

**John Cochrane**

Senior Managing Director

200 State Street
9th Floor
Boston, MA 02109
Tel: (508) 335-9348

Education

M.B.A., Northeastern
University

B.A. Biology, Harvard
University

Mr. Cochrane is a Senior Managing Director in FTI's Power & Utilities practice within the Economic and Financial Consulting segment, specializing in advising electric and gas utility clients in all economic, regulatory and financial areas of their business. He has more than 30 years of US and international utility sector experience, including over 20 years of experience testifying on financial issues for electric utility rate cases including capital structure and ROE in New Hampshire, Massachusetts, Rhode Island, New York and before FERC. In addition, he has extensive experience in mergers and acquisitions, joint ventures, partnerships, restructurings, regulation and business development, both domestic and international. He has held C-suite and other senior leadership positions at major US utilities and served as a member of the Board of Directors on a variety of energy sector companies including start-ups.

PROFESSIONAL EXPERIENCE

FTI Consulting, Senior Managing Director, Boston, MA, 2013 to present, with responsibility for leading the Economic and Financial Consulting Power & Utilities team based in Boston

- Advised Trans Bay Cable, an underwater direct current transmission cable connecting San Francisco to Pittsburg (CA), on the reasonableness and methodology of its ROE calculation for the 3-year rate case reset before FERC; provided analysis and expert advice for testimony development.
- Provided expert testimony pertaining to a purchase price dispute stemming from CCI's acquisition of a portfolio of power plants located in PJM.
- Advised PPL Electric Utilities on financial modeling and rate case strategy on the development of transmission projects in PJM.
- Advised global infrastructure fund on financial modeling and rate case strategy applying to a wholly-owned portfolio company, a water utility covering three separate jurisdictions in the U.S. southwest.

National Grid PLC, Executive Vice President – Global Business Development & Mergers and Acquisitions (most recently, among other senior roles), US/UK/Europe 2006-2013

- Assisted in the development of the Cap & Floor regime for regulatory return

on capital for transmission interconnectors in Great Britain.

- Led all business development, mergers, acquisitions, divestitures and joint ventures globally, including the sale of a wide range of businesses totaling \$10B, the negotiation of a 15 year, \$4.5B power supply agreement with Long Island Power Authority, and commercial and regulatory negotiations for a \$3B joint venture with six New York transmission owners.
- Led joint venture negotiations, feasibility studies, project budgets and timelines, and vendor selections for four £1B sub-sea interconnectors between the United Kingdom, Norway, Belgium, France and the Netherlands.

National Grid USA, 1999 – 2006 Executive Vice President, Chief Financial Officer and Treasurer

- Testified on behalf of National Grid with respect to capital structure in rate cases, in all National Grid state jurisdictions, including New Hampshire, Massachusetts, Rhode Island, New York and before FERC.
- Testified as a witness with respect to ROE for a rate case in New Hampshire on behalf of Granite State.
- Testified on behalf of National Grid with respect to debt and equity financings including first mortgage bonds, bank agreements, private placements, common equity issuances in all National Grid state jurisdictions, including New Hampshire, Massachusetts, Rhode Island, New York and before FERC.
- Managed ROE expert testimony preparation on behalf of National Grid in all National Grid state jurisdictions, including New Hampshire, Massachusetts, Rhode Island, New York and before FERC.
- Managed the preparation of FERC ROE filing for two DC transmission lines from Canada in New Hampshire and Massachusetts.
- Supported regulatory approval filings for several M&A deals completed by National Grid including: the sale of New England Electric to National Grid, the purchase of Eastern Utilities by National Grid, the purchase of Niagara Mohawk by National Grid, the purchase of KeySpan Corp by National Grid, The purchase of Rhode Island gas assets of Southern Union Co by National Grid, helping to create the second largest US utility with a total enterprise value of \$27B.
- Ran the sale process on behalf of National Grid for Granite State and EnergyNorth, purchased by Liberty Utilities.
- In addition to mergers & acquisitions, he was responsible for accounting, tax, pensions, insurance/claims, risk management, energy supply, property, investments, cash management, forecasting/budgeting, planning, financial analysis and all third-party financing. In this capacity, he managed a 500-person organization with 13 reporting functions.
- Served as a U.S. board member on US/European companies involved in cross-border tax structures including Luxemburg, Ireland, Jersey, Iceland and Malta.

New England Electric Systems, Treasurer (most recently, among other senior roles), Westborough, MA, 1981-1999

BOARD OF DIRECTORS MEMBERSHIP

EMERA US Subsidiaries, Member, Board of Directors, 2015 – present

PowerOptions, Board of Directors (Audit and Strategic Planning Committees), 2013 – present

GreenerU, Inc., Member, Board of Directors, 2011 – 2013

National Grid USA, Member, Board of Directors, 2000 – 2013

SELECT TESTIMONY

Sponsor	Date	Applicant(s)	Docket/Case	Subject
New Hampshire Public Utilities Commission				
National Grid USA	08/2006	National Grid USA; EnergyNorth Natural Gas	DG-06-107	Merger
Granite State Electric Company	11/1992	Granite State Electric Company	DF 92-219	Financing
Massachusetts Department of Public Utilities				
New England Electric System	05/1995	New England Electric System; Nantucket Electric Company	DPU 95-67	Merger
New England Power Company	10/1997	USGen New England, Inc; New England Power Company; Massachusetts Electric Company; Nantucket Electric Company	DPU 97-94	Financing
New York Department of Public Service				
National Grid plc	10/2006	National Grid plc; KeySpan Corporation	PSC Case 06-M-0878	Merger
Federal Energy Regulatory Commission				
New England Power Company; Massachusetts Electric Company; The Narragansett Electric Company;	09/1997	New England Power Company; Massachusetts Electric Company; The Narragansett Electric Company;	OA96-74-000	Capital Structure and Cost of Capital

Granite State Electric Company		Granite State Electric Company		
New England Power Company	01/1997	New England Power Company	ER-97-1115	Financing
NEES Transmission Services, Inc.; New England Power Company; Massachusetts Electric Company; The Narragansett Electric Company; Granite State Electric Company	03/1996	NEES Transmission Services, Inc.; New England Power Company; Massachusetts Electric Company; The Narragansett Electric Company; Granite State Electric Company	ER96-1309-000	Capital Structure and Cost of Capital
New England Power Company	09/1995	Tennessee Gas Pipeline Co	RP95-112-000	Return on Equity
New England Power Company	12/1994	New England Power Company	Docket ER95-267	Capital Structure and Cost of Capital

Summary of Results

Constant Growth DCF - Earnings Growth			
Mean	Low ROE	Mean ROE	High ROE
30-Day Average	8.03%	8.82%	9.75%
90-Day Average	8.10%	8.89%	9.83%
180-Day Average	8.15%	8.93%	9.87%
Average	8.09%	8.88%	9.82%

Multi-Stage Growth DCF			
30-Day Average	8.84%	9.02%	9.24%
90-Day Average	8.91%	9.09%	9.32%
180-Day Average	8.96%	9.14%	9.37%
Average	8.91%	9.08%	9.31%

CAPM	
	ROE
CAPM	10.66%

Flotation Cost Adjustment	0.10%
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Zone of Reasonableness			
Method	Low ROE	Mean ROE	High ROE
Constant Growth DCF	8.09%	8.88%	9.82%
Multi-Stage DCF	8.91%	9.08%	9.31%
CAPM	10.66%	10.66%	10.66%
Mean	9.22%	9.54%	9.93%
With Flotation Costs	9.32%	9.64%	10.03%

Proxy Group Selection Criteria

	[1]	[2]	[3]	[4]	[5]	[6]	
			Positive Earnings Growth Estimates				
Company Name	Stock Ticker	Consistently Paid Dividends?	From At Least Two Analysts?	Party to Merger or Other Significant Transaction?	S&P Long-Term Issuer Rating	Moody's Long-Term Issuer Rating	Percent of Operating Revenue From Regulated Electric Operations
Ameren Corp	AEE	Yes	Yes	No	BBB+	Baa1	85.4%
American Electric Power	AEP	Yes	Yes	No	A-		85.7%
Avangrid, Inc.	AGR	Yes	Yes	No	BBB+	Baa1	60.0%
ALLETE, Inc.	ALE	Yes	Yes	No	BBB+	A3	73.4%
Avista Corporation	AVA	Yes	Yes	No	BBB	Baa2	72.1%
CMS Energy Corporation	CMS	Yes	Yes	No	BBB+		67.5%
Duke Energy Corporation	DUK	Yes	Yes	No	A-	Baa1	91.7%
Consolidated Edison, Inc.	ED	Yes	Yes	No	A-	Baa1	71.3%
El Paso Electric Company	EE	Yes	Yes	No	BBB	Baa1	100.0%
Edison International	EIX	Yes	Yes	No	BBB	Baa1	99.6%
Eversource Energy	ES	Yes	Yes	No	A+	Baa1	87.7%
Evergy, Inc.	EVRG	Yes	Yes	No	A-		101.7%
Hawaiian Electric	HE	Yes	Yes	No	BBB-	Baa2	88.5%
IDACORP, Inc.	IDA	Yes	Yes	No	BBB	Baa1	99.7%
Alliant Energy Corporation	LNT	Yes	Yes	No	A-	Baa1	85.7%
MGE Energy, Inc.	MGEE	Yes	Yes	No	A	Baa2	73.6%
NextEra Energy, Inc.	NEE	Yes	Yes	No	A-	Baa1	69.4%
Northwestern Corporation	NWE	Yes	Yes	No	BBB		79.1%
Otter Tail Corporation	OTTR	Yes	Yes	No	BBB	Baa2	51.1%
PNM Resources, Inc.	PNM	Yes	Yes	No	BBB+	Baa3	100.0%
Pinnacle West Capital Corporation	PNW	Yes	Yes	No	A-	A3	100.0%
Portland General Electric	POR	Yes	Yes	No	BBB+	A3	100.0%
PPL Corporation	PPL	Yes	Yes	No	A-	Baa2	99.8%
Southern Company	SO	Yes	Yes	No	A-		79.3%
Unitil Corp	UTL	Yes	Yes	No	BBB+	Baa2	50.7%
WEC Energy Group, Inc.	WEC	Yes	Yes	No	A-	Baa1	59.8%
Xcel Energy, Inc.	XEL	Yes	Yes	No	A-	A3	84.9%

[1] Source: Value Line

[2] Source: Value Line, Zack's, Yahoo Finance

[3] Source: Company 10Ks

[4] Source: S&P Global Market Intelligence

[5] Source: S&P Global Market Intelligence

[6] Source: Company 10Ks

Constant Growth Discounted Cash Flow Model
Earnings Growth
30 Day Average Stock Price

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
Company	Ticker	Indicated Annual Dividend	Weighted-Average Stock Price	Dividend Yield	Expected Dividend Yield	Zacks Earnings Growth	Yahoo Finance Earnings Growth	Value Line Earnings Growth	Average Earnings Growth	Low ROE	Mean ROE	High ROE
Ameren Corp	AEE	\$1.93	\$70.03	2.76%	2.86%	6.80%	7.70%	7.50%	7.33%	9.65%	10.19%	10.56%
American Electric Power	AEP	\$2.72	\$79.82	3.41%	3.50%	5.70%	5.74%	4.50%	5.31%	7.98%	8.81%	9.25%
Avangrid, Inc.	AGR	\$1.80	\$49.06	3.67%	3.85%	7.70%	9.20%	13.00%	9.97%	11.51%	13.82%	16.91%
ALLETE, Inc.	ALE	\$2.34	\$79.11	2.96%	3.03%	NA	6.00%	3.50%	4.75%	6.51%	7.78%	9.05%
Avista Corporation	AVA	\$1.55	\$40.93	3.79%	3.89%	NA	5.65%	5.50%	5.58%	9.39%	9.47%	9.54%
CMS Energy Corporation	CMS	\$1.53	\$52.93	2.89%	2.99%	6.00%	6.89%	7.00%	6.63%	8.98%	9.62%	9.99%
Duke Energy Corporation	DUK	\$3.79	\$88.69	4.27%	4.38%	4.90%	4.50%	5.50%	4.97%	8.87%	9.35%	9.89%
Consolidated Edison, Inc.	ED	\$2.96	\$79.44	3.73%	3.78%	3.00%	2.99%	3.00%	3.00%	6.77%	6.78%	6.78%
El Paso Electric Company	EE	\$1.52	\$54.31	2.80%	2.85%	2.70%	5.10%	3.00%	3.60%	5.54%	6.45%	7.97%
Edison International	EIX	\$2.46	\$59.22	4.15%	4.26%	5.60%	4.95%	4.50%	5.02%	8.75%	9.27%	9.87%
Eversource Energy	ES	\$2.11	\$69.46	3.04%	3.12%	5.70%	5.88%	5.00%	5.53%	8.11%	8.65%	9.01%
Energy, Inc.	EVRG	\$1.94	\$56.51	3.43%	3.54%	6.70%	6.25%	NA	6.48%	9.79%	10.02%	10.25%
Hawaiian Electric	HE	\$1.24	\$37.85	3.28%	3.37%	6.20%	7.80%	3.50%	5.83%	6.83%	9.21%	11.20%
IDACORP, Inc.	IDA	\$2.56	\$97.80	2.62%	2.66%	2.60%	2.60%	4.50%	3.23%	5.25%	5.89%	7.18%
Alliant Energy Corporation	LNT	\$1.42	\$44.95	3.16%	3.26%	6.00%	7.25%	6.50%	6.58%	9.25%	9.85%	10.52%
MGE Energy, Inc.	MGEE	\$1.38	\$64.43	2.14%	2.20%	NA	4.00%	7.50%	5.75%	6.18%	7.95%	9.72%
NextEra Energy, Inc.	NEE	\$5.00	\$182.48	2.74%	2.85%	7.70%	7.46%	9.00%	8.05%	10.30%	10.90%	11.86%
Northwestern Corporation	NWE	\$2.30	\$66.28	3.47%	3.52%	3.10%	2.59%	2.50%	2.73%	6.01%	6.25%	6.62%
Otter Tail Corporation	OTTR	\$1.38	\$49.36	2.80%	2.92%	NA	9.00%	9.00%	9.00%	11.92%	11.92%	11.92%
PNM Resources, Inc.	PNM	\$1.16	\$43.58	2.66%	2.73%	4.60%	4.10%	7.50%	5.40%	6.82%	8.13%	10.26%
Pinnacle West Capital Corporation	PNW	\$3.04	\$90.45	3.36%	3.45%	4.80%	4.56%	6.00%	5.12%	8.00%	8.57%	9.46%
Portland General Electric	POR	\$1.52	\$49.17	3.09%	3.16%	4.00%	4.90%	4.00%	4.30%	7.15%	7.46%	8.07%
PPL Corporation	PPL	\$1.68	\$31.32	5.36%	5.46%	5.00%	3.59%	2.00%	3.53%	7.42%	8.99%	10.50%
Southern Company	SO	\$2.46	\$49.26	4.99%	5.07%	4.50%	2.16%	3.00%	3.22%	7.21%	8.29%	9.61%
Unitil Corp	UTL	\$1.46	\$52.97	2.76%	2.81%	4.60%	3.70%	3.70%	4.00%	6.51%	6.81%	7.42%
WEC Energy Group, Inc.	WEC	\$2.36	\$74.51	3.17%	3.25%	4.40%	4.59%	7.00%	5.33%	7.64%	8.58%	10.28%
Xcel Energy, Inc.	XEL	\$1.60	\$53.57	2.99%	3.08%	5.90%	6.60%	5.50%	6.00%	8.57%	9.08%	9.69%
Mean				3.31%	3.40%	5.14%	5.40%	5.51%	5.42%	8.03%	8.82%	9.75%
Median				3.16%	3.25%	5.00%	5.10%	5.25%	5.33%	7.98%	8.81%	9.72%

[1] Source: Value Line

[2] Source: Yahoo Finance, as of March 11, 2019

[3] Equals [1] / [2]

[4] Equals [3] x (1 + 0.5 x [8])

[5] Source: Zacks

[6] Source: Yahoo Finance

[7] Source: Value Line

[8] Equals average([5], [6], [7])

[9] Equals [3] x (1 + 0.5 x Minimum([5], [6], [7])) + Minimum([5], [6], [7])

[10] Equals [4] + [8]

[11] Equals [3] x (1 + 0.5 x Maximum([5], [6], [7])) + Maximum([5], [6], [7])

Constant Growth Discounted Cash Flow Model
Earnings Growth
90 Day Average Stock Price

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
Company	Ticker	Indicated Annual Dividend	Weighted-Average Stock Price	Dividend Yield	Expected Dividend Yield	Zacks Earnings Growth	Yahoo Finance Earnings Growth	Value Line Earnings Growth	Average Earnings Growth	Low ROE	Mean ROE	High ROE
Ameren Corp	AEE	\$1.93	\$67.98	2.84%	2.94%	6.80%	7.70%	7.50%	7.33%	9.74%	10.28%	10.65%
American Electric Power	AEP	\$2.72	\$77.09	3.53%	3.62%	5.70%	5.74%	4.50%	5.31%	8.11%	8.94%	9.37%
Avangrid, Inc.	AGR	\$1.80	\$49.45	3.64%	3.82%	7.70%	9.20%	13.00%	9.97%	11.48%	13.79%	16.88%
ALLETE, Inc.	ALE	\$2.34	\$77.81	3.01%	3.08%	NA	6.00%	3.50%	4.75%	6.56%	7.83%	9.10%
Avista Corporation	AVA	\$1.55	\$44.57	3.48%	3.57%	NA	5.65%	5.50%	5.58%	9.07%	9.15%	9.23%
CMS Energy Corporation	CMS	\$1.53	\$51.18	2.99%	3.09%	6.00%	6.89%	7.00%	6.63%	9.08%	9.72%	10.09%
Duke Energy Corporation	DUK	\$3.79	\$87.17	4.35%	4.46%	4.90%	4.50%	5.50%	4.97%	8.95%	9.42%	9.97%
Consolidated Edison, Inc.	ED	\$2.96	\$78.53	3.77%	3.83%	3.00%	2.99%	3.00%	3.00%	6.82%	6.82%	6.83%
El Paso Electric Company	EE	\$1.52	\$53.88	2.82%	2.87%	2.70%	5.10%	3.00%	3.60%	5.56%	6.47%	7.99%
Edison International	EIX	\$2.46	\$57.54	4.28%	4.38%	5.60%	4.95%	4.50%	5.02%	8.87%	9.40%	9.99%
Eversource Energy	ES	\$2.11	\$67.54	3.12%	3.21%	5.70%	5.88%	5.00%	5.53%	8.20%	8.74%	9.10%
Every, Inc.	EVRG	\$1.94	\$57.41	3.38%	3.49%	6.70%	6.25%	NA	6.48%	9.73%	9.96%	10.19%
Hawaiian Electric	HE	\$1.24	\$37.46	3.31%	3.41%	6.20%	7.80%	3.50%	5.83%	6.87%	9.24%	11.24%
IDACORP, Inc.	IDA	\$2.56	\$96.61	2.65%	2.69%	2.60%	2.60%	4.50%	3.23%	5.28%	5.93%	7.21%
Alliant Energy Corporation	LNT	\$1.42	\$44.02	3.23%	3.33%	6.00%	7.25%	6.50%	6.58%	9.32%	9.92%	10.59%
MGE Energy, Inc.	MGEE	\$1.38	\$63.22	2.18%	2.25%	NA	4.00%	7.50%	5.75%	6.23%	8.00%	9.76%
NextEra Energy, Inc.	NEE	\$5.00	\$178.08	2.81%	2.92%	7.70%	7.46%	9.00%	8.05%	10.37%	10.97%	11.93%
Northwestern Corporation	NWE	\$2.30	\$62.88	3.66%	3.71%	3.10%	2.59%	2.50%	2.73%	6.20%	6.44%	6.81%
Otter Tail Corporation	OTTR	\$1.38	\$48.70	2.83%	2.96%	NA	9.00%	9.00%	9.00%	11.96%	11.96%	11.96%
PNM Resources, Inc.	PNM	\$1.16	\$42.24	2.75%	2.82%	4.60%	4.10%	7.50%	5.40%	6.90%	8.22%	10.35%
Pinnacle West Capital Corporation	PNW	\$3.04	\$87.95	3.46%	3.55%	4.80%	4.56%	6.00%	5.12%	8.10%	8.67%	9.56%
Portland General Electric	POR	\$1.52	\$47.47	3.20%	3.27%	4.00%	4.90%	4.00%	4.30%	7.27%	7.57%	8.18%
PPL Corporation	PPL	\$1.68	\$30.35	5.53%	5.63%	5.00%	3.59%	2.00%	3.53%	7.59%	9.16%	10.67%
Southern Company	SO	\$2.46	\$46.94	5.24%	5.33%	4.50%	2.16%	3.00%	3.22%	7.46%	8.55%	9.86%
Unitil Corp	UTL	\$1.46	\$50.85	2.87%	2.93%	4.60%	3.70%	3.70%	4.00%	6.62%	6.93%	7.54%
WEC Energy Group, Inc.	WEC	\$2.36	\$71.81	3.29%	3.37%	4.40%	4.59%	7.00%	5.33%	7.76%	8.70%	10.40%
Xcel Energy, Inc.	XEL	\$1.60	\$51.37	3.11%	3.21%	5.90%	6.60%	5.50%	6.00%	8.70%	9.21%	9.82%
Mean				3.38%	3.47%	5.14%	5.40%	5.51%	5.42%	8.10%	8.89%	9.83%
Median				3.23%	3.33%	5.00%	5.10%	5.25%	5.33%	8.10%	8.94%	9.86%

