

NATURAL GAS PIPELINES

FERC TWO-STEP DCF MODEL

Company	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
	6-Month Dividend Yield	Adjustment Factor	Adjusted Dividend Yield	I/B/E/S Near-Term Growth	GDP Growth			Two-Stage Growth	Implied Cost of Equity	
					DRI	WEFA	EIA			Avg.
1 El Paso Corp.	1.5%	1.063	1.6%	16%	6.0%	5.8%	5.2%	5.7%	12.6%	14.1%
2 Enron	1.0%	1.066	1.0%	17%	6.0%	5.8%	5.2%	5.7%	13.2%	14.3%
3 Equitable Resources	1.8%	1.043	1.9%	10%	6.0%	5.8%	5.2%	5.7%	8.6%	10.4%
4 Kinder Morgan	0.4%	1.073	0.4%	19%	6.0%	5.8%	5.2%	5.7%	14.6%	15.0%
5 National Fuel Gas	3.8%	1.036	3.9%	8%	6.0%	5.8%	5.2%	5.7%	7.2%	11.1%
6 Questar	2.6%	1.043	2.7%	10%	6.0%	5.8%	5.2%	5.7%	8.6%	11.3%
7 Williams	1.8%	1.063	1.9%	16%	6.0%	5.8%	5.2%	5.7%	12.6%	14.4%
Median										<u>14.1%</u>
<u>FERC Pipelines</u>										
1 El Paso Corp.	1.5%	1.063	1.6%	16.0%	6.0%	5.8%	5.2%	5.7%	12.6%	14.1%
2 Enron	1.0%	1.066	1.0%	17.0%	6.0%	5.8%	5.2%	5.7%	13.2%	14.3%
3 Williams	1.8%	1.063	1.9%	16.0%	6.0%	5.8%	5.2%	5.7%	12.6%	14.4%
Median										<u>14.3%</u>

- (a) Six-month average dividend yield for March - August 2001 based on data from Standard & Poor's Stock Guide (April - September 2001).
- (b) One plus one-half of (i).
- (c) Six-month average dividend yield adjusted for one-half years' growth based on growth rate from (g).
- (d) S&P's Earnings Guide (September 2001).
- (e) Standard & Poor's DRI (September 2001).
- (f) WEFA (March 2001).
- (g) Annual Energy Outlook 2001, Energy Information Administration (Table 20, Macroeconomic Indicators).
- (h) Arithmetic average of (c), (d), and (e).
- (i) Weighted average calculated as 2/3 of (c) and 1/3 of (g).
- (j) Sum of (b) and (h).

FERC ONE-STEP DCF MODEL

(a) Company	(b) <u>6 Mo.Div. Yield</u>		(c) <u>Adjusted Div. Yield</u>		(d) (e) <u>Growth Rates</u>		(f) (g) <u>Implied Cost of Equity</u>		
	Low	High	Low	High	br + sv	I/B/E/S	Low	High	
1 CINergy Corp.	5.2%	5.7%	5.3%	5.9%	5.4%	6.0%	10.7%	--	11.9%
2 Consolidated Edison	5.5%	6.0%	5.6%	6.1%	3.7%	4.0%	9.4%	--	10.1%
3 Constellation Energy	1.1%	1.3%	1.2%	1.4%	11.4%	10.0%	11.2%	--	12.8%
4 IDACorp, Inc.	4.7%	5.2%	4.8%	5.4%	4.8%	8.0%	9.6%	--	13.4%
5 OGE Energy	5.7%	6.3%	5.9%	6.5%	5.0%	5.0%	10.8%	--	11.5%
6 Progress Energy	4.7%	5.3%	4.9%	5.5%	7.1%	7.0%	11.9%	--	12.6%
7 TECO Energy, Inc.	4.4%	4.8%	4.5%	5.0%	6.4%	8.0%	10.9%	--	13.0%
8 Xcel Energy	5.0%	5.5%	5.1%	5.7%	7.6%	7.0%	12.1%	--	13.3%
Range of Reasonableness							9.4%	--	13.4%
Midpoint							11.4%		

