practices. Charts 2 through 6 show business profile scores broken out by industry sub-sector. The five industry sub-sectors are:

Transmission and distribution—Water, gas, and electric;

- Transmission only—Electric, gas, and other;
- a Integrated electric, gas, and combination utilities;
- Diversified energy and diversified nonenergy, and
- Energy merchant/power developer/trading and marketing companies.

The average business profile scores for transmission and distribution companies and transmission-only companies are lower on the scale than the previous averages, while the average business profile scores for integrated utilities, diversified energy, and energy merchants and developers are higher.





Chan 6 Energy Merchant/Developers/Trading and Marketing





Page 4 June 7, 2004

Standard & Poor's Utilities & Perspectives

See pages 16 to 19 for the company ranking list of business profile scores segmented by industry sub-sector and ranked in order of credit rating, outlook, business profile score, and relative strength

Business Profile Score Methodology

Standard & Poor's methodology of determining corporate utility business risk is anchored in the assessment of certain specific characteristics that define the sector. We assign business profile scores to each of the rated companies in the utility and power sector on a 10-point scale, where '1' represents the lowest risk and '10' the highest risk. Business profile scores are assigned to all rated utility and power companies, whether they are holding companies, subsidiaries, or stand-alone corporations. For operating subsidiaries and stand-alone companies, the score is a bottom-up assessment. Scores for families of companies are a composite of the operating subsidiaries' scores. The actual credit rating of a company is analyzed, in part, by comparing the business profile score with the risk-adjusted financial guidelines.

For most companies, business profile scores are assessed using five categories; specifically, regulation, markets, operations, competitiveness, and management. The emphasis placed on each category may be influenced by the

Table 1

Revised Financial Guidelines

Funds from operations/interest coverage (x)

runus nom operado	ns/metest c	overage (x)						
Business Profile		AA		A	E	IBB	i	88
1	3	2.5	2.5	15	15	1		
2	4	з	3	2	2	1		
3	4.5	35	3.5	2.5	25	1.5	15	1
4	5	4.2	4.2	3.5	3.5	2.5	25	1.5
5	55	4.5	4.5	3.8	3.8	28	2.8	1.8
6	6	5.2	52	4.2	4.2	3	3	2
7	8	6.5	6.5	4.5	4.5	32	32	22
8	10	7.5	7.5	5.5	55	35	35	2.5
9			10	7	7	4	4	2.8
10			11	В	8	5	5	3
Funds from operatio	n/total debt ('	%)						
Business Profile	ļ	۱A	1	9	B	88	F	3B
1	20	15	15	10	10	5		
2	25	20	20	12	12	8		
3	30	25	25	15	15	10	10	5
4	35	28	28	20	20	12	12	8
5	40	30	30	22	22	15	15	1D
6	45	35	35	28	2B	18	18	12
7	55	45	45	30	30	20	20	15
8	70	55	55	40	40	25	25	15
9			55	45	45	30	30	20
10			70	55	55	40	40	25
Total debt/total capit	ai (%)							
Business Profile		A	A		Bi	38	В	В
1	48	55	55	60	69	70		
2	45	52	52	58	58	68		
3	42	50	50	55	55	65	65	70
4	38	45	45	52	52	62	62	68
5	35	42	42	50	50	6D	60	65
6	32	40	40	48	48	58	58	62
7	30	38	38	45	45	55	55	60
8	25	35	35	42	42	52	52	58
9			32	40	40	5D	50	55
10			25	35	35	48	48	52

Standard & Poor's Utilities & Perspectives

dominant strategy of the company or other factors. For example, for a regulated transmission and distribution company, regulation may account for 30% to 40% of the business profile score because regulation can be the singlemost important credit driver for this type of company. Conversely, competition, which may not exist for a transmission and distribution company, would provide a much lower proportion (e.g., 5% to 15%) of the business profile score

For certain types of companies, such as power generators, power developers, oil and gas exploration and production companies, or nonenergy-related holdings, where these five components may not be appropriate, Standard & Poor's will use other, more appropriate methodologies. Some of these companies are assigned business profile scores that are useful only for relative ranking purposes.

As noted above, the business profile score for a parent or holding company is a composite of the business profile scores of its individual subsidiary companies. Again, Standard & Poor's does not apply rigid guidelines for determining the proportion or weighting that each subsidiary represents in the overall business profile score. Instead, it is determined based on a number of factors. Standard & Poor's will analyze each subsidiary's contribution to FFO, forecast capital expenditures, liquidity requirements, and other parameters, including the extent to which one subsidiary has higher growth. The weighting is determined case-by-case

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Page 6 June 7, 2004

Stendard & Poor's Utilities & Perspectives

EROXY GROUP OF FOUR GAS GAS DISTRIBUTION COMPANIES CAPITALIZATION AND FINANCIAL STATISTICS (1) 2001.-2005.INCLUSIVE

CARITALIZATION STATISTICS	2005	200 4 (Millia	(MILLIONS OF DOLLARS)	2002	2001	
AMOUNT.OF CARITAL EMELOYED. TOTAL PERNANENT CAPITAL SHORT-TERM DEBT TOTAL CAPITAL EMPLOYED	51,075,195 5220,925 51,296,120	51,022.514 S183.874 S183.875 S1209.363	\$906.955 \$304.165 \$1211.720	5891.001 5107.826 5998.827	5048.838 5114.323 5953.160	
INDICATED AVERAGE CAPITAL CORT BATES 12 TOTAL DEBT PREFERRED STOCK	5.80 % NMF	5.77 % NMF	5.92 % 7.04	6.73 % 7.30	7.03 % 5.90	
CABITAL STRUCTURE RAIDOS BASED ON TOTAL PERMANENT CAPITAL: LONG-TERM DEBT PREFERRED STOCK COMMON EQUITY TOTAL	47.35 % 0.03 52.65 100.00	46.22 % 0.00 53.18 100.00 %	47.79 % 0.00 52.21 300.00 %	48.62 % 0.31 51.02 160.00 %	45.61 % 1.06 53.35 100.02 %	DIERK AVERAGE 47.12 % 0.27 52.61 100.00
BASED ON TOTAL CAPITAL: TOTAL DEBT, INCLUDING SHORT-TERM FRIEFERED STOCK COMMON EQUITY TOTAL	55.00 % 0.50 % 45.03 100.00 %	53.86 % 0.00 46.44 190.00 %	58.51 % 0.00 41.49 100.00 %	5108 % 0.27 46.62 100.00 %	52.11 % 0.123 46.96 100.00 %	54.51 % 0.24 <u>45.25</u> <u>102.00</u> %
EINANCIAL STATISTICS						
EINANCIAL RATIOS - MARKET BASED EARNINGS / PRICE RATIO NARKET / VARKASE BOOK RATIO DIVIDEND YIELD DIVIDEND PAYOUT RATIO	5.62 % 199.73 4.23 77.32	5.64 % 193.37 4.13 81.50	6.15 % 180.22 4.89 84.23	6.37 % 180.28 4.86 80.64	7.20 % 189.73 4.75 66.67	6.24 % 169.67 78.07
<u>BATE OF RETURN ON AVERAGE ROOK COMMON EQUITY</u>	24.12	¥ 06.01	11.06 奖	11.63 %	13.50 %	11.77 %
EUNDS FROM OPERATIONS LINTEREST COVERAGE (3)	4.33 X	5.38 X	6.18 X	5.63 X	3.55 X	5.01 X
ELINDS FROM OPERATIONS / TOTAL DEBL (4)	17,00 %	24.83 %	23.98 %	27,95 %	17,43 %	22.41 %
TOTAL DERT LIDIAL CARITAL	\$5.00 %	53.86 %	58.51 %	53.08 %	52.11 %	54.51 %

See Page 2 for notes.

Schedule FJH-3 Page 2 of 3

Proxy Group of Four Gas Distribution Companies 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, and are based upon financial statements as originally reported in each year.
- (2) Computed by relating actual long-term debt interest or preferred stock dividends booked to average of beginning and ending long-term debt or preferred stock reported to be outstanding.
- (3) Funds from operations (sum of net income, depreciation, amortization, net deferred income tax and investment tax credits, less total AFUDC) plus interest charges divided by interest charges.
- (4) Funds from operations (as defined in Note 3) as a percentage of total debt.
- (5) Sinking Fund Requirements were obtained from Company Annual Forms 10-K.

Selection Criteria:

The basis of selection was to include those gas distribution companies: 1) which are assigned an SIC Code of 4924 (Natural Gas Distribution) by the Standard & Poor's Compustat/Research Insight; 2) which have common stock actively traded; 3) which are included in Value Line Investment Survey (Standard Edition) and ThomsonFN First Call; 4) which have not cut or omitted their cash common stock dividends during the five calendar years ending 2005 or through the time of the preparation of Mr. Hanley's accompanying direct testimony; 5) which had more than 80% of their 2004 operating revenues derived from gas distribution operations; 6) which at the time of the preparation of Mr. Hanley's direct testimony, were not expected to be acquired by or merged into another company; and 7) which are included in S&P's Compustat PC Plus/Research Insight Data Base. It is necessary to point out that although the data shown for the proxy groups are for the five years ended 2005, the proxy group selection was based on 2004 data because at the time of the selection the whole universe of companies did not have 2005 data readily available in S&P's Compustat PC Plus/Research Insight Data Base.

The following four companies met the above criteria: Cascade Natural Gas Corporation NICOR Inc. Northwest Natural Gas Company Piedmont Natural Gas Company, Inc.

Source of Information: Standard & Poor's Compustat Services, Inc., PC Plus / Research Insight Database Annual Reports to Shareholders and / or Forms 10-K

Missouri Gas Energy Weather Normalization Adjustment (WNA) Clauses for the Proxy Group of Four Ga Distribution Companies and Southern Union Company

	Weather Normalization Clause
Proxy Group of Four Value Line Gas Distribution Companies	
Cascade Natural Gas Corporation NICOR inc Northwest Natural Gas Company Piedmont Natural Gas Co., Inc.	Na No Yes (1) Yes
Southern Union Company	Yes (2)

- Northwest Natural Gas Company operates in the states of Notes: (1) Oregon and Washington as NW Natural. The company has a WNA in Oregon, but not in Washington.
 - Southern Union Company has operating subsidiaries in Missouri, Massachusetts, Pennsylvania and Rhode Island (2) However, only New England Gas Company in the state of Rhode Island has a WNA Clause

. .

Source of Information: Company Annual Reports to Shareholders and / or Forms 10-K Company Provided Information Regulatory Research Associates, Inc., An SNL Energy Company PROXY GROUP OF EIGHT VALUE LINE GAS DISTRIBUTION COMPANIES CAPITALIZATION AND FINANCIAL STATISTICS (1) 2001.2005.JINCLUSIVE

CAPITALIZATION STATISTICS	2005	(MILLI) 2004	2003 (Millions of Dollars)	2002	2001	
AMOUNT OF CAPITAL EMPLOYED TOTAL PERMANENT CAPITAL SHORT-TERM DEBT TOTAL CAPITAL EMPLOYED	51,132,436 \$ <u>147,179</u> \$1,279,615	\$1,120.513 \$152,230 \$1.272,243	5999.954 \$249.009 \$1.249.653	\$981.270 \$128.851 \$1.110.221	\$959.382 \$162.706 \$1.122.088	
INDICATED AVERAGE CAPITAL COST RATES (2) TOTAL DEBT PREFERRED STOCK	5.65 % 4.73	5.33 % 4.81	5.54	6.01 % 5.98	6.78 % 5.39	
CADITAL STRUCTURE BATIOS BASED ON TOTAL PERMANENT CAPITAL: LONG-TERM DEBT PREFERRED STOCK COMMON EQUITY TOTAL	47.05 % 0.24 5.225 100.00 %	46.70 % 0.25 53.05 100.00 %	46.25 % 0.26 53.42 100.00 %	48.53 % 0.42 51.05 100.00 %	46.72 % 0.81 52.47 100.00 %	artean Average 47.04 % 0.40 52.55 100.00 %
BASED ON TOTAL CAPITAL: TOTAL DEBT, INCLUDING SHORT-TERM PREFERRED STOCK COMMON EQUITY TOTAL	52.93 % 0.24 55.83 <u>100.00</u> %	53.38 % 0.24 46.38 100.00 %	56.39 % 0.23 43.08 100.00 %	54.10 % 0.38 16.52 100.00 %	53.92 % 0.72 45.36 <u>100.00</u> %	54.14 % 0.36 45.50 100.00 %
EINANCIAL STATISTICS						
EINANCJAL RATIOS - MARKET BASED EARNINGS / PRICE RATIO MARKET / AVERAGE BOOK RATIO DWIDEND YIELD DIVIDEND PAYOUT RATIO	5.92 % 202.15 74.86	5.96 % 192.63 4.26 76.91	6.96 % 179.88 73.84	6.07 % 174.00 5.13 81.55	7.02 % 185.52 4.81 69.31	6.39 % 186.84 4.67 77.29
RATE OF RETURN ON AVERAGE ROOK COMMON FOULDY	12.02 %	11.49 %	12.45 %	10.79 %	12.96 %	11.94 %
EUNDS EROM OPERATIONS LINTEREST, COVERAGE (3)	4.61 X	5.41 X	K 60'9	4.90 X	3.78 X	4.96 X
EUNDS FROM OPERATIONS / TOTAL DEBT 4)	19.98 %	22.79 %	23.65 %	22.20 %	17.41 %	21.21 %
IOTAL DEBL/TOTAL CARITAL	52.93 %	53.38 %	26.39 %	54.10 %	53.92 %	54.14 %

See Page 2 for notes.

Schedule FJH-4 Page 2 of 3

Proxy Group of Eight Value Line Ges Distribution Companies 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, and are based upon financial statements as originally reported in each year.
- (2) Computed by relating actual long-term debt interest or preferred stock dividends booked to average of beginning and ending long-term debt or preferred stock reported to be outstanding.
- (3) Funds from operations (as defined in Note 3) plus interest charges divided by interest charges.
- (4) Funds from operations (sum of net income, depreciation, amortization, net deferred income tax and investment tax credits, less total AFUDC) as a percentage of total debt.
- (5) Sinking Fund Requirements were obtained from Company Annual Forms 10-K.

Selection Criteria:

The basis of selection was to include those gas distribution companies: 1) which are included in Value Line Investment Survey (Standard Edition) - Natural Gas (Distribution) Industry; 2) which have common stock actively traded and are included in ThomsonFN First Call; 3) which have not cut or omitted their cash common stock dividends during the five calendar years ending 2004 or through the time of the preparation of Mr. Hanley's accompanying direct testimony; 4) which had more than 60% of their 2004 operating revenues derived from gas distribution operations; 5) which, at the time of the preparation of Mr. Hanley's direct testimony, were not expected to be acquired by or merged into another company; and 6) which are included in Standard & Poor's Compustat PC Plus/Research Insight Data Base. The following companies have been excluded from the proxy group: Southwest Gas Corporation does not have ThomsonFN/First Call projected five-year growth Rate in EPS; SEMCO Energy had a dividend cut in 2002 and Southern Union Company, which began paying dividends in March 2006, did not have cash dividends during the previous years. Also, AGL Resources, Atmos Energy, South Jersey Industries and UGI Corporation have been excluded because those companies had less than 60% of their 2004 operating revenues derived from gas distribution operations; KeySpan Corporation has been excluded because the company is in the process of being acquired by National Grid. It is necessary to point out that although the data shown for the proxy groups are for the five years ended 2005, the proxy group selection was based on 2004 data because at the time of the selection the whole universe of companies did not have 2005 data readily available in S&P's Compustat PC Plus/Research Insight Data Base.

The following eight companies met the above criteria: Cascade Natural Gas Corporation The Laclede Group, Inc. New Jersey Resources Corp. NICOR Inc. Northwest Natural Gas Company Peoples Energy Corporation Piedmont Natural Gas Company, Inc. WGL Holdings, Inc.

Source of Information:

Standard & Poor's Compustat Services, Inc., PC Plus / Research Insight Database Annual Reports to Shareholders and / or Forms 10-K

Schedule FJH-4 Page 3 of 3

Missouri Gas Energy Weather Normalization Adjustment (WNA) Clauses for the Proxy Group of Eight Value Line Gas Distribution Companies and Southern Union Company

	Weather Normalization Clause
Proxy Group of Eight Value Line Gas Distribution Companies	
Cascade Natural Gas Corporation	No
The Laclede Group, Inc	Yes (1)
New Jersey Resources Corp.	Yes
NICOR Inc.	No
Northwest Natural Gas Company	Yes (2)
Peoples Energy Corporation	No (3)
Piedmont Natural Gas Co . Inc	Yes
WGL Holdings, Inc.	Yes (4)
Southern Union Company	Yes (5)

Notes:	(1)	Laclede Group does not have a WNA However, as part of the 2002 rate case settlement, the Utility initiated, effective November 9, 2002, an innovative weather mitigation rate design that lessens the impact of weather volatility on
		Laclede Gas customers during cold winters and is expected
		to stabilize the utility's earnings for the future.

- (2) Northwest Natural Gas Company operates in the states of Oregon and Washington as NW Natural. The company has a WNA in Oregon, but not in Washington.
- (3) Peoples Energy had risk-reducing weather stabilization products for fiscal years 2004 and 2005. However, the company did not purchase weather insurance for fiscal year 2006. For fiscal year 2006, the company will manage weather risk only through the use of block rates in utility rate design.
- (4) In August 2005, WGL Holding's subsidiary in Maryland received approval from the PSC to implement a Revenue Normalization Adjustment (RNA). Furthermore, WGL Holdings Inc. has risk-reducing weather stabilization insurance products in place for Washington D.C. and the state of Virginia. However, the company is not recovering the insurance premiums in rates.
- (5) Southern Union Company has operating subsidiaries in Missouri, Massachusetts, Pennsylvania and Rhode Island. However, only New England Gas Company in the state of Rhode Island has a WNA Clause.

Source of information: Company Annual Reports to Shareholders and / or Forms 10-K Company Provided Information Regulatory Research Associates. Inc., An SNL Energy Company SQUTHERN UNION COMPANY CAPITALIZATION AND FNANCIAL STATISTICS (1) 2005_AUCLUSIVE (SHOWN FOR INFORMATIONAL_PUBPOSES ON X)

		HVHX X	AVERAGE 64.52 % 2.45 100.00 %	66.79 % 2.33 30.69 100.00 %		4.15 % 142.76 0.00 0.00	5,33 %	2.90 X	10.63 %	56.79 %
2001	S2, 157,401 S190,600 S2 348,001	9.18 %	56.54 0.00 33.46 100.00	69,26 % 0,00 30,20 100,00		5.19 % 151,48 0.00 0.00	5. 36 %	2.90 X	13.00 %	69.26 %
2002	51,975.777 5131,860 52,107,577,	6.84 %	65.31 6.03 24 6.09 24 6.00 26 7.00 26 7.00 26 7.00 26 7.00 26 7.00 26 7.00 26 7.00 27 7.00 26 7.00 20 7.00 20 20 7.00 20 7.000	57,48 % 0.00 32,52		1.84 % 146.65 0.00 0.00	279 %	2.70 X	12.20 %	67.48 %
SULTING JO SNOITIW	\$3,366.823 \$251.500 \$3,618.323	4.51 %	72.66 % 0.03 27.34 100.03 %	74.56 % 0.00 25 <u>44</u> 100.00 %		5.73 108.72 2.000 0.000	5.44 %	2.90 X	6.50 %	74.56 %
IOITTIW) FORZ	53,516,603 521,000 53,537,603	5.14 % 31.03	ፍር የ የ የ የ ይገንያ በመስከ ያ	64.33 % 6.50 29.17 20.00		7.80 % 135.06 0.00	10.38 %	3.40 X	13,40 %	54.33 %
2005	54,029.858 5420.000 5420.000	5.55 % 7.55	53.99 % 5.71 40.30 100.00 %	50.33 % 5.17 36.50 100.00 %		0.13 % 171,89 0.00 0.00	0.25 %	2.60 X	8.20 %	58733 %
CARITALIZATION STATISTICS	AMOUNT DE CARTAL EMPLOYED TOTAL FERMANENT SHORT-JERM DEBT TOTAL CAPITAL EMPLOYED	INDICATED AVERAGE CAPITAL COST RATES. (2) 10TAL DEBT PREFERRED STOCK	CARITAL STRUCTURE RATIOS BASED ON TOTAL PERMANENT CAPITAL: LONG-TERM IDERT PREFERED STOCK COMMON EQUITY TOTAL	BASED ON TOTAL CAPITAL: TOTAL DEBT, INCLUDING SHORT-TEFM PREFERED STOCK COMMON EQUITY TOTAL	EINANCIAL STATISTICS	EINANCIAL BALIOS-MARKET BASED EARNINGS / PRICE RATIO MARKET J. AVERAGE BOOK RATIO DIVIDEND YELD DIVIDEND PAYOUT RATIO	BATE DE RETURN ON AVERAGE BOOK COMMON FOULTY	FUNDS FROM OPERATIONS LINTEREST COVERAGE (3)	EUNDS. EROM DEERATIONS LTOTAL DEBT (4)	TOTAL DEBT / TOTAL CARITAL.

See Page 2 for notes.

Schedule FJH-5 Page 2 of 2

Southern Union Company Capitalization and Financial Statistics 2001-2005, Inclusive (SHOWN FOR INFORMATIONAL PURPOSES ONLY)

Notes:

- (1) All capitalization and financial statistics are based upon financial statements as originally reported in each year. Southern Union used to have a June fiscal year, but in 2005 the company changed its fiscal year to December. Therefore, the reported data for the year 2005 are as of December, but the data for the previous years are as of June 2001 2004.
- (2) Computed by relating actual long-term debt interest or preferred stock dividends booked to average of beginning and ending long-term debt or preferred stock reported to be outstanding.
- (3) Coverages excluding all AFUDC represent the number of times available earnings, excluding all AFUDC, cover fixed charges.
- (4) Sinking Fund Requirements were obtained from Company Annual Forms 10-K.