[1] Source: Value Line

[2] Source: Yahoo Finance, as of March 11, 2019

[3] Equals [1] / [2]

[4] Equals [3] x (1 + 0.5 x [8])

[5] Source: Zacks

[6] Source: Yahoo Finance

[7] Source: Value Line

[8] Equals average([5], [6], [7])

[9] Equals [3] x (1 + 0.5 x Minimum([5], [6], [7])) + Minimum([5], [6], [7])

[10] Equals [4] + [8]

[11] Equals [3] x (1 + 0.5 x Maximum([5], [6], [7])) + Maximum([5], [6], [7])

Constant Growth Discounted Cash Flow Model
Earnings Growth
180 Day Average Stock Price

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
Company	Ticker	Indicated Annual Dividend	Weighted-Average Stock Price	Dividend Yield	Expected Dividend Yield	Zacks Earnings Growth	Yahoo Finance Earnings Growth	Value Line Earnings Growth	Average Earnings Growth	Low ROE	Mean ROE	High ROE
Ameren Corp	AEE	\$1.93	\$65.60	2.94%	3.05%	6.80%	7.70%	7.50%	7.33%	9.84%	10.38%	10.76%
American Electric Power	AEP	\$2.72	\$74.08	3.67%	3.77%	5.70%	5.74%	4.50%	5.31%	8.25%	9.08%	9.52%
Avangrid, Inc.	AGR	\$1.80	\$49.62	3.63%	3.81%	7.70%	9.20%	13.00%	9.97%	11.47%	13.78%	16.86%
ALLETE, Inc.	ALE	\$2.34	\$77.17	3.03%	3.10%	NA	6.00%	3.50%	4.75%	6.59%	7.85%	9.12%
Avista Corporation	AVA	\$1.55	\$46.92	3.30%	3.40%	NA	5.65%	5.50%	5.58%	8.89%	8.97%	9.05%
CMS Energy Corporation	CMS	\$1.53	\$49.99	3.06%	3.16%	6.00%	6.89%	7.00%	6.63%	9.15%	9.79%	10.17%
Duke Energy Corporation	DUK	\$3.79	\$83.90	4.52%	4.63%	4.90%	4.50%	5.50%	4.97%	9.12%	9.60%	10.14%
Consolidated Edison, Inc.	ED	\$2.96	\$78.32	3.78%	3.84%	3.00%	2.99%	3.00%	3.00%	6.83%	6.83%	6.84%
El Paso Electric Company	EE	\$1.52	\$56.94	2.67%	2.72%	2.70%	5.10%	3.00%	3.60%	5.41%	6.32%	7.84%
Edison International	EIX	\$2.46	\$61.22	4.02%	4.12%	5.60%	4.95%	4.50%	5.02%	8.61%	9.14%	9.73%
Eversource Energy	ES	\$2.11	\$64.44	3.27%	3.36%	5.70%	5.88%	5.00%	5.53%	8.36%	8.89%	9.25%
Evergy, Inc.	EVRG	\$1.94	\$56.87	3.41%	3.52%	6.70%	6.25%	NA	6.48%	9.77%	10.00%	10.23%
Hawaiian Electric	HE	\$1.24	\$36.39	3.41%	3.51%	6.20%	7.80%	3.50%	5.83%	6.97%	9.34%	11.34%
IDACORP, Inc.	IDA	\$2.56	\$96.40	2.66%	2.70%	2.60%	2.60%	4.50%	3.23%	5.29%	5.93%	7.22%
Alliant Energy Corporation	LNT	\$1.42	\$43.55	3.26%	3.37%	6.00%	7.25%	6.50%	6.58%	9.36%	9.95%	10.63%
MGE Energy, Inc.	MGEE	\$1.38	\$63.55	2.17%	2.23%	NA	4.00%	7.50%	5.75%	6.21%	7.98%	9.75%
NextEra Energy, Inc.	NEE	\$5.00	\$174.59	2.86%	2.98%	7.70%	7.46%	9.00%	8.05%	10.43%	11.03%	11.99%
Northwestern Corporation	NWE	\$2.30	\$61.05	3.77%	3.82%	3.10%	2.59%	2.50%	2.73%	6.31%	6.55%	6.93%
Otter Tail Corporation	OTTR	\$1.38	\$48.30	2.86%	2.99%	NA	9.00%	9.00%	9.00%	11.99%	11.99%	11.99%
PNM Resources, Inc.	PNM	\$1.16	\$40.76	2.85%	2.92%	4.60%	4.10%	7.50%	5.40%	7.00%	8.32%	10.45%
Pinnacle West Capital Corporation	PNW	\$3.04	\$84.80	3.59%	3.68%	4.80%	4.56%	6.00%	5.12%	8.23%	8.80%	9.69%
Portland General Electric	POR	\$1.52	\$46.43	3.27%	3.34%	4.00%	4.90%	4.00%	4.30%	7.34%	7.64%	8.25%
PPL Corporation	PPL	\$1.68	\$29.88	5.62%	5.72%	5.00%	3.59%	2.00%	3.53%	7.68%	9.25%	10.76%
Southern Company	SO	\$2.46	\$46.14	5.33%	5.42%	4.50%	2.16%	3.00%	3.22%	7.55%	8.64%	9.95%
Unitil Corp	UTL	\$1.46	\$50.81	2.87%	2.93%	4.60%	3.70%	3.70%	4.00%	6.63%	6.93%	7.54%
WEC Energy Group, Inc.	WEC	\$2.36	\$69.37	3.40%	3.49%	4.40%	4.59%	7.00%	5.33%	7.88%	8.82%	10.52%
Xcel Energy, Inc.	XEL	\$1.60	\$49.63	3.22%	3.32%	5.90%	6.60%	5.50%	6.00%	8.81%	9.32%	9.93%
Mean				3.42%	3.51%	5.14%	5.40%	5.51%	5.42%	8.15%	8.93%	9.87%
Median				3.27%	3.37%	5.00%	5.10%	5.25%	5.33%	8.23%	8.97%	9.93%

[1] Source: Value Line

[2] Source: Yahoo Finance, as of March 11, 2019

[3] Equals [1] / [2]

[4] Equals [3] x (1 + 0.5 x [8])

[5] Source: Zacks

[6] Source: Yahoo Finance

[7] Source: Value Line

[8] Equals average([5], [6], [7])

[9] Equals [3] x (1 + 0.5 x Minimum([5], [6], [7])) + Minimum([5], [6], [7])

[10] Equals [4] + [8]

[11] Equals [3] x (1 + 0.5 x Maximum([5], [6], [7])) + Maximum([5], [6], [7])

Multi-Stage Discounted Cash Flow Model
30 Day Average Stock Price
Low Growth Rate

Company	Ticker	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]
		Indicated Annual Dividend	Weighted-Average Stock Price	Zacks Earnings Growth	Yahoo Finance Earnings Growth	Value Line Earnings Growth	First Stage Growth	Year 6	Year 7	Year 8	Year 9	Year 10	Third Stage Growth	ROE
Ameren Corp	AEE	\$1.93	\$70.03	6.80%	7.70%	7.50%	6.80%	6.57%	6.33%	6.10%	5.87%	5.64%	5.40%	8.67%
American Electric Power	AEP	\$2.72	\$79.82	5.70%	5.74%	4.50%	4.50%	4.65%	4.80%	4.95%	5.10%	5.25%	5.40%	8.91%
Avangrid, Inc.	AGR	\$1.80	\$49.06	7.70%	9.20%	13.00%	7.70%	7.32%	6.93%	6.55%	6.17%	5.79%	5.40%	10.03%
ALLETE, Inc.	ALE	\$2.34	\$79.11	NA	6.00%	3.50%	3.50%	3.82%	4.13%	4.45%	4.77%	5.09%	5.40%	8.24%
Avista Corporation	AVA	\$1.55	\$40.93	NA	5.65%	5.50%	5.50%	5.48%	5.47%	5.45%	5.44%	5.42%	5.40%	9.58%
CMS Energy Corporation	CMS	\$1.53	\$52.93	6.00%	6.89%	7.00%	6.00%	5.90%	5.80%	5.70%	5.60%	5.50%	5.40%	8.66%
Duke Energy Corporation	DUK	\$3.79	\$88.69	4.90%	4.50%	5.50%	4.50%	4.65%	4.80%	4.95%	5.10%	5.25%	5.40%	9.85%
Consolidated Edison, Inc.	ED	\$2.96	\$79.44	3.00%	2.99%	3.00%	2.99%	3.39%	3.79%	4.20%	4.60%	5.00%	5.40%	8.90%
El Paso Electric Company	EE	\$1.52	\$54.31	2.70%	5.10%	3.00%	2.70%	3.15%	3.60%	4.05%	4.50%	4.95%	5.40%	7.94%
Edison International	EIX	\$2.46	\$59.22	5.60%	4.95%	4.50%	4.50%	4.65%	4.80%	4.95%	5.10%	5.25%	5.40%	9.72%
Eversource Energy	ES	\$2.11	\$69.46	5.70%	5.88%	5.00%	5.00%	5.07%	5.13%	5.20%	5.27%	5.34%	5.40%	8.62%
Energy, Inc.	EVRG	\$1.94	\$56.51	6.70%	6.25%	NA	6.25%	6.11%	5.97%	5.83%	5.69%	5.54%	5.40%	9.36%
Hawaiian Electric	HE	\$1.24	\$37.85	6.20%	7.80%	3.50%	3.50%	3.82%	4.13%	4.45%	4.77%	5.09%	5.40%	8.56%
IDACORP, Inc.	IDA	\$2.56	\$97.80	2.60%	2.60%	4.50%	2.60%	3.07%	3.53%	4.00%	4.47%	4.94%	5.40%	7.75%
Alliant Energy Corporation	LNT	\$1.42	\$44.95	6.00%	7.25%	6.50%	6.00%	5.90%	5.80%	5.70%	5.60%	5.50%	5.40%	8.97%
MGE Energy, Inc.	MGEE	\$1.38	\$64.43	NA	4.00%	7.50%	4.00%	4.23%	4.47%	4.70%	4.94%	5.17%	5.40%	7.50%
NextEra Energy, Inc.	NEE	\$5.00	\$182.48	7.70%	7.46%	9.00%	7.46%	7.12%	6.77%	6.43%	6.09%	5.75%	5.40%	8.79%
Northwestern Corporation	NWE	\$2.30	\$66.28	3.10%	2.59%	2.50%	2.50%	2.98%	3.47%	3.95%	4.44%	4.92%	5.40%	8.54%
Otter Tail Corporation	OTTR	\$1.38	\$49.36	NA	9.00%	9.00%	9.00%	8.40%	7.80%	7.20%	6.60%	6.00%	5.40%	9.20%
PNM Resources, Inc.	PNM	\$1.16	\$43.58	4.60%	4.10%	7.50%	4.10%	4.32%	4.53%	4.75%	4.97%	5.19%	5.40%	8.05%
Pinnacle West Capital Corporation	PNW	\$3.04	\$90.45	4.80%	4.56%	6.00%	4.56%	4.70%	4.84%	4.98%	5.12%	5.26%	5.40%	8.88%
Portland General Electric	POR	\$1.52	\$49.17	4.00%	4.90%	4.00%	4.00%	4.23%	4.47%	4.70%	4.94%	5.17%	5.40%	8.47%
PPL Corporation	PPL	\$1.68	\$31.32	5.00%	3.59%	2.00%	2.00%	2.57%	3.13%	3.70%	4.27%	4.84%	5.40%	10.25%
Southern Company	SO	\$2.46	\$49.26	4.50%	2.16%	3.00%	2.16%	2.70%	3.24%	3.78%	4.32%	4.86%	5.40%	9.93%
Unitil Corp	UTL	\$1.46	\$52.97	4.60%	3.70%	3.70%	3.70%	3.98%	4.27%	4.55%	4.84%	5.12%	5.40%	8.07%
WEC Energy Group, Inc.	WEC	\$2.36	\$74.51	4.40%	4.59%	7.00%	4.40%	4.57%	4.73%	4.90%	5.07%	5.24%	5.40%	8.64%
Xcel Energy, Inc.	XEL	\$1.60	\$53.57	5.90%	6.60%	5.50%	5.50%	5.48%	5.47%	5.45%	5.44%	5.42%	5.40%	8.67%
														Mean
														Median
														Max
														Min

[1] Source: Value Line
[2] Source: Yahoo Finance, as of March 11, 2019
[3] Source: Zacks
[4] Source: Yahoo Finance
[5] Source: Value Line
[6] Equals minimum ([3], [4], [5])
[7] Equals [6] + (([12] - [6]) / 6)
[8] Equals [6] + (([12] - [6]) / 6)
[9] Equals [6] + (([12] - [6]) / 6)
[10] Equals [6] + (([12] - [6]) / 6)
[11] Equals [6] + (([12] - [6]) / 6)
[12] Source: Federal Reserve Bank of St. Louis; Energy Information Administration
[13] Equals internal rate of return of cash flows resulting from Excel's goal seek function

Multi-Stage Discounted Cash Flow Model
30 Day Average Stock Price
Average Growth Rate

Company	Ticker	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]
		Indicated Annual Dividend	Weighted-Average Stock Price	Zacks Earnings Growth	Yahoo Finance Earnings Growth	Value Line Earnings Growth	First Stage Growth	Year 6	Year 7	Year 8	Year 9	Year 10	Third Stage Growth	ROE
Ameren Corp	AEE	\$1.93	\$70.03	6.80%	7.70%	7.50%	7.33%	7.01%	6.69%	6.37%	6.05%	5.73%	5.40%	8.78%
American Electric Power	AEP	\$2.72	\$79.82	5.70%	5.74%	4.50%	5.31%	5.33%	5.34%	5.36%	5.37%	5.39%	5.40%	9.10%
Avangrid, Inc.	AGR	\$1.80	\$49.06	7.70%	9.20%	13.00%	9.97%	9.21%	8.45%	7.69%	6.92%	6.16%	5.40%	10.69%
ALLETE, Inc.	ALE	\$2.34	\$79.11	NA	6.00%	3.50%	4.75%	4.86%	4.97%	5.08%	5.19%	5.29%	5.40%	8.48%
Avista Corporation	AVA	\$1.55	\$40.93	NA	5.65%	5.50%	5.58%	5.55%	5.52%	5.49%	5.46%	5.43%	5.40%	9.60%
CMS Energy Corporation	CMS	\$1.53	\$52.93	6.00%	6.89%	7.00%	6.63%	6.43%	6.22%	6.02%	5.81%	5.61%	5.40%	8.80%
Duke Energy Corporation	DUK	\$3.79	\$88.69	4.90%	4.50%	5.50%	4.97%	5.04%	5.11%	5.19%	5.26%	5.33%	5.40%	9.98%
Consolidated Edison, Inc.	ED	\$2.96	\$79.44	3.00%	2.99%	3.00%	3.00%	3.40%	3.80%	4.20%	4.60%	5.00%	5.40%	8.90%
El Paso Electric Company	EE	\$1.52	\$54.31	2.70%	5.10%	3.00%	3.60%	3.90%	4.20%	4.50%	4.80%	5.10%	5.40%	8.10%
Edison International	EIX	\$2.46	\$59.22	5.60%	4.95%	4.50%	5.02%	5.08%	5.15%	5.21%	5.27%	5.34%	5.40%	9.86%
Eversource Energy	ES	\$2.11	\$69.46	5.70%	5.88%	5.00%	5.53%	5.51%	5.49%	5.47%	5.44%	5.42%	5.40%	8.73%
Evergy, Inc.	EVERG	\$1.94	\$56.51	6.70%	6.25%	NA	6.48%	6.30%	6.12%	5.94%	5.76%	5.58%	5.40%	9.41%
Hawaiian Electric	HE	\$1.24	\$37.85	6.20%	7.80%	3.50%	5.83%	5.76%	5.69%	5.62%	5.55%	5.48%	5.40%	9.07%
IDACORP, Inc.	IDA	\$2.56	\$97.80	2.60%	2.60%	4.50%	3.23%	3.60%	3.96%	4.32%	4.68%	5.04%	5.40%	7.86%
Alliant Energy Corporation	LNT	\$1.42	\$44.95	6.00%	7.25%	6.50%	6.58%	6.39%	6.19%	5.99%	5.80%	5.60%	5.40%	9.11%
MGE Energy, Inc.	MGEE	\$1.38	\$64.43	NA	4.00%	7.50%	5.75%	5.69%	5.63%	5.58%	5.52%	5.46%	5.40%	7.76%
NextEra Energy, Inc.	NEE	\$5.00	\$182.48	7.70%	7.46%	9.00%	8.05%	7.61%	7.17%	6.73%	6.29%	5.85%	5.40%	8.92%
Northwestern Corporation	NWE	\$2.30	\$66.28	3.10%	2.59%	2.50%	2.73%	3.18%	3.62%	4.07%	4.51%	4.96%	5.40%	8.59%
Otter Tail Corporation	OTTR	\$1.38	\$49.36	NA	9.00%	9.00%	9.00%	8.40%	7.80%	7.20%	6.60%	6.00%	5.40%	9.20%
PNM Resources, Inc.	PNM	\$1.16	\$43.58	4.60%	4.10%	7.50%	5.40%	5.40%	5.40%	5.40%	5.40%	5.40%	5.40%	8.29%
Pinnacle West Capital Corporation	PNW	\$3.04	\$90.45	4.80%	4.56%	6.00%	5.12%	5.17%	5.21%	5.26%	5.31%	5.36%	5.40%	9.00%
Portland General Electric	POR	\$1.52	\$49.17	4.00%	4.90%	4.00%	4.30%	4.48%	4.67%	4.85%	5.04%	5.22%	5.40%	8.53%
PPL Corporation	PPL	\$1.68	\$31.32	5.00%	3.59%	2.00%	3.53%	3.84%	4.15%	4.47%	4.78%	5.09%	5.40%	10.74%
Southern Company	SO	\$2.46	\$49.26	4.50%	2.16%	3.00%	3.22%	3.58%	3.95%	4.31%	4.68%	5.04%	5.40%	10.25%
Unitil Corp	UTL	\$1.46	\$52.97	4.60%	3.70%	3.70%	4.00%	4.23%	4.47%	4.70%	4.94%	5.17%	5.40%	8.13%
WEC Energy Group, Inc.	WEC	\$2.36	\$74.51	4.40%	4.59%	7.00%	5.33%	5.34%	5.35%	5.37%	5.38%	5.39%	5.40%	8.84%
Xcel Energy, Inc.	XEL	\$1.60	\$53.57	5.90%	6.60%	5.50%	6.00%	5.90%	5.80%	5.70%	5.60%	5.50%	5.40%	8.77%
														Mean
														Median
														Max
														Min

[1] Source: Value Line
[2] Source: Yahoo Finance, as of March 11, 2019
[3] Source: Zacks
[4] Source: Yahoo Finance
[5] Source: Value Line
[6] Equals average ([3], [4], [5])
[7] Equals [6] + (([12] - [6]) / 6)
[8] Equals [6] + (([12] - [6]) / 6)
[9] Equals [6] + (([12] - [6]) / 6)
[10] Equals [6] + (([12] - [6]) / 6)
[11] Equals [6] + (([12] - [6]) / 6)
[12] Source: Federal Reserve Bank of St. Louis; Energy Information Administration
[13] Equals internal rate of return of cash flows resulting from Excel's goal seek function

Multi-Stage Discounted Cash Flow Model
30 Day Average Stock Price
High Growth Rate