- (a) Companies in Moody's Electric Utility Average from Merchant Public Utility Manual (2000) with S&P *Business Profile* of "4" or "5". Firms that were involved in a merger, do not pay common dividends, or having no I/B/E/S growth rate available were eliminated.
- (b) Six-month average dividend yield for March - August 2001 based on data from Standard & Poor's Stock Guide (April - September 2001).
- (c) Six-month dividend yield adjusted for one-half years' growth.
- (d) Calculated based on data from The Value Line Investment Survey (August 17, September 7, & October 5, 2001).
- (e) S&P's Earnings Guide (September 2001).
- (f) Sum of low growth rate and corresponding adjusted dividend yield.
- (g) Sum of high growth rate and corresponding adjusted dividend yield.

FERC ONE-STEP DCF MODEL

(a) Company	(b) 6 Mo.Div. Yield		(c) Adjusted Div. Yield		(d) (e) Growth Rates		(f) (g) Implied Cost of Equity		
	Low	High	Low	High	br + sv	I/B/E/S	Low	High	
1 Allegheny Energy	3.4%	3.9%	3.6%	4.2%	13.9%	9.0%	12.6%	--	18.1%
2 Ameren Corp.	5.8%	6.5%	6.0%	6.7%	4.0%	5.0%	10.0%	--	11.7%
3 American Elec Pwr	4.9%	5.4%	5.0%	5.6%	7.0%	6.0%	11.0%	--	12.7%
4 CINergy, Inc.	5.2%	5.7%	5.3%	5.9%	5.4%	6.0%	10.7%	--	11.9%
5 Consolidated Edison	5.5%	6.0%	5.6%	6.1%	3.7%	4.0%	9.4%	--	10.1%
6 Constellation Energy	1.1%	1.3%	1.2%	1.4%	11.4%	10.0%	11.2%	--	12.8%
7 Dominion Resources	3.9%	4.3%	4.1%	4.5%	9.6%	10.0%	13.6%	--	14.5%
8 Duke Energy	2.5%	2.9%	2.6%	3.1%	13.8%	12.0%	14.6%	--	16.9%
9 Pinnacle West	3.1%	3.5%	3.2%	3.6%	6.1%	8.0%	9.2%	--	11.6%
10 Progress Energy, Inc.	4.7%	5.3%	4.9%	5.5%	7.1%	7.0%	11.9%	--	12.6%
11 Southern Company	5.0%	5.8%	5.1%	6.0%	5.4%	7.0%	10.5%	--	13.0%
12 TXU Corp.	5.1%	5.7%	5.2%	5.9%	5.6%	8.0%	10.8%	--	13.9%
13 Xcel Energy	5.0%	5.5%	5.1%	5.7%	7.6%	7.0%	12.1%	--	13.3%
Range of Reasonableness							9.2%	--	18.1%
Midpoint							13.7%		

- (a) Companies in Standard & Poor's Electric Utilities industry group from www.spglobal.com with *S&P Business Profile* of "4" or "5". Firms that were involved in a merger, do not pay common dividends, or having no I/B/E/S growth rate available were eliminated.
- (b) Six-month average dividend yield for March - August 2001 based on data from Standard & Poor's Stock Guide (April - September 2001).
- (c) Six-month dividend yield adjusted for one-half years' growth.
- (d) Calculated based on data from The Value Line Investment Survey (August 17, September 7, & October 5, 2001).
- (e) S&P's Earnings Guide (September 2001).
- (f) Sum of low growth rate and corresponding adjusted dividend yield.
- (g) Sum of high growth rate and corresponding adjusted dividend yield.