Source of Information: Standard & Poor's Compustat Services, Inc., PC Plus / Research Insight Database Annual Reports to Shareholders and / or Forms 10-K

Missouri Gas Energy. Capital Structure Based upon Total Capital for the Proxy Group of Four Gas Distribution Companies for the Years 2001 through 2005

	2005	2004	2003	2002	2001	5 YEAR AVERAGE
<u>Cascade, Natural Gas Comoration</u> Long-Terra Dobt Short-Terra Dobt Preferred Slock Common Equity Totat Capital	57 00 % 4 10 0 00 <u>38.90</u> <u>100.00</u> %	48 45 % 11 35 0 00 40.19 300.00 %	58.63 % 1 35 0.00 <u>40.02</u> 100.00 %	59 09 % 0 00 0 00 <u>40.91</u> 100.00 %	43.61 % 13.95 0.00 42.44 100.01 %	53 36 % 6 15 0.00 <u>40.49</u> <u>100.00</u> %
NICOR Jnc. Long-Term Debt Short-Term Debt Preferred Slock Common Equity Totel Capital	27 74 % 30 30 0.00 <u>41.96</u> 1 <u>00.00</u> %	28.63 % 28.22 0.00 43.15 100.00 %	27 21 % 31 48 0 00 41.31 100.00 %	32 14 % 20.40 0 28 <u>47.18</u> <u>100.09</u> %	31 14 % 19 32 0.42 <u>49,12</u> 100.00 %	29 37 % 25 94 0 14 <u>44 54</u> 100.00 %
Northwest Natural Gas Company Long-Term Debt Short-Term Debt Preferred Stock Common Equity Total Capital	42.60 % 10.19 0.00 47.21 100.00 %	42.65 % 8.76 0.00 48.59 103.00 %	45.83 % 7 80 0 00 <u>46.37</u> 100.00 %	45 36 % 6.80 0.81 <u>47.03</u> 100.00 %	40 66 % 10 53 3 31 45 50 100,00 %	43 42 % 8 82 0 82 <u>46 94</u> <u>100 00</u> %
<u>Pledmont Natural Gas Coinc.</u> Long-Term Debt Short-Term Debt Preferred Stock Common Equity Total Capital	38.76 % 9.31 0.00 51.93 100.00 %	40 63 % 6 74 0 00 52.63 100.00 %	28.05 % 33.69 0.00 38.26 100.00 %	44 45 % 4 06 0 00 51.49 100.00 %	46 31 % 2 90 0 00 50 79 100 00 %	39.64 % 11.34 0.00 <u>49.02</u> 100.00 %
Proxy Group of Four Gas <u>Distribution_Companies</u> Long-Term Debt Short-Term Debt Prefarred Stock Common Equity Total Capital	41 52 % 13.48 0.00 <u>45.00</u> 100.00 %	40 09 % 13 77 0.00 <u>46.14</u> 100.00 %	39 93 % 18 58 0.00 <u>41 49</u> 100.00 %	45 25 % 7 82 0 27 <u>46.65</u> 100.00 %	40.43 % 11.68 0.93 <u>46.96</u> 100.00 %	41 45 % 13.07 0 24 <u>45.25</u> 100.00 %

Source of Information: Standard & Poor's Compusial Services, Inc. PC Plus / Research Insight Data Base Company Annual Forms 10-K (Sinking Fund Requirements)

Missouri Gas Energy Capitol Structure Based upon Total Capital for the Proxy Group of Eight Value Line Gas Distribution Companies for the Years 2001 through 2005

	2005	2004	2003	2002	2001	5 YEAR AVERAGE
Cascade Natural Gas Corporation						
Long-Term Debt	57 00 %	48.45 %	58 63 %	59.09 %	43 61 %	53 36 %
Short-Term Debl	4 10	11 36	1 35	0,00	13.95	6 15
Preferred Slock	60.00	0.00	0.00	0 00	00.00	0.00
Common Equity	38.90	40.19	40.02	40.91	42.44	40.49
Tolai Capital	100.00 %	100.00 %	100.00 %	100.00 %	<u>100.01</u> %	<u>100.00</u> %
The Laciede Group, Inc.	46.48 %	48 62 %	37.01 %	38 81 %	41.15 %	42 41 %
Long-Term Debt	8.62	8.55	26 51	22 05	16 93	16 53
Short-Term Debt	0 12	0 15	0 15	017	0 24	0 17
Preferred Stock Common Equily	44.78	42.67	36,33	38.97	41.65	40.89
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
New Jersey Resources Corp.			~ ~ ~	40 E9 D/	44.71 %	37.95 %
Long-Term Debt	34 36 %	32.08 %	30.09 %	48 53 % 7 31	10.83	16 51
Short-Term Debi	18.67	24.24	21.48 0.00	0.04	0.04	0.02
Preferred Stock	0.00	0.00	48.43	44.12	44.42	45.52
Common Equily	46.97	43.58 100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Total Capital	<u>100.00</u> %	100.00 %	100.00 12	23626,003, 75	,1202,309. VV	
NICOR Inc.	*** ** **	20 C2 M	27.21 %	32 14 %	31 14 %	29.37 %
Long-Term Debt	27 74 %	28.63 % 28.22	27.21.76	20 40	19 32	25 94
Short-Term Debl	30 30 0 00	28 22 0.0D	0.00	0.28	0.42	0 14
Preferred Stock	41.96	43.15	41.31	47.18	49.12	44.54
Common Equity	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Total Capilal	700-00 18	198.95	TTATA N			
Northwest Natural Gas Company		42.65 %	45.83 %	45 35 %	40.66 %	43 42 %
Long-Term Debt	42.60 % 10.19	42.03 %	7.80	680	10 53	8 62
Short-Term Debt	000	0 00	0 00	0.81	3 31	0 82
Preferred Slock	47.21	48.59	46.37	47.03	45.50	46 94
Common Equity Total Capital	100.00 %	100.00 %	100 00 %	100.00 %	100.00 %	100.00 %
·	TWEARD 10	INC. IN				
Peoples Energy Corporation	52 56 %	49 22 %	41 35 %	37 05 %	36 18 %	43 27 %
Long-Term Debt	0.48	305	11 65	15 56	24 67	11 26
Short-Term Debt Preferred Slock	0.46	0 00	0 80	0.00	0.00	0 00
Common Equity	46.95	47-73	47.10	46.39	39.15	45.47
Total Capital	100.00 %	100.00 %	100 00 %	100.00 %	100.00 %	100.00 %
Piedmont Natural Gas Co., Inc.						39 54 %
Long-Term Debt	38 76 %	40.63 %	28.05 %	44 45 % 4.05	46 31 % 2 90	11 34
Short-Term Debt	9.31	6 74	33 69	4.05	0.00	0.00
Preferred Stock	0 00	0.00	0 00 38.26	51,49	50.79	49.02
Common Equily	<u>51.93</u>	52.63	100.00 %	100.00 %	100.00 %	100,00 %
Tolal Capilal	100.00 %	100.00 %	, 1366,6621,	1999,996	102.021	LURINA,
WGL Holdings, Inc.				44 51 %	39 96 %	40 64 %
Long-Term Debt	3971 %	39 98 %	39 04 %	44 51 % 5.69	847	6 52
Short-Term Debt	2 56	5 87	10 03 1 70	1 77	178	175
Preferred Stock	176	1 73	49.23	48.03	49.79	51.09
Common Equity	55.97	52.42 100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Tolai Capilal	100.00 %	100.00 %	100.00 75	1.555.555 70	100:00 10	JERNAR
Proxy Group of Eight Value Line						
Gas Distribution Companies						14 00 P
Long-Term Debt	42 40 %	41 28 %	38.40 %	43 74 %	40.47 %	41.26 % 12.89
Short-Term Debl	10.53	12 10	17 99	10 36	13.45	12.89
Preferred Stock	0.24	0.24	0 23	038	0 72 45 36	45,49
Common Equily	46.83	46.38	43.3B	45.52 100.00 %	45.50 100.00 %	100.00 %
Total Capital	<u>100.00</u> %	100,00 %	<u>100.00</u> %	TAG'AN .20	1000.900 (A	1-14.04.)36,342 × 0

Source of Information: Standard & Poor's Compustal Services. Inc., PC Plus / Research Insight Data Base Company Annual Forms 10-K (Sinking Fund Requirements)

Missouri Gas Energy Capital Structure Based upon Total Capital for the Proxy Group of Four Gas Distribution Companies for the Five Quarters Ended December 2005

	Quarler Ended <u>12/05</u>	Quarter Ended 9/05	Quarter Ended 5/05	Quarter Ended 3/05	Quarter Ended 12/04	5 QUARTERS AVERAGE
<u>Cascade Natural Gas Comoration</u> Long-Term Debt Short-Term Debt Prefamed Stock Common Equity Total Capital	5479 % 596 000 <u>39,25</u> 1 <u>00,00</u> %	57 00 % 4 10 0 00 38.90 100.00 %	53 56 % 5 55 0 00 <u>40.89</u> 100.00 %	53 60 % 4 42 0 00 <u>41 98</u> 100 00 %	45 27 % 14 66 0 00 <u>40 07</u> 100 00 %	52.84 % 6 94 0 00 <u>40.22</u> 1 <u>00.00</u> %
<u>NiCOR Inc.</u> Long-Term Debt Short-Term Debt Preferred Stock Common Equity Total Capital	27 74 % 30 30 0 00 41.95 100.00 %	34 92 % 16 13 6 00 54 95 106 00 %	38 61 % 0 00 0 00 <u>61 39</u> 100 00 %	38 DD % 2 64 0 00 59.36 100.00 %	28 63 % 28 22 0 00 <u>43 15</u> 100 00 %	33 58 % 14 26 0 90 52 16 100,00 %
<u>Northwest Natural Gas Company</u> Long-Term Debt Short-Term Debt Preferred Stock Common Equity Total Capital	42 60 % 10 19 0 00 <u>47 21</u> 100 00 %	45 16 % 6 18 0 00 <u>48 65</u> 100 00 %	48 11 % 0 00 0 00 <u>51.89</u> 100.00 %	44 99 % 0 95 0 00 <u>54 05</u> 100 00 %	42 65 % 8 76 0 00 <u>48 59</u> 100,00 %	44 70 % 5 22 0 00 <u>50 08</u> 100.00 %
<u>Pleamont Natural Gas Co., Inc.</u> Long-Term Debt Shori-Term Debt Preferred Stock Common Equily Total Capital	33 85 % 17 95 0 00 <u>46.20</u> 100.00 %	3876 % 931 000 <u>5193</u> <u>100.00</u> %	40 02 % 5 09 0 00 54.89 100.00 %	41 48 % 0 00 0 00 58 52 100 00 %	37 51 % 10 77 0 00 51.72 100.00 %	3832% 862 000 53.05 100.00%
Proxy Group 4 Gas Distribution.Companies Long-Term Debi Short-Term Debt Preferred Stock Common Equity Total Capital	39 74 % 16 10 0 00 <u>44 16</u> 100 00 %	43 96 % 7 43 0 00 <u>48.61</u> 100.00 %	45 08 % 2 66 0.00 52.26 100.00 %	44 52 % 2 00 0 00 53.46 100.09 %	38 52 % 15 60 0 00 <u>45 88</u> 100 00 %	42 36 % 8 76 6 00 <u>46.88</u> 100.00 %

(1) The data for all companies are effective March. June. September and December However. Piedmont Natural Gas data are for the quarters ended January. April. July and October

Source of Information: Standard & Poor's Computat Services. Inc. PC Plus / Research Insight Data Base Company Annual Forms 10K and 10Q

PG Energy Capilal Structure Based upon Tolal Capilal for the Proxy Group of Eight Value Line Gas Distribution Companies for the Five Quarters,Ended.December 2005

		MURICIAN PAR		110101_11000		
	Quarter	Quarter	Quarter	Quarter	Cuanar	
	Ended	Ended	Ended	Ended	Ended	5 QUARTERS
	12/05	9/05	6/05	3/05	12/04	AVERAGE
	76-77-56		PTRO .	Parizet M		
Cascade Natural Gas Corporation						
Long-Term Dabt	54 79 %	57 00 %	53 56 %	53.60 %	45.27 %	52 84 %
Shart-Term Dabt	5 96	4 10	5 55	4.42	14.66	6.94
Preferred Stock	0.00	0 00	0.00	0.00	0.00	0.00
Common Equity	39.25	38.90	40.69	41.96	40,0Z	4D 22
Total Capital	100,00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Total Suprisi	Contraction in					
The Laclede Group, Inc						
Long-Term Debl	35 47 %	46 48 %	46.80 %	44 75 %	41.03 %	43.11 %
Short-Term Debt	25.B2	B.62	5.83	10 14	19 12	13.91
Preferred Stock	0.09	D 12	0 12	0 11	0 12	0 11
Common Equily	37,62	44.78	47.25	45.00	3973	42.88
Total Capital	100.00 %	<u>100 DD</u> %	100.00 %	100.00 %	100.00 %	100,00 %
New Jorsey Resources Corp.					20.00 B/	31 34 %
Long-Term Debl	27 93 %	34 35 %	31 11 %	34 39 %	28.92 % 25.96	20 49
Short-Term Debi	28 70	18.67	18 74	10 39	0.00	0.00
Preferred Stock	0.00	0.00	0.00	0.00		48.17
Common Equity	43.37	46.97	50.15	55.22	45.12	100.00 %
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00
NICOR Inc.		34 92 %	36 61 %	38.00 %	28.63 %	33 58 %
Long-Term Debt	27 74 %	10 13	0.00	2.54	28.22	14 26
Short-Term Dabt	30 30	0.00	0.00	0.00	0.00	0.00
Preferred Stock	0.00		61.39	59.36	43,15	52.15
Common Equity	4195	54.95 100.00 %	<u>100.00</u> %	100.00 %	100.00 %	100.00 %
Total Cepilal	100.00 %	100 00 76	300.00 /0	TON MOVING	JEED THE T	Lindeline in
Northwest Natural Gas Company						
Long-Term Debl	42.60 %	45.16 %	48 11 %	44 99 %	42 65 %	44 70 %
Short-Term Debt	10 19	6 18	0.00	0.95	8 76	5.22
Preferred Stock	0 00	0.00	0.00	0.00	0.00	0 00
Common Equily	47.21	48.66	51,89	54.06	48.59	<u>50,08</u>
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	<u>100.00</u> %	100.00 %
rolat opping						
Peoples Energy Corporation						
Long-Term Debi	47 75 %	52 56 %	50.06 %	50 50 %	45.94 %	49 36 %
Short-Term Debt	9.46	0.48	0 85	0 00	881	3.92
Preferred Slock	0 00	0.00	0 00	0.00	0.00	0.00
Common Equity	42.79	46.96	49.09	49 6D	45.25	46.72
Total Capital	100.00 %	100.00 %	100.00 %	<u>100.00</u> %	100.00 %	<u>100.00</u> %
Piedmont Natural Gas.CoInc.(1)			10.00.01	41 48 %	37 51 %	38 32 %
Long-Term Debl	33.85 %	3876 %	40.02 %	0,00	10 77	8.62
Short-Term Debt	17 95	931	5.09 0 00	0.00	0 00	0.02
Preferred Stock	0 00	000		68.52	51.72	53.05
Common Equity	48 20	51.93	<u>54.89</u>		100.00 %	100.00 %
Total Capital	<u>100.00</u> %	100.00 %	100.00 %	100.00 %	100,00 10	100.00 10
tales is allowed by						
WGL Heldings. Inc.	33 51 %	3971%	36 99 %	36 76 %	37.22 %	36.84 %
Long-Term Debt	16 39	2 56	172	4 96	9.42	7.01
Short-Term Debl Preferred Slock	1 49	1 76	1.82	1.59	1.65	1.68
Common Equity	48 61	55.97	59.47	55.59	51.71	54.47
	100 00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %
Total Capital	TWN MR 10	THR FOR 10	LEADER IV			
Proxy Group & Gas Value Line						
Gas Distribution Companies						
Long-Term Debt	38.08 %	43.62 %	43 16 %	43.0E %	38.39 %	41.26 %
Short-Term Debt	18 10	7 51	4 72	4 19	15 72	10.05
Preferred Siock	0.20	0.23	0.24	0.22	0.22	0.22
Common Equity	43.62	48 64	51.8B	52.53	45.6Z	48.4Z
Total Capital	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %	100.00 %

(1) The data for all companies are effective March, June. September and December However. Piedmont Natural Gas data are for the quarters ended January. April. July and October

Source of Information: Standard & Poor's Compustal Services. Inc., PC Plus / Research Insight Data Base Company Annual Forms 10K and 10Q

Schedule FJH-6 Page 5 of 5

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Southem Union Company Pro Forma Capital Structure <u>Projected as of June 30, 2006</u> (SHOWN FOR INFORMATION PURPOSES ONLY)

Type of Capital	Pro Forma Outstanding June 30, 2006 (1)	Capitalization Ratio
Long-Term Debt	\$ 2,027,928,645	48.19 %
Short-Term Debt	420,000,000	9.98
Preferred Securities	223,828,509	5.32
Common Equity	1,536,052,320	36.50
Total	\$ 4,207,809,474	100.00 %

Notes:

(1) Company Provided

Schedule FJH-7 Page 1 of 10

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Missouri Gas Energy Long-Term Debt Cost Rates of the the Proxy Group of Four Gas Distribution Companies. Proxy Group of Eight Gas Distribution Companies and Southern Union Company Actual at Fiscal Year End 2005

Line No.	Proxy Group of Four Gas Distribution Companies	Actual at Fiscal Year End 2005 (1)
	Cascade Natural Gas Corporation NICOR Inc. Northwest Natural Gas Company Piedmont Natural Gas Co., Inc	7.06 % 6.03 6.58 7.03
1.	Average	<u> </u>

	Proxy Group of Eight Gas Distribution Companies Cascade Natural Gas Corporation	7.06 %
	The Lacledo Group. Inc	6.74
	New Jarsey Resources Corp NICOR Inc.	4 15 6 03
	Nothwest Natural Gas Company	6 58
	Peoples Energy Corporation	5 47
	Pladmont Natural Gas Co . Inc	7 03
	WGL Holdings. Inc.	6.23
2	Average	<u> </u>
З.	Midpoint of Long-Term Debt Cosl Rate (2)	642 %
4	Provision for Estimated Issuance Costs	0.15
5.	Conclusion of Long-Term Debl Cost Rate Applicable to PG Energy (3)	<u> </u>

Notes: (1) Supporting information on pages 2 through 10 of this Schedule.

(2) Average of Line No. 1 and Line No. 2.

(3) Sum of Line No. 3 and Line No. 4

Schedule FJH-7 Page 2 of 10 i.

Missouri Gas Energy Calculation of the Composite Cost Rate of Long-Term Debt Outstanding for Cascade Natural Gas Company At September 30, 2005

Series	Amount Quistanding (\$ 000s)		Effective Cost Rate		nualized Cost 000s)	Composite Interest Rate
Medium-Term Notes						
8 50% Due Oclober 2006	\$	8.000	8.500	5	680	
8 06% Due September 2012		14,000	8.060		1.128	
8 10% Due October 2012		5.000	8 100		405	
8 11% Due October 2012		3,000	8.110	243		
7 95% Due February 2013	4,000		7.950	318		
8 01% Due February 2013		10,000	8.010		801	
7 95% Due February 2013		10,000	7.950		795	
7 48% Due September 2027		20,000	7.480		1,496	
7 098% Due March 2029		15.000	7.098		1.065	
Notes						
5 21% Due September 2020		15.000	5 210		782	
7.50% Due November 2031		39,840	7.500		2.988	
5 25% insured Quarterly Notes Due						
February 2035		30,000	5 250		1.575	<u>.</u>
Total Long-Term Dabt	<u> </u>	173,840		5	12,276	7.05 %

Schedule FJH-7 Page 3 of 10

Missouri Gas Energy Calculation of the Composite Cost Rats of Long-Term Debt Outstanding for The Laclede Group Inc. At September 30, 2005

Series	QL	Amount Iislanding \$ 000s)	Effective Cost Rale		Annualized <u>Cost</u> (\$ 000s)	Composite Interest Rate
First Morlgage Bonds						
8-5/8% Series. Due May 15, 2006	\$	40.000	8 625	%	\$ 3.450	
7-1/2% Series. Due November 1, 2007		40.000	7.500		3.000	
6-1/2% Series. Due November 15, 2010		25.000	6.500		1.625	
6-1/2% Series. Due October 15, 2012		25.000	6.500		1.625	
5-1/2% Series. Due May 1, 2019		50.000	5.500		2.750	
7% Series, Due June 1, 2029		25,000	7.000		1,750	
7.90% Series. Due September 15. 2030		30,000	7.900		2.370	
6% Series, Due May 1, 2034		100,000	6 000		6.000	
Long-Term Debt to Unconsolidated Affiliate Tr	ι	46,400	6 740	(1)	3,127	
Total Long-Term Debt	\$	381,400			\$ 25,697	<u>6.74</u> %

Notes: (1) Assumed equal to the composite debt cost rate of all debt excluding longterm debt to unconsolidated affiliate trust at September 30, 2005

Missouri.Gas Enargy Calculation of the Composite Cost Rate of Long-Term Debt Outstanding for New Jersey Resources Corp At September 30, 2005

		Amount	Effective Cost			nualized	Composite Interest
Series	Outstanding (\$ 000s)		Rate			<u>Cosi</u> 000s)	Rate
	1	# 000sj			(Φ	00037	
New Jersey Natural Gas							
First Mortgage Bands							
5 38% Series W, Due August 1, 2023	\$	10.300	5.380	%	\$	554	
6 27% Series X. Due November 1. 2008		30.000	6.270			1.881	
6 25% Series Y, Due August 1, 2024		10.500	6.250			656	
Variable Series AA. Due August 1. 2030		25.000	2.200	(1)		550	
Variable Series BB, Due August 1, 2030		16.000	2.200	(1)		352	
6 88% Series CC. Due Oclober 1, 2010		20.000	6.880			1.376	
Variable Series DD. Due September 1, 20		13.500	2.200	(1)		297	
Variable Series EE, Due January 1, 2028		9.545	2.200	(1)		210	
Variable Series FF, Due January 1, 2028		15.000	2.200	(1)		330	
Variable Series GG, April 1, 2033		18.000	2 200	(1)		396	
5% Series HH, Due December 1, 2038		12.000	5 000			600	
4.77% Unsecured Senior Noles		60.000	4 770			2.862	
Capital Lease Obligations - Buildings		28.290	4 150	(2)		1.174	
Capital Lease Obligations - Meters		27.322	4 150	(2)		1.134	
New Jersev Resources							
3.75% Unsecured Senior Notes, Due		25,000	3 750	(2)		938	
March 15, 2009				•••		·····	
Total Long-Term Debi	\$	320,457			5	13,310	4.15 %

Notes: (1) Weighted average interest rate. (2) Assumed equal to the composite debt cost rate of all debt excluding capital lease obligations at September 30. 2005.