Company	Ticker	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]
		Indicated Annual Dividend	Weighted-Average Stock Price	Zacks Earnings Growth	Yahoo Finance Earnings Growth	Value Line Earnings Growth	First Stage Growth	Year 6	Year 7	Year 8	Year 9	Year 10	Third Stage Growth	ROE
Ameren Corp	AEE	\$1.93	\$70.03	6.80%	7.70%	7.50%	7.70%	7.32%	6.93%	6.55%	6.17%	5.79%	5.40%	8.86%
American Electric Power	AEP	\$2.72	\$79.82	5.70%	5.74%	4.50%	5.74%	5.68%	5.63%	5.57%	5.52%	5.46%	5.40%	9.20%
Avangrid, Inc.	AGR	\$1.80	\$49.06	7.70%	9.20%	13.00%	13.00%	11.73%	10.47%	9.20%	7.94%	6.67%	5.40%	11.66%
ALLETE, Inc.	ALE	\$2.34	\$79.11	NA	6.00%	3.50%	6.00%	5.90%	5.80%	5.70%	5.60%	5.50%	5.40%	8.74%
Avista Corporation	AVA	\$1.55	\$40.93	NA	5.65%	5.50%	5.65%	5.61%	5.57%	5.53%	5.49%	5.44%	5.40%	9.62%
CMS Energy Corporation	CMS	\$1.53	\$52.93	6.00%	6.89%	7.00%	7.00%	6.73%	6.47%	6.20%	5.94%	5.67%	5.40%	8.88%
Duke Energy Corporation	DUK	\$3.79	\$88.69	4.90%	4.50%	5.50%	5.50%	5.48%	5.47%	5.45%	5.44%	5.42%	5.40%	10.14%
Consolidated Edison, Inc.	ED	\$2.96	\$79.44	3.00%	2.99%	3.00%	3.00%	3.40%	3.80%	4.20%	4.60%	5.00%	5.40%	8.90%
El Paso Electric Company	EE	\$1.52	\$54.31	2.70%	5.10%	3.00%	5.10%	5.15%	5.20%	5.25%	5.30%	5.35%	5.40%	8.38%
Edison International	EIX	\$2.46	\$59.22	5.60%	4.95%	4.50%	5.60%	5.57%	5.53%	5.50%	5.47%	5.44%	5.40%	10.03%
Eversource Energy	ES	\$2.11	\$69.46	5.70%	5.88%	5.00%	5.88%	5.80%	5.72%	5.64%	5.56%	5.48%	5.40%	8.81%
Energy, Inc.	EVRG	\$1.94	\$56.51	6.70%	6.25%	NA	6.70%	6.48%	6.27%	6.05%	5.84%	5.62%	5.40%	9.47%
Hawaiian Electric	HE	\$1.24	\$37.85	6.20%	7.80%	3.50%	7.80%	7.40%	7.00%	6.60%	6.20%	5.80%	5.40%	9.55%
IDACORP, Inc.	IDA	\$2.56	\$97.80	2.60%	2.60%	4.50%	4.50%	4.65%	4.80%	4.95%	5.10%	5.25%	5.40%	8.07%
Alliant Energy Corporation	LNT	\$1.42	\$44.95	6.00%	7.25%	6.50%	7.25%	6.94%	6.63%	6.33%	6.02%	5.71%	5.40%	9.27%
MGE Energy, Inc.	MGEE	\$1.38	\$64.43	NA	4.00%	7.50%	7.50%	7.15%	6.80%	6.45%	6.10%	5.75%	5.40%	8.05%
NextEra Energy, Inc.	NEE	\$5.00	\$182.48	7.70%	7.46%	9.00%	9.00%	8.40%	7.80%	7.20%	6.60%	6.00%	5.40%	9.13%
Northwestern Corporation	NWE	\$2.30	\$66.28	3.10%	2.59%	2.50%	3.10%	3.48%	3.87%	4.25%	4.64%	5.02%	5.40%	8.67%
Otter Tail Corporation	OTTR	\$1.38	\$49.36	NA	9.00%	9.00%	9.00%	8.40%	7.80%	7.20%	6.60%	6.00%	5.40%	9.20%
PNM Resources, Inc.	PNM	\$1.16	\$43.58	4.60%	4.10%	7.50%	7.50%	7.15%	6.80%	6.45%	6.10%	5.75%	5.40%	8.70%
Pinnacle West Capital Corporation	PNW	\$3.04	\$90.45	4.80%	4.56%	6.00%	6.00%	5.90%	5.80%	5.70%	5.60%	5.50%	5.40%	9.21%
Portland General Electric	POR	\$1.52	\$49.17	4.00%	4.90%	4.00%	4.90%	4.98%	5.07%	5.15%	5.24%	5.32%	5.40%	8.66%
PPL Corporation	PPL	\$1.68	\$31.32	5.00%	3.59%	2.00%	5.00%	5.07%	5.13%	5.20%	5.27%	5.34%	5.40%	11.24%
Southern Company	SO	\$2.46	\$49.26	4.50%	2.16%	3.00%	4.50%	4.65%	4.80%	4.95%	5.10%	5.25%	5.40%	10.65%
Unitil Corp	UTL	\$1.46	\$52.97	4.60%	3.70%	3.70%	4.60%	4.73%	4.87%	5.00%	5.14%	5.27%	5.40%	8.24%
WEC Energy Group, Inc.	WEC	\$2.36	\$74.51	4.40%	4.59%	7.00%	7.00%	6.73%	6.47%	6.20%	5.94%	5.67%	5.40%	9.22%
Xcel Energy, Inc.	XEL	\$1.60	\$53.57	5.90%	6.60%	5.50%	6.60%	6.40%	6.20%	6.00%	5.80%	5.60%	5.40%	8.91%
														Mean
														Median
														Max
														Min

[1] Source: Value Line
[2] Source: Yahoo Finance, as of March 11, 2019
[3] Source: Zacks
[4] Source: Yahoo Finance
[5] Source: Value Line
[6] Equals maximum ([3], [4], [5])
[7] Equals [6] + (([12] - [6]) / 6)
[8] Equals [6] + (([12] - [6]) / 6)
[9] Equals [6] + (([12] - [6]) / 6)
[10] Equals [6] + (([12] - [6]) / 6)
[11] Equals [6] + (([12] - [6]) / 6)
[12] Source: Federal Reserve Bank of St. Louis; Energy Information Administration
[13] Equals internal rate of return of cash flows resulting from Excel's goal seek function

Multi-Stage Discounted Cash Flow Model
90 Day Average Stock Price
Low Growth Rate

Company	Ticker	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]
		Indicated Annual Dividend	Weighted-Average Stock Price	Zacks Earnings Growth	Yahoo Finance Earnings Growth	Value Line Earnings Growth	First Stage Growth	Year 6	Year 7	Year 8	Year 9	Year 10	Third Stage Growth	ROE
Ameren Corp	AEE	\$1.93	\$67.98	6.80%	7.70%	7.50%	6.80%	6.57%	6.33%	6.10%	5.87%	5.64%	5.40%	8.77%
American Electric Power	AEP	\$2.72	\$77.09	5.70%	5.74%	4.50%	4.50%	4.65%	4.80%	4.95%	5.10%	5.25%	5.40%	9.04%
Avangrid, Inc.	AGR	\$1.80	\$49.45	7.70%	9.20%	13.00%	7.70%	7.32%	6.93%	6.55%	6.17%	5.79%	5.40%	9.99%
ALLETE, Inc.	ALE	\$2.34	\$77.81	NA	6.00%	3.50%	3.50%	3.82%	4.13%	4.45%	4.77%	5.09%	5.40%	8.29%
Avista Corporation	AVA	\$1.55	\$44.57	NA	5.65%	5.50%	5.50%	5.48%	5.47%	5.45%	5.44%	5.42%	5.40%	9.22%
CMS Energy Corporation	CMS	\$1.53	\$51.18	6.00%	6.89%	7.00%	6.00%	5.90%	5.80%	5.70%	5.60%	5.50%	5.40%	8.78%
Duke Energy Corporation	DUK	\$3.79	\$87.17	4.90%	4.50%	5.50%	4.50%	4.65%	4.80%	4.95%	5.10%	5.25%	5.40%	9.93%
Consolidated Edison, Inc.	ED	\$2.96	\$78.53	3.00%	2.99%	3.00%	2.99%	3.39%	3.79%	4.20%	4.60%	5.00%	5.40%	8.94%
El Paso Electric Company	EE	\$1.52	\$53.88	2.70%	5.10%	3.00%	2.70%	3.15%	3.60%	4.05%	4.50%	4.95%	5.40%	7.96%
Edison International	EIX	\$2.46	\$57.54	5.60%	4.95%	4.50%	4.50%	4.65%	4.80%	4.95%	5.10%	5.25%	5.40%	9.85%
Eversource Energy	ES	\$2.11	\$67.54	5.70%	5.88%	5.00%	5.00%	5.07%	5.13%	5.20%	5.27%	5.34%	5.40%	8.72%
Evergy, Inc.	EVERG	\$1.94	\$57.41	6.70%	6.25%	NA	6.25%	6.11%	5.97%	5.83%	5.69%	5.54%	5.40%	9.29%
Hawaiian Electric	HE	\$1.24	\$37.46	6.20%	7.80%	3.50%	3.50%	3.82%	4.13%	4.45%	4.77%	5.09%	5.40%	8.59%
IDACORP, Inc.	IDA	\$2.56	\$96.61	2.60%	2.60%	4.50%	2.60%	3.07%	3.53%	4.00%	4.47%	4.94%	5.40%	7.78%
Alliant Energy Corporation	LNT	\$1.42	\$44.02	6.00%	7.25%	6.50%	6.00%	5.90%	5.80%	5.70%	5.60%	5.50%	5.40%	9.05%
MGE Energy, Inc.	MGEE	\$1.38	\$63.22	NA	4.00%	7.50%	4.00%	4.23%	4.47%	4.70%	4.94%	5.17%	5.40%	7.55%
NextEra Energy, Inc.	NEE	\$5.00	\$178.08	7.70%	7.46%	9.00%	7.46%	7.12%	6.77%	6.43%	6.09%	5.75%	5.40%	8.87%
Northwestern Corporation	NWE	\$2.30	\$62.88	3.10%	2.59%	2.50%	2.50%	2.98%	3.47%	3.95%	4.44%	4.92%	5.40%	8.72%
Otter Tail Corporation	OTTR	\$1.38	\$48.70	NA	9.00%	9.00%	9.00%	8.40%	7.80%	7.20%	6.60%	6.00%	5.40%	9.25%
PNM Resources, Inc.	PNM	\$1.16	\$42.24	4.60%	4.10%	7.50%	4.10%	4.32%	4.53%	4.75%	4.97%	5.19%	5.40%	8.14%
Pinnacle West Capital Corporation	PNW	\$3.04	\$87.95	4.80%	4.56%	6.00%	4.56%	4.70%	4.84%	4.98%	5.12%	5.26%	5.40%	8.98%
Portland General Electric	POR	\$1.52	\$47.47	4.00%	4.90%	4.00%	4.00%	4.23%	4.47%	4.70%	4.94%	5.17%	5.40%	8.59%
PPL Corporation	PPL	\$1.68	\$30.35	5.00%	3.59%	2.00%	2.00%	2.57%	3.13%	3.70%	4.27%	4.84%	5.40%	10.42%
Southern Company	SO	\$2.46	\$46.94	4.50%	2.16%	3.00%	2.16%	2.70%	3.24%	3.78%	4.32%	4.86%	5.40%	10.18%
Unitil Corp	UTL	\$1.46	\$50.85	4.60%	3.70%	3.70%	3.70%	3.98%	4.27%	4.55%	4.84%	5.12%	5.40%	8.19%
WEC Energy Group, Inc.	WEC	\$2.36	\$71.81	4.40%	4.59%	7.00%	4.40%	4.57%	4.73%	4.90%	5.07%	5.24%	5.40%	8.76%
Xcel Energy, Inc.	XEL	\$1.60	\$51.37	5.90%	6.60%	5.50%	5.50%	5.48%	5.47%	5.45%	5.44%	5.42%	5.40%	8.81%
														Mean
														Median
														Max
														Min

[1] Source: Value Line
[2] Source: Yahoo Finance, as of March 11, 2019
[3] Source: Zacks
[4] Source: Yahoo Finance
[5] Source: Value Line
[6] Equals minimum ([3], [4], [5])
[7] Equals [6] + (([12] - [6]) / 6)
[8] Equals [6] + (([12] - [6]) / 6)
[9] Equals [6] + (([12] - [6]) / 6)
[10] Equals [6] + (([12] - [6]) / 6)
[11] Equals [6] + (([12] - [6]) / 6)
[12] Source: Federal Reserve Bank of St. Louis; Energy Information Administration
[13] Equals internal rate of return of cash flows resulting from Excel's goal seek function

Multi-Stage Discounted Cash Flow Model
90 Day Average Stock Price
Average Growth Rate

Company	Ticker	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]
		Indicated Annual Dividend	Weighted-Average Stock Price	Zacks Earnings Growth	Yahoo Finance Earnings Growth	Value Line Earnings Growth	First Stage Growth	Year 6	Year 7	Year 8	Year 9	Year 10	Third Stage Growth	ROE
Ameren Corp	AEE	\$1.93	\$67.98	6.80%	7.70%	7.50%	7.33%	7.01%	6.69%	6.37%	6.05%	5.73%	5.40%	8.89%
American Electric Power	AEP	\$2.72	\$77.09	5.70%	5.74%	4.50%	5.31%	5.33%	5.34%	5.36%	5.37%	5.39%	5.40%	9.24%
Avangrid, Inc.	AGR	\$1.80	\$49.45	7.70%	9.20%	13.00%	9.97%	9.21%	8.45%	7.69%	6.92%	6.16%	5.40%	10.64%
ALLETE, Inc.	ALE	\$2.34	\$77.81	NA	6.00%	3.50%	4.75%	4.86%	4.97%	5.08%	5.19%	5.29%	5.40%	8.54%
Avista Corporation	AVA	\$1.55	\$44.57	NA	5.65%	5.50%	5.58%	5.55%	5.52%	5.49%	5.46%	5.43%	5.40%	9.24%
CMS Energy Corporation	CMS	\$1.53	\$51.18	6.00%	6.89%	7.00%	6.63%	6.43%	6.22%	6.02%	5.81%	5.61%	5.40%	8.92%
Duke Energy Corporation	DUK	\$3.79	\$87.17	4.90%	4.50%	5.50%	4.97%	5.04%	5.11%	5.19%	5.26%	5.33%	5.40%	10.07%
Consolidated Edison, Inc.	ED	\$2.96	\$78.53	3.00%	2.99%	3.00%	3.00%	3.40%	3.80%	4.20%	4.60%	5.00%	5.40%	8.94%
El Paso Electric Company	EE	\$1.52	\$53.88	2.70%	5.10%	3.00%	3.60%	3.90%	4.20%	4.50%	4.80%	5.10%	5.40%	8.12%
Edison International	EIX	\$2.46	\$57.54	5.60%	4.95%	4.50%	5.02%	5.08%	5.15%	5.21%	5.27%	5.34%	5.40%	10.00%
Eversource Energy	ES	\$2.11	\$67.54	5.70%	5.88%	5.00%	5.53%	5.51%	5.49%	5.47%	5.44%	5.42%	5.40%	8.83%
Evergy, Inc.	EVERG	\$1.94	\$57.41	6.70%	6.25%	NA	6.48%	6.30%	6.12%	5.94%	5.76%	5.58%	5.40%	9.35%
Hawaiian Electric	HE	\$1.24	\$37.46	6.20%	7.80%	3.50%	5.83%	5.76%	5.69%	5.62%	5.55%	5.48%	5.40%	9.11%
IDACORP, Inc.	IDA	\$2.56	\$96.61	2.60%	2.60%	4.50%	3.23%	3.60%	3.96%	4.32%	4.68%	5.04%	5.40%	7.89%
Alliant Energy Corporation	LNT	\$1.42	\$44.02	6.00%	7.25%	6.50%	6.58%	6.39%	6.19%	5.99%	5.80%	5.60%	5.40%	9.19%
MGE Energy, Inc.	MGEE	\$1.38	\$63.22	NA	4.00%	7.50%	5.75%	5.69%	5.63%	5.58%	5.52%	5.46%	5.40%	7.81%
NextEra Energy, Inc.	NEE	\$5.00	\$178.08	7.70%	7.46%	9.00%	8.05%	7.61%	7.17%	6.73%	6.29%	5.85%	5.40%	9.00%
Northwestern Corporation	NWE	\$2.30	\$62.88	3.10%	2.59%	2.50%	2.73%	3.18%	3.62%	4.07%	4.51%	4.96%	5.40%	8.77%
Otter Tail Corporation	OTTR	\$1.38	\$48.70	NA	9.00%	9.00%	9.00%	8.40%	7.80%	7.20%	6.60%	6.00%	5.40%	9.25%
PNM Resources, Inc.	PNM	\$1.16	\$42.24	4.60%	4.10%	7.50%	5.40%	5.40%	5.40%	5.40%	5.40%	5.40%	5.40%	8.38%
Pinnacle West Capital Corporation	PNW	\$3.04	\$87.95	4.80%	4.56%	6.00%	5.12%	5.17%	5.21%	5.26%	5.31%	5.36%	5.40%	9.11%
Portland General Electric	POR	\$1.52	\$47.47	4.00%	4.90%	4.00%	4.30%	4.48%	4.67%	4.85%	5.04%	5.22%	5.40%	8.65%
PPL Corporation	PPL	\$1.68	\$30.35	5.00%	3.59%	2.00%	3.53%	3.84%	4.15%	4.47%	4.78%	5.09%	5.40%	10.92%
Southern Company	SO	\$2.46	\$46.94	4.50%	2.16%	3.00%	3.22%	3.58%	3.95%	4.31%	4.68%	5.04%	5.40%	10.51%
Unitil Corp	UTL	\$1.46	\$50.85	4.60%	3.70%	3.70%	4.00%	4.23%	4.47%	4.70%	4.94%	5.17%	5.40%	8.25%
WEC Energy Group, Inc.	WEC	\$2.36	\$71.81	4.40%	4.59%	7.00%	5.33%	5.34%	5.35%	5.37%	5.38%	5.39%	5.40%	8.97%
Xcel Energy, Inc.	XEL	\$1.60	\$51.37	5.90%	6.60%	5.50%	6.00%	5.90%	5.80%	5.70%	5.60%	5.50%	5.40%	8.92%
														Mean
														Median
														Max
														Min

[1] Source: Value Line
[2] Source: Yahoo Finance, as of March 11, 2019
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[4] Source: Yahoo Finance
[5] Source: Value Line
[6] Equals average ([3], [4], [5])
[7] Equals [6] + (([12] - [6]) / 6)
[8] Equals [6] + (([12] - [6]) / 6)
[9] Equals [6] + (([12] - [6]) / 6)
[10] Equals [6] + (([12] - [6]) / 6)
[11] Equals [6] + (([12] - [6]) / 6)
[12] Source: Federal Reserve Bank of St. Louis; Energy Information Administration
[13] Equals internal rate of return of cash flows resulting from Excel's goal seek function

Multi-Stage Discounted Cash Flow Model
90 Day Average Stock Price
High Growth Rate

