



2017 Capitalization Rate Study  
*Final*

**Electric Utilities**

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**MONTANA DEPARTMENT OF REVENUE**

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**Yield Capitalization Rate Study  
Industry: Electric Utilities  
2017 Assessment Year**

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**Capital Structure**

Equity	<b>60.00%</b>	<i>Page EU-5</i>
Debt	<b>40.00%</b>	<i>Page EU-5</i>

**Equity Cost of Capital**

Capital Asset Pricing Model	6.99%	<i>Page EU-6</i>
Dividend Growth Model (g = Earnings Growth)	7.90%	<i>Page EU-10</i>
Dividend Growth Model (g = Dividend Growth)	8.90%	<i>Page EU-10</i>
Dividend Growth Model (g = b x ROE)	7.00%	<i>Page EU-10</i>
	<b>7.30%</b>	

**Debt Cost of Capital**

Standard and Poor's Yield to Maturity	4.00%	<i>Page EU-19</i>
Mergent's Corporate Bond Yields:		
A	3.96%	
Baa - Corporate (Annual Avg)	4.72%	
Baa - Corporate (4th Qtr Avg)	4.64%	
Baa - Corporate (December)	4.83%	
	<b>4.83%</b>	

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**Electric Utilities - Weighted Average Cost of Capital (WACC)**

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Source of Capital	Capital Structure	Cost of Capital	Marginal Tax Rate	After-tax Cost of Capital	Weighted Cost
Equity	60.00%	7.30%		7.30%	4.38%
Debt	40.00%	4.83%	38.00%	2.99%	1.20%
<b>WACC</b>	<b>100.00%</b>				<b>5.58%</b>
<b>WACC (Rounded)</b>					<b>5.60%</b>

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**MONTANA DEPARTMENT OF REVENUE**

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**Direct Capitalization Rate Study  
Industry: Electric Utilities  
2017 Assessment Year**

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**Capital Structure**

Equity	<b>60.00%</b>	<i>Page EU-5</i>
Debt	<b>40.00%</b>	<i>Page EU-5</i>

**Equity Cost of Capital**

NOI After-tax	<b>5.50%</b>	<i>Page EU-20</i>
GCF	<b>11.60%</b>	<i>Page EU-20</i>

**Debt Cost of Capital**

Standard and Poor's Current Yield	5.10%	<i>Page EU-25</i>
Calculated Current Yield	4.82%	<i>Page EU-26</i>
	<b>4.95%</b>	

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**Electric Utilities - NOI After-tax Direct Capitalization Rate - If Using Regulatory Tax Str.**

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Source of Capital	Capital Structure	Cost of Capital	Marginal Tax Rate	After-tax Cost of Capital	Weighted Cost
Equity	60.00%	5.50%		5.50%	3.30%
Debt	40.00%	4.95%		4.95%	1.98%
<b>Total</b>	<b>100.00%</b>				<b>5.28%</b>
<b>Total (Rounded)</b>					<b>5.30%</b>

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**Electric Utilities - GCF Direct Capitalization Rate - If Using Regulatory Tax Str.**

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Source of Capital	Capital Structure	Cost of Capital	Marginal Tax Rate	After-tax Cost of Capital	Weighted Cost
Equity	60.00%	11.60%		11.60%	6.96%
Debt	40.00%	4.95%		4.95%	1.98%
<b>WACC</b>	<b>100.00%</b>				<b>8.94%</b>
<b>Total (Rounded)</b>					<b>9.00%</b>

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**MONTANA DEPARTMENT OF REVENUE**

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**Direct Capitalization Rate Study  
Industry: Electric Utilities  
2017 Assessment Year**

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**Capital Structure**

Equity	<b>60.00%</b>	<i>Page EU-5</i>
Debt	<b>40.00%</b>	<i>Page EU-5</i>

**Equity Cost of Capital**

NOI After-tax	<b>5.50%</b>	<i>Page EU-20</i>
GCF	<b>11.60%</b>	<i>Page EU-20</i>

**Debt Cost of Capital**

Standard and Poor's Current Yield	5.10%	<i>Page EU-25</i>
Calculated Current Yield	4.82%	<i>Page EU-26</i>
	<b>4.95%</b>	

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**Electric Utilities - NOI After-tax Direct Capitalization Rate - If Using Marginal Tax**