**ANALYSIS OF AUTHORIZED RATES OF RETURN ON EQUITY
FOR ELECTRIC UTILITIES**

YEAR	(a)	(b)	RISK PREMIUM
	ALLOWED ROE	AVERAGE PUBLIC UTILITY BOND YIELD	
1974	13.10%	9.27%	3.83%
1975	13.20%	9.88%	3.32%
1976	13.10%	9.17%	3.93%
1977	13.30%	8.58%	4.72%
1978	13.20%	9.22%	3.98%
1979	13.50%	10.39%	3.11%
1980	14.23%	13.15%	1.08%
1981	15.22%	15.62%	-0.40%
1982	15.78%	15.33%	0.45%
1983	15.36%	13.31%	2.05%
1984	15.32%	14.03%	1.29%
1985	15.20%	12.29%	2.91%
1986	13.93%	9.46%	4.47%
1987	12.99%	9.98%	3.01%
1988	12.79%	10.45%	2.34%
1989	12.97%	9.66%	3.31%
1990	12.70%	9.76%	2.94%
1991	12.55%	9.21%	3.34%
1992	12.09%	8.57%	3.52%
1993	11.41%	7.56%	3.85%
1994	11.34%	8.30%	3.04%
1995	11.55%	7.91%	3.64%
1996	11.39%	7.74%	3.65%
1997	11.40%	7.63%	3.77%
1998	11.66%	7.00%	4.66%
1999	10.77%	7.55%	3.22%
2000	11.43%	8.09%	3.34%
Average		<u>9.97%</u>	<u>3.05%</u>

Regression Output	
Constant	0.07545
Std Err of Y Est	0.00576
R Squared	0.78863
No. of Observations	27
Degrees of Freedom	25
X Coefficient(s)	-0.45091
Std Err of Coef.	0.04669

Current Equity Risk Premium	
Avg. Yield over Study Period	9.97%
September 2001 Avg. Utility Bond Yield	7.73%
Change in Bond Yield	-2.24%
Risk Premium/Interest Rate Relationship	-45.09%
Adjustment to Average Risk Premium	1.01%
Average Risk Premium over Study Period	3.05%
Adjusted Risk Premium	4.06%

- (a) Major Rate Case Decisions, Regulatory Focus, Regulatory Research Associates (January 24, 2001 & January 16, 1990); UtilityScope Regulatory Service, Argus (January 1986).
- (b) Moody's Public Utility Manual (1999); Moody's Credit Perspectives (various editions).