Company	Ticker	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]
		Indicated Annual Dividend	Weighted-Average Stock Price	Zacks Earnings Growth	Yahoo Finance Earnings Growth	Value Line Earnings Growth	First Stage Growth	Year 6	Year 7	Year 8	Year 9	Year 10	Third Stage Growth	ROE
Ameren Corp	AEE	\$1.93	\$67.98	6.80%	7.70%	7.50%	7.70%	7.32%	6.93%	6.55%	6.17%	5.79%	5.40%	8.97%
American Electric Power	AEP	\$2.72	\$77.09	5.70%	5.74%	4.50%	5.74%	5.68%	5.63%	5.57%	5.52%	5.46%	5.40%	9.34%
Avangrid, Inc.	AGR	\$1.80	\$49.45	7.70%	9.20%	13.00%	13.00%	11.73%	10.47%	9.20%	7.94%	6.67%	5.40%	11.61%
ALLETE, Inc.	ALE	\$2.34	\$77.81	NA	6.00%	3.50%	6.00%	5.90%	5.80%	5.70%	5.60%	5.50%	5.40%	8.80%
Avista Corporation	AVA	\$1.55	\$44.57	NA	5.65%	5.50%	5.65%	5.61%	5.57%	5.53%	5.49%	5.44%	5.40%	9.26%
CMS Energy Corporation	CMS	\$1.53	\$51.18	6.00%	6.89%	7.00%	7.00%	6.73%	6.47%	6.20%	5.94%	5.67%	5.40%	9.00%
Duke Energy Corporation	DUK	\$3.79	\$87.17	4.90%	4.50%	5.50%	5.50%	5.48%	5.47%	5.45%	5.44%	5.42%	5.40%	10.22%
Consolidated Edison, Inc.	ED	\$2.96	\$78.53	3.00%	2.99%	3.00%	3.00%	3.40%	3.80%	4.20%	4.60%	5.00%	5.40%	8.94%
El Paso Electric Company	EE	\$1.52	\$53.88	2.70%	5.10%	3.00%	5.10%	5.15%	5.20%	5.25%	5.30%	5.35%	5.40%	8.40%
Edison International	EIX	\$2.46	\$57.54	5.60%	4.95%	4.50%	5.60%	5.57%	5.53%	5.50%	5.47%	5.44%	5.40%	10.17%
Eversource Energy	ES	\$2.11	\$67.54	5.70%	5.88%	5.00%	5.88%	5.80%	5.72%	5.64%	5.56%	5.48%	5.40%	8.91%
Evergy, Inc.	EVERG	\$1.94	\$57.41	6.70%	6.25%	NA	6.70%	6.48%	6.27%	6.05%	5.84%	5.62%	5.40%	9.40%
Hawaiian Electric	HE	\$1.24	\$37.46	6.20%	7.80%	3.50%	7.80%	7.40%	7.00%	6.60%	6.20%	5.80%	5.40%	9.59%
IDACORP, Inc.	IDA	\$2.56	\$96.61	2.60%	2.60%	4.50%	4.50%	4.65%	4.80%	4.95%	5.10%	5.25%	5.40%	8.11%
Alliant Energy Corporation	LNT	\$1.42	\$44.02	6.00%	7.25%	6.50%	7.25%	6.94%	6.63%	6.33%	6.02%	5.71%	5.40%	9.35%
MGE Energy, Inc.	MGEE	\$1.38	\$63.22	NA	4.00%	7.50%	7.50%	7.15%	6.80%	6.45%	6.10%	5.75%	5.40%	8.10%
NextEra Energy, Inc.	NEE	\$5.00	\$178.08	7.70%	7.46%	9.00%	9.00%	8.40%	7.80%	7.20%	6.60%	6.00%	5.40%	9.22%
Northwestern Corporation	NWE	\$2.30	\$62.88	3.10%	2.59%	2.50%	3.10%	3.48%	3.87%	4.25%	4.64%	5.02%	5.40%	8.86%
Otter Tail Corporation	OTTR	\$1.38	\$48.70	NA	9.00%	9.00%	9.00%	8.40%	7.80%	7.20%	6.60%	6.00%	5.40%	9.25%
PNM Resources, Inc.	PNM	\$1.16	\$42.24	4.60%	4.10%	7.50%	7.50%	7.15%	6.80%	6.45%	6.10%	5.75%	5.40%	8.81%
Pinnacle West Capital Corporation	PNW	\$3.04	\$87.95	4.80%	4.56%	6.00%	6.00%	5.90%	5.80%	5.70%	5.60%	5.50%	5.40%	9.32%
Portland General Electric	POR	\$1.52	\$47.47	4.00%	4.90%	4.00%	4.90%	4.98%	5.07%	5.15%	5.24%	5.32%	5.40%	8.78%
PPL Corporation	PPL	\$1.68	\$30.35	5.00%	3.59%	2.00%	5.00%	5.07%	5.13%	5.20%	5.27%	5.34%	5.40%	11.43%
Southern Company	SO	\$2.46	\$46.94	4.50%	2.16%	3.00%	4.50%	4.65%	4.80%	4.95%	5.10%	5.25%	5.40%	10.92%
Unitil Corp	UTL	\$1.46	\$50.85	4.60%	3.70%	3.70%	4.60%	4.73%	4.87%	5.00%	5.14%	5.27%	5.40%	8.36%
WEC Energy Group, Inc.	WEC	\$2.36	\$71.81	4.40%	4.59%	7.00%	7.00%	6.73%	6.47%	6.20%	5.94%	5.67%	5.40%	9.36%
Xcel Energy, Inc.	XEL	\$1.60	\$51.37	5.90%	6.60%	5.50%	6.60%	6.40%	6.20%	6.00%	5.80%	5.60%	5.40%	9.06%
														Mean
														Median
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														Min

[1] Source: Value Line
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[6] Equals maximum ([3], [4], [5])
[7] Equals [6] + (([12] - [6]) / 6)
[8] Equals [6] + (([12] - [6]) / 6)
[9] Equals [6] + (([12] - [6]) / 6)
[10] Equals [6] + (([12] - [6]) / 6)
[11] Equals [6] + (([12] - [6]) / 6)
[12] Source: Federal Reserve Bank of St. Louis; Energy Information Administration
[13] Equals internal rate of return of cash flows resulting from Excel's goal seek function

Multi-Stage Discounted Cash Flow Model
180 Day Average Stock Price
Low Growth Rate

Company	Ticker	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]
		Indicated Annual Dividend	Weighted-Average Stock Price	Zacks Earnings Growth	Yahoo Finance Earnings Growth	Value Line Earnings Growth	First Stage Growth	Year 6	Year 7	Year 8	Year 9	Year 10	Third Stage Growth	ROE
Ameren Corp	AEE	\$1.93	\$65.60	6.80%	7.70%	7.50%	6.80%	6.57%	6.33%	6.10%	5.87%	5.64%	5.40%	8.90%
American Electric Power	AEP	\$2.72	\$74.08	5.70%	5.74%	4.50%	4.50%	4.65%	4.80%	4.95%	5.10%	5.25%	5.40%	9.20%
Avangrid, Inc.	AGR	\$1.80	\$49.62	7.70%	9.20%	13.00%	7.70%	7.32%	6.93%	6.55%	6.17%	5.79%	5.40%	9.97%
ALLETE, Inc.	ALE	\$2.34	\$77.17	NA	6.00%	3.50%	3.50%	3.82%	4.13%	4.45%	4.77%	5.09%	5.40%	8.31%
Avista Corporation	AVA	\$1.55	\$46.92	NA	5.65%	5.50%	5.50%	5.48%	5.47%	5.45%	5.44%	5.42%	5.40%	9.03%
CMS Energy Corporation	CMS	\$1.53	\$49.99	6.00%	6.89%	7.00%	6.00%	5.90%	5.80%	5.70%	5.60%	5.50%	5.40%	8.86%
Duke Energy Corporation	DUK	\$3.79	\$83.90	4.90%	4.50%	5.50%	4.50%	4.65%	4.80%	4.95%	5.10%	5.25%	5.40%	10.12%
Consolidated Edison, Inc.	ED	\$2.96	\$78.32	3.00%	2.99%	3.00%	2.99%	3.39%	3.79%	4.20%	4.60%	5.00%	5.40%	8.95%
El Paso Electric Company	EE	\$1.52	\$56.94	2.70%	5.10%	3.00%	2.70%	3.15%	3.60%	4.05%	4.50%	4.95%	5.40%	7.82%
Edison International	EIX	\$2.46	\$61.22	5.60%	4.95%	4.50%	4.50%	4.65%	4.80%	4.95%	5.10%	5.25%	5.40%	9.57%
Eversource Energy	ES	\$2.11	\$64.44	5.70%	5.88%	5.00%	5.00%	5.07%	5.13%	5.20%	5.27%	5.34%	5.40%	8.88%
Evergy, Inc.	EVERG	\$1.94	\$56.87	6.70%	6.25%	NA	6.25%	6.11%	5.97%	5.83%	5.69%	5.54%	5.40%	9.33%
Hawaiian Electric	HE	\$1.24	\$36.39	6.20%	7.80%	3.50%	3.50%	3.82%	4.13%	4.45%	4.77%	5.09%	5.40%	8.69%
IDACORP, Inc.	IDA	\$2.56	\$96.40	2.60%	2.60%	4.50%	2.60%	3.07%	3.53%	4.00%	4.47%	4.94%	5.40%	7.79%
Alliant Energy Corporation	LNT	\$1.42	\$43.55	6.00%	7.25%	6.50%	6.00%	5.90%	5.80%	5.70%	5.60%	5.50%	5.40%	9.09%
MGE Energy, Inc.	MGEE	\$1.38	\$63.55	NA	4.00%	7.50%	4.00%	4.23%	4.47%	4.70%	4.94%	5.17%	5.40%	7.53%
NextEra Energy, Inc.	NEE	\$5.00	\$174.59	7.70%	7.46%	9.00%	7.46%	7.12%	6.77%	6.43%	6.09%	5.75%	5.40%	8.94%
Northwestern Corporation	NWE	\$2.30	\$61.05	3.10%	2.59%	2.50%	2.50%	2.98%	3.47%	3.95%	4.44%	4.92%	5.40%	8.83%
Otter Tail Corporation	OTTR	\$1.38	\$48.30	NA	9.00%	9.00%	9.00%	8.40%	7.80%	7.20%	6.60%	6.00%	5.40%	9.29%
PNM Resources, Inc.	PNM	\$1.16	\$40.76	4.60%	4.10%	7.50%	4.10%	4.32%	4.53%	4.75%	4.97%	5.19%	5.40%	8.24%
Pinnacle West Capital Corporation	PNW	\$3.04	\$84.80	4.80%	4.56%	6.00%	4.56%	4.70%	4.84%	4.98%	5.12%	5.26%	5.40%	9.12%
Portland General Electric	POR	\$1.52	\$46.43	4.00%	4.90%	4.00%	4.00%	4.23%	4.47%	4.70%	4.94%	5.17%	5.40%	8.66%
PPL Corporation	PPL	\$1.68	\$29.88	5.00%	3.59%	2.00%	2.00%	2.57%	3.13%	3.70%	4.27%	4.84%	5.40%	10.50%
Southern Company	SO	\$2.46	\$46.14	4.50%	2.16%	3.00%	2.16%	2.70%	3.24%	3.78%	4.32%	4.86%	5.40%	10.27%
Unitil Corp	UTL	\$1.46	\$50.81	4.60%	3.70%	3.70%	3.70%	3.98%	4.27%	4.55%	4.84%	5.12%	5.40%	8.19%
WEC Energy Group, Inc.	WEC	\$2.36	\$69.37	4.40%	4.59%	7.00%	4.40%	4.57%	4.73%	4.90%	5.07%	5.24%	5.40%	8.89%
Xcel Energy, Inc.	XEL	\$1.60	\$49.63	5.90%	6.60%	5.50%	5.50%	5.48%	5.47%	5.45%	5.44%	5.42%	5.40%	8.94%
														Mean
														Median
														Max
														Min

[1] Source: Value Line
[2] Source: Yahoo Finance, as of March 11, 2019
[3] Source: Zacks
[4] Source: Yahoo Finance
[5] Source: Value Line
[6] Equals minimum ([3], [4], [5])
[7] Equals [6] + (([12] - [6]) / 6)
[8] Equals [6] + (([12] - [6]) / 6)
[9] Equals [6] + (([12] - [6]) / 6)
[10] Equals [6] + (([12] - [6]) / 6)
[11] Equals [6] + (([12] - [6]) / 6)
[12] Source: Federal Reserve Bank of St. Louis; Energy Information Administration
[13] Equals internal rate of return of cash flows resulting from Excel's goal seek function

Multi-Stage Discounted Cash Flow Model
180 Day Average Stock Price
Average Growth Rate

Company	Ticker	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]
		Indicated Annual Dividend	Weighted-Average Stock Price	Zacks Earnings Growth	Yahoo Finance Earnings Growth	Value Line Earnings Growth	First Stage Growth	Year 6	Year 7	Year 8	Year 9	Year 10	Third Stage Growth	ROE
Ameren Corp	AEE	\$1.93	\$65.60	6.80%	7.70%	7.50%	7.33%	7.01%	6.69%	6.37%	6.05%	5.73%	5.40%	9.01%
American Electric Power	AEP	\$2.72	\$74.08	5.70%	5.74%	4.50%	5.31%	5.33%	5.34%	5.36%	5.37%	5.39%	5.40%	9.40%
Avangrid, Inc.	AGR	\$1.80	\$49.62	7.70%	9.20%	13.00%	9.97%	9.21%	8.45%	7.69%	6.92%	6.16%	5.40%	10.63%
ALLETE, Inc.	ALE	\$2.34	\$77.17	NA	6.00%	3.50%	4.75%	4.86%	4.97%	5.08%	5.19%	5.29%	5.40%	8.56%
Avista Corporation	AVA	\$1.55	\$46.92	NA	5.65%	5.50%	5.58%	5.55%	5.52%	5.49%	5.46%	5.43%	5.40%	9.04%
CMS Energy Corporation	CMS	\$1.53	\$49.99	6.00%	6.89%	7.00%	6.63%	6.43%	6.22%	6.02%	5.81%	5.61%	5.40%	9.00%
Duke Energy Corporation	DUK	\$3.79	\$83.90	4.90%	4.50%	5.50%	4.97%	5.04%	5.11%	5.19%	5.26%	5.33%	5.40%	10.26%
Consolidated Edison, Inc.	ED	\$2.96	\$78.32	3.00%	2.99%	3.00%	3.00%	3.40%	3.80%	4.20%	4.60%	5.00%	5.40%	8.95%
El Paso Electric Company	EE	\$1.52	\$56.94	2.70%	5.10%	3.00%	3.60%	3.90%	4.20%	4.50%	4.80%	5.10%	5.40%	7.97%
Edison International	EIX	\$2.46	\$61.22	5.60%	4.95%	4.50%	5.02%	5.08%	5.15%	5.21%	5.27%	5.34%	5.40%	9.71%
Eversource Energy	ES	\$2.11	\$64.44	5.70%	5.88%	5.00%	5.53%	5.51%	5.49%	5.47%	5.44%	5.42%	5.40%	9.00%
Evergy, Inc.	EVERG	\$1.94	\$56.87	6.70%	6.25%	NA	6.48%	6.30%	6.12%	5.94%	5.76%	5.58%	5.40%	9.39%
Hawaiian Electric	HE	\$1.24	\$36.39	6.20%	7.80%	3.50%	5.83%	5.76%	5.69%	5.62%	5.55%	5.48%	5.40%	9.22%
IDACORP, Inc.	IDA	\$2.56	\$96.40	2.60%	2.60%	4.50%	3.23%	3.60%	3.96%	4.32%	4.68%	5.04%	5.40%	7.89%
Alliant Energy Corporation	LNT	\$1.42	\$43.55	6.00%	7.25%	6.50%	6.58%	6.39%	6.19%	5.99%	5.80%	5.60%	5.40%	9.23%
MGE Energy, Inc.	MGEE	\$1.38	\$63.55	NA	4.00%	7.50%	5.75%	5.69%	5.63%	5.58%	5.52%	5.46%	5.40%	7.80%
NextEra Energy, Inc.	NEE	\$5.00	\$174.59	7.70%	7.46%	9.00%	8.05%	7.61%	7.17%	6.73%	6.29%	5.85%	5.40%	9.08%
Northwestern Corporation	NWE	\$2.30	\$61.05	3.10%	2.59%	2.50%	2.73%	3.18%	3.62%	4.07%	4.51%	4.96%	5.40%	8.88%
Otter Tail Corporation	OTTR	\$1.38	\$48.30	NA	9.00%	9.00%	9.00%	8.40%	7.80%	7.20%	6.60%	6.00%	5.40%	9.29%
PNM Resources, Inc.	PNM	\$1.16	\$40.76	4.60%	4.10%	7.50%	5.40%	5.40%	5.40%	5.40%	5.40%	5.40%	5.40%	8.49%
Pinnacle West Capital Corporation	PNW	\$3.04	\$84.80	4.80%	4.56%	6.00%	5.12%	5.17%	5.21%	5.26%	5.31%	5.36%	5.40%	9.25%
Portland General Electric	POR	\$1.52	\$46.43	4.00%	4.90%	4.00%	4.30%	4.48%	4.67%	4.85%	5.04%	5.22%	5.40%	8.73%
PPL Corporation	PPL	\$1.68	\$29.88	5.00%	3.59%	2.00%	3.53%	3.84%	4.15%	4.47%	4.78%	5.09%	5.40%	11.01%
Southern Company	SO	\$2.46	\$46.14	4.50%	2.16%	3.00%	3.22%	3.58%	3.95%	4.31%	4.68%	5.04%	5.40%	10.60%
Unitil Corp	UTL	\$1.46	\$50.81	4.60%	3.70%	3.70%	4.00%	4.23%	4.47%	4.70%	4.94%	5.17%	5.40%	8.25%
WEC Energy Group, Inc.	WEC	\$2.36	\$69.37	4.40%	4.59%	7.00%	5.33%	5.34%	5.35%	5.37%	5.38%	5.39%	5.40%	9.10%
Xcel Energy, Inc.	XEL	\$1.60	\$49.63	5.90%	6.60%	5.50%	6.00%	5.90%	5.80%	5.70%	5.60%	5.50%	5.40%	9.05%
														Mean
														Median
														Max
														Min

[1] Source: Value Line
[2] Source: Yahoo Finance, as of March 11, 2019
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[4] Source: Yahoo Finance
[5] Source: Value Line
[6] Equals average ([3], [4], [5])
[7] Equals [6] + (([12] - [6]) / 6)
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[10] Equals [6] + (([12] - [6]) / 6)
[11] Equals [6] + (([12] - [6]) / 6)
[12] Source: Federal Reserve Bank of St. Louis; Energy Information Administration
[13] Equals internal rate of return of cash flows resulting from Excel's goal seek function

Multi-Stage Discounted Cash Flow Model
180 Day Average Stock Price
High Growth Rate

Company	Ticker	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]
		Indicated Annual Dividend	Weighted-Average Stock Price	Zacks Earnings Growth	Yahoo Finance Earnings Growth	Value Line Earnings Growth	First Stage Growth	Year 6	Year 7	Year 8	Year 9	Year 10	Third Stage Growth	ROE
Ameren Corp	AEE	\$1.93	\$65.60	6.80%	7.70%	7.50%	7.70%	7.32%	6.93%	6.55%	6.17%	5.79%	5.40%	9.10%
American Electric Power	AEP	\$2.72	\$74.08	5.70%	5.74%	4.50%	5.74%	5.68%	5.63%	5.57%	5.52%	5.46%	5.40%	9.51%
Avangrid, Inc.	AGR	\$1.80	\$49.62	7.70%	9.20%	13.00%	13.00%	11.73%	10.47%	9.20%	7.94%	6.67%	5.40%	11.59%
ALLETE, Inc.	ALE	\$2.34	\$77.17	NA	6.00%	3.50%	6.00%	5.90%	5.80%	5.70%	5.60%	5.50%	5.40%	8.83%
Avista Corporation	AVA	\$1.55	\$46.92	NA	5.65%	5.50%	5.65%	5.61%	5.57%	5.53%	5.49%	5.44%	5.40%	9.06%
CMS Energy Corporation	CMS	\$1.53	\$49.99	6.00%	6.89%	7.00%	7.00%	6.73%	6.47%	6.20%	5.94%	5.67%	5.40%	9.09%
Duke Energy Corporation	DUK	\$3.79	\$83.90	4.90%	4.50%	5.50%	5.50%	5.48%	5.47%	5.45%	5.44%	5.42%	5.40%	10.42%
Consolidated Edison, Inc.	ED	\$2.96	\$78.32	3.00%	2.99%	3.00%	3.00%	3.40%	3.80%	4.20%	4.60%	5.00%	5.40%	8.95%
El Paso Electric Company	EE	\$1.52	\$56.94	2.70%	5.10%	3.00%	5.10%	5.15%	5.20%	5.25%	5.30%	5.35%	5.40%	8.24%
Edison International	EIX	\$2.46	\$61.22	5.60%	4.95%	4.50%	5.60%	5.57%	5.53%	5.50%	5.47%	5.44%	5.40%	9.87%
Eversource Energy	ES	\$2.11	\$64.44	5.70%	5.88%	5.00%	5.88%	5.80%	5.72%	5.64%	5.56%	5.48%	5.40%	9.08%
Evergy, Inc.	EVERG	\$1.94	\$56.87	6.70%	6.25%	NA	6.70%	6.48%	6.27%	6.05%	5.84%	5.62%	5.40%	9.44%
Hawaiian Electric	HE	\$1.24	\$36.39	6.20%	7.80%	3.50%	7.80%	7.40%	7.00%	6.60%	6.20%	5.80%	5.40%	9.72%
IDACORP, Inc.	IDA	\$2.56	\$96.40	2.60%	2.60%	4.50%	4.50%	4.65%	4.80%	4.95%	5.10%	5.25%	5.40%	8.11%
Alliant Energy Corporation	LNT	\$1.42	\$43.55	6.00%	7.25%	6.50%	7.25%	6.94%	6.63%	6.33%	6.02%	5.71%	5.40%	9.39%
MGE Energy, Inc.	MGEE	\$1.38	\$63.55	NA	4.00%	7.50%	7.50%	7.15%	6.80%	6.45%	6.10%	5.75%	5.40%	8.08%
NextEra Energy, Inc.	NEE	\$5.00	\$174.59	7.70%	7.46%	9.00%	9.00%	8.40%	7.80%	7.20%	6.60%	6.00%	5.40%	9.30%
Northwestern Corporation	NWE	\$2.30	\$61.05	3.10%	2.59%	2.50%	3.10%	3.48%	3.87%	4.25%	4.64%	5.02%	5.40%	8.96%
Otter Tail Corporation	OTTR	\$1.38	\$48.30	NA	9.00%	9.00%	9.00%	8.40%	7.80%	7.20%	6.60%	6.00%	5.40%	9.29%
PNM Resources, Inc.	PNM	\$1.16	\$40.76	4.60%	4.10%	7.50%	7.50%	7.15%	6.80%	6.45%	6.10%	5.75%	5.40%	8.93%
Pinnacle West Capital Corporation	PNW	\$3.04	\$84.80	4.80%	4.56%	6.00%	6.00%	5.90%	5.80%	5.70%	5.60%	5.50%	5.40%	9.47%
Portland General Electric	POR	\$1.52	\$46.43	4.00%	4.90%	4.00%	4.90%	4.98%	5.07%	5.15%	5.24%	5.32%	5.40%	8.86%
PPL Corporation	PPL	\$1.68	\$29.88	5.00%	3.59%	2.00%	5.00%	5.07%	5.13%	5.20%	5.27%	5.34%	5.40%	11.53%
Southern Company	SO	\$2.46	\$46.14	4.50%	2.16%	3.00%	4.50%	4.65%	4.80%	4.95%	5.10%	5.25%	5.40%	11.03%
Unitil Corp	UTL	\$1.46	\$50.81	4.60%	3.70%	3.70%	4.60%	4.73%	4.87%	5.00%	5.14%	5.27%	5.40%	8.36%
WEC Energy Group, Inc.	WEC	\$2.36	\$69.37	4.40%	4.59%	7.00%	7.00%	6.73%	6.47%	6.20%	5.94%	5.67%	5.40%	9.51%
Xcel Energy, Inc.	XEL	\$1.60	\$49.63	5.90%	6.60%	5.50%	6.60%	6.40%	6.20%	6.00%	5.80%	5.60%	5.40%	9.19%
														Mean
														Median
														Max
														Min