Schedule FJH-7 Page 5 of 10

<u>Missouri Gas Energy</u> Calculation of the Composite Cost Rate of Long-Term Debt Outstanding for NICOR Inc. <u>At December 31, 2005</u>

Series		Amount <u>utstanding</u> (\$ 000s)	Effective Cost Rale		nualized <u>Cost</u> 5 000s)	Composite Interest <u>Bate</u>
First Montgage Bonds 5 55% Series, Due 2006	s	50.000	5 550	\$	2.775	
5 875% Series, Due 2008	v	75.000	5 875	*	4.405	
5 37% Series, Due 2009		50.000	5 370		2.685	
6.625% Series, Due 2011		75.000	6.625		4.969	
7 20% Series, Due 2016		50.000	7.200		3.600	
5 80% Series, Due 2023		50.000	5 800		2.900	
6 58% Series. Due 2028		50.000	6 580		3.290	
5 90% Series. Due 2032		50.000	5 900		2.950	
5.90% Series. Due 2033		50.000	5.900		2.950	
Other Long-Term Debt						
Senior Unsecured Term Loan. Due 2007		40,000	5.030 (1)		2,012	
Total Long-Term Debl	5	540,000		\$	32,537	<u> </u>

Notes: (1) London Inter-bank Offered Rate plus 0.5% at December 30. 2005 from <u>Blue Chip Financial Forecasis</u>. February 1, 2006. ρ. 2

Schedule FJH-7 Page 6 of 10

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Missouri Gas Energy Calculation of the Composite Cost Rate of Long-Term Debt Outstanding for Northwest Natural Gas Company <u>At December 31, 2005</u>

Series	Amount <u>Ouistanding</u> (\$ 000s)	Annualized <u>Cost</u> (\$ 000s)	Composite Interest Bate	
First Mortgage Bonds				
6 050% Series B. Due 2006	\$ 8.000	6.050 %	\$ 484	
6 310% Series B. Due 2007	20.000	6.310	1.262	
6 800% Series B. Due 2007	9.500	6.800	646	
6 500% Series B. Due 2008	5.000	6.500	325	
4 110% Series B. Due 2010	10.000	4.110	. 411	
7 450% Series B. Due 2010	25.000	7.450	1.863	
6 665% Series B. Due 2011	10.000	6.665	667	
7 130% Series B. Due 2012	40.000	7.130	2.852	
8 250% Series B, Due 2014	10.000	8.260	826	
4 700% Series, B, Due 2015	40.000	4.700	1.880	
7 000% Series B. Due 2017	40.000	7.000	2.800	
6 600% Series B. Due 2018	22.000	6.600	1.452	
8 310% Series B. Due 2019	10.000	8.310	831	
7 630% Series B. Due 2019	20.000	7.630	1.526	
9.050% Series A, Due 2021	10.000	9.050	905	
5 620% Series B. Due 2023	40.0D0	5 620	2.248	
7,720% Series B. Due 2025	20.000	7 720	1.544	
6.520% Series B. Due 2025	10.000	6 520	652	
7.050% Series B. Due 2026	20.000	7 050	1.410	
7.000% Series B. Due 2027	20.000	7 000	1.400	
6.650% Series B. Due 2027	20,000	6 650	1.330	
6.650% Series B. Due 2028	10,000	6 650	665	
7.740% Series B. Due 2030	20,000	7 740	1.548	
7.850% Series B. Due 2030	10,000	7 850	785	
5.820% Series B. Due 2032	30,000	5 820	1.746	
5.660% Series B. Due 2033	40.000	5 660	2.264	
5 250% Series B. Due 2035	10,000	5 250	525	
Total Long-Term Dabi	\$ 529,500		<u>\$ 34,847</u>	<u> 6.58 </u> %

Schedule FJH-7 Page 7 of 10

Missouri Gas Energy Calculation of the Composite Cost Rate of Long-Term Debt Outstanding for Peoples Energy Corporation At September 30, 2005

Series	Q	Amount Ustanding (\$ 000s)	Effective Cost Rate				nualized <u>Cost</u> 5 000s)	Composite Interest <u>Rate</u>
Peoples Energy Corporation								
6 9% Series A. Due January 15, 2001	\$	325.000		6 900	%	\$	22.425	
The Peoples Gas Light and Coke Co.								
First and Refunding Mortgage Bonds								
4.75% Series HH. Due March 1,								
2030, adjustable after July 1, 2014		50.000		4.750			2.375	
5.00% Series KK. Due February 1, 2033		50.000		5 000			2.500	
3.65% Series LL. due February 1.								
2033, adjustable after February 1,		50.000		3.050			1.525	
4 00% Series MM-2, Due March 1, 2010		50.000		4 000			2.000	
4.625% Series NN-2, Due May 1, 2013		75.000		4.625			3.469	
4 875% Series QQ, Due November								
1. 2038, adjustable after November		75.000		4.875			3.656	
4.30% Series RR. Due June 1.								
2035, adjustable after June 1, 2016		50.000		4.300			2.150	
Adjustable Rate Bonds								
Series OO, Due October 1, 2037		51.000		5 470	(1)		2.790	
Series PP. Due October 1, 2037		51.000		5 470	(1)		2.790	
North Shore Gas Company								
First Mortgage Bonds								
6 00% Series M Due December 1, 2028		29.250		5 000			1.463	
4 625% Series N-1, Due May 1, 2013		40,000		4 625			1,850	
Total Long-Term Debt	\$	896,250				5	48,993	5.47 %

Notes: (1) Assumed equal to the composite debt cost rate of all debt excluding the adjustable rate bonds at September 30, 2005.

Schedule FJH-7 Page 8 of 10

Missouri Gas Energy Calculation of the Composite Cost Rate of Long-Term Debt Outstanding for Piedmont Natural Gas Co . Inc At October 31, 2005

Series	Amount Outstanding (\$ 000s)		Effective Cost Rate			nualized <u>Cost</u> i 000s)	Composite Interest Rate
Senior Notes							
9 44%. Due 2006	5	35.000	9 440	%	Ş	3.304	
8 51%, Due 2017		35.000	8 510			2.979	
Medium-Term Notes							
7 35%. Due 2009		30.000	7 350			2.205	
7 80%. Due 2010	60.000		7.800			4.680	
6 55%. Due 2011		60.000	6 550	6 550		3.930	
5.00%. Due 2013		100.000	5.000			5.000	
6 87%, Due 2023		45.000	6.870			3,092	
8.45%. Due 2024		40,000	8.450			3.380	
7.40%. Due 2025		55.000	7.400			4.070	
7.50%. Due 2026		40,000	7.500			3.000	
7.95%, Due 2029		60,000	7 950		4.770		
6 00%. Due 2033		100,000	6 000			6,000	
Total Long-Term Debt	5	660,000			\$	46,410	7.03 %

Schedule FJH-7 Page 9 of 10

Missouri.Gas Energy Calculation of the Composite Cost Rate of Long-Term Debt Outstanding for WGL Holdings, Inc. <u>At September 30.2005</u>

Series	Amount Quisianding (\$ 000s)		Effective Cost Rate (1)	Cost		nualized Cost 000s)	Composite Interest Rate
Washington Gas Light Company Unsecured Medium-Term Notes	-	45 400	0.040			2440	
6 51% - 7.31%, Due Fiscal Year 2008 5 49% - 6 92%, Due Fiscal Year 2009	\$	45,100 75,000	6.910 6.205	(1) (2)	Ş	3,116 4.654	
7 50% - 7 70%, Due Fiscal Year 2010 6 64%, Due Fiscal Year 2011		24,000 30,000	7 600 6 640	(3)		1,824 1,992	
5 90% - 6 05%. Due Fiscal Year 2012	77,000		5.975			4,601	
4.88% - 5 17%. Due Fiscal Year 2014 4.83%. Due Fiscal Year 2015		67,000 20.000	5.025 4 830	(5)		3,367 966	
6.65%, Due Fiscal Year 2023		20,000	6.650			1,330	
5.44%. Due Fiscal Year 2025 6.15%, Due Fiscal Year 2026		40,500 50,000	5.440 6.150			2,203 3,075	
6 40% - 6 82%, Due Fiscal Year 2027		125,000	6.610	• •		8,263	
6 57% - 6 85%. Due Fiscal Year 2028 7,50%, Due Fiscal Year 2030	52,000 8,500		6.710 7.500	(7)		3,489 638	
Other long-term debt		227	6 230	(8)		14	
Total Long-Term Debt	5	634,327			<u></u>	39,532	<u> </u>

Notes:	(1) 6910% = (651% + 731%)/2.
	(2) 6205% = (5.49% + 6.92%)/2
	(3) 7 600% = (7 50% + 7 70%)/2
	(4) 5975% = (590% + 605%)/2
	(5) 5025% = (488% + 517%)/2
	(6) 6610% = (640% + 682%)/2
	(7) 6710% = (657% + 685%)/2
	(8) Assumed equal to the composite debt cost a

(8) Assumed equal to the composite debt cost rate of all debt excluding other long-term debt at September 30, 2005

Schedule FJH-7 Page 10 of 10

Missouri Gas Energy Calculation of the Composite Cost Rate of Long-Term Debt Outstanding for Southern Union Company At December 31, 2005

Series	Amount <u>Outstanding</u> (\$ 000s)		Co	Effective Cost Rate		 nualized Cost 5 000s)	Composite Interest Rate
Southern Union Company							
7 60% Senior Notes Due 2024	\$	359.765	-	7 600	%	\$ 27,342	
8 25% Senior Notes Due 2029		300,000	ł	3 250		24.750	
2 75% Senior Notes Due 2006		125,000	1	2 750		3,438	
6.50% to 10 25% First Mortgage Bonds.							
Due 2006 to 2029		111,419	l	3 375	(1)	9.331	
4.375% Senior Notes, Due 2008		100,000	4	4 375		4,375	
Capital Lease and other. Due 2006 to 2007		71	(5 070	(2)	4	
Panhandle Energy					•••		
2 75% Senior Notes, Due 2007		200,000		2.750		5,500	
4.80% Senior Notes, Due 2008		300.000	4	4 800		14.400	
6 05% Senior Notes, Due 2013		250,000	(5.050		15 125	
6.50% Senior Notes, Due 2009		60.623	(3 500		3,940	
8.25% Senior Notes, Due 2010		40.500	i	3 250		3 341	
7.00% Senior Notes, Due 2029		66,305	-	7 000		4.641	
Term Loan, Due 2007		255,626	(5 070	(2)	 15,516	
Total Long-Term Debt	5	2,169,309				\$ 131,703	<u> </u>

Notes: (1) 8 375% = (6 50% + 10.25%) / 2 (2) Assumed equal to the composite debt cost rate of all debt excluding the term loan, due 2007 at December 31, 2005.

3

Missouri Gas Energy Hypothetical Example of the Inadequacy of A DCF Return Rate Related to Book Value When Market Value is Greater / Less than Book Value

1

2

Line No.	-	Mai	rket Value	- N	ook Value with /arket to Book Ratio of 180%	N	ook Value with larket to Book Ratio of 80%
1.	Per Share	\$	24 000	\$	13.33	\$	30.00
2.	DCF Cost Rate (1)		10.00%		10.00%		10.00%
3.	Return in Dollars	\$	2.400	\$	1.333	\$	3.000
4	Dividends (2)	\$	0 960	\$	0.960	\$	0.960
5	Growth in Dollars	\$	1 440	\$	0 373	\$	2.040
6.	Return on Market Value		10.00%		5 55% (3)		12 50% (4)
7.	Rate of Growth on Market Value		6 00% (5)		1.55% (6)		8 50% (7)

Notes: (1) Comprised of 4.0% dividend yield and 6.0%% growth.

(2) \$24.00 * 4.0% yield = \$0.960

(3) \$1.333 / \$24.00 market value = 5.55%.

(4) \$3.000 / \$24.00 market value = 12.50%.

(5) Expected rate of growth per market based DCF model.

(6) Actual rate of growth when DCF cost rate is applied to book value (\$1.333 possible earnings - \$0.960 dividends = \$0.373 for growth / \$24.00 market value = 1.55%).

(7) Actual rate of growth when DCF cost rate is applied to book value (\$3,000 possible earnings - \$0,960 dividends = \$2,040 for growth / \$24,00 market value = 8,50%).

Missouri Gas Energy Indicated Common Equity Cost Rate through the use of the Discounted Cash Flow Model for the Proxy Group of Four Gas distribution Companies, Proxy Group of Eight Value Line Gas Distribution Companies and Southern Union Company

	1	2 Dividend	3	4	5	6
	Dividend Yield (1)	Growth Component (2)	Adjusted Dividend Yield (3)	Growth Rate (4)	Indicated DCF Return Rate (5)	Recommended DCF Return Rate (6)
Proxy Group of Four Gas Distribution Companies						
Cascade Natural Gas Corporation NICOR Inc. Northwest Natural Gas Company Piedmont Natural Gas Co. Inc	4 87 % 4 49 3 97 3.86	0 14 % 0 09 0 12 0.10	5 01 4 58 4 09 3.96	5.75 % 3.85 6.00 5.30	10 76 % 8 43 10 09 9 26	10 76 % 10 09
Average	4.30 %	0.11 %	4,41 %	5.23 %	9.64 %	10,43 %
DCF Results Adjusted for Financial Leverage					<u> 10.70 </u> % (7)	<u>11,69</u> % (7)
Proxy Group of Eight Value Line Gas Distribution Companies						<u>11.46 </u> % (8)
Cascade Natural Gas Corporation The Laclede Group, Inc New Jersey Resources Corp NICOR Inc. Northwest Natural Gas Company Peoples Energy Corporation Piedmont Natural Gas Co. Inc WGL Holdings, Inc Average	4.87 % 4 25 3 26 4 49 3 97 5 91 3 86 4 39 4 38 %	0 14 % 0 13 0 08 0 09 0 12 0.07 0 10 0 06 0.10 %	5 01 4 38 3 34 4 58 4 09 5 98 3 96 4 45 <u>4 45</u> <u>4 45</u>	575 % 600 500 385 600 248 530 2.75 	10 76 % 10 38 8 34 8 43 10 09 8 46 9 26 7.20 9.12 %	10 76 % 10 38
DCF Results Adjusted for Financial Leverage					<u>10.00</u> % (7)	<u>11.60</u> % (7) <u>11.52</u> % (9)
Southern Union Company	<u> </u>	<u>0.08</u> %	<u> </u>	9.25 %	<u> 10.98 </u> %	10,98 %
DCF Resulls Adjusted for Financial Leverage						12.32 % (7)

Notes: (1) From page 1 of Schedule 10 of this exhibit.

- (1) From page to schedule to on the school.
 (2) This reflects a growth rate component equal to one-half the average projected five-year growth rate in EPS (from page 1 of Schedule 12 of this Exhibit x Line No. 1 to reflect the periodic payment of dividends (Gordon Model) as opposed to the continuous payment. Thus, for Cascade Natural Gas 4 87% x (1/2 x 5.75%) = 0 14%
- (3) Column 1 + Column 2
- (4) From page 1 of Schedule 12 of this Exhibit
 (5) Column 3 + Column 4

- (6) Includes only those indicated common equity cost rates which are greater than 9 45% (the fowest rate awarded to a gas distribution utility between January 1. 2004 and December 31, 2005, from Schedule 17 of this Exhibit) as fully explained in Mr Hanley's accompanying direct lestimony
- (7) Based upon the adjustment described in note 5 on pages 3 and 4 of Schedule 1 of this Exhibit
- (8) Based upon the adjustment described in note 5 on pages 3 and 4 of Schedule 1 of this Exhibit. using the market value and book value capital structure of Cascade Natural Gas Corp and Northwest Natural Gas Co. at September 30, 2005 and December 2005 as shown on page 6 of Schedule 1 of this Exhibit.
- (9) Based upon the adjustment described in note 5 on pages 3 and 4 of Schedule 1 of this Exhibit, using the average market value and average book value capital structure of Cascade Natural Gas Corp. The Laclede Group. Inc. and Northwest Natural Gas Co. at September 30, 2005 for Cascade and Laclede. and at December 2005 for Northwest Natural, as can be gleaned from the information shown on pages 7 and 8 of Schedule 1 of this Exhibit.

Missouri Gas Energy Derivation of Dividend Yield for Use in the Discounted Cash Flow Model

	Spot		Upon Average High / Low	Average
	Spot			-
			ket Prices (2)	Dividend
	(3/17/06) (1)	Feb. 2006	Jan. 2006	Yield (3)
Proxy Group of Four Gas Distribution Companies				
Cascade Natural Gas Corporation	4.90 %	484 %	4.86 %	487%
NICOR Inc	4.44 %	451 %	4.53 %	4.49
Northwest Natural Gas Company	4.02 %	4 02 %	3.88 %	3 97
Piedmont Natural Gas Co., Inc.	4.00 %	380 %	3.77 %	3.86
Average	4.34 %	<u>4.29</u> %	4.26 %	4.30 %
Proxy Group of Eight Value Line Gas Distribution Companies				
Cascade Natural Gas Corporation	4.90 %	484 %	4.86 %	4.87 %
The Laclede Group, Inc.	4.14 %	4.22 %	4.39 %	4.25
New Jersey Resources Corp.	3.24 %	324 %	3.31 %	3.26
NICOR Inc	4.44 %	451%	4.53 %	4.49
Northwest Natural Gas Company	4.02 %	4 02 %	3.88 %	3.97
Peoples Energy Corporation	5.76 %	596%	6.00 %	5.91
Piedmont Natural Gas Co., Inc	4.00 %	3 80 %	3.77 %	3.86
WGL Holdings, Inc.	4.46 %	4 35 %	4.36 %	4.39
Average	4.37 %	4.37 %	4.39 %	4.38 %
Southern Union Company	1.65_%	0.00 %	0.00_%	<u>1.65</u> %

- Notes: (1) The spot dividend yield is the current annualized dividend per share divided by the spot market price on 3/17/06 The dividend yield was calculated by using finance yahoo com and interquote com and DTN Trading Market's DTNIQ/interquote com
 - (2) The average 3-month dividend yield was computed by relating the indicated annualized dividend rate and market price on the last trading day of each of the two months ended February 2006.
 - (3) Equal weight has been given to the spot, January 2006 and February 2006 dividend yield

Source of Information: Standard & Poor's Compusiat Services, Inc., PC Plus/Research Insight Data Base DTN Trading Markets' DTNIQ/Interquote com http://finance.yahoo.com

Missouri Gas Energy Current Institutional Holdings (1) and Individual Holdings (2) for the Proxy Group of Four Gas Distribution Companies, the Proxy Group of Eight Value Line Gas Distribution Companies and Southern Union Company

	1	2
	March 2006 Percentage of Institutional Holdings	March 2006 Percentage of Individual Holdings (1)
Proxy Group of Four Gas Distribution Companies		
Cascade Natural Gas Corporation NICOR Inc Northwest Natural Gas Company Piedmont Natural Gas Co., Inc Average	$ \begin{array}{r} 41.3 \% \\ 71.4 \\ 47.2 \\ 40.3 \\ \underline{50.1} \% \end{array} $	58.7 % 28.6 52.8 59.7 49.9 %
Proxy Group of Eight Value Line Gas Distribution Companies		
Cascade Natural Gas Corporation The Laclede Group, Inc. New Jersey Resources Corp. NICOR Inc. Northwest Natural Gas Company Peoples Energy Corporation Piedmont Natural Gas Co., Inc WGL Holdings, Inc. Average	$ \begin{array}{r} 41.3 \% \\ 41.2 \\ 49.2 \\ 71.4 \\ 47.2 \\ 59.1 \\ 40.3 \\ 59.4 \\ \hline 59.4 \\ \hline 51.1 \\ \% \end{array} $	58.7 % 58.8 50.8 28.6 52.8 40 9 59.7 40 6 <u>48.9</u> %
Southern Union Company	<u>75.4</u> %	24.6 %

(1) (1 - column 1).

Source of Information: reuters com - updated March 18, 2006

Missouri Gas Energy Development of Projected Growth for Use in the Discounted Cash Flow Model

	1	2	<u>3</u>
	Value Line Projected 2008-'10 Growth Rate in EPS (1)	Thomson FN / First Call Projected Median Five-Year Growth Rate in EPS	Average Projected Five-Year Growth Rate in EPS (2)
		(# est.)	
Proxy Group of Four Gas Distribution Companies			
Cascade Natural Gas Corporation NICOR Inc. Northwest Natural Gas Company Piedmont Natural Gas Co., Inc Average	8 50 % 4 00 7 00 6 00 6.38 %	3.00 % [1] 3.70 [2] 5.00 [5] 4.60 [2] 4.08 %	5.75 % 3.85 6.00 5.30 <u>5.23</u> %
Proxy Group of Eight Value Line Gas Distribution Companies			
Cascade Natural Gas Corporation The Laclede Group, Inc. New Jarsey Resources Corp. NICOR Inc. Northwest Natural Gas Company Peoples Energy Corporation Piedmont Natural Gas Co., Inc WGL Holdings, Inc. Average	8.50 % 7.00 4.50 4.00 7.00 0.50 6.00 2.00 4.94 %	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	5.75 % 6.00 5.00 3.85 6.00 2.48 5.30 2.75 4.64 %
Southern Union Company	14.50 %	<u> </u>	9.25 % (3)

- Notes: (1) From page 2 through 10 of this Schedule.
 (2) Average of Columns 1 and 2.
 (3) Weighted in approximation to individual and institutional holdings from Schedule 11 of this Exhibit namely 25% to Value Line (greater reliance by individuals) and ThomsonFN/First Call (greater reliance by institutions).