ANALYSIS OF REALIZED RATES OF RETURN ON EQUITY
FOR THE S&P ELECTRIC POWER COMPANIES

	S&P ELECTRIC COMPANIES (a)			S&P SINGLE-A PUBLIC UTILITY BONDS (b)		
	CLOSE PRICE	DIV	ANNUAL REALIZED RETURN	CLOSE YIELD	PRICE	ANNUAL REALIZED RETURN
1945	\$16.34			2.730%		
1946	\$15.53	\$0.73	-0.49%	2.719%	\$100.18	2.91%
1947	\$12.89	\$0.75	-12.17%	3.037%	\$94.87	-2.41%
1948	\$12.37	\$0.71	1.47%	3.048%	\$99.82	2.86%
1949	\$14.60	\$0.80	24.49%	2.696%	\$105.88	8.93%
1950	\$14.49	\$0.88	5.27%	2.814%	\$98.05	0.75%
1951	\$16.07	\$0.92	17.25%	3.314%	\$92.16	-5.03%
1952	\$18.28	\$0.95	19.66%	3.247%	\$101.06	4.37%
1953	\$18.97	\$0.99	9.19%	3.331%	\$98.68	1.93%
1954	\$22.39	\$1.03	23.46%	3.152%	\$102.85	6.18%
1955	\$24.06	\$1.09	12.33%	3.394%	\$96.23	-0.61%
1956	\$23.61	\$1.13	2.83%	4.186%	\$88.60	-0.01%
1957	\$24.85	\$1.19	10.29%	3.968%	\$103.20	7.39%
1958	\$33.14	\$1.24	38.35%	4.511%	\$92.42	-3.61%
1959	\$33.42	\$1.30	4.77%	4.799%	\$96.09	0.60%
1960	\$39.35	\$1.37	21.84%	4.635%	\$102.26	7.06%
1961	\$49.28	\$1.44	28.89%	4.663%	\$99.61	4.25%
1962	\$48.60	\$1.52	1.70%	4.330%	\$104.73	9.39%
1963	\$51.97	\$1.63	10.29%	4.510%	\$97.49	1.82%
1964	\$58.21	\$1.74	15.36%	4.468%	\$100.59	5.10%
1965	\$58.05	\$1.90	2.99%	4.860%	\$94.71	-0.82%
1966	\$53.49	\$2.04	-4.34%	5.606%	\$90.59	-4.55%
1967	\$49.90	\$2.16	-2.67%	6.497%	\$89.61	-4.78%
1968	\$51.95	\$2.27	8.66%	7.012%	\$94.25	0.75%
1969	\$42.65	\$2.33	-13.42%	8.433%	\$85.88	-7.11%
1970	\$45.62	\$2.40	12.59%	8.442%	\$99.91	8.34%
1971	\$44.18	\$2.47	2.26%	7.704%	\$107.78	16.22%
1972	\$43.50	\$2.53	4.19%	7.736%	\$99.66	7.37%
1973	\$32.85	\$2.51	-18.71%	8.104%	\$96.25	3.98%
1974	\$22.03	\$2.49	-25.36%	9.254%	\$89.27	-2.63%
1975	\$30.56	\$2.57	50.39%	9.625%	\$96.63	5.89%
1976	\$35.17	\$2.58	23.53%	8.366%	\$112.58	22.21%
1977	\$35.67	\$2.74	9.21%	8.810%	\$95.71	4.08%
1978	\$31.38	\$2.94	-3.78%	9.750%	\$91.55	0.36%
1979	\$28.44	\$3.10	0.51%	11.470%	\$86.31	-3.94%
1980	\$27.19	\$3.20	6.86%	13.394%	\$86.48	-2.05%
1981	\$29.33	\$3.42	20.45%	15.663%	\$86.06	-0.54%
1982	\$36.15	\$3.62	35.59%	12.206%	\$126.20	41.86%
1983	\$37.14	\$3.84	13.36%	12.950%	\$94.63	6.83%
1984	\$42.26	\$4.06	24.72%	12.394%	\$104.16	17.11%
1985	\$48.82	\$4.15	25.34%	10.538%	\$115.76	28.16%
1986	\$58.31	\$4.21	28.06%	9.120%	\$113.37	23.90%
1987	\$49.71	\$4.34	-7.31%	10.090%	\$91.49	0.61%
1988	\$53.87	\$4.37	17.16%	10.020%	\$100.62	10.71%
1989	\$66.55	\$4.28	31.48%	9.360%	\$106.11	16.13%
1990	\$63.47	\$4.45	2.06%	9.600%	\$97.82	7.18%
1991	\$77.25	\$4.57	28.91%	8.930%	\$106.41	16.01%
1992	\$76.78	\$4.68	5.45%	8.640%	\$102.84	11.77%
1993	\$81.71	\$4.71	12.56%	8.740%	\$99.03	7.67%
1994	\$66.30	\$4.65	-13.17%	8.680%	\$100.59	9.33%
1995	\$81.62	\$4.67	30.15%	7.970%	\$107.32	16.00%
1996	\$76.75	\$4.61	-0.32%	7.570%	\$104.26	12.23%
1997	\$91.49	\$4.47	25.03%	7.070%	\$105.55	13.12%
1998	\$100.86	\$4.39	15.04%	7.000%	\$100.78	7.85%
1999	\$77.42	\$4.35	-18.93%	8.250%	\$87.39	-5.61%
2000	\$113.00	\$4.42	51.67%	8.400%	\$98.51	6.76%
AVERAGE 1946-2000			11.18%			6.08%

REALIZED RATE OF RETURN	
S&P ELECTRIC COMPANIES	11.18%
SINGLE-A PUBLIC UTILITY BONDS	6.08%
EQUITY RISK PREMIUM	5.10%

(a) S&P's Security Price Index Record (1992), The Analysts' Handbook (1967, 1999, Monthly Supplement February 2001).(b) S&P's Security Price Index Record (1996), Current Statistics (January 1997, March 1998, December 1999 & January 2001).