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[6] Equals maximum ([3], [4], [5])
[7] Equals [6] + (([12] - [6]) / 6)
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[10] Equals [6] + (([12] - [6]) / 6)
[11] Equals [6] + (([12] - [6]) / 6)
[12] Source: Federal Reserve Bank of St. Louis; Energy Information Administration
[13] Equals internal rate of return of cash flows resulting from Excel's goal seek function

Proxy Group Betas

[1]

Company Name	Stock Ticker	Beta
Ameren Corp	AEE	0.55
American Electric Power	AEP	0.55
Avangrid, Inc.	AGR	0.30
ALLETE, Inc.	ALE	0.65
Avista Corporation	AVA	0.65
CMS Energy Corporation	CMS	0.55
Duke Energy Corporation	DUK	0.50
Consolidated Edison, Inc.	ED	0.40
El Paso Electric Company	EE	0.65
Edison International	EIX	0.55
Eversource Energy	ES	0.60
Eergy, Inc.	EVRG	NA
Hawaiian Electric	HE	0.60
IDACORP, Inc.	IDA	0.55
Alliant Energy Corporation	LNT	0.60
MGE Energy, Inc.	MGEE	0.60
NextEra Energy, Inc.	NEE	0.55
Northwestern Corporation	NWE	0.55
Otter Tail Corporation	OTTR	0.75
PNM Resources, Inc.	PNM	0.65
Pinnacle West Capital Corporation	PNW	0.55
Portland General Electric	POR	0.60
PPL Corporation	PPL	0.70
Southern Company	SO	0.50
Unitil Corp	UTL	0.55
WEC Energy Group, Inc.	WEC	0.50
Xcel Energy, Inc.	XEL	0.50
Mean		0.57

[1] Source: Value Line

Market Risk Premium Derived from Value Line Long-Term Growth Estimates

[1]	S&P 500 Estimated Required Market Return	16.53%
[2]	Current 30-Year Treasury Yield (30-Day Average)	3.03%
[3]	Implied Market Risk Premium	13.49%

S&P 500 Index

Company	Ticker	[4] Market Capitalization	[5] Weight in Index	[6] Dividend Yield	[7] Long-Term EPS Growth	[8] DCF Result	[9] Weighted DCF Result
Agilent Technologies	A	22,591.58	0.10%	0.93%	12.00%	12.99%	0.0123%
Amer. Airlines	AAL	15,465.57	0.07%	1.19%	-0.50%	0.69%	0.0004%
Advance Auto Parts	AAP	12,120.81	0.05%	0.14%	13.00%	13.15%	0.0067%
Apple Inc.	AAPL	741,112.06	3.12%	2.07%	17.50%	19.75%	0.6159%
AbbVie Inc.	ABBV	131,162.75	0.55%	4.91%	14.50%	19.76%	0.1091%
AmerisourceBergen	ABC	16,501.45	0.07%	2.10%	8.50%	10.69%	0.0074%
ABIOMED Inc.	ABMD	14,876.95	0.06%	0.00%	27.50%	27.50%	0.0172%
Abbott Labs.	ABT	123,856.61	0.52%	1.82%	10.00%	11.91%	0.0621%
Accenture Plc	ACN	95,142.44	0.40%	2.05%	9.50%	11.65%	0.0466%
Adobe Systems	ADBE	119,513.30	0.50%	0.00%	27.00%	27.00%	0.1358%
Analog Devices	ADI	32,873.91	0.14%	2.16%	10.50%	12.78%	0.0177%
Archer Daniels Mid'l'd	ADM	24,309.60	0.10%	3.09%	9.50%	12.73%	0.0130%
Automatic Data Proc.	ADP	58,254.31	0.25%	2.38%	15.00%	17.56%	0.0430%
Alliance Data Sys.	ADS	9,265.07	0.04%	1.34%	14.50%	15.94%	0.0062%
Autodesk Inc.	ADSK	29,894.73	0.13%	0.00%	0.00%	0.00%	0.0000%
Ameren Corp.	AEE	16,376.05	0.07%	2.88%	7.50%	10.49%	0.0072%
Amer. Elec. Power	AEP	37,475.37	0.16%	3.58%	4.50%	8.16%	0.0129%
AES Corp.	AES	10,258.98	0.04%	3.55%	0.00%	3.55%	0.0015%
Aflac Inc.	AFL	36,110.51	0.15%	2.37%	8.50%	10.97%	0.0167%
Allergan plc	AGN	52,792.03	0.22%	1.84%	4.50%	6.38%	0.0142%
Amer. Int'l Group	AIG	38,296.41	0.16%	2.96%	52.00%	55.73%	0.0898%
Apartment Investment	AIV	7,715.77	0.03%	3.25%	5.50%	8.84%	0.0029%
Assurant Inc.	AIZ	5,953.79	0.03%	2.51%	7.50%	10.11%	0.0025%
Gallagher (Arthur J.)	AJG	13,577.27	0.06%	2.22%	17.00%	19.41%	0.0111%
Akamai Technologies	AKAM	11,014.16	0.05%	0.00%	17.50%	17.50%	0.0081%
Albemarle Corp.	ALB	7,994.82	0.03%	1.78%	10.00%	11.87%	0.0040%
Align Techn.	ALGN	17,302.62	0.07%	0.00%	27.50%	27.50%	0.0200%
Alaska Air Group	ALK	7,946.92	0.03%	1.99%	1.50%	3.50%	0.0012%
Allstate Corp.	ALL	29,176.65	0.12%	2.18%	12.00%	14.31%	0.0176%
Allegion plc	ALLE	7,771.45	0.03%	1.03%	10.50%	11.58%	0.0038%
Alexion Pharmac.	ALXN	25,571.72	0.11%	0.00%	24.50%	24.50%	0.0264%
Applied Materials	AMAT	33,400.18	0.14%	2.32%	19.00%	21.54%	0.0303%
Advanced Micro Dev.	AMD	20,229.75	0.09%	0.00%	0.00%	0.00%	0.0000%
AMETEK Inc.	AME	16,533.62	0.07%	0.79%	10.50%	11.33%	0.0079%
Affiliated Managers	AMG	6,263.01	0.03%	1.49%	6.50%	8.04%	0.0021%
Amgen	AMGN	129,329.77	0.54%	2.87%	8.50%	11.49%	0.0626%
Ameriprise Fin'l	AMP	16,581.25	0.07%	3.04%	16.00%	19.28%	0.0135%
Amer. Tower 'A'	AMT	72,454.59	0.30%	2.09%	11.50%	13.71%	0.0418%
Amazon.com	AMZN	827,984.56	3.48%	0.00%	56.00%	56.00%	1.9512%
Arista Networks	ANET	16,664.12	0.07%	0.00%	19.00%	19.00%	0.0133%
ANSYS Inc.	ANSS	13,301.52	0.06%	0.00%	12.00%	12.00%	0.0067%
Anthem Inc.	ANTM	67,811.70	0.29%	1.15%	18.00%	19.25%	0.0549%
Aon plc	AON	36,783.00	0.15%	1.05%	9.50%	10.60%	0.0164%
Smith (A.O.)	AOS	7,899.32	0.03%	1.89%	12.50%	14.51%	0.0048%
Apache Corp.	APA	12,091.89	0.05%	3.16%	0.00%	3.16%	0.0016%
Anadarko Petroleum	APC	23,731.90	0.10%	2.50%	0.00%	2.50%	0.0025%
Air Products & Chem.	APD	34,239.95	0.14%	2.82%	8.00%	10.93%	0.0158%
Amphenol Corp.	APH	24,655.38	0.10%	1.12%	10.00%	11.18%	0.0116%
Aptiv PLC	APTIV	18,787.86	0.08%	1.24%	10.00%	11.30%	0.0089%
Alexandria Real Estate	ARE	12,248.49	0.05%	3.16%	0.00%	3.16%	0.0016%
Arconic Inc.	ARNC	9,751.82	0.04%	1.19%	0.00%	1.19%	0.0005%
Activision Blizzard	ATVI	36,150.42	0.15%	0.80%	14.50%	15.36%	0.0234%
AvalonBay Communities	AVB	25,318.15	0.11%	3.33%	5.50%	8.92%	0.0095%
Broadcom Inc.	AVGO	105,451.28	0.44%	4.15%	47.50%	52.64%	0.2336%
Avery Dennison	AVY	8,250.57	0.03%	2.32%	11.50%	13.95%	0.0048%
Amer. Water Works	AWK	16,715.96	0.07%	2.10%	10.00%	12.20%	0.0086%
Amer. Express	AXP	84,964.47	0.36%	1.66%	9.00%	10.73%	0.0384%
AutoZone Inc.	AZO	21,239.69	0.09%	0.00%	12.50%	12.50%	0.0112%
Boeing	BA	204,321.86	0.86%	2.29%	18.00%	20.50%	0.1762%
Bank of America	BAC	285,790.78	1.20%	2.07%	13.00%	15.20%	0.1829%
Baxter Int'l Inc.	BAX	36,860.38	0.16%	1.10%	13.50%	14.67%	0.0228%

BB&T Corp.	BBT	37,205.53	0.16%	3.40%	10.00%	13.57%	0.0212%
Best Buy Co.	BBY	15,727.04	0.07%	3.81%	12.00%	16.03%	0.0106%
Becton Dickinson	BDX	63,330.36	0.27%	1.32%	10.00%	11.39%	0.0303%
Franklin Resources	BEN	16,439.32	0.07%	3.35%	7.50%	10.97%	0.0076%
Brown-Forman 'B'	BF/B	21,752.37	0.09%	1.45%	15.50%	17.06%	0.0156%
Brighthouse Financial	BHF	4,254.34	0.02%	0.00%	9.16%	9.16%	0.0016%
Baker Hughes a GE co.	BHGE	9,743.80	0.04%	3.04%	0.00%	3.04%	0.0012%
Biogen	BIIB	68,169.77	0.29%	0.00%	6.50%	6.50%	0.0186%
Bank of New York Mello	BK	50,951.68	0.21%	2.17%	9.00%	11.27%	0.0242%
Booking Holdings	BKNG	80,407.01	0.34%	0.00%	13.50%	13.50%	0.0457%
BlackRock Inc.	BLK	65,523.86	0.28%	3.04%	11.00%	14.20%	0.0392%
Ball Corp.	BLL	16,863.76	0.07%	0.81%	22.00%	22.90%	0.0162%
Bristol-Myers Squibb	BMY	80,957.07	0.34%	3.31%	13.50%	17.03%	0.0580%
Broadridge Fin'l	BR	11,692.85	0.05%	1.94%	12.00%	14.05%	0.0069%
Berkshire Hathaway 'B'	BRK/	0.00	0.00%	0.00%	0.00%	0.00%	0.0000%
Boston Scientific	BSX	50,934.18	0.21%	0.00%	17.50%	17.50%	0.0375%
BorgWarner	BWA	8,347.58	0.04%	1.70%	8.50%	10.27%	0.0036%
Boston Properties	BXP	18,583.82	0.08%	3.24%	3.50%	6.80%	0.0053%
Citigroup Inc.	C	152,560.30	0.64%	3.07%	8.50%	11.70%	0.0751%
Conagra Brands	CAG	10,315.04	0.04%	4.00%	4.50%	8.59%	0.0037%
Cardinal Health	CAH	14,451.00	0.06%	3.99%	11.00%	15.21%	0.0092%
Caterpillar Inc.	CAT	79,393.00	0.33%	2.56%	19.00%	21.80%	0.0728%
Chubb Ltd.	CB	61,261.87	0.26%	2.20%	9.50%	11.80%	0.0304%
Cboe Global Markets	CBOE	10,440.38	0.04%	1.33%	17.00%	18.44%	0.0081%
CBRE Group	CBRE	14,913.50	0.06%	0.00%	11.50%	11.50%	0.0072%
CBS Corp. 'B'	CBS	18,288.75	0.08%	1.48%	10.50%	12.05%	0.0093%
Crown Castle Int'l	CCI	44,662.30	0.19%	4.27%	12.00%	16.53%	0.0311%
Carnival Corp.	CCL	37,478.00	0.16%	3.74%	12.50%	16.47%	0.0260%
Cadence Design Sys.	CDNS	12,905.17	0.05%	0.00%	12.50%	12.50%	0.0068%
Celanese Corp.	CE	13,029.58	0.05%	2.25%	10.00%	12.36%	0.0068%
Celgene Corp.	CELG	60,517.75	0.25%	0.00%	14.50%	14.50%	0.0369%
Cerner Corp.	CERN	17,591.56	0.07%	0.00%	9.00%	9.00%	0.0067%
CF Industries	CF	10,152.36	0.04%	2.97%	48.50%	52.19%	0.0223%
Citizens Fin'l Group	CFG	16,072.70	0.07%	3.78%	12.50%	16.51%	0.0112%
Church & Dwight	CHD	16,579.29	0.07%	1.29%	10.00%	11.36%	0.0079%
C.H. Robinson	CHRW	11,873.52	0.05%	2.33%	10.00%	12.44%	0.0062%
Charter Communic.	CHTR	70,489.40	0.30%	0.00%	19.50%	19.50%	0.0578%
Cigna Corp.	CI	47,367.36	0.20%	0.02%	13.00%	13.02%	0.0260%
Cincinnati Financial	CINF	12,719.88	0.05%	2.71%	7.00%	9.81%	0.0052%
Colgate-Palmolive	CL	53,773.84	0.23%	2.71%	10.50%	13.35%	0.0302%
Clorox Co.	CLX	19,393.41	0.08%	2.53%	7.50%	10.12%	0.0083%
Comerica Inc.	CMA	13,225.50	0.06%	3.01%	18.00%	21.28%	0.0118%
Comcast Corp.	CMCS	163,372.73	0.69%	2.12%	13.00%	15.25%	0.1049%
CME Group	CME	61,603.57	0.26%	1.55%	4.50%	6.08%	0.0158%
Chipotle Mex. Grill	CMG	14,386.81	0.06%	0.00%	18.50%	18.50%	0.0112%
Cummins Inc.	CMI	23,288.55	0.10%	3.14%	9.50%	12.79%	0.0125%
CMS Energy Corp.	CMS	14,442.63	0.06%	3.00%	7.00%	10.11%	0.0061%
Centene Corp.	CNC	25,724.70	0.11%	0.00%	17.00%	17.00%	0.0184%
CenterPoint Energy	CNP	12,748.13	0.05%	3.89%	3.50%	7.46%	0.0040%
Capital One Fin'l	COF	39,621.41	0.17%	1.91%	10.00%	12.01%	0.0200%
Cabot Oil & Gas 'A'	COG	10,963.07	0.05%	1.11%	0.00%	1.11%	0.0005%
Cooper Cos.	COO	13,134.25	0.06%	0.02%	16.50%	16.52%	0.0091%
ConocoPhillips	COP	77,202.29	0.32%	1.82%	0.00%	1.82%	0.0059%
Costco Wholesale	COST	93,157.85	0.39%	1.15%	9.00%	10.20%	0.0400%
Coty Inc.	COTY	5,578.44	0.02%	6.73%	11.00%	18.10%	0.0042%
Campbell Soup	CPB	11,556.94	0.05%	3.91%	0.00%	3.91%	0.0019%
Capri Holdings Ltd.	CPRI	6,169.66	0.03%	0.00%	7.50%	7.50%	0.0019%
Copart Inc.	CPRT	11,639.56	0.05%	0.00%	15.50%	15.50%	0.0076%
salesforce.com	CRM	114,612.30	0.48%	0.00%	65.00%	65.00%	0.3135%
Cisco Systems	CSCO	199,696.56	0.84%	3.19%	8.00%	11.32%	0.0951%
CSX Corp.	CSX	54,963.30	0.23%	1.35%	18.50%	19.98%	0.0462%
Cintas Corp.	CTAS	19,017.98	0.08%	1.13%	15.00%	16.22%	0.0130%
CenturyLink Inc.	CTL	16,575.99	0.07%	14.08%	2.50%	16.76%	0.0117%
Cognizant Technology	CTSH	38,599.00	0.16%	1.20%	11.50%	12.77%	0.0207%
Citrix Sys.	CTXS	14,417.94	0.06%	1.31%	7.50%	8.86%	0.0054%
CVS Health	CVS	64,574.03	0.27%	3.16%	8.50%	11.79%	0.0320%
Chevron Corp.	CVX	213,930.27	0.90%	4.07%	31.00%	35.70%	0.3214%
Concho Resources	CXO	25,074.05	0.11%	0.00%	34.50%	34.50%	0.0364%
Dominion Energy	D	45,155.70	0.19%	5.34%	6.50%	12.01%	0.0228%
Delta Air Lines	DAL	33,060.55	0.14%	2.90%	10.50%	13.56%	0.0189%
Deere & Co.	DE	51,490.36	0.22%	1.90%	16.50%	18.56%	0.0402%
Discover Fin'l Svcs.	DFS	21,809.36	0.09%	2.48%	8.00%	10.58%	0.0097%
Dollar General	DG	29,513.99	0.12%	1.03%	13.00%	14.10%	0.0175%
Quest Diagnostics	DGX	11,573.60	0.05%	2.49%	9.50%	12.11%	0.0059%
Horton D.R.	DHI	14,151.18	0.06%	1.60%	8.00%	9.66%	0.0058%
Danaher Corp.	DHR	73,983.46	0.31%	0.61%	10.50%	11.14%	0.0347%
Disney (Walt)	DIS	165,182.88	0.70%	1.59%	9.00%	10.66%	0.0741%
Discovery Inc.	DISC	14,291.55	0.06%	0.00%	17.00%	17.00%	0.0102%
Discovery Commun. 'C	DISC	13,304.20	0.06%	0.00%	0.00%	0.00%	0.0000%