Source of Information: Value Line Investment Survey, (Standard Edition), March 17, 2006 ThomsonFN First Call Earnings, thomsonfn.com, updated March 11, 2006

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2.50	21			3.06	4.12	2.42	2.66	2.32	1.61	1.65	2.16	191	2.56	3.50	253	1.90	2.20		iending p		4.00
8.33 6.56	6.6. 6.6.		9.96 8.57	9.61	9.76 9.14	10.09	10.16	10.07	10.35	10.79	11.01	10.34	10.11	10.52	10.39	12.35	14,30 11,50		lue per sl n Shs Out		18.60
8.9	12.2		16.6	25.7	16.2	40.0	17.6	19.4	13,7	11.7	13.4	18.2	22.0	17.5	25.1	Bold Fig			TP/E Rat		16.5
.66	71	B 1.44	.98	1.69	1.22	2.51	1.01	1.01	,78	.Ђ	<i>ę</i> a,	.99	1.25	.92	1.34	Value estin	Lino	Relativa	P/E Ratio	.	1.10
7.8%	5.4%	6 6.Z%	5.4%	6.2%	6.6%	4.6%	5.9%	5.9%	5.7%	5.9%	4.9%	4.7%	5.0%	4.6%	4.7%			Avg Ann	'i Div'd Y	leid	3.9%
CAPITA	IL STRI	UCTURE	as of 12/3	1/05		1277	195.6	189.7	208.6	241.9	335.8	321.0	302,B	318.1	326.5	515	570		:s (\$mii)) /	•	830
Total D	obt 519	2.6 mil. 1	Due in 5 Y	frs \$20.5	mīt	4.2	10.6	9.8	14.2 35.5%	15.4	16.2	12.5	9.7	13.3	9.2	11,5	112	Net Prof			19.5
LT Dab	t \$165.7	7 mil i	.T Interes	at \$10.0 n		34.8% 3.3%	37.1% 5.4%	37.4% 5.2%	59.5% 6.1%	37.1% 6.4%	35.9% 4.8%	34 9% 3.9%	342%	35.2% 4.2%	37.9% 2.8%	37.0% 2.2%	37.1%	incoma" Net Prot			37.0% 2.3%
	iest ear e: 2.3x)	ned: 2.3x;	lotal inter	rest		46.8%	50,6%	48.4%	50.9%	61.2%	50.7%	59.1%	55.9%	52.1%	59.4%	57.0%			na Debt R	atio	51.0%
						50.0%	45,5%	48.7%	46.5%	48.8%	49.3%	40.9%	44,1%	47.9%	40.6%	43.0%	45.0%		Equity R		49.0%
Pansio	n Asset	ts-9/05 \$5	85៣11.0)blig. \$71	7 müt.	217.8	239,4	228.5	245.6	244.2	246.6	279.1	255.5	247.4	292.5	330	365		pital (\$mli	ŋ	475
						255.7	265.2	276.6	282.3	284.8	294.2	299.6	3123	334.6	342.5	350	365	Not Plan			470
Pid 6to	ck Non	e				3.4% 3.6%	6.2% 9.0%	6.1% 8.3%	7.5% 11.7%	8.1% 12.9%	6.5% 13.3%	6.4% 10.9%	6.0% 6.6%	7.7%	5.0% 7.8%	5.0% 8.0%	5.5% 8.0%		n Total Ca		5.5% 8.5%
Commo	en Stoc	k 11.442,4	516 shs		ĺ	3.5%	9.1%	8.3%	12.0%	12.9%	13.3%	10,9%	8.6%	11.2%	7.8%	8.0%	8,0%		n Shr Eq n Com Eq		8.5%
as of 1/	31/06					NMF	.7%	NMF	2.7%	4.0%	4.6%	1.7%	NMF	21%	NHF	.5%	1.5%		to Com E		3.0%
		; \$225 mil SMONA		all (cap) 2005 1	-154105	NMF	93%	108%	78%	69%	65%	85%	110%	81%	118%	95%	84%	All Div'd	s to Net P	rof	63%
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Olher			38.6	111.9	77.1			,	ves pulp i					WA 981	29. Tel.: 2	205-624-	3900. lat	emet: wv	w.cngc.c	om	
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	LRATE				'03-'05				shaı al 200										ites w enues		
d change	ı (per sh)	to Yrs.	. 5 Yr	s. toʻ	09-11				he ye										resenta		
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33, 35; 196, (11¢); 198, (2¢); 193, (1¢); 101. 9¢; [Feb., May. Aug.. Nov. mDv'd reinvest, plan [2008, Value Line Publishing, Inc. All rights reserved. Factual matrixel is detained from sources befreed to be tribiled and is provided without moranties of any kind. The Publishing inc. All rights reserved. Factual matrixel is detained from sources befreed to be tribiled and is provided without moranties of any kind. The Publishing inc. All rights reserved. Factual matrixel is detained from sources befreed to the subscriber's run, non-commercial, intenual use, how for SUBSECTIBE Call 1-800-833-00465. All may be reproduced, readd, stared or transmitted in any printed, electronic publication, source or product.

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LACLE	<u>EDE G</u>	ROL	JP NY		¥	P	RCE	<u>32.3</u>	7 P/E RATI			an: 15.0/	RELATIV P/E RATI	0 U. /	,I	4.4	1%	VALU LINE		
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2.13 2.		2.81	2.65	255	3.29	3.32	3.02	2.56	2.68	3.00	2.56	3.15	2.79	2.98	1.55	1,70		low" per		4.
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otal Debt S6	50.0 mill. D	ue in S Y	'rs \$175.		32.8	32.5	27,9	26,9	25.0	30.5	22.4	34.6	36,1	49,1	50.5	51.5	Net Pro			78
T Debt \$340. Total interest		F Interesi ,0x)	t \$25.0 n	UR.	35.9%	35.1%	35.6%	35.5%	35.2%	32.7%	35.4%	35.0%	34.8%	34.1%	34.0%	34.0%		Tax Roto		35.0
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Hd Stock \$.9 Common Sto		fd Div d l			9.4%	9.7%	8.1%	71%	6.7%	6.9%	6.0%	7.4%	6.5%	77%	8.0%	1.0%		in Total C	ap'i	8.0
18 of 1/27/06	ur e 1.606.64	22 200			13,5%	12.9%	10.8%	9.5%	9.1%	10.5%	7.8%	11.5%	10.1%	10.9%	13.0%			on Sitr. En		13.0
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2006, Value Line Publishing, Inc. All rights reserved, feedback of the souther of the set believed to be reliable and is provided without wateratives of any kind. THE PUBLISHER IS NOT RESPONSIBLE FOR ANY ERRORS OR OWESSIONS ILEREIN. This publication is stictly for subscriber's own, non-commercial, internal use. Its part of it may be reproduced, resided, stored or transmitted in any prized, electronic or other from, or used in generating or matering my prized or electronic publication, soview or product.

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rsliti	ntional Z0200	Decisio 5 10205	AQ2005	Percent	17.5 -	*******		ļ <u>.</u>					1 ⁰¹		1	1].	STOCK	NULARITH MULEX	_
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16,01	15.9		18,02	19.22	17.03	20.22	25.97	26.59	33,98	44.13	76.82	66.17	93.43	91.33	114.29	118.20	122.80		es per sh		139
154	1.5		2.14	2.31	2.13	2.22	2.45	2.60	279	2.99	3.18	3,21	3.58	3.75	3.92	4.15	4,35		low" per e		5.
.65 .96	54 1.00		1.15	1.26 1.01	1 29 1,01	1.37 1.03	1.48 1.07	1.55	1.55 1.12	1 79 1.15	1.95	2.09	2.38	2.55 1.30	2.65 1.36	2.80 1.46	2.90		s par en " Iecl'ó per		1
4.37	2.9	1 1.99	231	2.10	177	1 78	1.72	1.50	1.61	1.85	1.66	1.53	171	217	1.92	2.20	2.20	Cap'l Sp	ending p	arsh	2
6.85 20,28	8.5 20,9		9.81 25.23	9.64 25.95	9,70 26,69	10.10 27.13	10.39 26.62	10.86	11.35 25.61	12,43 26,39	13.20	13,06	15.38	16.87 27.74	15 <u>.90</u> 27,55	17.50	19.15		lue per si n Shs Oul		25 26
24.0	22.3		15,1	13.0	11.7	13.6	13.5	15.3	15.2	14.7	14.2	14.7	14.0	15.3	16.8	Bold fig			I PIE Rat		1
1.78	1.47		.89	.85	.78	.85	.78	.80	.87	.96	.73	.80	.80	.81	.90	Value estar			P/E Ratio		1
6.2%	8.1%	UCTURE	5.8%	62%	6.7%	5.5% 548.5	5.3% 696.5	4.6%	4.5% 904.3	4,4% 1164.5	4.2%	3.9% 1839.8	3.7% 2544.4	3.3% 2533.6	3.1% 3148.3	3220	3315		r'i Div'd Yi es (\$mili)		3,
stal C	ebt \$68	7.1 mil 1	luo in 5 Y	frs \$500.i		38.7	41.5	43,3	41.9	47.9	52.3	56,6	65.4	71.6	74.4	71.0	80.0	Not Prof			9
	et \$335.4 19 mää. p	4 mill. L apitalized	T interes leases	at \$25.0 m	zi¥.	32.6%	33.3%	30.4%	35.2%	37.8%	38.0%	38.7%	39.4%	39.1%	39.1%	39.0%	39.0%	Income			44.
T inle	resi ear	ned: 5.5x,				7.1% 50.7%	6.0% 49.3%	6.1% 51.2%	5.0% 48.7%	4.1%	2.6%	3.1%	2.6%	2.8%	2.4%	2.4%	2.5%	Net Prof Long-Te	n Nargia m Debi R	atio	2. 35.
		werage: 4. 6-9/05 \$8	26 mill			45.8%	47.1%	45.6%	51,2%	52.9%	49.3%	49.4%	61.9%	59,7%	58.0%	59.0%	60.0%		n Equity R		63.
fd Sti	ock Non	B	C	Dblig. \$99	9 m 1 .	598.2	590.6	638.2	590.4	520.1 730.5	7062	732.4 756.4	676.B 852.6	783.8 880.4	755.3	810 950	860 990		pital (\$mii 4 (f ==):n	Ŋ	1
		- k 27,618,7	70 obs			6552 8.1%	659,4 8.6%	<u> </u>	705.4 9.0%	730.6 9.0%	743,9 8.5%	8.7%	10.7%	10.1%	11.2%	11.0%	11.0%	Net Plan Return o	n Total Ca	μ μ '	10.2
s of 1	131106					13.1%	13,9%	13.9%	14,8%	14.6%	14.8%	15.7%	15.6%	15.3%	17.0%	16.5%	15.5%		n Shr. Eq		14.8
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경분	iii.) Assats	amon				76%	73%	71%	67%	63%	59%	55%	51%	49%	50%	51%			s to Net P		4
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(C) Dividends historicatly paid in cardy January,] ^o 2006, Value Line Publiciting, Inc. All rithins reserved, factual maintial is doctained from sources todieved to be reliable and is provided without warrantes of any kind. The Publicities is NOT REFORMSTURE FOR ANY ERRORS OR GMOSSIORS HERRIN. This publication is suich for subscribel's own, oon-commencial, internatives, No pair all is may be reproduced, resold, sored or transmitted is any paired, decimark or other term, or used for generating or marketing any printed or decimark publication, sored or product. To subscribe call 1-800-833-0046, all is may be reproduced, resold, sored or transmitted in any paired, decimark or other term, or used for generating or marketing any printed or decimark publication, sored or product.

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1.93	1.86	3	1.97	2.07	1.96	2.42	2.55	2.31	2.57	294	3.01	2.58	2.11	2.22	2.27	2.40		Earnings	per sh A		
1.06	1.12	1.18	1.22	1.25	1.28	1.32	1.40	1.48	1.54	1.66	1.76	1.64	1.86	1.88	1.86	1.86	1.68	Div ds De			<u> </u>
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10.7	11.5	11.6	14.1	12.5	13.1	12.5	14.2	17.6	14.6	11,9	12.8	13.1	15.8	15.9	17.3	Bold fig		Avg Ann'	1 P/E Rati	0	
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tat in	iterest co	overage; 4	(Ox)			6.5%	6.2%	7.6%	7.5%	5.9%	5.4%	6.7%	3.5%	3.6%	3.0%	3.3%		Net Profit		j	
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						58,1%	57,2%	57,4%	64.0%	66.7%	61,7%	64.5%	60.3%	60.1%	62.6%	61.5%		Common			6
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	n Stock	44,192.2	59 shares	5		16.4%	16.6%	14.5%	15.4%	19.1%	18.6%	17.5%	12.3%	13.1%	12.5%	12.5%		Return or			11
	21/06 T C AP-	54 A 1.111	on (Mid C	Inc		15.5%	16.7%	14.6%	15.4%	19.2%	16.7%	17.5%	12.3%	13.1%	12.5%	12.5%		Return or			13
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Civited, Excl. notinecurring gainst/loss): BB/ 4F | earnings may not sum to total due to rounding i ment plan evailable.(C) in millions, adjusted for S 97, 65; BB, 114; '99, 55; '00, (51)-96; '01, 165; | Next earnings report due late April 103, (27¢); '04, (52¢); '05, 80¢ Excl. items from | (B) Dividends historically paid early February, 62,006; Yabe Line Polishing, Irc. All rights reserved. Tochai nativati is obtained from sources betweet to be reliable and is provided without warranties of any kind. THE PUBUSIER IS NOT REFORMSHIE FOR ANY ERRORS OF OM MISSIONE HERRIN. This publication is subject to be solubility on non-compressing formal use non-compressing formation of any kind. of it may be reproduced, receil, stored or barsmitted in any printed, electronic or other form, or used for generating or matering any printed or electronic publication.

N.W. NAT'L GAS	NYSE	NWN		Ri Pi	icent ice	33.5	B PE RATE	o 15. '	7 (Trail	ing: 16.1) an: 14.0)	RELATIV P/E RATI		5	4.1	%	/ALU LINE		
TIMELINESS 4 Lowered 9/16/05	High; Low;	22.8 18.3	25.9 20.8	31.4 23.0	30.B 24.3	27.9 19.5	27.5 17.6	25.8 21.7	30.7 23.5	31.3 24.0	34.1 27.5	39.6 32.4	36.6 32.6				t Price 1 2010	
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17 02 16.74 14 10 18.10 3.22 2.57 3.25 3.74		16.02 3.41	16.86 3.86	15.82 3.72	16.77 3.24	18.17 3.72	21.09 3.68	25.78	25.07 365	23.57 3.85	25.69 3.92	33.01	39.65 4.60	42.25 4.60		as per sh "low" per:	sh	5.
1.62 .67 74 174		1.61	197	1 76	1,62	170	179	1.88	1.52	176	1.86	211	2.25		Earning	s per sh	^	2
1.10 1.13 1.15 1.1 3.85 3.58 3.73 3.6		1.18	1.20 3.70	1.21	1,22	1.23 4.78	1.24	1.25	1.26	1.27	1.30 5.52	1.32	1.38			teci"d per Xending p		1.
3.85 3.58 3.73 3.6 12.61 12.23 12.41 13.64		3.02 14,55	15.37	16,02	16.59	17.12	17.93	18.55	18.88	19.52	20.64	21.27	21.95			ahue per si		25
17.41 17.66 19.46 19.7		22.24	22.56	22.86	24.85	25,09	25.23	25.23	25.59	25.94	27.55	27.58	27.75			n Shs Ou		28.
10.2 28.1 27.0 12.0 .75 1.79 1.64 .70	4	12,9 .86	11.7 .73	14.4 .83	26.7 1.39	14.5 .83	12.4	129	17.2	15.6 .90	16.7 _£8	17.0 .90	Bold Gg Value	rres me Line		n'i P/E Rai P/E Raik		14
6.7% 5.9% 5.7% 5.2%		5.7%	5.2%	4.8%	4.5%	5.0%	5.6%	5.1%	4.5%	4.5%	4.2%	3.7%	estin	ster		r'i Div'd Y		4.3
CAPITAL STRUCTURE as of 12			380.3	361.8	416.7	455.8	5321	650.3	541.4	6113	707.5	910.5	1100		Revenu			14
Total Debi \$656.2 mill. Due in 5 T Debi \$521.5 mill. LT inter	Yrs \$78.0 : st \$31.0 m		46.8 36.9%	43.1 32.9%	27.3	44.9 35.4%	47,8	50.2 35.4%	43.8	46.0 33.7%	50.6 34.4%	58.1 36.0%	62.5 35.0%	66.5 36.0%	Net Prot	it (Sm(il) Tax Rale	{	77 36.0
			30.9% 12.3%	32.9% 11.9%	6.6%	39% 9.9%	9.0%	7.7%	6.6%	7.5%	7.1%	6.4%	5.7%			it Nargin		5.3
Total interest coverage: 3.5x)			41.4%	46.0%	45.0%	46.0%	45.1%	43.0%	47.5%	49.7%	46.0%	47.0%	47.0%	47.0%	Long-Te	rm Debt F		47
Pansion Assets-12/05 \$218.6 m 2016g. \$267.9 m2	71.		52.8% 557.4	49.0% 748.0	50.6% B15.6	49.9% 861.5	50.9% 887.8	53.2% 889.5	51.5% 937.3	50.3% 1006.6	54.0% 1052.5	53.0% 1108.4	53.0%	53.0%		n Equity F pital (\$m)		53 13
Hd Stock None			745.3	627.5	694.7	695.9	934.0	965.0	995.6	1205.9	1318,4	1335.6	1375		Net Plar		"	15
Common Stock 27,582.295 shs.			8.9%	7.4%	5.0%	5.8%	6.7%	6.9%	5.9%	5.7%	5,9%	7.6%	7.0%			on Total C		7.0
as of 2/23/05 WARKET CAP \$925 million (Sm	all (Cap)		12.1% 12.7%	10.7% 11.0%	6.1% 6.0%	9.7% 9.9%	9.8% 10.0%	10.0%	8.9% 8.5%	9.1% 9.0%	8.9% 6.9%	10.0% 10.0%	10.0%			on Shr. Eq on Com E		10.5 10,5
Insucer over some namori for			5.0%	3,6%	NMF	2.8%	3,1%	3.5%	1.9%	2.6%	2.7%	3.7%	3.7%	3.7%	Retained	t io Com I	Eq	3.8
SURRENT POSITION 2003	2004 12	2/31/05	63%	70%	118%	74%	70%	67%	79%	72%	69%	63%	61%		f	is to Net F		60
Cash Assets 4.7 Other 194.8	5.2 231.9	7.1 316.6				Naturati G aligas ati										ing gas b wa: resid		
Current Assets 199.5	237.1	323.7	custom	ers, în Oi	19) ROGE)% of cus	ts.) and	in southe	rest Was	hington	80%; in	1., 8%; tr	ansport	and othe	r. 12% I	Employs	1,3050. i	Has e
Accts Payable 85.0 Dabt Due 85.2	102.5	135.3 134.7				nd: Portia tion: 2.4 (1% of con DNW 2nd		
Other 43.2 Current Liab. 214.4	47.3	56.6 326.6				en and U										r www.or		
Fx. Chg. Cov. 280%	~~~	340%				tural										s will		
		'02-'04 X9-'11				ete.E ute w										1% rat		
tevonues 4.0%	.5% 4	1.00 5%	custo	mers.	four	th-qua	arter	2005	earn	ings	third	of its	mete	rs au	omati	ically.		
eminos 25% 3	1.0% 7	0% 0%				l have norm										con age c		
sook Value 4.0%	.0% 4 1.5% 3	5%				ulted					grow	rth. L	ocal 1	use of	gas i	in res	idenco	es i
Cal- QVARIERLY REVENJES Indar Mar.31 Jun.30 Sep.31		Fuil Year				nte ind					relati	vely :	low, a stial	at 539	%, gin	ng N rom c	Vorth	wes tin
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2005 308.7 153.7 106.7 2006 375 200 159		910,5 1 <i>100</i>				D5 re: mer c										000 w oraí		
2007 400 215 160		1175	the 1	9th y	ear in	a row	1.	-			away	And	Nort	hwest	targ	ets its	s mar	ket
Cal- EARNINGS PER SHU ndar Mar.31 Jun.30 Sep.30		Full Year				nor r. Cu										spects mode:		
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2007 1.55 .05 d.30	1,10	2.40	Oreg	on re	esiden	ulal r	ates.	Nort	hwes	t is	NWN	l's rela	itively	low (debt-t	o-capi	tal ra	tio.
Cal- QUARTERLY DVIDENDS ndar Mar.31 Jun.30 Sep.30		Full Year	large	ly p	rotect	ed fr	om	and	can	also						ave s		
indar <u>Mar.31 Jun.30 Sep.30</u> 2002 315 315 315	315	1.26				om cha r-or										westo w the		
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2004 325 325 325 2005 325 325 325	325 345	1.30 1.32				ersist. gas c								hwest host g		bette lities.	r gro	JWt
2006 345						ive to								maine		Marc.	h 17,	200
) Divided earnings per share. E	ciudes not	s mid-l	May, mid	August, a	and mid-	Novembol										Strengt	h	A
curring gain: '98, \$0,15; '00, amings report due early May	50.11 Ne	xf = Dh	'd reievo: n milians	stment pl	an availa	bie.								ck's Pric e Growl				100 50
) Dividends historically paid in a	id-Februan			,										nings Pri				70