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Source of Capital	Capital Structure	Capital Cost of Capital	Marginal Tax Rate	After-tax Cost of Capital	Weighted Cost
Equity	60.00%	5.50%		5.50%	3.30%
Debt	40.00%	4.95%	38.00%	3.07%	1.23%
<b>Total</b>	<b>100.00%</b>				<b>4.53%</b>
<b>Total (Rounded)</b>					<b>4.60%</b>

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**Electric Utilities - GCF Direct Capitalization Rate - If Using Marginal Tax**

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Source of Capital	Capital Structure	Capital Cost of Capital	Marginal Tax Rate	After-tax Cost of Capital	Weighted Cost
Equity	60.00%	11.60%		11.60%	6.96%
Debt	40.00%	4.95%	38.00%	3.07%	1.23%
<b>WACC</b>	<b>100.00%</b>				<b>8.19%</b>
<b>Total (Rounded)</b>					<b>8.20%</b>

**MONTANA DEPARTMENT OF REVENUE**

**Support for Capital Structure  
Industry: Electric Utilities  
2017 Assessment Year**

A	B	C	D	E	F	G	H	I	J	K	L	M	N
Company	Ticker Symbol	Industry Group	Financial Strength	Shares Outstanding	Avg. 4Q Stock Price	MV Common Stock	MV Preferred Stock*	MV Long Term Debt*	PV of Operating Leases	Total Common, Preferred, LT Debt, & OpLeases	% Common	% Preferred	% Debt & OpLeases
										G+H+I+J			(I+J)/K
		Value Line	Value Line	10-K	Yahoo	ExF	10-K	10-K	10-K	(\$000)	G/K	H/K	(I+J)/K
				(000)		(\$000)	(\$000)	(\$000)	(\$000)	(\$000)			
Alliant Energy	LNT	UTILCENT	A	227,674	36.97	8,415,957	200,000	4,799,000	47,214	13,462,171	63%	1%	36%
Avista Corp.	AVA	UTILWEST	A	64,188	40.65	2,609,133	0	1,825,372	3,282	4,437,786	59%	0%	41%
Black Hills	BKH	UTILWEST	A	53,397	59.28	3,165,313	0	3,351,305	23,770	6,540,388	48%	0%	52%
G't Plains Energy	GXP	UTILCENT	B+	215,479	27.29	5,880,784	836,200	4,000,000	115,236	10,832,220	54%	8%	38%
IDACORP Inc.	IDA	UTILWEST	A	39,151	76.90	3,010,632	0	1,858,666	37,123	4,906,421	61%	0%	39%
NorthWestern Corp.	NWE	UTILWEST	B+	51,957	56.28	2,924,080	0	1,878,377	0	4,802,457	61%	0%	39%
OGE Energy	OGE	UTILCENT	A	40,400	31.47	1,271,523	0	2,803,900	64,181	4,139,604	31%	0%	69%
Pinnacle West Capital	PNW	UTILWEST	A+	111,392	74.74	8,325,442	0	4,425,789	158,516	12,909,747	64%	0%	36%
PNM Resources	PNM	UTILWEST	B	79,654	32.36	2,577,591	11,529	2,540,693	175,400	5,305,213	49%	0%	51%
Portland General	POR	UTILWEST	B++	88,947	42.37	3,768,820	0	2,693,000	121,085	6,582,905	57%	0%	43%
Xcel Energy Inc.	XEL	UTILWEST	A+	507,223	40.01	20,293,139	0	15,513,209	227,441	36,033,789	56%	0%	44%
<b>All Companies</b>						62,242,413	1,047,729	45,689,311	973,248	109,952,702	<b>57%</b>	<b>1%</b>	<b>42%</b>
<b>Average</b>											<b>55%</b>	<b>1%</b>	<b>44%</b>
<b>Median</b>											<b>57%</b>	<b>0%</b>	<b>41%</b>
High											64%	8%	69%
Low											31%	0%	36%
<b>Say</b>											<b>60%</b>	<b>0%</b>	<b>40%</b>

\*Market value of preferred stock assumed to equal book value. Market value of long term debt is fair value.

**Notes/Rational for Changes to Guideline Companies**

2016 - Removed MDU from guideline companies as it was not in the same industry.