Dish Network 'A'	DISH	13,721.50	0.06%	0.00%	1.00%	1.00%	0.0006%
Digital Realty Trust	DLR	21,907.21	0.09%	4.03%	6.50%	10.66%	0.0098%
Dollar Tree Inc.	DLTR	22,504.82	0.09%	0.00%	17.00%	17.00%	0.0161%
Dover Corp.	DOV	11,568.30	0.05%	2.43%	13.00%	15.59%	0.0076%
Duke Realty Corp.	DRE	10,045.82	0.04%	3.12%	7.00%	10.23%	0.0043%
Darden Restaurants	DRI	13,340.21	0.06%	2.87%	12.50%	15.55%	0.0087%
DTE Energy	DTE	20,592.09	0.09%	3.39%	7.50%	11.02%	0.0095%
Duke Energy	DUK	61,061.32	0.26%	4.43%	5.50%	10.05%	0.0258%
DaVita Inc.	DVA	9,414.61	0.04%	0.00%	10.00%	10.00%	0.0040%
Devon Energy	DVN	12,485.11	0.05%	1.21%	23.50%	24.86%	0.0131%
DowDuPont Inc.	DWDP	130,852.10	0.55%	2.95%	0.00%	2.95%	0.0162%
DXC Technology	DXC	17,491.73	0.07%	1.23%	14.00%	15.31%	0.0113%
Electronic Arts	EA	27,150.24	0.11%	0.00%	11.50%	11.50%	0.0131%
eBay Inc.	EBAY	29,255.94	0.12%	0.00%	17.50%	17.50%	0.0215%
Ecolab Inc.	ECL	44,058.91	0.19%	1.21%	9.50%	10.76%	0.0200%
Consol. Edison	ED	23,988.61	0.10%	3.84%	3.00%	6.90%	0.0070%
Equifax Inc.	EFX	12,186.63	0.05%	1.54%	7.50%	9.10%	0.0047%
Edison Int'l	EIX	17,434.15	0.07%	4.60%	4.50%	9.20%	0.0068%
Lauder (Estee)	EL	45,712.34	0.19%	1.37%	12.50%	13.96%	0.0268%
Eastman Chemical	EMN	11,076.09	0.05%	3.13%	9.50%	12.78%	0.0060%
Emerson Electric	EMR	39,010.40	0.16%	3.18%	14.00%	17.40%	0.0286%
EOG Resources	EOG	57,432.26	0.24%	0.91%	0.00%	0.91%	0.0022%
Equinix Inc.	EQIX	30,543.73	0.13%	2.72%	25.50%	28.57%	0.0367%
Equity Residential	EQR	25,728.14	0.11%	3.09%	-15.00%	-12.14%	-0.0131%
Eversource Energy	ES	21,320.09	0.09%	3.14%	5.00%	8.21%	0.0074%
Essex Property Trust	ESS	17,053.82	0.07%	2.96%	0.50%	3.47%	0.0025%
E*Trade Fin'l	ETFC	12,766.36	0.05%	1.13%	26.00%	27.27%	0.0147%
Eaton Corp. plc	ETN	30,758.40	0.13%	3.72%	10.00%	13.91%	0.0180%
Entergy Corp.	ETR	15,582.70	0.07%	4.25%	1.00%	5.28%	0.0035%
Every Inc.	EVERG	0.00	0.00%	3.43%	0.00%	3.43%	0.0000%
Edwards Lifesciences	EW	33,269.90	0.14%	0.00%	16.00%	16.00%	0.0224%
Exelon Corp.	EXC	44,501.34	0.19%	3.15%	8.00%	11.28%	0.0211%
Expeditors Int'l	EXPD	11,724.00	0.05%	1.33%	9.50%	10.89%	0.0054%
Expedia Group	EXPE	17,415.47	0.07%	1.10%	20.50%	21.71%	0.0159%
Extra Space Storage	EXR	11,610.29	0.05%	3.86%	5.00%	8.96%	0.0044%
Ford Motor	F	33,255.27	0.14%	7.18%	1.50%	8.73%	0.0122%
Diamondback Energy	FANG	10,424.91	0.04%	0.47%	0.00%	0.47%	0.0002%
Fastenal Co.	FAST	16,459.85	0.07%	2.79%	11.50%	14.45%	0.0100%
Facebook Inc.	FB	426,065.88	1.79%	0.00%	26.00%	26.00%	0.4662%
Fortune Brands Home	FBHS	5,971.53	0.03%	2.08%	13.50%	15.72%	0.0040%
Freep't-McMoRan Inc.	FCX	17,576.37	0.07%	1.98%	0.00%	1.98%	0.0015%
FedEx Corp.	FDX	45,231.09	0.19%	1.50%	9.50%	11.07%	0.0211%
FirstEnergy Corp.	FE	19,798.04	0.08%	3.93%	3.00%	6.99%	0.0058%
F5 Networks	FFIV	9,418.83	0.04%	0.00%	10.50%	10.50%	0.0042%
Fidelity Nat'l Info.	FIS	34,180.88	0.14%	1.23%	15.50%	16.82%	0.0242%
Fiserv Inc.	FISV	29,874.50	0.13%	0.00%	11.00%	11.00%	0.0138%
Fifth Third Bancorp	FITB	17,314.82	0.07%	3.33%	7.00%	10.45%	0.0076%
Foot Locker	FL	6,530.19	0.03%	2.40%	8.00%	10.49%	0.0029%
FLIR Systems	FLIR	6,209.72	0.03%	1.52%	13.50%	15.12%	0.0040%
Fluor Corp.	FLR	5,256.98	0.02%	2.25%	8.50%	10.84%	0.0024%
Flowerserve Corp.	FLS	5,500.20	0.02%	1.80%	7.50%	9.37%	0.0022%
FleetCor Technologies	FLT	17,074.49	0.07%	0.00%	14.50%	14.50%	0.0104%
FMC Corp.	FMC	10,694.54	0.05%	2.02%	22.50%	24.74%	0.0111%
Twenty-First Century F	FOX	89,033.70	0.37%	0.75%	0.00%	0.75%	0.0028%
Twenty-First Century F	FOX	89,033.70	0.37%	0.75%	0.00%	0.75%	0.0028%
First Republic Bank	FRC	15,764.33	0.07%	0.75%	11.50%	12.30%	0.0082%
Federal Rlty. Inv. Tru	FRT	9,180.23	0.04%	3.26%	3.50%	6.82%	0.0026%
TechnipFMC	FTI	10,538.98	0.04%	2.24%	7.48%	9.80%	0.0043%
Fortinet Inc.	FTNT	12,372.29	0.05%	0.00%	38.50%	38.50%	0.0200%
Fortive Corp.	FTV	24,968.73	0.11%	0.39%	0.00%	0.39%	0.0004%
Gen'l Dynamics	GD	49,077.81	0.21%	2.25%	9.00%	11.35%	0.0234%
Gen'l Electric	GE	79,500.77	0.33%	0.44%	0.00%	0.44%	0.0015%
Gilead Sciences	GILD	88,833.09	0.37%	3.32%	-6.50%	-3.29%	-0.0123%
Gen'l Mills	GIS	25,640.20	0.11%	4.61%	3.00%	7.68%	0.0083%
Corning Inc.	GLW	24,228.08	0.10%	2.38%	15.50%	18.06%	0.0184%
Gen'l Motors	GM	53,564.00	0.23%	4.08%	3.00%	7.14%	0.0161%
Alphabet Inc. 'A'	GOOG	764,928.25	3.22%	0.00%	18.06%	18.06%	0.5814%
Alphabet Inc.	GOOG	758,523.44	3.19%	0.00%	15.50%	15.50%	0.4948%
Genuine Parts	GPC	14,244.43	0.06%	2.97%	9.00%	12.10%	0.0073%
Global Payments	GPN	17,943.04	0.08%	0.04%	20.00%	20.04%	0.0151%
Gap (The) Inc.	GPS	9,775.38	0.04%	3.79%	7.00%	10.92%	0.0045%
Garmin Ltd.	GRMN	12,657.75	0.05%	3.16%	10.50%	13.83%	0.0074%
Goldman Sachs	GS	74,208.61	0.31%	1.61%	9.50%	11.18%	0.0349%
Goodyear Tire	GT	4,722.91	0.02%	3.26%	12.50%	15.96%	0.0032%
Grainger (W.W.)	GWV	16,855.45	0.07%	1.82%	9.50%	11.40%	0.0081%
Halliburton Co.	HAL	27,068.40	0.11%	2.33%	0.00%	2.33%	0.0027%
Hasbro Inc.	HAS	11,200.43	0.05%	2.85%	8.50%	11.47%	0.0054%
Huntington Bancshs.	HBAN	14,182.03	0.06%	4.19%	13.00%	17.46%	0.0104%
Hanesbrands Inc.	HBI	5,164.67	0.02%	4.19%	4.00%	8.27%	0.0018%

HCA Healthcare	HCA	46,262.23	0.19%	1.04%	15.00%	16.12%	0.0314%
HCP Inc.	HCP	13,993.89	0.06%	5.10%	35.50%	41.50%	0.0244%
Home Depot	HD	197,777.97	0.83%	2.63%	12.50%	15.30%	0.1273%
Hess Corp.	HES	15,357.75	0.06%	1.93%	0.00%	1.93%	0.0012%
HollyFrontier Corp.	HFC	9,609.09	0.04%	2.45%	25.00%	27.76%	0.0112%
Hartford Fin'l Svcs.	HIG	16,538.55	0.07%	2.60%	13.00%	15.77%	0.0110%
Huntington Ingalls	HII	8,476.16	0.04%	1.75%	12.50%	14.35%	0.0051%
Hilton Worldwide Hldgs	HLT	21,381.26	0.09%	0.83%	9.00%	9.87%	0.0089%
Harley-Davidson	HOG	6,070.41	0.03%	3.97%	9.00%	13.15%	0.0034%
Hologic Inc.	HOLX	11,717.51	0.05%	0.00%	24.00%	24.00%	0.0118%
Honeywell Int'l	HON	103,551.49	0.44%	2.35%	9.00%	11.45%	0.0499%
Helmerich & Payne	HP	5,837.22	0.02%	5.30%	56.50%	63.30%	0.0155%
Hewlett Packard Ent.	HPE	20,306.21	0.09%	3.15%	7.50%	10.77%	0.0092%
HP Inc.	HPQ	33,118.80	0.14%	3.02%	9.50%	12.66%	0.0176%
Block (H&R)	HRB	5,187.50	0.02%	4.12%	8.50%	12.80%	0.0028%
Hormel Foods	HRL	23,154.75	0.10%	1.94%	9.00%	11.03%	0.0107%
Harris Corp.	HRS	16,306.90	0.07%	1.98%	13.50%	15.61%	0.0107%
Schein (Henry)	HSIC	11,932.85	0.05%	0.00%	9.00%	9.00%	0.0045%
Host Hotels & Resorts	HST	12,956.42	0.05%	4.74%	0.00%	4.74%	0.0026%
Hershey Co.	HSY	22,603.73	0.10%	2.68%	6.50%	9.27%	0.0088%
Humana Inc.	HUM	39,923.87	0.17%	0.70%	14.00%	14.75%	0.0248%
Int'l Business Mach.	IBM	111,045.54	0.47%	5.34%	0.00%	5.34%	0.0249%
Intercontinental Exch.	ICE	42,739.35	0.18%	1.28%	12.50%	13.86%	0.0249%
IDEXX Labs.	IDXX	17,040.91	0.07%	0.00%	17.00%	17.00%	0.0122%
Int'l Flavors & Frag.	IFF	12,427.65	0.05%	2.20%	9.50%	11.80%	0.0062%
illumina Inc.	ILMN	45,577.35	0.19%	0.00%	15.00%	15.00%	0.0288%
Incyte Corp.	INCY	16,737.36	0.07%	0.00%	0.00%	0.00%	0.0000%
IHS Markit	INFO	20,261.88	0.09%	0.00%	20.00%	20.00%	0.0171%
Intel Corp.	INTC	221,217.09	0.93%	2.48%	12.50%	15.13%	0.1409%
Intuit Inc.	INTU	54,958.97	0.23%	0.89%	14.50%	15.45%	0.0357%
Int'l Paper	IP	18,225.00	0.08%	4.44%	15.50%	20.29%	0.0156%
Interpublic Group	IPG	8,737.17	0.04%	3.76%	11.50%	15.48%	0.0057%
IPG Photonics	IPGP	7,024.24	0.03%	0.00%	10.50%	10.50%	0.0031%
IQVIA Holdings	IQV	25,103.41	0.11%	0.00%	14.50%	14.50%	0.0153%
Ingersoll-Rand	IR	23,010.60	0.10%	2.26%	13.50%	15.92%	0.0154%
Iron Mountain	IRM	10,140.81	0.04%	6.89%	8.50%	15.68%	0.0067%
Intuitive Surgical	ISRG	61,014.78	0.26%	0.00%	15.00%	15.00%	0.0385%
Gartner Inc.	IT	11,735.19	0.05%	0.00%	15.00%	15.00%	0.0074%
Illinois Tool Works	ITW	44,019.91	0.19%	3.02%	11.00%	14.18%	0.0263%
Invesco Ltd.	IVZ	7,592.60	0.03%	6.50%	7.00%	13.73%	0.0044%
Hunt (J.B.)	JBHT	10,908.87	0.05%	0.99%	13.50%	14.56%	0.0067%
Johnson Ctrl's. Int'l p	JCI	29,840.73	0.13%	3.22%	6.00%	9.32%	0.0117%
Jacobs Engineering	JEC	8,585.43	0.04%	0.99%	13.00%	14.06%	0.0051%
Jefferies Fin'l Group	JEF	6,595.16	0.03%	2.51%	20.50%	23.27%	0.0065%
Henry (Jack) & Assoc.	JKHY	10,009.18	0.04%	1.14%	11.50%	12.71%	0.0054%
Johnson & Johnson	JNJ	346,368.47	1.46%	2.88%	11.00%	14.04%	0.2047%
Juniper Networks	JNPR	9,645.54	0.04%	2.72%	4.50%	7.28%	0.0030%
JPMorgan Chase	JPM	342,251.28	1.44%	3.13%	9.50%	12.78%	0.1840%
Nordstrom Inc.	JWN	7,749.13	0.03%	3.23%	7.00%	10.34%	0.0034%
Kellogg	K	20,570.16	0.09%	3.81%	5.50%	9.42%	0.0082%
KeyCorp	KEY	16,889.91	0.07%	4.16%	13.00%	17.43%	0.0124%
Keysight Technologies	KEYS	12,964.91	0.05%	0.00%	7.00%	7.00%	0.0038%
Kraft Heinz Co.	KHC	57,390.52	0.24%	5.31%	9.50%	15.06%	0.0364%
Kimco Realty	KIM	7,048.70	0.03%	6.88%	-0.50%	6.37%	0.0019%
KLA-Tencor	KLAC	14,223.73	0.06%	3.23%	15.50%	18.98%	0.0114%
Kimberly-Clark	KMB	39,606.45	0.17%	3.50%	10.50%	14.18%	0.0236%
Kinder Morgan Inc.	KMI	39,081.41	0.16%	4.52%	57.00%	62.80%	0.1033%
CarMax Inc.	KMX	11,090.44	0.05%	0.00%	11.50%	11.50%	0.0054%
Coca-Cola	KO	200,287.34	0.84%	3.53%	6.50%	10.14%	0.0855%
Kroger Co.	KR	23,086.14	0.10%	2.14%	5.00%	7.20%	0.0070%
Kohl's Corp.	KSS	11,358.60	0.05%	3.81%	11.00%	15.02%	0.0072%
Kansas City South'n	KSU	10,590.73	0.04%	1.38%	12.50%	13.97%	0.0062%
Loews Corp.	L	14,739.33	0.06%	0.53%	16.50%	17.08%	0.0106%
L Brands	LB	7,425.00	0.03%	4.44%	-4.50%	-0.16%	0.0000%
Leggett & Platt	LEG	5,069.35	0.02%	3.91%	9.00%	13.09%	0.0028%
Lennar Corp.	LEN	14,790.16	0.06%	0.36%	12.00%	12.38%	0.0077%
Laboratory Corp.	LH	13,715.37	0.06%	0.00%	9.50%	9.50%	0.0055%
Linde plc	LIN	45,268.24	0.19%	2.10%	13.00%	15.23%	0.0290%
LKQ Corp.	LKQ	8,559.50	0.04%	0.00%	12.00%	12.00%	0.0043%
L3 Technologies	LLL	13,990.44	0.06%	1.80%	11.00%	12.90%	0.0076%
Lilly (Eli)	LLY	126,228.81	0.53%	2.17%	12.00%	14.29%	0.0759%
Lockheed Martin	LMT	79,297.97	0.33%	3.30%	13.50%	17.02%	0.0568%
Lincoln Nat'l Corp.	LNC	12,461.36	0.05%	2.62%	10.50%	13.26%	0.0070%
Alliant Energy	LNT	10,034.36	0.04%	3.34%	6.50%	9.95%	0.0042%
Lowe's Cos.	LOW	74,192.30	0.31%	2.28%	13.00%	15.43%	0.0482%
Lam Research	LRCX	21,743.72	0.09%	3.10%	13.00%	16.31%	0.0149%
Southwest Airlines	LUV	28,447.11	0.12%	1.27%	9.50%	10.83%	0.0130%
Lamb Weston Holdings	LW	10,386.28	0.04%	1.13%	0.00%	1.13%	0.0005%
LyondellBasell Inds.	LYB	33,239.23	0.14%	4.66%	6.50%	11.31%	0.0158%

Macy's Inc.	M	7,609.81	0.03%	6.10%	5.00%	11.25%	0.0036%
MasterCard Inc.	MA	206,285.84	0.87%	0.66%	16.00%	16.71%	0.1451%
Mid-America Apartment	MAA	11,364.30	0.05%	3.84%	-4.50%	-0.75%	-0.0004%
Macerich Comp. (The)	MAC	6,477.26	0.03%	6.57%	8.00%	14.84%	0.0040%
Marriott Int'l	MAR	37,002.37	0.16%	1.51%	12.50%	14.11%	0.0220%
Masco Corp.	MAS	9,580.99	0.04%	1.52%	14.50%	16.13%	0.0065%
Mattel Inc.	MAT	4,354.68	0.02%	0.00%	26.50%	26.50%	0.0049%
McDonald's Corp.	MCD	139,617.69	0.59%	2.56%	10.00%	12.69%	0.0746%
Microchip Technology	MCHP	17,987.24	0.08%	1.97%	15.00%	17.12%	0.0130%
McKesson Corp.	MCK	24,256.05	0.10%	1.25%	10.50%	11.82%	0.0121%
Moody's Corp.	MCO	30,247.39	0.13%	1.12%	13.00%	14.19%	0.0181%
Mondelez Int'l	MDLZ	62,712.94	0.26%	2.51%	9.50%	12.13%	0.0320%
Medtronic plc	MDT	117,925.29	0.50%	2.28%	8.00%	10.37%	0.0515%
MetLife Inc.	MET	44,448.32	0.19%	3.86%	7.00%	11.00%	0.0206%
MGM Resorts Int'l	MGM	14,755.93	0.06%	1.73%	32.00%	34.01%	0.0211%
Mohawk Inds.	MHK	9,264.08	0.04%	0.00%	4.50%	4.50%	0.0018%
McCormick & Co.	MKC	18,496.30	0.08%	1.62%	10.00%	11.70%	0.0091%
Martin Marietta	MLM	11,114.45	0.05%	1.10%	13.00%	14.17%	0.0066%
Marsh & McLennan	MMC	41,481.21	0.17%	2.02%	9.00%	11.11%	0.0194%
3M Company	MMM	111,630.23	0.47%	2.84%	9.00%	11.97%	0.0562%
Monster Beverage	MNST	30,008.70	0.13%	0.00%	15.00%	15.00%	0.0189%
Altria Group	MO	88,475.99	0.37%	6.80%	10.50%	17.66%	0.0657%
Mosaic Company	MOS	12,319.62	0.05%	0.63%	12.00%	12.66%	0.0066%
Marathon Petroleum	MPC	29,671.29	0.12%	3.19%	14.50%	17.92%	0.0224%
Merck & Co.	MRK	201,000.69	0.85%	2.91%	5.50%	8.49%	0.0718%
Marathon Oil Corp.	MRO	13,232.02	0.06%	1.39%	0.00%	1.39%	0.0008%
Morgan Stanley	MS	73,397.93	0.31%	2.82%	11.00%	13.98%	0.0432%
MSCI Inc.	MSCI	14,239.55	0.06%	1.57%	22.00%	23.74%	0.0142%
Microsoft Corp.	MSFT	815,001.56	3.43%	1.73%	15.00%	16.86%	0.5784%
Motorola Solutions	MSI	18,598.13	0.08%	2.00%	13.00%	15.13%	0.0118%
M&T Bank Corp.	MTB	23,086.71	0.10%	2.45%	12.00%	14.60%	0.0142%
Mettler-Toledo Int'l	MTD	14,718.70	0.06%	0.00%	11.00%	11.00%	0.0068%
Micron Technology	MU	37,945.60	0.16%	0.00%	7.50%	7.50%	0.0120%
Maxim Integrated	MXIM	14,603.99	0.06%	3.49%	11.50%	15.19%	0.0093%
Mylan N.V.	MYL	15,236.36	0.06%	0.00%	14.00%	14.00%	0.0090%
Noble Energy	NBL	11,126.54	0.05%	1.90%	0.00%	1.90%	0.0009%
Norwegian Cruise Line	NCLH	10,369.74	0.04%	0.00%	16.50%	16.50%	0.0072%
Nasdaq Inc.	NDAQ	13,515.96	0.06%	2.14%	9.50%	11.74%	0.0067%
NextEra Energy	NEE	83,874.56	0.35%	2.85%	9.00%	11.98%	0.0423%
Newmont Mining	NEM	16,842.71	0.07%	1.77%	5.00%	6.82%	0.0048%
Netflix Inc.	NFLX	154,020.86	0.65%	0.00%	47.00%	47.00%	0.3046%
Newfield Exploration	NFX	3,666.09	0.02%	0.00%	25.00%	25.00%	0.0039%
NISource Inc.	NI	9,707.45	0.04%	2.92%	18.00%	21.18%	0.0087%
NIKE Inc. 'B'	NIKE	124,788.02	0.53%	1.11%	16.00%	17.20%	0.0903%
Nektar Therapeutics	NKTR	7,860.25	0.03%	0.00%	0.00%	0.00%	0.0000%
Nielsen Hldgs. plc	NLSN	8,970.42	0.04%	5.54%	3.00%	8.62%	0.0033%
Northrop Grumman	NOC	45,877.83	0.19%	1.82%	13.00%	14.94%	0.0288%
National Oilwell Varco	NOV	11,419.85	0.05%	0.67%	41.50%	42.31%	0.0203%
NRG Energy	NRG	11,904.53	0.05%	0.29%	0.00%	0.29%	0.0001%
Norfolk Southern	NSC	44,959.04	0.19%	1.94%	13.50%	15.57%	0.0295%
NetApp Inc.	NTAP	15,727.68	0.07%	2.58%	20.50%	23.35%	0.0155%
Northern Trust Corp.	NTRS	19,744.00	0.08%	2.47%	11.00%	13.60%	0.0113%
Nucor Corp.	NUE	18,126.49	0.08%	2.77%	20.50%	23.56%	0.0180%
NVIDIA Corp.	NVDA	92,549.20	0.39%	0.42%	23.00%	23.47%	0.0914%
Newell Brands	NWL	10,159.77	0.04%	4.44%	9.50%	14.15%	0.0060%
News Corp. 'B'	NWS	7,345.99	0.03%	1.59%	0.00%	1.59%	0.0005%
News Corp. 'A'	NWSA	7,275.32	0.03%	1.61%	0.00%	1.61%	0.0005%
Realty Income Corp.	O	18,419.91	0.08%	4.18%	4.50%	8.78%	0.0068%
ONEOK Inc.	OKE	25,463.12	0.11%	5.65%	20.50%	26.73%	0.0286%
Omnicom Group	OMC	16,662.21	0.07%	3.23%	7.00%	10.34%	0.0073%
Oracle Corp.	ORCL	176,442.56	0.74%	1.56%	8.50%	10.13%	0.0752%
O'Reilly Automotive	ORLY	27,978.08	0.12%	0.00%	13.00%	13.00%	0.0153%
Occidental Petroleum	OXY	49,635.03	0.21%	4.77%	0.00%	4.77%	0.0100%
Paychex Inc.	PAYX	24,688.13	0.10%	3.43%	11.00%	14.62%	0.0152%
People's United Fin'l	PBCT	5,477.76	0.02%	4.44%	11.00%	15.68%	0.0036%
PACCAR Inc.	PCAR	21,456.73	0.09%	5.35%	7.50%	13.05%	0.0118%
PG&E Corp.	PCG	3,288.77	0.01%	0.00%	5.00%	5.00%	0.0007%
Public Serv. Enterpris	PEG	26,313.84	0.11%	3.60%	4.00%	7.67%	0.0085%
PepsiCo Inc.	PEP	154,218.64	0.65%	3.40%	7.50%	11.02%	0.0715%
Pfizer Inc.	PFE	245,496.78	1.03%	3.39%	14.00%	17.63%	0.1821%
Principal Fin'l Group	PFG	13,899.24	0.06%	4.41%	6.50%	11.05%	0.0065%
Procter & Gamble	PG	225,821.22	0.95%	3.18%	10.50%	13.84%	0.1316%
Progressive Corp.	PGR	36,881.07	0.16%	1.82%	15.50%	17.46%	0.0271%
Parker-Hannifin	PH	21,112.31	0.09%	1.91%	14.00%	16.04%	0.0143%
PulteGroup Inc.	PHM	7,573.50	0.03%	1.64%	15.50%	17.27%	0.0055%
Packaging Corp.	PKG	8,526.74	0.04%	3.50%	9.50%	13.17%	0.0047%
PerkinElmer Inc.	PKI	9,367.97	0.04%	0.33%	12.50%	12.85%	0.0051%
Prologis	PLD	34,086.52	0.14%	3.12%	9.00%	12.26%	0.0176%
Philip Morris Int'l	PM	112,733.80	0.47%	6.29%	7.50%	14.02%	0.0665%