(B) Dividends historically paid in mid-February, [⁰ 2006, Value Line Publishing, trc, AI rights inserved. Factual material is obtained from sources believed to be reliable and is provided without warrantes of any kind. The Publishing is NOT RESPONSIBLE FOR ANY EIRORS OR OWNSSIONS IEERERI. This publication is straty for substantiar's own, non-commercial, internal use. No part of It may be reproduced, resided stands or unsmitted in any pristed, electrinic or other form, or used for generating or marketing any printed or electricic publication, saviar or product.
#ELINESS 4 Raised 2/306 FETY 2 Lowerd 3/17/06 FETY 2 Lowerd 3/17/06 FB RS (Loo = Market) 2009-11 PROJECTIONS Ann't Total Prize Gain Retart + 55 + 10% + 10% + 10% + 10% + 10% + 10% + 10% + 10% + 10% + 10% + 10% + 10%	Options	24,3 NDS	37.4 29.6	39.9	40.1	40.3	1 10 0	1 11 1	1 10 1					+	1	1 -		
CHNICAL 3 Raised 271706 FA .85 (1.00 + Marked) 2009-11 PROJECTIONS Price Gain Refam h .55 (+50%) 153% 40 (+10%) 7%	di R	NDS		<u>] 3</u> 1.3	32.1	31.8	46.9 26.2	44.6 34.3	40.4 27.8	45.3 34.9	46.0 38.5	45.5 34.3	37.8 34.9					Rang
HA .85 (1.00 + Markat) 2009-11 PRCJECTIONS Ann'i Total Price Gain Return h 55 (+50%) 15% 40 (+10%) 7%	Options	22 x Dhâck Midrei Dv În	ends p sh nanisi Rah	. 🖿				ļ					[120
Ann'i Tutal Price Gain Return h 55 (+50%) 15% r 40 (+10%) 7%		clabve Pric Yes	e Stengta	-					<u> </u>					1			<u> </u>	80 64
h 55 (+50%) 15% 40 (+10%) 7%	5//2020	area mac	ales reces	— —					<u> </u>	191.00		4.1.11.1					+	-48
40 (+10%) 7%	1115	1	*****	Turner	արողնել	111. 1111	1,11,11,11	himpin,	<u>}</u> 11	1.1 ¹¹¹¹	, .,1 ^{16,45} ,	1 "h	• •	<u> </u>				
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90 1991 1992 1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007		LINE PUT		09-11
5.63 33.69 31.54 35.09 3.74 3.73 3.67 3.65	36.70 3.99	29.60 3.68	34,29 4 98	36.34	32.28	33.65 4 74	40.16 5.58	64.13 5.84	41.81 5.59	58.28 5.88	59.90 5.32	68.05 5.30	75.90 5.40	75.65 5.40		is per sh low" per s		78.55 5.85
207 2.05 2.06 2.11	213	1 78	2.95	2.81	2.25	2.39	2.71	3,16	2.60	2.88	2.18	2.26	2.25	2.40	Earnings	persh f	3	2.70
1.65 1.71 1.76 1.78 3.16 3.10 3.40 3.77	1.80 2.50	1.80	1.82	1,87 255	4,05	1.95 6.45	2.00	2.04	2.07	2.12	2.15	2.18 4.26	2.18 4.35	2.18 4.25	Div ds D Cap'l Sp	ect d per ending pi		2.24
0.61 16.95 17.72 18.02 270 32.76 34.77 34.88	18.39 34.87	18.38 34.91	19.49 34.95	20.43 35.07	21.03	21.65 35.49	22.02	22.76 35.40	22.74 35.46	23.11	23.06	20,95 38,16	20.65 39,00	20.40	Book Va	lue per st) D	20.66
1.2 11.8 13.1 15.0	13.3	14.7	10.7	12.7	16.2	15.5	12.1	123	13.3	13,4	19,1	18.9	Bold fig.		Common Avg Ann	1972 Rat		42.0
.83 .75 .79 .09 1% 7.0% 6.5% 5.6%	.67 6.3%	.98 6.9%	.67 5.7%	.73 5.2%	.84 5.2%	,88 5.3%	.79 6.1%	.63 5.2%	.73 5.5%	.76 5.5%	1,02 5,2%	1,00 5,1%	Vulue estin	Line ales		P/E Ratio 'I Div'd Yi		1.1 4.9%
PITAL STRUCTURE as of 12/3	1/05	·	1198.7	1274.4	1138.1	1194.4	1417.5	2270.2	1482.5	2138.4	2260.2	2599.6	2960	3025	Revenue			3304
al Dobt \$1072.5 mill Due in 5 Y Debt \$895.2 mill. LT interest			103.4 37.6%	98.4 36.4%	79.4	64.6 35.9%	96.1 34 1%	111.7 35.4%	99.3 34.2%	103.9 36.3%	81.6 31.7%	85.2 36,4%	90.0 35.0%	95.0 36.0%	Net Profi			115.(35.0%
ial interest coverage: 2.9x)			8.6%	7.7%	7.0%	7.1%	6.8%	4.9%	6.7%	4.9%	3.6%	3.3%	3.0%	3.7%	Net Profi	i Margin		3.4%
nsion Assets-9/05 \$480.6 mill. Oblig. 5	\$508.6 m	a.	43,6% 56,4%	42.4% 57.6%	41.1% 68.9%	40.4% 59.6%	35.1% 64.9%	44,4% 55,6%	40.7% 59.3%	46.7%	50.6% 49.2%	52.6% 47.2%	52.6% 47.4%		Long-Ter Common			50.9% 19.1%
Stock None	•		1201.3	1243.5	1258.0	1290.5	1196.7	1449.8	1360.3	1592.3	1767.5	1595.8	1700	1710	Total Car	ital (\$mii		1760
			1381.1 19.3%	1402.2 9.5%	1446.7 7.8%	1519.8 8.0%	1645.3 9.5%	1753.9 9.3%	1773.9 B.4%	1838.2 8.1%	1904.2 6.0%	1947.3 6.6%	1970 7.0%	2040 7.0%	Net Plant Return of		 'q	237(8,0%
nmon Stock 38,347.808 shs. of 1/31/06			15.2% 15.2%	13.7% 13.7%	10.7%	11.0% 11.0%	12.4% 12.4%	13.9% 13.9%	12.3% 12.3%	12.3% 12.3%	9.4% 9.4%	10.8% 10.8%	11.0% 11.0%	11.5% 11.5%	Return o Réturn o	n Shr. Eqn	uity	13.5% 13.5%
RKET CAP: \$1.4 billion (Mid C	an) 2005 12		5.9%	4.7%	1.7%	21%	3.4%	5.0%	3.3%	3.4%	.2%	.5%	.5%	1.0%	Retained	to Com E	q	2.5%
(FUELL) Sh Assets 21.1 er 531.3 E rent Assets 552.4 8	43.5 355.1 398.6	48.2 1079.9 1128.1	สร เปลี่ 814,000	ly subsit) custom	tiaries, P ers at 9/3	81% argy Corpo eoples G 0/05) and storn (Illing	as Ligh North S	t & Colo bore Gas	e Co. (e : Co. (158	ipprox 5,000),	76% of plant ag	gas reve e: 11 yea	nues in ars Has	costs a fiscal 109 2,182 e	All Divids nd revenu i. Deprec mpts., 19 1/06 Pro	ie taxes lation rat 236 sha	accour ie: 5.59 reholde	6. Esta ns. Olf.
er <u>335.8</u> 6	236.2 8.1 57.4	418.0 177.3 489.2				sidemial, supplier					Thomas	Patrick, i	inc.: 1L A	Vodress:	130 E. Ra t www.pe	indolph (Dr., Chi	ago, IL
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NUAL RATES Past Past ange (por sh) 18 Yrs. 5 Yrs		'02-'04 09-'11	mar	gins	narro	w. Pa	rtially	y as a	i resu	It of	consi	stent	with	the c	ompar	ıy's st	trate	zy ol
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k Value 2.5% 2.0	A LT	.5% FBN	eami	ngs	growtl	h to					comir	ig yea	urs. A	lso, t	he cor	npany	/ app	bears
in Dec.31 Mar.31 Jun.30	Sep.30		mode On 1	Marc	bace. h 6th	, the	Illin	ois C	ommo	erce	poised ness,	as PG	L is a	urrer	wer ge tiy loo	enerai oking	tion to se	busi- 11 its
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is Dec.31 Mar.31 Jun.30	Sep.30	Full Piscal Year	Citiz	ens U øas d	fility	Board : for 2	, was	relate	ed to	nat-	rently	' in th cand	he pro idateo	cess	of scr	eening	g for	suc-
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17 .95 1.30 .20	d.05	240	cease	colle	ections	on r debt.	oughl	y \$20	i7 mil	llion	ment	inten	ds to .	maint	ain th	ie cur	rent	divi-
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6 .545			·· · · · ·			ie pur id Januar		of pr \$7.9 mil.,		-	Micha	el F.)				Aarch		
iscal year ends SapL 30th. Noted earnings per share. Exclu ing gains/(losses): '05, (\$0.2.1);	ides non-	Àpri,	July, Oct Ivalable.	ober. = [Sydend r	u Janua) Dinvestini	int f	in mill	, o racuras 303, 36 de - 11 -	9. 19. mar 20. se	to change	. In	Stoc	ks Price	inancial Stability Pensiste			8++ 100 45

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97 .61	78 .44	1.07 70	1 14	1 13	1.25 .73	1.49 .84	1.62	1.72	17D 93	1.77	1.81	1.81 .95	2.04	2.31	2.43 1.32	2.45 1.30	2.60 1.40	Cash F	low" per s s cer sh E		3.1 1.7
.42	.44	.46	.48	.51	.54	.57	.61	.64	.68	.72	.76	.80	.82	.85	.91	.96	1.00	Div'ás D	eci'd peri	sh 🖙 📗	1.1
1.62 4.58	1.37 4.83	1.41 5.13	1.58 5.45	1.95 5.68	172 6.16	1.64 6.53	1 52 6.95	1,48 7.45	1 58 7.85	1.65 8.26	1.29 8.63	1.21 8.91	1 16 9.35	1.85 11.15	2.50 11.53	2.60 11.65	2.35		ending po tue per st		2.1 13.3
42.87	49,46	51.59	52.30	53,15	67.67	5 9.10	60.39	61.48	62.59	63.63	64.93	66,18	67.31	75.67	76,70	76.50		Commo	s Shs Out	stig e	75.6
11.3	16.3 1.04	12.3		15.7 1.03	13.8 .92	13.9 .87	13.6 .78	16.3 .85	17.7 1.01	14.3 .93	16.7 .86	18.4 1.01	16.7 .95	16.6 .88	17.9 .95	Bold fig Value			'I P/E Rati P/E Ratio		19. 1.2
5.0%	6.0%	5,3%	4.3%	4.8%	5.4%	4.9%	4.8%	4.0%	4.1%	5.0%	4.5%	4.6%	4.4%	4.1%	3.8%	estin			') Divid Yi		15
			as of 10/3			685.1	775.5	765.3	685.5	830.4	1107.9	832.0	1220.8	1529.7	1761 1	1900	2025		is (\$mill)	^	234
T Dobt	\$625.0	miL I	Dae in 5 Y L'Elateres	t \$40.0 n	niL	48.6 38.9%	55.2 39.1%	60,3 39,2%	58.2 39.7%	64.0 34.7%	65.5 34.6%	62.2 33.1%	74.4 34.8%	95.2 35.1%	101.3	100 35.0%	105	Net Profi			13
LT inten 1.5x)	esi eam	ed: 4.5x;	lotal inter	est cover	age:	7.1%	7.1%	7.9%	8.5%	7.7%	5.9%	7.5%	6.1%	6.2%	5.8%	5.3%	5.2%	Net Profi	t Nargin		5.7
•	A sonto	.10/05 \$	199.2 mili.			50.3% 49.7%	47.6% 52.4%	44 7% 55.3%	46,2% 53.8%	46.1% 53.9%	47.6% 52.4%	43.9% 56.1%	42.2% 57.8%	43.6% 56.4%	41.4% 58.6%	41.0% 59.0%		Long-Ter Common			40.0% 60.0%
01101011		-10.05 0		. \$236.6	ការដី.	777.1	R00.B	829.3	914.7	978.4	1069.4	1051.6	1090.2	1514.9	1509.2	1515		Total Cap			167
Hd Stoc	k None					852.0 8.2%	941.7 8.9%	990,6 9,2%	1047.0 E.1%	1072.0 8,3%	1114.7	1158.5 7.6%	1812.3 8.6%	1849.8 7.8%	1939,1 8.2%	2040 8.0%		Net Plan			240
ommo	n Slock	76,612.6	685 shs.			12.6%	13.1%	13.2%	11.8%	12.1%	11.7%	10.6%	0.075 11.8%	11.1%	11.5%	11.0%		Return a Return a			9.0% 12.5%
6 of 1/1	0/06		on (Mid C	สตโ		12.6%	13.1% 4.6%	13.2% 4.7%	11.8%	12.1%	11.7% 3.0%	10.6% 1.7%	11.8% 3.1%	11.1% 3.7%	11.5%	11.0%		Return o			12.57
URREN	IT POS	the second s	2003	2004 10)/31/05	69%	65%	65%	72%	3.3% 71%	75%	83%	74%	5.7% 66%	3.6% 68%	10% 73%		Retained All Div di			4.5) 673
ash As	L) sets		11.2	5.7		BUSIN	ESS: Pie	dmost N	ahiral Ga	is Comp	any is p	iman'iy a	regu-	age: 6.1	уеаль	Non-reg	ulated o	perations	c sale d	i gas-po	wore:
)ther Sument /	Assats			329.5 335.2	497.8 504.9			us distrib Souta Ca										brokering sharehok			
ects Pa lebt Du	iyable e	f	90.9 157.1 1	99.6 109.5	182.8 193.5	resident	iel (39%)), comme	icial (249	6), indusi	trial (13%), other ((24%).	Presider	it Thom	25 E. SI	aina. In	corporate	d: North	Carolin	a. Ad
Vither Surrient i		_	<u>772</u>	97.1	152.3 528.6			us; Trans ues. 105										Box 3306 : www.pie			28233
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NNUAL change (. RATES (per sh)	10 Yrs,	5 Yrs	nt Estid s. 10'l	70-YH			were year										its ne any. T			
evenue Cash Fl	s w	7.5 7.0	% 5.5)% 7 % 5	0%。 5%	sult	of in	crease	ed cu	stome	r con	serva	tion	contri	buted	\$3.2	millic	m to r	et inc	ome	dur-
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ook Va Iscal		6.5			.5% Full	norm	al, 53	stem	throu	ghpu	t for	the n	post	ventu	re wit	th Col	lumbi	a Gas	Tran:	smiss	ion,
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105 1	618.8 680.6	482.4 508.0	232.9	339.6	1529.7 1761 1			istribu rices :										up t			
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005	.93 .94	.52 .54	d.06 <i>d.07</i>	0.07 d.11	1.32 1.30	More	over,	2006	utility	y resi	ults s	hould	be	firm c	ontra	rts.				-	
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84. Ex	ici. nonr	ecurring	charge: 9	7,2¢	= Div	July, Oct d reinves	t, plan av	alabie; 5	% discon	ITL () Quarte	កាន, ឧប្សដ ទេ តាងy ព	ot add to	stock split total due	io	Price	Growth	Stability Persiste	008		100 85
			arty May	*		ciudes de					hange in :	snares o	ບເຮເຊເກດິສາ	9.	f any kind	Eam	ings Pre	dictabilit	у		80

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2009-11 PROJECTIONS Ann'l Tota	Shacoo	i anca indic	ales recess	uion]	<u> </u>							and apple					‡	- 40
Price Gain Return	<u> </u>	<u> </u>	-miline,	<u></u>	houn pr	- iliji	1.1.1.11	4,14971		***1]1***1	01 ^{,1} 16(05) ¹	and the					ļ	-30
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2 17 2.04 2.17 2.25 1.26 1 14 1 27 1 31	2.43	2.61	2.93 1.85	3.02 1.65	2.79	2.74	3.20 1.79	3.24 1.88	2.53	4.00	3.87 198	3.97 2.11	1,75 1.85			"low" parı s persh		4.5
1.01 1.05 1.07 1.09	1.11	1.12	1.14	1.17	1.20	1.22	1.24	1.26	1.27	1.28	1.30	1,32	1.35	1.38		ecl'd per		1.4
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39.23 39.69 40.52 41.50 11.7 12.8 13.6 15.6	42.19	42.93	43.70	43.70	43.84	40.47	14.6	14.7	40.00	11.1	140.07	14.7	Bold fig			1'I P/E Raf		40.0
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6.9% 7.2% 6.2% 5.3%	5,6%	6.1%	5.4%	5,0%	4.5%	4.8%	4.8%	4.6%	4.0%	5.0%	4.5%	4.2%	esta	oits	Avg Anr	r'i Div'd Y	ieid 🕴	4.37
CAPITAL STRUCTURE as of 12/			969.8	1055.8	1040.6	972.1	1031.1	1446.5	1584.8	2064.2	2089.6	2186.3	2490	2680		es (\$mill)	A	290
Total Debt \$946.2 mil. Due in 5 LT Debt \$560.4 mil. LT Inter			B1.6	82.0	68.6	58.8	84,6	89.9	55,7	1123	98.0	104.8	90.0	950		H (Smill)		12
LT interest earned: 5.1x; total inte			37.7% 8.4%	36.9% 7,8%	35.6% 6.6%	36.0% 7.1%	36.1% 8.2%	39.6% 6.2%	34.0%	38.0% 5.4%	38.2% 4.7%	37,4% 4.8%	31.0% 1.6%		Income Net Prof			38.07
1.9x) Pension Assets-9/05 \$691 7 mil.			37.5%	41 1%	40.3%	41 5%	43.1%	417%	45.7%	43.8%	40.9%	39.5%	39.0%			nn Debt F	latio i	39.02
0	blig. \$69		59,4%	56.2%	57,1%	56.1%	54.8%	56.3%	62.4%	54.3%	57.2%	58,6%	59.0%	59.0%		n Equity R		59.09
Preforred Stock \$28.2 mil. Pid D	liv'd \$1 3	mil.	9411	1049.0	1064.8	1218.5	1299.2	1400.8	1462.5	1454.9	1443.6	1478.1	1515			pitai (\$mi	11) 11)	179
Common Stock 48,762.228 shs			1130.6 10.1%	1217.1 9.3%	1319.5 8.0%	1402.7 7 1%	1460.3	1519.7 7.9%	1606.8	1874.9 9.1%	1915.6 8.2%	1969.7 8.5%	2120 5.0%	2270 5.0%	Net Plan	nt (Amili) An Total G	an ^{t]}	255 6.67
25 of 1/31/06			13.9%	13.3%	10.8%	8.7%	11.4%	11.0%	7.0%	13.7%	11.5%	11.7%	10.0%	10.0%		n Shr.Eq		11.07
MARKET CAP: \$1.5 billon (Mid	Cap)		14.4%	13.7%	11.1%	9,9%	11.7%	11.2%	7.2%	14.0%	11.7%	12.0%	10.0%			n Com Er		11.02
		404/0F	5.6%	5.1%	2.5%	1.8%	3.7%	3.6%	NMF	6.2%	4.1%	4.6%	2.5%			i to Com I		4.57
(INTERT POSITION 2004	2005 1		62%	63%	78%	82%	69%	67%	112%	56%	65%	62%	74%		L	s to Not P		607
Cash Assets 6.6 Other 426.3	4.8 476.2	25.8 936.6				gs, inc. i ributor in										meho as isg, vest		
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Accts Payable 179.0 Debt Due 156.3	204.9 91.0	351.4 385.6				, a feder 9 facility										& CEO: A N.W., W		
Diher 77.6 Current Liab. 412.9	115.5	255.1 992.3				i, sees al										glhoiding		
	460%	450%	WGI	Hol	dings	is of	f to a	a dec	ent s	tart	mark	eting	segn	ient.	The	unit	strug	gled
ANNUAL RATES Past Pa		'03-'05	រោ ជី	scal	2006	(ends	: Sep	temb	er 30	th).	owing	to"l	ower	marg	ins o	n nat	ural	gas
r change (per sh) 10 Yrs. 5 Yr Revenues 7,5% 14.	5% /	69-11 5.5%				illity s deper										larger the		
Cash Flow 5.0% 6. Semings 4.5% 6.	5% 0%	2.5% 2.0%				custo										oning		
Dividends 1.5% 1. Book Value 4.0% 3.	5% 0%	2.5% 2.0% 2.0% 4.0%	ings	of \$0	.92 a	share	e in t	he m	ost re	cent	poste	daĭo	oss of	\$431	1,000,	simil	ar lo	th
Iscel QUARTERLY REVENUES (Full				increa these										the l phregu		
Yoar Ends Dec.31 Mar.31 Jun.30		Fiscal Year				colder					tivitie	s. we	: have	e lowi	ered (our Ž(006 e	am
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2094 585.3 862.2 356.9 2005 623.4 929.8 349.0	285,2 284 1	2089.6 2186.3				-year										ed ran	ige. N	/iod-
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Tiscol EARNINGS PER SHARE Year Dec.31 Mar.31 Jun.30		Full Fiscal Year	servi	ce ar	ea. B	oth o	f the	se poi	licies	are	Wash	ingtor	I Gas	has c	omple	eted a	bout 2	23%
Ends Dec.31 Mar.31 Jun.30 2003 1 10 1.61 0.05	<u>зер.ж</u> d.36	Year 2.30				y prot nperal										and 2) te the		
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Cal- QUARTERLY DIVIDENDS PAD C Full track to gain an additional 30.500 custom- oriented investors. The yield is very re-																		
ndar Mar.31 Jun.30 Sep.30		Year				Howe		00.00	o cubi	Sint-	specta	able a	mong	WGL	's util	ity cor	npetii	tors
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2005 333						ilts fr						I. Bla		1CILIE		Marcl	5 17.	2008
) Fiscal years end Sept. 30th		(C) (lividends					15: \$150.						inanv's F		Strangt		Ā
Based on diluted shares. Exc	tudes no	n- May,	August, I	and Novi	ember =	Dividend	rein- (Ł	Stoc	st's Price	s Stabilit	У		100
curring losses: '01, (13¢); '02, (34 ext earnings report due late April	4¥	(D) li	nent plan octedes d	avasabiê elomed c	ı. :harges a	nd Island	ibles.							e Growti Unge Pro				80 50
2006, Value Line Publishing, Iac. Al ri	das menu							listic and	is persides	e frentfile i	caranties o	sf anv kind			and the second se			

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<u>Southern un</u>			3	P	ecent Rice	· · · · ·	8 PAE RATI	*****	\ Hedi	ing: 22.9 an: 27.0)	RELATIN P/E RATI	0 V.O		1.7	%	/ALUI LINE		
MELINESS 3 Lowered 8/13/04 AFETY 3 New 3/24/00	High: Low: LEGEN	8.6 4.8 DS	12.0 7.3	12.3	1B.4 10.9	18.4 13.1	23.2 10.5	21.9 14.4	17.6 8.8	17.0 10.4	23.8 16.1	26.3 20,8	25.5 22.9				Price 2010	
CHNICAL 3 Raised 1/20106	10.	5 z "Cast utivo Pric	n Flow ^e p s e Sacegun	° ⊨									ļ					Ŧ
ETA 1.00 (1.00 = Market) 2009-11 PROJECTIONS	3-for-2 spa 4-for-3 spa 3-for-2 spa	1 7/98													<u> </u>			1 6
Ann'i Tota Price Gain Return	Options: Ye Shaded a	es una india	nias rocess	<u>ica </u>]												<u> </u>	*****	-4
gh 45 (+90%) 18% w 30 (+25%) 8%											7							$\frac{1}{2}$
NSIDER Decisions									5		րությ հությ	<u>rn 4</u>	-					Ŧ
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Set 0 0 1 2 1 1 0 0 0 Estitutional Decisions		1	1 ¹¹¹¹		3-for-1				19	<u> </u>					% TO	T. RETUR	N 2/06 VI. ARTIAL	-0
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24 58 .62 58	.82	1 30	1.43	1.43	1.29	1.27	1,25	1.54	179	1 29	277	2.60	2.85	3.00	*Cash F	es per sh low" per s	ih	3
d.14 .08 15 .26	.26	.43	54	.49	.31	.26	20	19	.56	.67	1.24	1.45	1.65 .40			s per sh 🖊 Ieci'd per i		1
75 79 70 50	1.03	1.81	1 5B	171	195	178	192	191	147	.99	2.79	233	1.95	1.70	Cap'i Sp	ending pr	rsh	1
5.44 5.47 5.55 5.47 5.92 26.93 26.67 36.94	<u>5.65</u> 37.01	3.37 37.24	3.80 37,59	7.10 37.65	7.54 39.38	7.33 41.09	14.05 52.39	11.12 64.93	10,78 63,57	11.42 80.56	12.74	111.40	14.85 114.00	16.05	·	tue per sh n Shs Out		21
34.3 20.2 15.9 2.19 1.23 94	20.3	12.5 .84	14.1 .88	21.2 1.22	37.5 195	59.8 3.41	71.1 4.52	87.5 4.48	29.5 1.51	17.9 1.02	13,4 71	16.3 .87	isold fig Value	nes sue Line		I'l P/E Ratio P/E Ratio		
				+-										ries		'I Div'd Yi		1
PITAL STRUCTURE as of 9/3 tai Debt \$2448.9 mill Due in 5		लाहे.	620.4 20.8	717.0 19.0	659.3 12.2	605.2 10.4	6317 11.1	1932.B 12.9	1290.6 36.6	1188.5 43.7	1800.0 114.0	1900 180	2000 205		Revenue Net Prof	es (\$mill) H (feelle	^]	2
Debt \$2048.3 mil. LT intere st d LT interest earned: 3.3x; tot	at S i 10 mil	t, İ	41.8%	39.4%	39.5%	40.5%	49.0%	35.3%	29.2%	35.7%	37 7%	29.0%	35.0%	36.5%	lacome "	fax Rate		37.
e: 2 flx)	(51% of		3.4%	2.7%	1.8%	1.7% 52.0%	1.3% 53.1%	.7% 65.4%	2.8% 63.3%	3.7% 65.0%	6,3% 63.1%	9.5% 55.5%	10.1% 53.5%		Net Prof	t Margin m Debi R	atin	<u> 11</u> 49
ases, Uncapitalized: Annual re naton Asseis-12/04 S276.8 mil	ntals \$ 18.6		20.0%	35.5%	37.0%	38.0%	45.9%	33.5%	36.7%	35.0%	30.2%	39.0%	41.0%	43.0%	Comman	Equity R	ntio	47
O	dig. \$398.5		731.3	753.6 773.6	803.2 848.4	792.0 878.3	1569.6 1487.2	2151.5 1456.3	1857.6 1456.4	2532.1 3144,8	3416.6 3207.5	3925 3480	4130 3525		Net Plan	oitai (\$mil L (\$mili)	^y	5
	Div'd. \$18.0 (7% of (5.3% 8,5%	4.7%	3.7%	3.6%	2.3%	2.9% 1.8%	4.3% 5.3%	3.3% 4.7%	4.8%	5.0% 10.5%	5.0% 11.0%			n Total Ca n Shr. Eqn		5
mmon Stock 111.422.143 ehs. of 10/28/05			14.3%	7.1%	4.1%	3.5%	1.5%	1.E%	5.3%	4.7%	10.2%	11.0%	11.0%			n Com Eq		10
ARKET CAP: \$2.6 billion (Mid) IRRENT POSITION 2003		30/05	14.3%	71%	4 1%	3.5%	1.5%	1.8%	5.3%	4.7%	10.2%	11.0%	8.5% 30%					
CUREENT POSITION 2003 2004 9/05/05																		
04 BEING PAID 05 06 Fiscal year ends June 30th thro	ugh 2004;	50¢. t	Truck pletec	line I i shor report du	tly, v	expan with th	sion s he sec	hould cond j	be ci phase	onn- onn Lin first b	debt ti Evan	o-equi I. Bla	ity rai tter			March	17, 2	

 (B) Based on diuted shares. Excludes nonrecurring per-share gain (loss): '01, 685; '03, '04, '05,'' based and so and the stack divident (F) Six months ended Dec. 31 2004; novrecurring per-share gain (loss): '01, 685; '03, 'based and '2005, Initial cash divident (F) Six months ended Dec. 31 2004; nov-Price Growth Persistence 90 (F) Six months ended Dec. 31 2004; nov-Price Growth Persistence 90 (F) Six months ended Dec. 31 2004; nov-Price Growth Persistence 90 (F) Six months ended Dec. 31 2004; nov-Price Growth Persistence 90 (F) Six months ended Dec. 31 2004; nov-Price Growth Persistence 90 (F) Six months ended Dec. 31 2004; nov-Price Growth Persistence 90 (F) Six months ended Dec. 31 2004; nov-Price Growth Persistence 90 (F) Six months ended Dec. 31 2004; nov-Price Growth Persistence 90 (F) Six months ended Dec. 31 2004; nov-Price Growth Persistence 90 (F) Six months ended Dec. 31 2004; nov-Price Growth Persistence 90 (F) Six months ended Dec. 31 2004; nov-Price Growth Persistence 90 (F) Six months ended Dec. 31 2004; nov-Price Growth Persistence 90 (F) Six months ended Dec. 31 2004; nov-Price Growth Persistence 90 (F) Six months ended Dec. 31 2004; nov-Price Growth Persistence 90 (F) Six months ended Dec. 31 2004; nov-Price Growth Persistence 90 (F) Six months ended Dec. 31 2004; nov-Price Growth Persistence 90 (F) Six months ended Dec. 31 2004; nov-Price Growth Persistence 90 (F) Six months ended Dec. 31 2004; nov-Price Growth Persistence 90 (F) Six months ended Dec. 31 2004; nov-Price Growth Persistence 90 (F) Six months ended Dec. 31 2004; nov-Price Growth Persistence 90 (F) Six months ended Dec. 31 2004; nov-Price Growth Persistence 90 (F) Six months ended Dec. 31 2004; nov-Price Growth Persistence 90 (F) Six months ended Dec. 31 2004; nov-Price Growth Persistence 90 (F) Six months ended Dec. 31 2004; nov-Price Growth Persistence 90 (F) Six months ended Dec. 31 2004; nov-Price Growth Persistence 90 (F) Six months ended Dec. 31 2004; nov-Price Growth Persistence 90 (F) Six

Missouri Gas Energy Indicated Common Equity Cost Rate Through Use of a Risk Premium Model Using an Adjusted Total Markel Approach

Line <u>No.</u>	-	Proxy Group of Four Gas Distribution Companies	Proxy Group of Eight Value Line Gas Distribution Companies	Southern Union Company
1.	Prospective Yield on Aaa Rated Corporate Bonds (1)	575 %	5.75 %	5.75 %
2.	Adjustment to Reflect Yield Spread Between Aaa Rated Corporate Bonds and A Rated Public Utility Bonds	0.47 (2)	0.47 (2)	<u> </u>
3.	Adjusted Prospective Yield on A Rated Public Utility Bonds	622 %	622 %	622 %
4.	Adjustment to Reflect Bond Rating Difference	0.00 (4)	0.00 (4)	0.40 (3)
5.	Adjusted Prospective Bond Yield	6 22	6 22	6.62
6.	Equity Risk Premium (5)	4.31	4.26	4.44
7.	Risk Premium Derived Common Equity Cost Rate	10.53_%	10.48_%	11.06_%

Notes: (1) Derived in Note (4) on page 6 of this schedule.

- (2) The average yield spread of A rated public utility bonds over Asa rated corporate bonds of 0.47% from page 4 of this schedule.
- (3) One and one-third the average the average spread between A and Baa rated public utility bond yields of 30 basis points ((1 1/3 X 0.30% = 0.40%. (from page 4 of this schedule))
- (4) No adjustment necessary as the average Moody's bond rating for the proxy group is A2.
- (5) From page 5 of this schedule

Missouri Gas Energy Comparison of Bond Ratings and Business profile for the Proxy Group of Four Gas Distribution Companies. the proxy group of Eight Value Line Gas Distribution Companies and Southern Union Company

		bruary 2006 Moody's ond Rating	Stan	oruary 2006 dard & Poor's ond Rating	Standard & Poor's Business Profile (2)
	Bond Rating	Numerical Weighling (1)	Bond Railog	Numerical Weighting (1)	
Proxy Group of Four Gas Distribution Companies					
Cascade Natural Gas Corporation	Baat	8.0	BBB+	80	2.0
NICOR Inc (3)	Aa3	4.0	AA	3.0	2.0
Northwest Natural Gas Company	A2	6.0	A+	5.0	1.0
Piedmont Natural Gas Co., Inc	A3	7.0	A	6.0	2.0
Average	A2	6.3	A+/A	5.5	1.8
Proxy Group of Eight Value					
Cascade Natural Gas Corporation	Baa1	8.0	B88+	80	2.0
The Laclede Group, Inc (4)	A3	7.0	А	60	30
New Jersey Resources Corp. (5)	Aa3	4.0	AA-	4 0	2.0
NICOR Inc. (3)	Aa3	4.0	AA	3.D	2.0
Northwest Natural Gas Company	A2	6.0	A+	5.0	1.0
Peoples Energy Corporation (6)	Aa3	4.0	A-	7.0	30
Pledmont Natural Gas Co., Inc	A3	7.0	A	6 .0	20
WGL Holdings, Inc. (7)	A2	6.0	AA-	4 D	20
Average	A2	5.8	<u>A</u>	5.4	2.1
Southern Union Company (8)	Baa3	10.0	BBB	9.0	3.0

Notes: (1) From page 3 of this schedule

(2) From Standard & Poor's U.S. Utility And Power Ranking List, March 17, 2006.

(3) Ratings and business profile are those of NICOR Gas Company

(4) Ratings and business profile are those of Laclede Gas Co.

(5) Ratings and business profile are those of New Jersey Natural Gas.

(6) Ratings and business profile are a composite of those of North Shore Gas Company and Peoples Gas Light & Coke Company.

(7) Ratings and business profile are those of Washington Gas Light Company

(8) Ratings and business profile are a composite of those of Southern Union Company, Panhandle Eastern Pipe Line Company and Transwestern Pipeline Company.

Source of Information:

Moody's Investors Service Standard & Poor's Global Utilitles Rating Service

Missouri Gas Energy Numerical Assignment for Moody's and Standard & Poor's Bond Ratings

Moody's	Numerical	Standard & Poor's
Bond Rating	Bond Weighting	Bond Rating
Aaa	1	AAA
Aa1	2	AA+
Aa2	3	AA
Aa3	4	AA-
A1	5	A+
A2	6	A
A3	7	A-
Baa1	8	BBB+
Baa2	9	BBB
Baa3	10	BBB-
Ba1	11	BB+
Ba2	12	BB
Ba3	13	BB-

Moody's Comparison of Interest Rate Trends for the Two Months Ending January 2006 (1)

Spread - Public Utility Bonds	Baa over A	0.31 % 0.29 %	0.30 %
Spread - Publ	A over Aa	0.25 % 0.27 %	0.26 %
Jtility Bonds Baa (Pub. Util.) over	Aaa (Corp.)	0.77 % 0.76 %	% 11.0
Spread - Corporate v. Public Utility Bonds Aa (Pub. A (Pub. Util.) Baa (Pub. Util.) over over Aaa Util.) over	(Corp.)	0.46 % 0.47 %	0.47 %
Spread - Co Aa (Pub. Util.) over	Aaa (Corp.)	0.21 % 0.20 %	0.21 %
<i>"</i>	Baa Rated	6.06 % 6.11	
Public Utility Bonds		5.75 % 5.82	
<u>Li-</u>	Aa Rated	5.55 % 5.55	
Corporate Bonds	Aaa Rated	5.29 % 5.35	5
	Years	January-06 February-06	Average Spread (2)

Notes: (1) All yields are distributed yields. (2) Equal weight has been given to the January and February 2006 spread.

Source of Information: Mergent Bond Record Monthly Update, March 2006, Vol. 73, No. 3

Missouri Gas Energy Judgment of Equity Risk Premium for the Proxy Group of Four Gas Distribution Companies. the Proxy Group of Eight Value Line Gas Distribution Companies and Southern Union Company.

Lin e No.		Proxy Group of Four Gas Distribution Companies	Proxy Group of Eight Value Line Gas <u>Distribution Companies</u>	Southern Union Company
1	Calculated equity risk premium based on the total market using the beta approach (1)	4.47 %	4.37 %	526 %
2.	Mean equity risk premium based on a study using the holding period returns of public utilities with:			
	 a. A rated bonds (2) b. Baa rated bonds (2) Average equity risk premium 	<u> </u>	<u>4.14</u> <u>4.26</u> %	<u>3.62</u> <u>4.44</u> %

Notes: (1) From page 6 of this schedule (2) From page 8 of this schedule.

Missouri Gas Energy Derivation of Equity Risk Premium Based on the Total Market Approach for the Proxy Group of Four Gas Distribution Companies. The Proxy Group of Eight Value Line Gas Distribution Companies and Southern Union Company

Line No.		Proxy Group of Four Gas Distribution Companies	Proxy Group of Eight Value Line Gas Distribution Companies	Southern Union Company
1.	Arithmetic mean lotal return rate on the Standard & Poor's 500 Composite Index - 1926-2004 (1)	12 40 %	12 40 %	12 40 %
2	Arithmetic mean yield on Aaa and Aa Corporate Bond 1926-2004 (2)	(6.12)	(6.12)	(6.12)
3	Historical Equity Risk Premium	<u></u>	<u>6.28</u> %	<u> </u>
4	Forecasted 3-5 year Total Annual Market Return (3)	999 %	998 %	999 %
5	Prospective Yield an Aaa Rated Corporate Bonds (4)	(5.75)	(5.75)	(5.75)
6	Forecasted Equity Risk Premium	4.24 %	4.24 %	4.24 %
7.	Average of Historical and Forecasted Equity Risk Premium (5)	526 %	526 %	526 %
8	Adjusted Value Line Bela (6)	0.85	0.83	1.00
9	Beta Adjusted Equily Risk Premium	4.47_%	4.37 %	5.26 %

Notes: (1) From Stocks, Bonds, Bills and Inflation - 2005 Yearbook Valuation Edition, libbotson Associates, Inc. Chicago, IL. 2005

- (2) From Moody's Industrial Manual and Mergent Bond Record Monthly Update
- (3) From page 4 of schedule 15

(4) Average forecast based upon six quarterly estimates of Asa rated corporate bonds per the consensus of nearly 50 economists reported in Blue Chip Financial Forecasts dated March 1, 2006 (see page 7 of this schedule) The estimates are detailed below

First Quarter 2006	540 %
Second Quarter 2006	5.70
Third Quarter 2006	5 80
Fourth Quarter 2006	5 80
First Quarter 2007	5 90
Second Quarter 2007	5.90
Average	<u> </u>

- (5) Average of the Historical Equily Risk Premium of 6 3% from Line No. 3 and the Forecasted Equity Risk Premium of 4.24% from Line No. 6 ((6 28% + 4 24%) / 2 = 5 26%, rounded to 5 3%)
- (6) From page 9 of this schedule

2 BLUE CHIP FINANCIAL FORECASTS # MARCH 1, 2006

Consensus Forecasts Of U.S. Interest Rates And Key Assumptions¹

				Histo		- Consensus Forecasts-Quarterly Avg.			
	Av	erage For	Week En	ding			Month	Latest Q	10 20 30 40 10 20
Interest Rates	<u>Feb. 17</u>	<u>Feb. 10</u>	<u>Feb. 3</u>	<u>Jan. 27</u>	Jan.	Dec.	Nov.	<u>40 2005</u>	2006 2006 2006 2006 2007 2007
Federal Funds Rate	4 49	4.50	4.44	4.26	4.29	4.16	4.00	3.98	4.5 4.8 4.9 4.9 4.9 4.7
Prime Rate	7.50	7.50	7.32	7.25	7.26	7.15	7.00	6.97	7.5 7.8 7.9 7.9 7.9 7.7
LIBOR, 3-mo.	4 76	4.72	4.70	4.63	4.60	4.49	4.35	4.34	4.7 5.0 5.1 5.1 5.0 4.9
Commercial Paper, 1-mo.	4 46	4.46	4.46	4.44	4.36	4.23	4.01	4.03	4.5 4.9 5.0 5.0 4.9 4.8
Treasury bill, 3-mo.	4.55	4.50	4.48	4.42	4.34	3.97	3.97	3.91	4.4 4.7 4.8 4.8 4.8 4.7
Treasury bill, 6-mo.	4.70	4 68	4 61	4.53	4.47	4.33	4 30	4.25	4.6 4.8 4.9 4.9 4.9 4.8
Treasury bill, 1 yr.	4.70	4.67	4 60	4.50	4.45	4.35	4.33	4.29	4.6 4.9 5.0 5.0 4.9 4.8
Treasury note, 2 yr.	4.69	4.64	4.57	4.44	4.40	4.40	4.42	4.36	4.6 4.9 4.9 4.9 4.9 4.8
Treasury note, 5 yr.	4.59	4.54	4.49	4.38	4.35	4.39	4.45	4 39	4.6 4.8 4.9 4.9 4.9 4.9
Treasury note, 10 yr.	4.59	4.56	4.55	4.46	4.42	4.47	4.54	4,49	4.6 4.8 4.9 4.9 4.9 4.9
Treasury note, 20 yr.	4.76	4.73	4.75	4.69	4.65	4.73	4.83	4.77	47 49 5.0 5.1 5.1 5.1
Corporate Aaa bond	5.37	534	5.39	5.33	5.30	5,37	5.42	5.38	5.4 5.7 5.8 5.9 5.9
Corporate Baa bond	6.30	6.28	6.31	6.26	6.24	6.32	6.39	6.35	6.4 6.6 6.8 6.8 6.9 6.8
State & Local bonds	4.42	4.42	4.43	4.42	4.37	4.46	4.57	4.50	4.5 4.7 4.8 4.8 4.8 4.8
Home mortgage rate	6.28	6.24	6.23	6.12	6.15	6.27	6.33	6.22	6.2 6.4 6.5 6.6 6.6 6.7
				-History				0.22	the additional these the second states of the states and the second states and the
	1Q	2Q	3Q			20	20	40	Consensus Forecasts-Quarterly Avg
Key Assumptions	2004	2004	2004	2004	IQ 2005	2Q 2005	3Q	4Q	1Q = 2Q = 3Q = 4Q = 1Q = 2Q
Major Currency Index	85.3	88.0	86.5	81.9	<u>2005</u> 81.3		2005	<u>2005</u>	2006 2006 2006 2006 2007 2007
Real GDP	4.3	3.5	4.0	3.3	3.8	83.5	847	85.8	85.0 84.5 83.7 83.0 82.4 82.2
GDP Price Index	3.6	3.9	4.0	-		3.3	4.1	1.1	4.7 3.3 3.1 3.0 3.0 3.1
Consumer Price Index	3.3	3.9		2.7	3.1	2.6	3.3	3.0	2.4 2.4 2.2 2.2 2.3 2.2
Individual assal mentional for	3.3	3.3	2.1	3.6	2.3	3.8	5.5	3.3	2.4 2.5 2.4 2.4 2.4

¹Individual panel members' forecasts are on pages 4 through 9. Historical data for interest rates except LIBOR is from Federal Reserve Release (FRSR) H 15. LIBOR quotes available from *The Wall Street Journal*. Definitions reported here are same as those in FRSR H.15. Treasury yields are reported on a constant maturity basis. Historical data for the U.S. Federal Reserve Board's Major Currency Index is from FRSR H.10 and G.S. Historical data for Real GDP and GDP Chained Price Index are from the Bureau of Economic Analysis (BEA). Consumer Price Index (CPI) history is from the Department of Labor's Bureau of Labor Statistics (BLS).



Missouri Gas Energy Derivation of Mean Equity Risk Premium Based on a Study Using Holding Period Returns of Public Utilities

			Over A Rated	Over Baa Rated
			Public Utility Bonds	Public Utility Bonds
			AUS Consultants -	AUS Consultants -
Line			Utility Services	Utility Services
No.			Study (1)	Study (1)
			1	1
Time Period			1928-2003 (3)	1928-2003 (3)
1.		Arithmetic Mean Holding Period Returns (2):		
		Standard & Poor's Public Utility Index	10.77 %	10 77 %
2.		Arithmetic Mean yield on:		
	a.	A-rated Public Utility Bonds	(6.63)	
	b	Baa-rated Public Utility Bonds		(7.15)
3.		Equily Risk Premlum	4.14 %	3.62 %

Notes: (1) S&P Public Utility Index and Moody's Public Utility Bond Average Annual Yields. 1928-2003 (AUS Consultants - Utility Services, 2004)

(2) Holding period returns are calculated based upon income received (dividends and interest) plus the relative change in the market value of a security over a one-year holding period.

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(3) 2003 information is the latest available at the time of preparation.

Schedule FJH-13 Page 9 of 9

Missouri Gas Energy Value Line Adjusted Betas for the Proxy Group of Four Gas Distribution Companies, the Proxy Group of Eight Value Line Gas Distribution Companies and Southern Union Company

	Value Line Adjusted Beta
Proxy Group of Four Gas Distribution Companies	
Cascade Natural Gas Corporation NICOR Inc. Northwest Natural Gas Company Piedmont Natural Gas Co., Inc. Average	0.80 1.15 0.70 0.75 0.85
Proxy Group of Eight Value Line Gas Distribution Companies	
Cascade Natural Gas Corporation The Laclede Group, Inc. New Jersey Resources Corp. NICOR Inc. Northwest Natural Gas Company Peoples Energy Corporation Piedmont Natural Gas Co., Inc. WGL Holdings, Inc. Average	0,80 0.80 0.80 1.15 0.70 0.85 0.75 0.80 0.83
Southern Union Company	1.00

Source of Information: <u>Value Line Investment Survey</u>, (Standard Edition) March 17, 2006 Stocks, Bonds, Bills, and Inflation

SIBIBIL

Valuation Edition 2005 Yearbook

IbbotsonAssociates

The Equity Risk Premium

For example, if bond yields rise unexpectedly, investors can receive a higher coupon payment from a newly issued bond than from the purchase of an outstanding bond with the former lower-coupon payment. The outstanding lower-coupon bond will thus fail to attract buyers, and its price will decrease, causing its yield to increase correspondingly, as its coupon payment remains the same. The newly priced outstanding bond will subsequently attract purchasers who will benefit from the shift in price and yield; however, those investors who already held the bond will suffer a capital loss due to the fall in price.