PNC Financial Serv.	PNC	56,313.18	0.24%	3.12%	9.50%	12.77%	0.0303%
Pentair plc	PNR	7,006.54	0.03%	1.78%	5.50%	7.33%	0.0022%
Pinnacle West Capital	PNW	9,581.51	0.04%	3.55%	6.00%	9.66%	0.0039%
PPG Inds.	PPG	25,754.05	0.11%	1.79%	4.50%	6.33%	0.0069%
PPL Corp.	PPL	21,519.09	0.09%	5.62%	2.00%	7.68%	0.0070%
Perrigo Co. plc	PRGO	6,095.90	0.03%	1.87%	0.50%	2.38%	0.0006%
Prudential Fin'l	PRU	37,780.03	0.16%	3.95%	6.50%	10.58%	0.0168%
Public Storage	PSA	35,629.43	0.15%	4.25%	7.00%	11.39%	0.0171%
Phillips 66	PSX	43,078.30	0.18%	3.65%	8.00%	11.80%	0.0214%
PVH Corp.	PVH	8,164.99	0.03%	0.14%	11.00%	11.15%	0.0038%
Quanta Services	PWR	4,839.35	0.02%	0.49%	19.50%	20.04%	0.0041%
Pioneer Natural Res.	PXD	24,422.09	0.10%	0.35%	77.00%	77.48%	0.0796%
PayPal Holdings	PYPL	106,491.20	0.45%	0.00%	18.50%	18.50%	0.0829%
Qualcomm Inc.	QCOM	66,764.63	0.28%	4.80%	10.50%	15.55%	0.0437%
Qorvo Inc.	QRVO	7,784.11	0.03%	0.00%	0.00%	0.00%	0.0000%
Royal Caribbean	RCL	22,369.00	0.09%	2.62%	11.00%	13.76%	0.0130%
Everest Re Group Ltd.	RE	8,752.52	0.04%	2.65%	10.00%	12.78%	0.0047%
Regency Centers Corp.	REG	10,495.29	0.04%	3.61%	14.00%	17.87%	0.0079%
Regeneron Pharmac.	REGN	44,367.08	0.19%	0.00%	16.50%	16.50%	0.0308%
Regions Financial	RF	17,115.73	0.07%	3.72%	13.50%	17.47%	0.0126%
Robert Half Int'l	RHI	7,304.35	0.03%	1.99%	9.00%	11.08%	0.0034%
Red Hat Inc.	RHT	31,063.80	0.13%	0.00%	17.50%	17.50%	0.0229%
Raymond James Fin'l	RJF	11,629.51	0.05%	1.75%	12.00%	13.86%	0.0068%
Ralph Lauren	RL	8,684.34	0.04%	2.32%	7.00%	9.40%	0.0034%
ResMed Inc.	RMD	16,730.22	0.07%	1.26%	11.00%	12.33%	0.0087%
Rockwell Automation	ROK	19,407.49	0.08%	2.46%	10.50%	13.09%	0.0107%
Rollins Inc.	ROL	12,405.35	0.05%	0.98%	15.50%	16.55%	0.0086%
Roper Tech.	ROP	28,485.93	0.12%	0.67%	14.50%	15.22%	0.0182%
Ross Stores	ROST	33,692.07	0.14%	1.06%	11.50%	12.62%	0.0179%
Republic Services	RSG	24,370.97	0.10%	2.04%	13.50%	15.68%	0.0161%
Raytheon Co.	RTN	46,409.40	0.20%	2.13%	11.00%	13.25%	0.0259%
SBA Communications	SBAC	20,198.72	0.09%	0.00%	45.50%	45.50%	0.0387%
Starbucks Corp.	SBUX	87,825.77	0.37%	2.37%	15.00%	17.54%	0.0648%
Schwab (Charles)	SCHW	63,423.50	0.27%	1.11%	16.00%	17.20%	0.0459%
Sealed Air	SEE	5,831.74	0.02%	1.72%	19.00%	20.89%	0.0051%
Sherwin-Williams	SHW	36,938.27	0.16%	0.88%	13.00%	13.94%	0.0217%
SVB Fin'l Group	SIVB	12,000.95	0.05%	0.00%	21.50%	21.50%	0.0109%
Smucker (J.M.)	SJM	11,855.68	0.05%	3.32%	4.50%	7.90%	0.0039%
Schlumberger Ltd.	SLB	57,289.26	0.24%	4.83%	27.50%	33.00%	0.0796%
SL Green Realty	SLG	8,350.55	0.04%	3.88%	6.50%	10.50%	0.0037%
Snap-on Inc.	SNA	9,337.97	0.04%	2.29%	8.00%	10.38%	0.0041%
Synopsys Inc.	SNPS	12,466.94	0.05%	0.00%	10.50%	10.50%	0.0055%
Southern Co.	SO	47,022.93	0.20%	5.23%	3.00%	8.30%	0.0164%
Simon Property Group	SPG	53,914.52	0.23%	4.91%	3.00%	7.98%	0.0181%
S&P Global	SPGI	46,496.79	0.20%	1.16%	13.50%	14.74%	0.0288%
Sempra Energy	SRE	30,786.64	0.13%	3.45%	9.50%	13.12%	0.0170%
SunTrust Banks	STI	26,076.50	0.11%	3.62%	13.50%	17.36%	0.0191%
State Street Corp.	STT	26,962.77	0.11%	2.77%	9.00%	11.90%	0.0135%
Seagate Technology	STX	11,081.70	0.05%	6.51%	9.00%	15.80%	0.0074%
Constellation Brands	STZ	30,445.95	0.13%	2.00%	11.00%	13.11%	0.0168%
Stanley Black & Decker	SWK	20,038.11	0.08%	2.04%	10.00%	12.14%	0.0102%
Skyworks Solutions	SWKS	12,245.92	0.05%	2.20%	11.00%	13.32%	0.0069%
Synchrony Financial	SYF	18,938.01	0.08%	3.19%	10.50%	13.86%	0.0110%
Stryker Corp.	SYK	61,520.09	0.26%	1.27%	13.50%	14.85%	0.0384%
Symantec Corp.	SYMC	12,646.32	0.05%	1.50%	7.50%	9.06%	0.0048%
Sysco Corp.	SYU	32,374.13	0.14%	2.51%	13.00%	15.67%	0.0213%
AT&T Inc.	T	222,761.47	0.94%	6.66%	7.00%	13.89%	0.1302%
Molson Coors Brewing	TAP	13,332.12	0.06%	2.66%	11.00%	13.80%	0.0077%
TransDigm Group	TDG	18,406.80	0.08%	0.00%	8.00%	8.00%	0.0062%
TE Connectivity	TEL	28,042.16	0.12%	2.21%	9.50%	11.81%	0.0139%
Target Corp.	TGT	36,198.03	0.15%	3.69%	7.00%	10.82%	0.0165%
Tiffany & Co.	TIF	10,393.19	0.04%	2.76%	12.00%	14.92%	0.0065%
TJX Companies	TJX	59,190.96	0.25%	1.67%	13.00%	14.78%	0.0368%
Torchmark Corp.	TMK	9,164.13	0.04%	0.78%	10.00%	10.82%	0.0042%
Thermo Fisher Sci.	TMO	95,881.53	0.40%	0.29%	10.00%	10.30%	0.0416%
Tapestry Inc.	TPR	10,467.58	0.04%	3.74%	13.00%	16.98%	0.0075%
TripAdvisor Inc.	TRIP	8,043.48	0.03%	0.00%	8.50%	8.50%	0.0029%
Price (T. Rowe) Group	TROW	22,983.83	0.10%	3.05%	11.50%	14.73%	0.0142%
Travelers Cos.	TRV	32,554.51	0.14%	2.51%	5.50%	8.07%	0.0111%
Tractor Supply	TSCO	10,807.62	0.05%	1.54%	10.50%	12.12%	0.0055%
Tyson Foods 'A'	TSN	21,736.74	0.09%	2.53%	7.00%	9.61%	0.0088%
Total System Svcs.	TSS	15,728.24	0.07%	0.60%	10.50%	11.13%	0.0074%
Take-Two Interactive	TTWO	11,991.53	0.05%	0.00%	29.50%	29.50%	0.0149%
Twitter Inc.	TWTR	24,979.24	0.11%	0.00%	0.00%	0.00%	0.0000%
Texas Instruments	TXN	94,112.73	0.40%	3.16%	12.50%	15.86%	0.0628%
Textron Inc.	TXT	11,809.41	0.05%	0.17%	15.00%	15.18%	0.0075%
Under Armour 'C'	UA	8,074.63	0.03%	0.00%	0.00%	0.00%	0.0000%
Under Armour 'A'	UAA	8,979.95	0.04%	0.00%	11.50%	11.50%	0.0043%
United Cont'l Hldgs.	UAL	23,633.53	0.10%	0.00%	6.00%	6.00%	0.0060%

UDR Inc.	UDR	11,122.65	0.05%	3.11%	-2.50%	0.57%	0.0003%
Universal Health 'B'	UHS	12,074.67	0.05%	0.31%	11.00%	11.32%	0.0058%
Ulta Beauty	ULTA	16,880.98	0.07%	0.00%	20.00%	20.00%	0.0142%
UnitedHealth Group	UNH	249,898.77	1.05%	1.39%	15.00%	16.49%	0.1734%
Unum Group	UNM	7,353.47	0.03%	3.09%	9.50%	12.74%	0.0039%
Union Pacific	UNP	114,049.80	0.48%	2.07%	13.50%	15.71%	0.0754%
United Parcel Serv.	UPS	85,539.22	0.36%	3.90%	8.50%	12.56%	0.0452%
United Rentals	URI	9,733.89	0.04%	0.00%	17.00%	17.00%	0.0070%
U.S. Bancorp	USB	80,746.89	0.34%	3.10%	7.50%	10.71%	0.0364%
United Technologies	UTX	90,326.97	0.38%	2.61%	9.50%	12.23%	0.0465%
Visa Inc.	V	279,364.81	1.18%	0.73%	14.50%	15.28%	0.1796%
Varian Medical Sys.	VAR	11,533.58	0.05%	0.00%	9.50%	9.50%	0.0046%
V.F. Corp.	VFC	29,096.01	0.12%	2.79%	12.00%	14.95%	0.0183%
Viacom Inc. 'B'	VIAB	12,008.35	0.05%	2.69%	4.00%	6.74%	0.0034%
Valero Energy	VLO	34,179.76	0.14%	4.22%	10.00%	14.44%	0.0208%
Vulcan Materials	VMC	13,361.63	0.06%	1.11%	18.00%	19.21%	0.0108%
Vornado R'lty Trust	VNO	12,440.90	0.05%	4.04%	-5.50%	-1.57%	-0.0008%
Verisk Analytics	VRSK	18,650.01	0.08%	0.00%	9.00%	9.00%	0.0071%
VeriSign Inc.	VRSN	19,799.64	0.08%	0.00%	12.00%	12.00%	0.0100%
Vertex Pharmac.	VRTX	48,699.00	0.20%	0.00%	0.00%	0.00%	0.0000%
Ventas Inc.	VTR	21,499.47	0.09%	5.35%	3.50%	8.95%	0.0081%
Verizon Communic.	VZ	234,822.42	0.99%	4.24%	4.50%	8.84%	0.0873%
Waters Corp.	WAT	15,323.21	0.06%	0.00%	9.50%	9.50%	0.0061%
Walgreens Boots	WBA	67,918.61	0.29%	2.45%	11.00%	13.58%	0.0388%
WeillCare Health Plans	WCG	12,950.32	0.05%	0.00%	22.50%	22.50%	0.0123%
Western Digital	WDC	10,539.83	0.04%	5.48%	1.50%	7.03%	0.0031%
WEC Energy Group	WEC	22,380.26	0.09%	3.33%	7.00%	10.44%	0.0098%
Welltower Inc.	WELL	27,028.49	0.11%	4.90%	8.50%	13.60%	0.0155%
Wells Fargo	WFC	231,950.16	0.98%	3.53%	6.00%	9.64%	0.0941%
Whirlpool Corp.	WHR	8,033.28	0.03%	3.67%	8.00%	11.81%	0.0040%
Willis Towers Watson p	WLTW	20,382.04	0.09%	1.53%	0.00%	1.53%	0.0013%
Waste Management	WM	39,859.31	0.17%	1.99%	10.50%	12.60%	0.0211%
Williams Cos.	WMB	31,667.78	0.13%	5.20%	22.50%	28.28%	0.0377%
Walmart Inc.	WMT	281,054.88	1.18%	2.19%	7.00%	9.27%	0.1096%
WestRock Co.	WRK	10,284.50	0.04%	4.49%	14.50%	19.31%	0.0084%
Western Union	WU	7,955.54	0.03%	4.24%	7.00%	11.39%	0.0038%
Weyerhaeuser Co.	WY	18,460.26	0.08%	5.52%	17.50%	23.50%	0.0183%
Wynn Resorts	WYNN	12,424.69	0.05%	2.63%	23.00%	25.93%	0.0136%
Cimarex Energy	XEC	7,002.92	0.03%	0.98%	39.00%	40.17%	0.0118%
Xcel Energy Inc.	XEL	26,019.13	0.11%	3.16%	5.50%	8.74%	0.0096%
Xilinx Inc.	XLNX	23,340.69	0.10%	1.56%	11.00%	12.65%	0.0124%
Exxon Mobil Corp.	XOM	305,398.44	1.29%	4.63%	18.00%	23.05%	0.2962%
Dentsply Sirona	XRAY	8,955.63	0.04%	0.87%	2.50%	3.38%	0.0013%
Xerox Corp.	XRX	5,668.15	0.02%	4.33%	2.50%	6.88%	0.0016%
Xylem Inc.	XYL	12,605.95	0.05%	1.20%	15.50%	16.79%	0.0089%
Yum! Brands	YUM	28,389.10	0.12%	1.76%	10.00%	11.85%	0.0142%
Zimmer Biomet Hldgs.	ZBH	21,668.88	0.09%	0.94%	5.00%	5.96%	0.0054%
Zions Bancorp.	ZION	8,953.15	0.04%	2.58%	15.00%	17.77%	0.0067%
Zoetis Inc.	ZTS	40,522.57	0.17%	0.78%	13.50%	14.34%	0.0244%

[1] Sum of [9]

[2] Source: US Treasury Department

[3] Equals [1] - [2]

[4] Source: Value Line

[5] Weight based on market capitalization

[6] Source: Value Line

[7] Source: Value Line

[8] Equals [6] x (1 + (0.5 x [7])) + [7]

[9] Equals [5] x [8]

Capital Asset Pricing Model

[1]	Risk-Free Rate	3.03%
[2]	Beta	0.57
[3]	Market Risk Premium	13.49%
[4]	ROE	10.66%

[1] Source: US Treasury Department

[2] Source: Attachment JC-6

[3] Source: Attachment JC-7

[4] Equals [1] + ([2] x [3])