Anticipated changes in yields are assessed by the market and figured into the price of a bond. Future changes in yields that are not anticipated will cause the price of the bond to adjust accordingly. Price changes in bonds due to unanticipated changes in yields introduce price risk into the total return. Therefore, the total return on the bond series does not represent the riskless rate of return. The income return better represents the unbiased estimate of the purely riskless rate of return, since an investor can hold a bond to maturity and be entitled to the income return with no capital loss.

Arithmetic versus Geometric Means

The equity risk premium data presented in this book are arithmetic average risk premia as opposed to geometric average risk premia. The arithmetic average equity risk premium can be demonstrated to be most appropriate when discounting future cash flows. For use as the expected equity risk premium in either the CAPM or the building block approach, the arithmetic mean or the simple difference of the arithmetic means of stock market returns and riskless rates is the relevant number. This is because both the CAPM and the building block approach are additive models, in which the cost of capital is the sum of its parts. The geometric average is more appropriate for reporting past performance, since it represents the compound average return.

The argument for using the arithmetic average is quite straightforward. In looking at projected cash flows, the equity risk premium that should be employed is the equity risk premium that is expected to actually be incurred over the future time periods. Graph 5-3 shows the realized equity risk premium for each year based on the returns of the S&P 500 and the income return on long-term government bonds. (The actual, observed difference between the return on the stock market and the riskless rate is known as the realized equity risk premium.) There is considerable volatility in the year-by-year statistics. At times the realized equity risk premium is even negative.

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To illustrate how the arithmetic mean is more appropriate than the geometric mean in discounting cash flows, suppose the expected return on a stock is 10 percent per year with a standard deviation of 20 percent. Also assume that only two outcomes are possible each year— +30 percent and -10 percent (i.e., the mean plus or minus one standard deviation). The probability of occurrence for each outcome is equal. The growth of wealth over a two-year period is illustrated in Graph 5-4.

The Equity Risk Premium



The most common outcome of \$1.17 is given by the geometric mean of 8.2 percent. Compounding the possible outcomes as follows derives the geometric mean:

 $[(1+0.30)\times(1-0.10)]^{\frac{1}{2}}-1=0.082$

However, the expected value is predicted by compounding the arithmetic, not the geometric, mean. To illustrate this, we need to look at the probability-weighted average of all possible outcomes:

	(0.25	×	\$1.69)	**	\$0.4225
-+-	(0.50	X	\$1.17)	=	\$0.5850
ł	(0.25	×	\$0.81)	=	\$0.2025
	Total				\$1.2100

Therefore, \$1.21 is the probability-weighted expected value. The rate that must be compounded to achieve the terminal value of \$1.21 after 2 years is 10 percent, the arithmetic mean:

 $(1+0.10)^2 = (1.21)^2$

The geometric mean, when compounded, results in the median of the distribution:

 $(1+0.082)^2 = (1.17)^2$

The arithmetic mean equates the expected future value with the present value; it is therefore the appropriate discount rate.

Chapter 5

Appropriate Historical Time Period

The equity risk premium can be estimated using any historical time period. For the U.S., market data exists at least as far back as the late 1800s. Therefore, it is possible to estimate the equity risk premium using data that covers roughly the past 100 years.

The Ibbotson Associates equity risk premium covers the time period from 1926 to the present. The original data source for the time series comprising the equity risk premium is the Center for Research in Security Prices. CRSP chose to begin their analysis of market returns with 1926 for two main reasons. CRSP determined that the time period around 1926 was approximately when quality financial data became available. They also made a conscious effort to include the period of extreme market volatility from the late twenties and early thirties; 1926 was chosen because it includes one full business cycle of data before the market crash of 1929. These are the most basic reasons why Ibbotson Associates' equity risk premium calculation window starts in 1926.

Implicit in using history to forecast the future is the assumption that investors' expectations for future outcomes conform to past results. This method assumes that the price of taking on risk changes only slowly, if at all, over time. This "future equals the past" assumption is most applicable to a random time-series variable. A time-series variable is random if its value in one period is independent of its value in other periods.

Does the Equity Risk Premium Revert to Its Mean over Time?

Some have argued that the estimate of the equity risk premium is upwardly biased since the stock market is currently priced high. In other words, since there have been several years with extraordinarily high market returns and realized equity risk premia, the expectation is that returns and realized equity risk premia will be lower in the future, bringing the average back to a normalized level. This argument relies on several studies that have tried to determine whether reversion to the mean exists in stock market prices and the equity risk premium.³ Several academics contradict each other on this topic; moreover, the evidence supporting this argument is neither conclusive nor compelling enough to make such a strong assumption.

Our own empirical evidence suggests that the yearly difference between the stock market total return and the U.S. Treasury bond income return in any particular year is random. Graph 5-3, presented earlier, illustrates the randomness of the realized equity risk premium.

³ Fama, Eugene F., and Kenneth R. French. "Permanent and Temporary Components of Stock Prices," Journal of Political Economy, April 1988, pp. 246-273. Poterba, James M., and Lawrence H. Summers. "Mean Reversion in Stock Prices," Journal of Financial Economics, October 1988, pp. 27-59. Lo, Andrew W., and A. Craig MacKinlay. "Stock Market Prices Do Not Follow Random Walks: Evidence from a Simple Specification Test," The Review of Financial Studies, Spring 1988, pp. 41-66. Finnerty, John D., and Dean Leistikow. "The Behavior of Equity and Debt Risk Premiums: Are They Mean Reverting and Downward-Trending?" The Journal of Portfolio Management, Summer 1993, pp. 73-84. Ibbotson, Roger G., and Scott L. Lummer "The Behavior of Equity and Debt Risk Premiums: Comment," The Journal of Portfolio Management, Summer 1994, pp. 98-100. Finnerty, John D., and Dean Leistikow. "The Behavior of Equity and Debt Risk Premiums: Reply to Comment," The Journal of Portfolio Management, Summer 1994, pp. 101-102.

A statistical measure of the randomness of a return series is its serial correlation. Serial correlation (or autocorrelation) is defined as the degree to which the return of a given series is related from period to period. A serial correlation near positive one indicates that returns are predictable from one period to the next period and are positively related. That is, the returns of one period are a good predictor of the returns in the next period. Conversely, a serial correlation near negative one indicates that the returns in one period are inversely related to those of the next period. A serial correlation near zero indicates that the returns are random or unpredictable from one period to the next. Table 5-3 contains the serial correlation of the market total returns, the realized long-horizon equity risk premium, and inflation.

Table 5-3 Interpretation of Annual Serial Corr 1926–2004	elations	
Series	Serial Correlation	Interpretation
Large Company Stock Total Returns	0.03	Flandom
Equity Risk Premium	0.04	Random
Inflation Rates	0 65	Trend

The significance of this evidence is that the realized equity risk premium next year will not be dependent on the realized equity risk premium from this year. That is, there is no discernable pattern in the realized equity risk premium—it is virtually impossible to forecast next year's realized risk premium based on the premium of the previous year. For example, if this year's difference between the riskless rate and the return on the stock market is higher than last year's, that does not imply that next year's will be higher than this year's. It is as likely to be higher as it is lower. The best estimate of the expected value of a variable that has behaved randomly in the past is the average (or arithmetic mean) of its past values.

Table 5-4 also indicates that the equity risk premium varies considerably by decade, from a high of 17.9 percent in the 1950s to a low of 0.3 percent in the 1970s. This look at the historical equity risk premium reveals no observable pattern.

Table 5-4 Long-Horizon Equity Risk Premium by Decade									
1926-20	004						11		
1920s*	1930s	1940s	1950s	1960s	1970s	1980s	1990s	2000s**	1995-2004
17 6%	23%	8 0%	17.9%	4 2%	0 3%	7.9%	12 1%	-6 2%	81%

Chapter 5

Finnerty and Leistikow perform more econometrically sophisticated tests of mean reversion in the equity risk premium. Their tests demonstrate that—as we suspected from our simpler tests—the equity risk premium that was realized over 1926 to the present was almost perfectly free of mean reversion and had no statistically identifiable time trends.⁴ Lo and MacKinlay conclude, "the rejection of the random walk for weekly returns does not support a mean-reverting model of asset prices."

Choosing an Appropriate Historical Period

The estimate of the equity risk premium depends on the length of the data series studied. A proper estimate of the equity risk premium requires a data series long enough to give a reliable average without being unduly influenced by very good and very poor short-term returns. When calculated using a long data series, the historical equity risk premium is relatively stable.³ Furthermore, because an average of the realized equity risk premium is quite volatile when calculated using a short history, using a long series makes it less likely that the analyst can justify any number he or she wants. The magnitude of how shorter periods can affect the result will be explored later in this chapter.

Some analysts estimate the expected equity risk premium using a shorter, more recent time period on the basis that recent events are more likely to be repeated in the near future; furthermore, they believe that the 1920s, 1930s, and 1940s contain too many unusual events. This view is suspect because all periods contain "unusual" events. Some of the most unusual events of this century took place quite recently, including the inflation of the late 1970s and early 1980s, the October 1987 stock market crash, the collapse of the high-yield bond market, the major contraction and consolidation of the thrift industry, the collapse of the Soviet Union, and the development of the European Economic Community—all of these happened approximately in the last 30 years.

It is even difficult for economists to predict the economic environment of the future. For example, if one were analyzing the stock market in 1987 before the crash, it would be statistically improbable to predict the impending short-term volatility without considering the stock market crash and market volatility of the 1929–1931 period.

Without an appreciation of the 1920s and 1930s, no one would believe that such events could happen. The 79-year period starting with 1926 is representative of what can happen: it includes high and low returns, volatile and quiet markets, war and peace, inflation and deflation, and prosperity and depression. Restricting attention to a shorter historical period underestimates the amount of change that could occur in a long future period. Finally, because historical event-types (not specific

⁴ Though the study performed by Finnerty and Leistikow demonstrates that the traditional equity risk premium exhibits no mean reversion or drift, they conclude that, "the processes generating these risk premiums are generally mean-reverting." This conclusion is completely unrelated to their statistical findings and has received some criticism. In addition to examining the traditional equity risk premia, Finnerty and Leistikow include analyses on "teal" risk premia as well as separate risk premia for income and capital gains. In their comments on the study, libotson and Lummer show that these "real" risk premia adjust for inflation twice, "creating variables with no economic content." In addition, separating income and capital gains does not shed light on the behavior of the risk premia as a whole.

⁵ This assertion is further corroborated by data presented in *Global Investing: The Professional's Guide to the World of Capital Markets* (by Roger G. Ibbotson and Gary P. Brinson and published by McGraw-Hill, New York). Ibbotson and Brinson constructed a stock market total return series back to 1790. Even with some uncertainty about the accuracy of the data before the mid-ninetcenth century, the results are remarkable. The real (adjusted for inflation) returns that investors received during the three 50-year periods and one 51-year period between 1790 and 1990 did not differ greatly from one another (that is, in a statistically significant amount). Nor did the real returns differ greatly from the overall 201-year average. This finding implies that because real stock-market returns have been reasonably consistent over time, investors can use these past returns as reasonable bases for forming their expectations of future returns.

The Equity Risk Premium

events) tend to repeat themselves, long-run capital market return studies can reveal a great deal about the future. Investors probably expect "unusual" events to occur from time to time, and their return expectations reflect this.

A Look at the Historical Results

It is interesting to take a look at the realized returns and realized equity risk premium in the context of the above discussion. Table 5-5 shows the average stock market return and the average (arithmetic mean) realized long-horizon equity risk premium over various historical time periods. Similarly, Graph 5-5 shows the average (arithmetic mean) realized equity risk premium calculated through 2004 for different starting dates. The table and the graph both show that using a longer historical period provides a more stable estimate of the equity risk premium. The reason is that any unique period will not be weighted heavily in an average covering a longer historical period. It better represents the probability of these unique events occurring over a long period of time.

Table 5-5

Period Length	Period Dates	Large Company Stock Arithmetic Mean Total Return	Long-Horizon Equity Risk Premium
79 years	1925-2004	12 495	7.2%
70 years	19352004	13 1%	77%
60 years	1945-2004	13 3%	7.3%
50 years	1955-2004	12 3%	5 6%
40 years	1965-2004	118%	4 4%
30 years	19752004	14 9%	6.9%
20 years	1985-2004	14 5%	7.4%
15 years	19902004	12 4%	6 0%
10 years	19952004	14 0%	8 1%
5 years	2000-2004	-0 7%	-6 2%

Stock Market Return and Equity Risk Premium Over Time 1926-2004

Looking carefully at Graph 5-5 will clarify this point. The graph shows the realized equity risk premium for a series of time periods through 2004, starting with 1926. In other words, the first value on the graph represents the average realized equity risk premium over the period 1926–2004. The next value on the graph represents the average realized equity risk premium over the period 1927–2004, and so on, with the last value representing the average over the most recent five years, 2000–2004. Concentrating on the left side of Graph 5-5, one notices that the realized equity risk premium, when measured over long periods of time, is relatively stable. In viewing the graph from left to right, moving from longer to shorter historical periods, one sees that the value of the realized equity risk premium begins to decline significantly. Why does this occur? The reason is that the severe bear market of 1973–1974 is receiving proportionately more weight in the shorter, more recent average. If you continue to follow the line to the right, however, you will also notice that when 1973 and 1974 fall out of the recent average, the realized equity risk premium jumps up by nearly 1.5 percent.

Missouri Gas Energy Indicated Common Equity Cost Rate Through Use of the Capital Asset Pricing Model for the Proxy Group of Four Gas Distribution Companies, the Proxy Group of Eight Value Line Gas Distribution Companies and Southern Union Company

Line No.		Proxy Group of Four Gas Distribution Companies	Proxy Group of Eight Value Line Gas Distribution Companies	Southern Union Company
1.	Capital Asset Pricing Model Derived Company Equity Cost Rale (1)	<u>10.48</u> %	<u>10.17</u> %	11.09 %
2	Capital Asset Pricing Model Derived Company Equity Cost Rate (2)	<u>10.40</u> %	<u>10.32</u> %	<u>11.09</u> %
3.	Conclusion	<u>10.44</u> %	<u>10.25</u> %	<u>11.09</u> %

- Notes: (1) Developed on page 2 of this schedule.
 - (2) Developed on page 3 of this schedule.

Missouri Gas Energy Indicated Common Equity Cost Rate Through Use of the Capital Asset Pricing Model

	Value Line Adjusted Beia	Company-Specific Risk Premlum Based on Market Premlum of 6.11% (1)	CAPM Result Including Risk-Free Rate of 4.98% (2)	Recommended CAPM Result (3)
	Trad	Itional Capital Asset Pricing Model ((4)	
Proxy Group of Four Gas Distribution Companies				
Cascarle Natural Gas Corporation	0 B0	4 89 %	987 %	987%
NICOR Inc.	1 15	7 03	12 01	12 01
Northwest Natural Gas Company	070	4 28	9 26	
Pledmont Natural Gas Co . Inc	0.75	4.58	9 56	9.56
Average	0.85	5,20 %		10.4B %
Proxy Group of Eight Value Line Gas Distribution Companies				
Cascade Natural Gas Corporation	0.80	489 %	9.87 %	9.87 %
The Laciede Group, Inc	080	4 89	9.87	9.87
New Jersey Resources Corp	0.80	4.89	987	987
NICOR Inc.	1 15	7.03	12.01	12 01
Northwest Natural Gas Company	070	4 28	9 26	
Peoples Energy Corporation	0.85	5 19	10 17	10 17
Pledmont Natural Gas Co. Inc	0 75	4 58	9 56	9 56
WGL Holdings, Inc	0 80	4.89	9 87	987
Average	0.83	<u>5.08</u> %		10.17 %
Southern Union Company	1.00	6.11 %	1109%	11.09 %

See page 4 for notes

Missouni Gas Energy Indicated Common Equity Cost Rate Through Use of the Capital Asset Ericing Model

	Value Line	Company-Spacific Risk Premium	GAPM Result Including	
	Adjusted	Based on Market	Risk-Free	Recommended
	Bela	Premium of 6,11% (1)	Rate of 4.98% (2)	CAPM Result (3)
	Emp	irical Capital Asset Pricing Model (3)	
Proxy Group of Four Gas Distribution Companies				
Cascade Natural Gas Corporation	0 80	5 19 %	10 17 %	10 17 %
NICOR Inc.	1 15	6 80	1178	11 78
Northwest Natural Gas Company	0 70	4 74	9 72	9 72
Piedmont Natural Gas Co . Inc	0.75	4,95	9 94	9.94
Average	0.85	5.42 %		10.40 %
Proxy Group of Eight Value Line Gas Distribution Companies				
Cascade Natural Gas Corporation	0 80	5 19 %	10 17 %	10 17 %
The Laclede Group, Inc	0.80	5 19	10 17	10 17
New Jersey Resources Corp	0.80	5 19	10 17	10 17
NICOR Inc.	1 15	6 80	1178	11 78
Northwest Natural Gas Company	0 70	4 74	9 72	972
Peoples Energy Corporation	0 85	5.42	10.40	10.40
Piedmont Natural Gas Co . Inc	0 75	4 96	9 94	9 94
WGL Holdings, Inc	0.80	5.19	10 17	10.17
Average	0.03	5.34 %		10.32 %
Southern Union Company	1.00	6.11 %	11.09 %	11.09 %

See page 4 for notes

Missouri Gas Energy

Development of the Market-Required Rate of Return on Common Equity Using the Capital Asset Pricing Model for the Proxy Group of Four Gas Distribution Companies, the Proxy Group of Eight Value Line Gas Distribution Companies and Southern Union Company Adjusted to Reflect a Forecasted Risk-Free Rate and Market Return

Notes:

(1) From the two previous month-end (January '06 – February '06), as well as a recently available (March 3, 2006), <u>Value Line Summary & Index</u>, a forecasted 3-5 year total annual market return of 9.99% can be derived by averaging the January 2006, February 2006, and spot forecasted total 3-5 year total appreciation, converting it into an annual market appreciation and adding the <u>Value Line</u> average forecasted annual dividend yield.

The 3-5 year average total market appreciation of 38%, produces a four-year average annual return of 8 39% (($(1.38^{0.25}) - 1$)*100) When the average annual forecasted dividend yield of 1.60% is added, a total average market return of 9 99% (1.60% + 8.39%) is derived.

January 2006, February 2006 and spot forecasted total market return of 9.99% minus the risk-free rate of 4.98% (developed in Note 2) is 5.01% (9.99% - 4.98%). The Ibbotson Associates calculated market premium of 7.20% for the period 1926-2004 results from a total market return of 12.40% less the average income return on long-term U.S. Government Securities of 5.20% (12.40% - 5.20% = 7.20%). This is then averaged with the 5.01% <u>Value Line</u> market premium resulting in a 6.105%, rounded to 6.11%, market premium. The 6.11% market premium is then multiplied by the beta in column 1 of pages 2 and 3 of this schedule.

(2) Average forecast based upon six quarterly estimates of 20-year Treasury Note yields per the consensus of nearly 50 economists reported in the <u>Blue Chip Financial Forecasts</u> dated March 1, 2006 (see page 7 of Schedule 13 of this exhibit). The estimates are detailed below:

	20-Year
	Treasury Note Yield
First Quarter 2006	4 70%
Second Quarter 2006	4 90
Third Quarter 2006	5 00
Fourth Quarter 2006	5 10
First Quarter 2007	5.10
Second Quarter 2007	<u>5.10</u>
Average	4.98%

- (3) Includes only those indicated common equity cost rates which are greater than 9 45% for reasons fully explained in Mr. Hanley's accompanying direct testimony
- (4) The traditional Capital Asset Pricing Model (CAPM) is applied using the following formula:

 $R_{\rm g} = R_{\rm F} + \beta \left(R_{\rm M} - R_{\rm F} \right)$

Where R_s = Return rate of common stock

R_F = Risk Free Rale

β = Value Line Adjusted Beta

R_M = Return on the market as a whole

(5) The empirical CAPM is applied using the following formula:

 $R_s = R_F + .25 (R_M - R_F) + .75 \beta (R_M - R_F)$

Where R_s = Return rate of common stock

- R_⊭ = Risk-Free Rate
- β = Value Line Adjusted Beta
- R_M = Return on the market as a whole

Source of Information: Value Line Summary & Index (Standard Edition)

Blue Chip Financial Forecasts, March 1, 2006

Value Line Investment Survey, March 17, 2006 Stocks, Bonds, Bills and Inflation – Valuation Edition -2005 Yearbook Market Results for 1926-2004 Ibbotson Associates, Inc., Chicago, IL

Missouri Gas Energy Comparable Earnings Analysis for a Proxy Group of Thirty-Eight Non-Utility Companies Comparable to the Proxy Group of Four Gas Distribution Companies (1)