Flotation Cost Adjustment

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	
Company	Ticker	Completion Date	Shares Issued (000)	Offering Price	Underwriting Discount	Offering Expense (\$000)	Net Proceeds Per Share	Flotation Costs (\$000)	Gross Equity Issue Before Costs (\$000)	Net Proceeds (\$000)	Flotation Cost Percentage
Algonquin Power & Utilities Corp.	AQN	11/10/2017	43,470	\$10.44	\$0.42	\$393.89	\$10.01	\$18,543.49	453,740	435,196	4.09%
Algonquin Power & Utilities Corp.	AQN	12/2/2015	16,508	\$7.83	\$0.31	\$374.64	\$7.49	\$5,545.07	129,261	123,716	4.29%
Ameren Corporation	AEE	9/9/2009	21,850	\$25.25	\$0.76	\$450.00	\$24.47	\$17,001.38	551,713	534,711	3.08%
Ameren Corporation	AEE	7/2/2004	10,925	\$42.00	\$1.26	\$400.00	\$40.70	\$14,165.50	458,850	444,685	3.09%
American Electric Power Company, Inc.	AEP	4/1/2009	69,000	\$24.50	\$0.74	\$400.00	\$23.76	\$51,115.00	1,690,500	1,639,385	3.02%
American Electric Power Company, Inc.	AEP	2/27/2003	57,500	\$20.95	\$0.63	\$550.00	\$20.31	\$36,688.75	1,204,625	1,167,936	3.05%
ALLETE, Inc.	ALE	2/26/2014	3,220	\$49.75	\$1.74	\$450.00	\$47.87	\$6,056.99	160,195	154,138	3.78%
ALLETE, Inc.	ALE	5/24/2001	7,475	\$23.68	\$0.95	\$350.00	\$22.69	\$7,430.32	177,008	169,578	4.20%
Avista Corporation	AVA	12/12/2006	3,163	\$25.05	\$0.48	\$300.00	\$24.48	\$1,818.00	79,221	77,403	2.29%
CMS Energy Corporation	CMS	3/30/2005	23,000	\$12.25	\$0.43	\$325.00	\$11.81	\$10,187.40	281,750	271,563	3.62%
CMS Energy Corporation	CMS	10/7/2004	32,775	\$9.10	\$0.32	\$325.00	\$8.77	\$10,763.84	298,253	287,489	3.61%
Consolidated Edison, Inc.	ED	11/14/2018	15,130	\$77.00	\$1.46	\$640.00	\$75.49	\$22,775.00	1,165,000	1,142,225	1.95%
Consolidated Edison, Inc.	ED	5/10/2016	10,120	\$71.50	\$2.15	\$550.00	\$69.30	\$22,257.40	723,580	701,323	3.08%
Eversource Energy	ES	3/16/2009	18,975	\$20.20	\$0.66	\$335.00	\$19.53	\$12,792.09	383,295	370,503	3.34%
Eversource Energy	ES	12/6/2005	23,000	\$19.09	\$0.62	\$340.00	\$18.45	\$14,609.20	439,070	424,461	3.33%
Hawaiian Electric Industries, Inc.	HE	3/19/2013	7,000	\$26.75	\$1.00	\$450.00	\$25.68	\$7,471.70	187,250	179,778	3.99%
IDACORP, Inc.	IDA	12/9/2004	4,025	\$30.00	\$1.20	\$300.00	\$28.73	\$5,130.00	120,750	115,620	4.25%
Alliant Energy Corporation	LNT	12/13/2018	8,359	\$44.85	\$0.52	\$1,000.00	\$44.21	\$5,346.67	374,900	369,553	1.43%
Alliant Energy Corporation	LNT	7/1/2003	17,250	\$19.25	\$0.77	\$370.00	\$18.46	\$13,652.50	332,063	318,410	4.11%
MGE Energy, Inc.	MGEE	9/10/2004	1,265	\$31.85	\$1.04	\$125.00	\$30.72	\$1,434.28	40,290	38,856	3.56%
NorthWestern Corporation	NWE	11/4/2014	7,767	\$51.50	\$1.80	\$1,000.00	\$49.57	\$15,000.00	400,000	385,000	3.75%
PNM Resources, Inc.	PNM	12/6/2006	5,750	\$30.79	\$1.08	\$250.00	\$29.67	\$6,448.50	177,043	170,594	3.64%
PNM Resources, Inc.	PNM	3/23/2005	3,910	\$26.76	\$0.87	\$200.00	\$25.84	\$3,600.53	104,632	101,031	3.44%
Pinnacle West Capital Corporation	PNW	4/8/2010	6,900	\$38.00	\$1.33	\$190.00	\$36.64	\$9,367.00	262,200	252,833	3.57%
Pinnacle West Capital Corporation	PNW	4/27/2005	6,095	\$42.00	\$1.37	\$250.00	\$40.59	\$8,569.68	255,990	247,420	3.35%
Portland General Electric Company	POR	6/11/2013	12,765	\$29.50	\$0.96	\$600.00	\$28.49	\$12,839.08	376,568	363,728	3.41%
Portland General Electric Company	POR	3/5/2009	12,478	\$14.10	\$0.49	\$375.00	\$13.58	\$6,532.65	175,933	169,400	3.71%
PPL Corporation	PPL	5/8/2018	63,250	\$27.00	\$0.29	\$1,000.00	\$26.69	\$19,614.48	1,707,750	1,688,136	1.15%
PPL Corporation	PPL	4/10/2012	11,385	\$27.70	\$0.68	\$750.00	\$26.95	\$8,491.80	315,365	306,873	2.69%
Unitil Corporation	UTL	12/12/2017	690	\$48.30	\$1.93	\$400.00	\$45.79	\$1,733.08	33,327	31,594	5.20%
Unitil Corporation	UTL	5/10/2012	2,760	\$25.25	\$1.26	\$544.46	\$23.79	\$4,028.96	69,690	65,661	5.78%
Xcel Energy Inc.	XEL	11/7/2018	9,359	\$49.15	\$0.15	\$650.00	\$48.93	\$2,053.87	460,000	457,946	0.45%
Xcel Energy Inc.	XEL	8/3/2010	21,850	\$21.50	\$0.65	\$600.00	\$20.83	\$14,693.25	469,775	455,082	3.13%
Mean								\$12,053.25	\$426,047.96		

Weighted Average Flotation Costs	2.829%
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- [1] Source: S&P Global; Company Prospectus Supplements
- [2] Source: S&P Global; Company Prospectus Supplements
- [3] Source: S&P Global; Company Prospectus Supplements
- [4] Source: Company Prospectus Supplements
- [5] Equals: $((1) \times ((2) - (3)) - (4)) / (1)$
- [6] Equals $((1) \times (3)) + (4)$
- [7] Equals $(1) \times (2)$
- [8] Equals $(1) \times (5)$
- [9] Equals $(6) / (7)$

Constant Growth Discounted Cash Flow Model Adjusted for Flotation Costs
Earnings Growth
30 Day Average Stock Price

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	
		Expected Dividend Yield				Zacks	Yahoo Finance	Value Line	Average				
Company	Ticker	Indicated Annual Dividend	Weighted-Average Stock Price	Dividend Yield	Current	Adjusted for Flotation Costs	Earnings Growth	Earnings Growth	Earnings Growth	Earnings Growth	Mean ROE	Flotation-Adjusted ROE	
Ameren Corp	AEE	\$1.93	\$70.03	2.76%	2.86%	2.94%	6.80%	7.70%	7.50%	7.33%	10.19%	10.27%	
American Electric Power	AEP	\$2.72	\$79.82	3.41%	3.50%	3.60%	5.70%	5.74%	4.50%	5.31%	8.81%	8.91%	
Avangrid, Inc.	AGR	\$1.80	\$49.06	3.67%	3.85%	3.96%	7.70%	9.20%	13.00%	9.97%	13.82%	13.93%	
ALLETE, Inc.	ALE	\$2.34	\$79.11	2.96%	3.03%	3.12%	NA	6.00%	3.50%	4.75%	7.78%	7.87%	
Avista Corporation	AVA	\$1.55	\$40.93	3.79%	3.89%	4.01%	NA	5.65%	5.50%	5.58%	9.47%	9.58%	
CMS Energy Corporation	CMS	\$1.53	\$52.93	2.89%	2.99%	3.07%	6.00%	6.89%	7.00%	6.63%	9.62%	9.70%	
Duke Energy Corporation	DUK	\$3.79	\$88.69	4.27%	4.38%	4.51%	4.90%	4.50%	5.50%	4.97%	9.35%	9.47%	
Consolidated Edison, Inc.	ED	\$2.96	\$79.44	3.73%	3.78%	3.89%	3.00%	2.99%	3.00%	3.00%	6.78%	6.89%	
El Paso Electric Company	EE	\$1.52	\$54.31	2.80%	2.85%	2.93%	2.70%	5.10%	3.00%	3.60%	6.45%	6.53%	
Edison International	EIX	\$2.46	\$59.22	4.15%	4.26%	4.38%	5.60%	4.95%	4.50%	5.02%	9.27%	9.40%	
Eversource Energy	ES	\$2.11	\$69.46	3.04%	3.12%	3.21%	5.70%	5.88%	5.00%	5.53%	8.65%	8.74%	
Evergy, Inc.	EVRG	\$1.94	\$56.51	3.43%	3.54%	3.65%	6.70%	6.25%	NA	6.48%	10.02%	10.12%	
Hawaiian Electric	HE	\$1.24	\$37.85	3.28%	3.37%	3.47%	6.20%	7.80%	3.50%	5.83%	9.21%	9.30%	
IDACORP, Inc.	IDA	\$2.56	\$97.80	2.62%	2.66%	2.74%	2.60%	2.60%	4.50%	3.23%	5.89%	5.97%	
Alliant Energy Corporation	LNT	\$1.42	\$44.95	3.16%	3.26%	3.36%	6.00%	7.25%	6.50%	6.58%	9.85%	9.94%	
MGE Energy, Inc.	MGEE	\$1.38	\$64.43	2.14%	2.20%	2.27%	NA	4.00%	7.50%	5.75%	7.95%	8.02%	
NextEra Energy, Inc.	NEE	\$5.00	\$182.48	2.74%	2.85%	2.93%	7.70%	7.46%	9.00%	8.05%	10.90%	10.99%	
Northwestern Corporation	NWE	\$2.30	\$66.28	3.47%	3.52%	3.62%	3.10%	2.59%	2.50%	2.73%	6.25%	6.35%	
Otter Tail Corporation	OTTR	\$1.38	\$49.36	2.80%	2.92%	3.01%	NA	9.00%	9.00%	9.00%	11.92%	12.01%	
PNM Resources, Inc.	PNM	\$1.16	\$43.58	2.66%	2.73%	2.81%	4.60%	4.10%	7.50%	5.40%	8.13%	8.21%	
Pinnacle West Capital Corporation	PNW	\$3.04	\$90.45	3.36%	3.45%	3.55%	4.80%	4.56%	6.00%	5.12%	8.57%	8.67%	
Portland General Electric	POR	\$1.52	\$49.17	3.09%	3.16%	3.25%	4.00%	4.90%	4.00%	4.30%	7.46%	7.55%	
PPL Corporation	PPL	\$1.68	\$31.32	5.36%	5.46%	5.62%	5.00%	3.59%	2.00%	3.53%	8.99%	9.15%	
Southern Company	SO	\$2.46	\$49.26	4.99%	5.07%	5.22%	4.50%	2.16%	3.00%	3.22%	8.29%	8.44%	
Unitil Corp	UTL	\$1.46	\$52.97	2.76%	2.81%	2.89%	4.60%	3.70%	3.70%	4.00%	6.81%	6.89%	
WEC Energy Group, Inc.	WEC	\$2.36	\$74.51	3.17%	3.25%	3.35%	4.40%	4.59%	7.00%	5.33%	8.58%	8.68%	
Xcel Energy, Inc.	XEL	\$1.60	\$53.57	2.99%	3.08%	3.17%	5.90%	6.60%	5.50%	6.00%	9.08%	9.17%	
Mean				3.31%	3.40%	3.50%	5.14%	5.40%	5.51%	5.42%	8.82%	8.92%	

[1] Source: Value Line
[2] Source: Yahoo Finance, as of March 11, 2019
[3] Equals [1] / [2]
[4] Equals [3] x (1 + 0.5 x [9])
[5] Equals [4] / (1 - 0.0283)
[6] Source: Zacks
[7] Source: Yahoo Finance
[8] Source: Value Line
[9] Equals average([6], [7], [8])
[10] Equals [4] + [9]
[11] Equals [5] + [9]
[12] Average of [11] - Average of [10]

Weighted Average Flotation Costs	2.83%
Flotation-Adjusted ROE	8.92%
Unadjusted ROE	8.82%
Flotation Cost Adjustment	0.10%

Small Size Premium

Granite State Electric		
[1] Customers (000s)		44
[2] Implied Equity (\$ Millions)		\$66.1
[3] Implied Market Capitalization (\$ Millions)		\$139.5

Proxy Group				
Company Name	Ticker	[4] Customers (000s)	[5] Market Cap (\$ Millions)	[6] Market-to-Book Ratio
Ameren Corp	AEE	2,400	\$16,376.1	2.49
American Electric Power	AEP	5,400	\$37,475.4	2.22
Avangrid, Inc.	AGR	2,244	\$15,237.0	1
ALLETE, Inc.	ALE	160	\$3,870.4	2.06
Avista Corporation	AVA	402	\$2,713.6	1.55
CMS Energy Corporation	CMS	1,831	\$14,442.6	3.51
Duke Energy Corporation	DUK	7,709	\$61,061.3	1.51
Consolidated Edison, Inc.	ED	3,800	\$23,988.6	1.69
El Paso Electric Company	EE	425	\$2,047.1	2.11
Edison International	EIX	5,127	\$17,434.1	2.16
Eversource Energy	ES	3,203	\$21,320.1	2.03
Evergy, Inc.	EVRG	1,588	\$14,669.0	NA
Hawaiian Electric	HE	463	\$3,955.6	2.1
IDACORP, Inc.	IDA	558	\$4,787.3	2.27
Alliant Energy Corporation	LNT	963	\$10,034.4	2.85
MGE Energy, Inc.	MGEE	153	\$2,075.9	2.91
NextEra Energy, Inc.	NEE	5,000	\$83,874.6	3.16
Northwestern Corporation	NWE	437	\$3,333.0	1.93
Otter Tail Corporation	OTTR	132	\$1,910.7	2.92
PNM Resources, Inc.	PNM	782	\$3,309.6	2.22
Pinnacle West Capital Corporation	PNW	1,246	\$9,581.5	2.1
Portland General Electric	POR	885	\$4,089.2	1.91
PPL Corporation	PPL	2,369	\$21,519.1	2.08
Southern Company	SO	4,685	\$47,022.9	2.17
Unitil Corp	UTL	106	\$737.2	2.43
WEC Energy Group, Inc.	WEC	1,618	\$22,380.3	2.58
Xcel Energy, Inc.	XEL	3,625	\$26,019.1	2.48
Mean		2,123	\$17,602.4	2.25
Median		1,588	\$14,442.6	2.17

Duff & Phelps Size Premia [7]

Market Capitalization (\$ Millions)				Market Capitalization (\$ Millions)			
Decile	Lowest in Decile	Highest in Decile	Size Premium	Category	Lowest in Category	Highest in Category	Size Premium
1	\$29,428.9	\$1,073,390.6	-0.30%	Mid Cap	\$2,996.0	\$13,455.8	0.89%
2	\$13,513.0	\$29,022.9	0.52%	Low Cap	\$730.0	\$2,992.3	1.58%
3	\$7,276.0	\$13,455.8	0.81%	Micro Cap	\$2.5	\$727.8	3.39%
4	\$4,504.1	\$7,254.2	0.85%				
5	\$2,996.0	\$4,503.5	1.28%				
6	\$1,961.8	\$2,992.3	1.50%				
7	\$1,292.8	\$1,960.2	1.58%				
8	\$730.0	\$1,292.2	1.80%				
9	\$325.4	\$727.8	2.46%				
10	\$2.5	\$321.6	5.22%				

[1] Source: Company Data
[2] Source: Company Data; Equals Rate Base x Equity Ratio as of Q4 2018
[3] Equals [2] x Median of [6]
[4] Source: S&P Global, Annual Reports, and Company websites
[5] Source: Value Line, as of March 11, 2019
[6] Source: Value Line
[7] Source: Duff & Phelps Cost of Capital Navigator

Proxy Group Capital Structure

Common Equity Ratio

Company Name	Ticker	2014	2015	2016	2017	2018	Average
ALLETE	ALE	55.80%	53.70%	58.00%	59.00%	60.10%	57.32%
Alliant Energy	LNT	47.50%	51.40%	47.20%	48.60%	46.70%	48.28%
American Electric Power	AEP	51.00%	50.20%	50.00%	48.50%	46.80%	49.30%
Ameren Corp.	AEE	51.70%	49.70%	51.30%	49.80%	48.80%	50.26%
AVANGRID, Inc.	AGR	83.20%	76.90%	77.00%	74.40%	71.50%	76.60%
Avista Corp.	AVA	49.00%	50.00%	48.80%	52.80%	50.50%	50.22%
CMS Energy Corp.	CMS	31.00%	31.40%	32.60%	32.40%	30.70%	31.62%
Consolidated Edison	ED	52.00%	52.10%	49.20%	51.10%	48.50%	50.58%
Duke Energy	DUK	52.30%	51.40%	47.40%	46.00%	46.00%	48.62%
Edison International	EIX	47.20%	46.70%	49.20%	45.80%	44.00%	46.58%
El Paso Electric Company	EE	46.50%	47.30%	47.30%	48.80%	46.00%	47.18%
Evergy, Inc.	EVRG					60.00%	60.00%
Eversource Energy	ES	53.20%	53.60%	54.40%	48.20%	47.00%	51.28%
Hawaiian Elec.	HE	53.80%	55.50%	57.50%	55.70%	54.50%	55.40%
IDACORP, Inc.	IDA	54.70%	54.40%	55.20%	56.30%	56.00%	55.32%
MGE Energy	MGEE	62.50%	63.80%	65.40%	66.20%	62.30%	64.04%
NextEra Energy	NEE	45.00%	45.80%	46.70%	47.30%	56.00%	48.16%
NorthWestern Corporation	NWE	46.60%	46.90%	48.00%	49.80%	50.50%	48.36%
OGE Energy	OGE	54.10%	55.70%	58.90%	58.30%	58.00%	57.00%
Otter Tail Corporation	OTTR	53.50%	57.60%	57.00%	58.70%	55.30%	56.42%
Pinnacle West Capital	PNW	59.00%	57.00%	54.40%	51.10%	52.00%	54.70%
PNM Resources	PNM	51.90%	45.50%	44.00%	43.60%	40.00%	45.00%
Portland General	POR	47.30%	52.20%	51.60%	49.90%	53.00%	50.80%
PPL Corporation	PPL	42.00%	34.80%	35.70%	35.20%	37.50%	37.04%
Southern Company	SO	47.30%	44.00%	35.70%	35.00%	36.50%	39.70%
WEC Energy Group	WEC	51.20%	48.60%	49.30%	51.90%	49.40%	50.08%
Xcel Energy Inc.	XEL	47.00%	45.90%	43.70%	44.10%	43.00%	44.74%
Average		51.40%	50.85%	50.60%	50.33%	50.02%	50.91%

Long-Term Debt Ratio

Company Name	Ticker	2014	2015	2016	2017	2018	Average
ALLETE	ALE	44.20%	46.30%	42.00%	41.00%	39.90%	42.68%
Alliant Energy	LNT	49.70%	48.60%	52.80%	49.00%	53.30%	50.68%
American Electric Power	AEP	49.00%	49.80%	50.00%	51.50%	53.20%	50.70%
Ameren Corp.	AEE	47.20%	49.30%	47.70%	49.20%	50.30%	48.74%
AVANGRID, Inc.	AGR	16.80%	23.10%	23.00%	25.60%	28.50%	23.40%
Avista Corp.	AVA	51.00%	50.00%	51.20%	47.20%	49.50%	49.78%
CMS Energy Corp.	CMS	68.70%	68.30%	67.10%	67.30%	69.00%	68.08%
Consolidated Edison	ED	48.00%	47.90%	50.80%	48.90%	51.50%	49.42%
Duke Energy	DUK	47.70%	48.60%	52.60%	54.00%	54.00%	51.38%
Edison International	EIX	44.10%	45.00%	41.80%	45.60%	48.00%	44.90%
El Paso Electric Company	EE	53.50%	52.70%	52.70%	51.20%	54.00%	52.82%
Evergy, Inc.	EVRG					40.00%	40.00%
Eversource Energy	ES	45.90%	45.60%	44.80%	51.20%	52.00%	47.90%
Hawaiian Elec.	HE	45.20%	43.50%	41.60%	43.40%	45.00%	43.74%
IDACORP, Inc.	IDA	45.30%	45.60%	44.80%	43.70%	44.00%	44.68%
MGE Energy	MGEE	37.50%	36.20%	34.60%	33.80%	37.70%	35.96%
NextEra Energy	NEE	55.00%	54.20%	53.30%	52.70%	44.00%	51.84%
NorthWestern Corporation	NWE	53.40%	53.10%	52.00%	50.20%	29.50%	47.64%
OGE Energy	OGE	45.90%	44.30%	41.10%	41.70%	42.00%	43.00%
Otter Tail Corporation	OTTR	46.50%	42.40%	43.00%	41.30%	44.70%	43.58%
Pinnacle West Capital	PNW	41.00%	43.00%	45.60%	48.90%	48.00%	45.30%
PNM Resources	PNM	47.80%	54.10%	55.70%	56.10%	60.00%	54.74%
Portland General	POR	52.70%	47.80%	48.40%	50.10%	47.00%	49.20%
PPL Corporation	PPL	58.00%	65.20%	64.30%	64.80%	62.50%	62.96%
Southern Company	SO	49.50%	52.80%	61.50%	64.50%	63.00%	58.26%
WEC Energy Group	WEC	48.50%	51.20%	50.50%	48.00%	50.40%	49.72%
Xcel Energy Inc.	XEL	53.00%	54.10%	56.30%	55.90%	57.00%	55.26%
Average		47.89%	48.57%	48.82%	49.11%	48.81%	48.38%

Source: Value Line

Note: Unutil capital structure not reported by Value Line. Evergy was not formed until 2018.