Proxy Group of Thirly-Eight Non-Utility	<u>21049 0) - 041 0</u> 3	<u>aə qışırınını</u>	Slandard Error	5-Year Projected Re Net Worth, Equity Capital	or Partners'
Companies Comparable to the Proxy Group of	Adj	Unadi.	of the		Student's
Four Gas Distribution Companies (1)	Beta	Bela	Regression	Percent	T-Test
Albemarle Corp.	0.90	0.80	3 1129	13 50 %	(0 25)
Alberto Culver	0.70	0.53	2 9772	13 50	(0 25)
Alexander & Baldwin	0.90	0 78	3 1119	12.50	(0 38)
Ashland Inc.	0.85	0.70	3 01 19	7.50	(1.05)
BOK Financial	0.80	0 64	3 0444	13 00	(0 32)
Baldor Electric	0.85	0.77	2 9975	16 00	0.08
Banla Corp	0.75	0.59	2 8763	13 50	(0.25)
Capilol Fed Fin'l	0.70	051	2 9480	8 00	(0.98)
Cincinnati Financial	0.85	0.75	3 0515	7 50	(1.05)
City National Corp	0 90	0.79	3 2484	16 50	0.15
ConecoPhillips	0 90	0.78	3 0735	7 00	(1.11)
Denisply Int'i	0 70	0.54	3 2618	14 00	(0.18)
Dun & Bradsiret	0.80	0.63	3 0607	31 00 (3)	2 08
Ecoleb Inc.	0.90	0.81	2 9292	24 50	1 21
First Midwest Bancorp	0.90	0.80	2 9316	19 50	0 55
Graco Inc	0.85	0.77	3 2291	41 00 (3)	3.41
Hancock Holding	0.70	0.54	3 0665	14 50	(0 12)
Harte-Hanks	0.65	0.70	3 1520	18 50	0 42
Hillenbrand Inds.	08.0	0.63	3 3283	19 00	0.42
Hospitality Properties	0.85	0.73	3 0360	7 00	(1.11)
Iron Mountain	0.90	0.79	3 3620	13 00	(0.32)
Markel Corp.	0.80	0.67	Z 9135	13 50	(0.25)
McClatchy Co	0 75	0.61	2 9836	10 00	(0.71)
McGraw-Hill	0.80	0.63	3 0963	21 50	0.82
Media General 'A'	0.90	0.81	3.1158	7 50	(1.05)
Meredih Corp.	0.90	0.77	2 9132	20 50	0.68
New York Times	0.90	0.81	3 0 1 2 6	16 00	0.08
Occidental Petroleum	0.90	0.78	3 3428	17 50	0.28
People's Bank	0.85	0.70	3 1720	12 50	(0.38)
Pfizer Inc.	0.85	0.70	3.1781	23 00	1.01
Plum Creek Timber	0.75	0.58	2.9367	16 00	0.08
RLI Corp.	0.75	0.55	3 1 1 4 1	11 00	(0.58)
Toro Co	0.85	0.75	3 2727	33 00 (3)	2 34
Trizec Properties	0.80	0.67	3 3071	8 00	(0 98)
Union Pacific	0.90	0.79	3.1224	9 00	(0 85)
Washington Federal	0.65	0.74	3 0069	14 50	(0 12)
Webster Fin'l	0.90	0.78	3 0201	10 00	(0 71)
Weis Markets	0.70	0.54	3 2441	10 00	(0 71)
	0,83	0.70	3.0938		(****/
Average for the Non-Utility Group	0.03	0.70	0,0500		
Average for the Proxy Group of Four Gas Distribution Companies	0.80	0.65 (4	i) <u>3.1280</u> (5)		
Mean (3)				13.69 %	
Conclusion (6)				14.26%	

See pages 5 and 6 for notes

Missouri Gas Energy Comparable Earnings Analysis for a Proxy Group of Twenty-Three Non-Utility Companies Comparable to the Proxy Group of Eight Value Line Gas Distribution Companies (7).

the Proxy Group of	of Eight Value Li	ne Gas Distrib	ution Companies ()	<u>r)</u>	
Proxy Group of Twenty-Three Non-Utility			Standard Error	5-Year Projected Re Net Worth, Equity Capital	y or Partners'
Companies Comparable to the Proxy Group of	Adj	Unadj.	of the		Student's
Eight Value Line Gas Distribution Companies (7)	Beta	Beta	Regression	Percent	T-Test
Alberto Culver	0 70	0.53	2 9772	13.50 %	(0.14)
Apariment Investment	0 65	0 46	2.7732	9.50	(0.70)
Ashland inc	0 85	0 70	3.0119	7.50	(0.98)
BRE Properties	0 70	0.50	2 6424	9.00	(0.77)
Banla Corp.	0 75	0 59	2 8763	13.50	(0.14)
Buckeye Partners L P.	0 70	0 47	2.7302	19.50	0.69
Capilol Fed. Fin'l	0 70	0 5 1	2 9480	8.00	(0.91)
Crescent Real Est	0 80	0 68	2 8368	11.50	(0.42)
Duke Realty Corp.	0 70	0.53	2.5998	9.00	(0.77)
Exxon Mobil Corp	0 80	0.65	2 5674	18.50	0.55
Federal Rily Inv. Trust	0 70	0 48	2,7163	17.00	0.34
Hudson City Bancorp	0 75	0.57	2 7926	8.50	(0.84)
Kimberly-Clark	0 65	0.46	2.9350	33.00 (8)	2.57
Liberty Corp.	0 75	0 60	2 6765	8.50	(0.84)
Liberty Property	0 70	0.49	2.5717	14.00	(0.07)
Markel Corp.	0 80	0.67	2.9135	13.50	(0.14)
McClatchy Co	0 75	0.61	2.9836	10.00	(0.63)
Moody's Corp.	0 80	0.64	2.8144	35.00 (8)	2.85
Old Nat'l Bancorp	0 70	0.49	2.6033	15.00	0.07
Plum Creek Timber	0 75	0.58	2.9367	16.00	0.21
Simon Property Group	0 70	0.48	2.7083	10.00	(0.63)
Washington Federal	0 85	0.74	3.0069	14.50	0.00
Washington R E.I.T.	0 70	0.54	2.7710	19.50	0.69
Average for the Non-Utility Group	0.74	0.56	2,7997		
	<u> </u>				
Average for the Proxy Group of Eight Value Line					
Gas Distribution Companies	0.78	(9))(10)		
Mean (8)				12.67 %	
Conclusion (6)			-	<u>14.37</u> %	

See pages 5 and 6 for notes.

Missouri Gas Energy Comparable Earnings Analysis for a Proxy Group of Ninety-Eight Non-Utility Companies Comparable (o Southern Union Company.(11)

So	uthern Unior	Company (1)	1)		
			Standard Error	5-Year Projected Ra Net Worth, Equity Capital	or Partners'
Proxy Group of Ninety-Eight Non-Utility Companies Comparable Southern Union Company (11)	Adj Beta	Unadj. Beta	of the Regression	Percent	Student's T-Test
21st Century Ins. Group	0 90	0.78	4.0866	9 50 %	(99.0)
ADVO Inc	0 90	0.79	3 8183	22 50	1.13
Abbott Labs	0.80	0.68	3 8832	23.00	1.21
Advance Aulo Paris	0.90	0.82	4 2012	20.50	0.80
Aflac Inc.	0 95	0 86	3 9019	15.50	(0 01)
Albany Infl 'A'	1.05	1.06	4.2858	13.00	(0.42)
Alistate Corp	0.95	0 85	3.8067	15.50	(0.01)
Amerada Hess	0.90	0 80	4.0188	8 00	(1.24)
Ameron Int'l	0.85	0 76	4.4690	10 50	(0.83)
Anadarko Petroleum	0.90	0 83	4.4300	9 00	(1.07)
Arch Chemicals	0 90	0.81	4.4104	12 50	(0.50)
AutoZane Inc	0.85	0 70	4.4014	46 00 (14)	4.96
Autoliv Inc.	1.10	1 10	3.8933	13 50	(0 34)
Ball Corp	0 90	0 79	3.9067	20.00	0 72
Bandag Inc	0 95	0 85	3 9212	9.00	(1 07)
Bank of Hawaii	0 95	086	3.9299	21 00	0 88
Berkley (W R.)	0 80	067	4 1772	14.50	(0 18)
Biomet	0 90	077	4.3919	22.50	1 13
Black & Decker	1 05	1 06	4 2481	16.00	0 07
Boeing	1.05	1 05	4 0907	21 00	088
Borders Group	0.95 1.10	087 109	4 5155 3 8532	14.50 17 50	(0.18) 0.31
Briggs & Stration	1.05	1 07	4 2341	14 50	(0.18)
Brink's (The) Co	0.90	0.78	4 1737	14 80	0.23
Brown & Brown Burdinaton Cool	1.05	1 02	4 2140	11 00	(0.75)
Burlington Coal Burlington Resources	0.80	0 69	4 3635	14 50	(0.18)
CH Robinson	0.85	0.76	4 2837	18 00	0.39
CSX Corp.	1 05	1.04	4 1493	10 00	(0.91)
Cabot Corp.	1.00	0.95	4 3746	11 50	(0 67)
Casey's Gen'i Stores	0.85	0.74	4 3342	12 50	(0.50)
Chesapeake Corp	0 95	0.88	4 2930	5 00	(1.73)
Chicago Mercantile	1 00	0.99	4 4902	20 50	0.80
ChoicePoint Inc.	0 90	0.81	3 9443	13 50	(0.34)
Commercial Metals	0 95	0.86	4 1715	15 00	(0.09)
Cooper Tire & Rubber	1 00	0.99	4 4032	14 50	(0.1B)
Countrywide Financial	1 00	0 98	4 0648	13.00	(0.42)
Cylec Inds.	1 00	0.97	4 1299	16 50	0.15
Datascope Corp	0 95	0 85	4 3746	10 80	(0.78)
Dionex Corp.	085	070	3 9844	21.80	1.01
Downey Fin'i	0 90	0 81	4 1632	16.00	0.07
Eagle Materials	0 90	0 80	4 1023	17.50	0.31
Encore Acquisition	1 00	099	4 4182	12.50	(0 50)
Federal Signal	0 95	0 87	4 0623	14.00	(0.26)
Florida Rock	1 00	0.94	3 9042	16.50	0 15
Gallagher (Arthur J.)	0 95	0.86 0.73	4 1442 4 2431	22.00	1 05
Gardner Denver	085 095	0 90	4 22431	11.00	(075)
Gaylord Entertainm	0 95	0 90	4 2850	5 00 10.50	(1 73) (0 83)
Glalfeller Glassia Carp	1 00	0 99	4 4410	11.00	(0 83)
GlobalSantaFe Corp. Haemonetics Corp.	0.85	0 33	4 4929	13.50	(0 34)
Harrah's Entertain	0 95	0 87	4 4861	12.50	(0.50)
Int'i Business Mach	1 05	1.06	3 8409	29.50 (14)	2 27
Jack in the Box	0 90	0 78	4 4569	14.50	(0 18)
Jacobs Engineering	0 95	0 92	3 9469	13.50	(0 34)
Keilwood Co.	0 90	0.78	4 3632	8 50	(† 15)
Kelly Services 'A'	0 95	0 87	4 2955	10.00	(0.91)
Kohl's Corp.	1 05	1.04	4 1867	14.00	(0 26)
Lauder (Estee)	0 90	0.81	4 0447	26.50	ົ1 7 8໌
Lincoln Elec Hidgs	0 85	0.73	4 0259	14.00	(0 26)
Marcus Corp.	0 85	075	4 4413	10 50	(0 83)
Masco Corp.	1 10	1.09	4 2366	19.00	0 56
McDonald's Corp	1 05	1.00	3 9567	13.50	(0 34)
Merck & Co	0 80	0.68	4 4432	25.00	1 54
Miller (Herman)	0 95	0.92	4 1296	32 00 (14)	2 68

13.88 %

Missouri Gas Energy Comparable Earnings Analysis for a Proxy Group of Ninety-Eight Non-Utility Companies Comparable to Southern Union Company (11)

So	uthern Unior	Company (1)	f.)		
			Slandard Error	5-Year Projected Rate of Return on Net Worth, Equity or Partners Capital (2)	
Proxy Group of Ninety-Eight Non-Utility	Adj.	Unadj.	of the		Student's
Companies Comparable Southern Union Company (11)	Beta	Beta	Regression	Percent	T-Test
Murphy Oil Corp	0 85	0.76	3.9883	9 00	(1.07)
New York Community	0.95	0 85	4.1363	12.50	(0 50)
Newell Rubbernaid	0.85	0.76	4 1959	22.50	1.13
Nordson Corp.	1.05	1.02	3.9829	15.50	(0.01)
Norfolk Southern	1 05	1.04	4,2922	12.50	(0.50)
Outback Sleakhouse	0.90	0.83	4 1896	16.50	0.15
PMI Group	1.05	1.06	3.9777	12.00	(0.58)
Pacliv Corp	0.90	0 81	3.8556	15.00	(0.09)
Payless ShoeSource	0.85	0.74	4.0567	10.00	(0.91)
Pixar	1.05	1 02	4.1578	10.50	(0.83)
Polaris Inds.	1.00	0.93	3 8154	27.50	1.94
Progressive (Ohio)	1.05	1 05	4 3361	13.00	(0.42)
Quanex Corp.	1.00	0 93	4 0393	14.50	(0.18)
RPM Int'i	0.85	076	4.4246	13.50	(0.34)
Reinsurance Group	0.90	0 82	4.1328	11.00	(0.75)
Rohm and Haas	1 05	1.07	4,4998	14.60	(0.18)
Ruby Tuesday	0.85	0.75	4.5025	16.50	0.15
SAFECO Corp.	0.95	0.89	4.4267	12.00	(0.58)
Schuiman (A.)	0.85	0.71	4,1966	7.50	(1.32)
Sigma-Aldrich	0.85	0.71	3.9318	19.50	0.64
Sovereign Bancorp	1.10	1.11	3.9183	16.00	0.07
St. Jude Medical	0.85	0.73	4.2191	14.50	(0.18)
Stanley Works	1.00	0.97	3.9338	17.50	0.31
Steelcase Inc 'A'	0.85	0.76	4.5001	14.00	(0.26)
Superior Inds Int'I	1.00	0.98	3.8279		(0.28)
Sybron Dental	0.90	0.82	4,4078	9.50	• •
Tecumseh Products 'A'	0 80	0.62	3.8146	11.00	(0.75)
	0.95	089	4.2319	9.00 13.00	(1.07)
Trinity Inds	0.95	0.74	4.3901		(0.42)
Tupperware Brands	1.10	1.11	4.1798	23 00	121
United Stationers	0.80	0.67	4.1796	14 50	(0.18)
Varian Medical Sys				23.50	1 29
Waste Management	090	0.82	4.2063	21 50	0.97
Wausau Paper	1 00	1 00	4.0989	20 00	0.72
Weight Watchers	0 95	0 90	3.8996	27.00	1 86
Average for the Non-Utility Group	0.94	0.87	4.1720		
Southern Union Company	0.95	0.89 (1)	2) <u>4.1728</u> (13)		
Mean (14)				<u>14.94</u> %	

See pages 5 and 6 for notes

Conclusion (6)

Missouri Gas Energy Comparable Earnings Analysis

Notes:

- (1) The criteria for selection of the proxy group of thirty-eight non-utility companies was that the non-utility companies be domestic and have a meaningful projected 2008 2010 rate of return on net worth or partners' capital as reported in <u>Value Line Investment Survey</u> (Standard Edition). The proxy group of thirty-eight non-utility companies was selected based upon the proxy group of four gas distribution companies' unadjusted beta range of 0.49 0.81 and standard error of the regression range of 2.8532 3.4028. These ranges are based upon plus or minus two standard deviations of the unadjusted beta and standard error of the regression as detailed in Mr. Hanley's accompanying direct testimony. Plus or minus two standard deviations captures 95.5% of the distribution of unadjusted betas and standard errors of the regression.
- (2) 2008-2010.
- (3) The Student's T-statistic associated with this projected return exceeds 1.960 at the 95% level of confidence. Therefore, it has been excluded, as an outlier, to arrive at a proper mean projected return as fully explained in the accompanying direct testimony.
- (4) The standard deviation of the proxy group of four gas distribution companies' unadjusted beta is 0.0823.
- (5) The standard deviation of the proxy group of four gas distribution companies' standard error of the regression is 0.1374. The standard deviation of the standard error of the regression is calculated as follows:

Standard Deviation of the Standard Error of the Regression =

<u>Standard Error of the Regression</u> √2N

Where: N = number of observations. Since Value Line betas are derived from weekly price change observations over a period of five years, N = 259

Thus, 0.1374 = 3.1280 = 3.1280 $\sqrt{518} = 22.7596$

- (6) Average of 5-year projected rates of return excluding those above 20% and below 9.45% for reasons fully explained in Mr. Hanley's testimony.
- (7) The criteria for selection of the proxy group of twenty-three non-utility companies was that the non-utility companies be domestic and have a meaningful projected 2008 2010 rate of return on net worth or partners' capital as reported in <u>Value Line Investment Survey</u> (Standard Edition). The proxy group of twenty-three non-utility companies was selected based upon the proxy group of eight Value Line gas distribution companies' unadjusted beta range of 0.46 0.76 and standard error of the regression range of 2.5350 3.0234. These ranges are based upon plus or

Missouri Gas Energy Comparable Earnings Analysis

minus two standard deviations of the unadjusted beta and standard error of the regression as detailed in Mr. Hanley's accompanying direct testimony. Plus or minus two standard deviations captures 95.5% of the distribution of unadjusted betas and standard errors of the regression

- (8) The Student's T-statistic associated with this projected return exceeds 2.074 at the 95% level of confidence with twenty-two (22 = 23 observations – 1) degrees of freedom. Therefore, it has been excluded, as an outlier, to arrive at a proper mean projected return as fully explained in the accompanying direct testimony.
- (9) The standard deviation of the proxy group of eight Value Line gas distribution companies' unadjusted beta is 0.0732.
- (10) The standard deviation of the proxy group of eight Value Line gas distribution companies' standard error of the regression is 0.1221= (2.7792 / 22.7596).
- (11) The criteria for selection of the proxy group of ninety-eight non-utility companies was that the non-utility companies be domestic and have a meaningful projected 2008 2010 rate of return on net worth or partners' capital as reported in <u>Value Line Investment Survey</u> (Standard Edition). The proxy group of ninety-eight non-utility companies was selected based upon Southern Union Company's unadjusted beta range of 0.67 1.11 and standard error of the regression range of 3.8062 4.5394. These ranges are based upon plus or minus two standard deviations of the unadjusted beta and standard error of the regression as detailed in Mr. Hanley's accompanying direct testimony. Plus or minus two standard deviations captures 95.5% of the distribution of unadjusted betas and standard errors of the regression.
- (12) The standard deviation of Southern Union Company's unadjusted beta is 0.1098.
- (13) The standard deviation of Southern Union Company's standard error of the regression is 0.1833= (4.1728 / 22.7596).
- (14) The Student's T-statistic associated with this projected return exceeds 1.96 at the 95% level of confidence with twenty-two (97 = 98 observations - 1) degrees of freedom. Therefore, it has been excluded, as an outlier, to arrive at a proper mean projected return as fully explained in the accompanying direct testimony.

Source of Information:

Value Line, Inc., Proprietary database, December 15, 2005 Value Line Investment Survey (Standard Edition)

Missouri Gas Energy Authorized Returns on Common Equity and Common Equity Ratios for Gas Distribution Companies for the period January 2004 through December 2005

Company	Date	Jurisdiction	Authorized Return on Common Equily	Authorized Common Equity Ratio
Madison Gas and Electric	01/13/04	W	12.00 %	5591 %
Public Service Co. of New Mexico	01/13/04	NM	10 25 (1)	47 77
City Gas Co. of Florida	02/09/04	FL	11 25	36 77 (2.3)
Southwest Gas Corporation	03/16/04	CĂ	10 90	42 00
Interstate Power & Light	04/05/04	MN	11 D0	47 15
TXU-Gas	05/25/04	тх	10 00	49.80
Southern Indiana Gas & Electric	06/30/04	ÍN	10 50 (1)	44.00 (2)
South Jersev Gas	07/08/04	NJ	10 00 (1)	46 00
Centerpoint Energy Arkia	07/22/04	LA	10 25 (1)	45.80 (4)
Southwest Gas, Southern Division	08/26/04	NV	10 50	40 00
Southern Gas, Northern Division	08/26/04	NV	10 50	40.00
Avista Corporation	09/09/04	iD	10 40	42 59
Missouri Gas Energy	09/21/04	MO	10 50	29 99
Consolidated Edison of New York	09/27/04	NY	10 30 (1)	48 00
Washington Gas	09/27/04	VA	10 50 (1)	50 96
Chattanooga Ges	10/20/04	TN	10 20	35.50
Indiana Gas	11/30/04	IN	10 60 (1)	50 06
Yankee Gas Service	12/08/04	СТ	990 (1)	47 90
Wisconsin Public Service	12/21/04	wi	11 50	57 35
Madison Gas and Electric	12/22/04	Ŵ	11 50	57 64
Centerpoint Energy Arkia	12/28/04	OK	10 25 (1)	49 86
Puget Sound Energy	02/18/05	WA	10 30	43 00
SEMCO Energy Gas	03/29/05	MI	11 DD (1)	-10-00
Vectren Energy Delivery of Ohio	04/13/05	ÖH	10 50	48 10 (5)
Michigan Consolidated Gas	04/28/05	MI	11 00	3931 (2.3)
AmerenIP - Formerly Illinois Power	05/17/05	IL.	10 00 (1)	53 09
CenterPoint Energy Minnegasco	06/08/05	MN	10 18	50 27
Atlanta Gas Light	06/10/05	GA	10 90 (1)	(6)
Entergy Gulf States	07/06/05	LA	10 50 (1)	47 52
Wisconsin Power and Light	07/19/05	Ŵ	11 50	61 75
Northern States Power	08/11/05	MN	10 40 (1)	50 24 (3)
Centerpoint Energy Arkanses Gas	09/19/05	AR	9 45	31 80 (2)
Northern Illinols Gas - Now Nicor Gas	09/30/05	IL.	10 51	56 37
Oklahoma Natural Gas	10/04/05	<u>o</u> k	9 90 (1)	46 76
Interstate Power & Light	10/14/05	IA	10 40 (1)	49 35 (3)
South Carolina Electric & Gas	10/31/05	sc	10 25 (1)	50 75
Arkansas Western Gas	11/02/05	AR	970	33 03 (2)
Bay State Gas	11/30/05	MA	10 00	53 95
Arkansas Okiahoma Gas	12/09/05	AR	9 70	41 04 (2.5)
Madison Gas and Electric	12/12/05	WI	11 00	56 65
Pacific Gas and Electric	12/16/05	CA	11 35	52 00
San Diego Gas & Electric	12/16/05	CA	10 70	49 00
Ballimore Gas & Electric	12/21/05	MD	11 00	48 40
Avista Comoration	12/21/05	WA	10 40 (1)	40 00
Wisconsin Public Service	12/22/05	WI	11 00	5973
Union Light, Heat & Power	12/22/05	KY	10 20	54 45
Southern Connecticut Gas	12/28/05	СТ	10 00 (1)	51 28
Average			10.53 %	47.40 %
Average of Liligated Cases			<u>10.66</u> %	<u>46.91</u> %

- Notes: (1) Order followed stipulation or settlement by the parties. Decision particulars not necessarily precedent-setting or specifically adopted by the regulatory body
 - (2) Capital structure includes cost-free items or tax credit balances at the overall rate of return
 - (3) Interim rates implemented prior to issuance of final order
 - (4) Hypothetical capital structure utilized
 - (5) Estimated
 - (6) Revised

Source of information: Major Rate Case Decisions - January 2004 - December 2005 Regulatory Focus - Supplemental Studies, January 12, 2006 Published by Regulatory Research Associates, Inc - An SNL Energy Company