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**MONTANA DEPARTMENT OF REVENUE**

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**Capital Asset Pricing Model (CAPM)**

**Industry: Electric Utilities**

**2017 Assessment Year**

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$$k_e = R_f + \beta \times ERP$$

		<b>EU</b>
$k_e =$	Cost of Equity	<b>6.99%</b>
$R_f =$	Risk Free Rate	2.79%
$\beta =$	Beta	0.70
$ERP =$	Equity Risk Premium ( $R_m - R_f$ )	6.00%
$R_m =$	Market Rate of Return	8.79%

**Risk Free Rate Measures ( $R_f$ ):**

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The Value Line Investment Survey: Selection & Opinion<sup>1</sup>

January 6, 2017

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Selected Yields on Taxable U.S. Treasury Securities

10-year	2.51%
30-year	3.09%

Federal Reserve Statistical Release<sup>2</sup> and U.S. Department of the Treasury, Daily Treasury Yield Curve Rates<sup>3</sup>

U.S. government securities, Treasury constant maturities, Nominal, December 30, 2016

10-year	2.45%
20-year	2.79%
30-year	3.06%

**Risk Free Rate Selected**

**2.79%**

<sup>1</sup> "Value Line Selection & Opinion", Value Line (January 6, 2017)

<sup>2</sup> <https://www.federalreserve.gov/datadownload/Choose.aspx?rel=H.15>

<sup>3</sup> <https://www.treasury.gov/resource-center/data-chart-center/interest-rates/Pages/TextView.aspx?data=yieldYear&year=2016>

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**MONTANA DEPARTMENT OF REVENUE**

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**Capital Asset Pricing Model (CAPM)  
Industry: Electric Utilities  
2017 Assessment Year**

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$$k_e = R_f + \beta \times ERP$$

**Equity Risk Premium Measures (ERP = R<sub>m</sub> - R<sub>f</sub>)**

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DOR 3 Stage Dividend Growth Model, S & P 500, See Exhibit

	<u>R<sub>m</sub><sup>4</sup></u>	<u>R<sub>m</sub></u>	<u>R<sub>f</sub></u>	<u>ERP</u>
ERP - <i>Ex Ante</i>	8.00%	8.00%	2.79%	5.21%

Duff & Phelps, 2017 Valuation Handbook

		<u>R<sub>m</sub><sup>4</sup></u>	<u>R<sub>m</sub></u>	<u>R<sub>f</sub></u>	<u>ERP</u>
ERP "Historical" - <i>Ex Post</i>	<i>Arithmetic Avg.</i>	9.73%	9.66%	2.72%	6.94%
ERP "Supply-side" - <i>Ex Post</i>	<i>Arithmetic Avg.</i>	8.76%	8.69%	2.72%	5.97%
ERP "Adj. Supply-side" - <i>Ex Post</i>	<i>Arithmetic Avg.</i>	7.89%	7.82%	2.72%	5.10%
ERP "Conditional" - <i>Ex Ante</i>			9.50%	4.00%	5.50%

Damodaran Implied ERP (Jan 1, 2017)

	<u>R<sub>m</sub><sup>4</sup></u>	<u>R<sub>m</sub></u>	<u>R<sub>f</sub></u>	<u>ERP</u>
Implied Premium (FCFE) - <i>Ex Ante</i>	8.48%	8.14%	2.45%	5.69%
Implied Premium (FCFE with sustainable payout) - <i>Ex Ante</i>	7.29%	6.95%	2.45%	4.50%

	<u>R<sub>m</sub><sup>4</sup></u>	<u>R<sub>m</sub></u>	<u>R<sub>f</sub></u>	<u>ERP</u>
<u>Average</u>	8.36%	8.39%		5.56%
<u>Median</u>	8.24%	8.14%		5.50%
<u>High</u>	9.73%	9.66%		6.94%
<u>Low</u>	7.29%	6.95%		4.50%

**Equity Risk Premium Selected**

	<b>8.79%</b>	<b>2.79%</b>	<b>6.00%</b>
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<sup>4</sup> R<sub>m</sub> estimated using selected Risk Free Rate (R<sub>f</sub>)

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**MONTANA DEPARTMENT OF REVENUE**

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**Capital Asset Pricing Model (CAPM)  
Industry: Electric Utilities  
2017 Assessment Year**

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$$k_e = R_f + \beta \times ERP$$

**Inflation and Growth Estimates<sup>5</sup>**

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	<u>Inflation</u> (CPI)	<u>Real Growth</u> (GDP)	<u>Nominal</u> <u>Growth</u>	<u>Nominal Growth</u>	
				<u>Low</u>	<u>High</u>
Livingston Survey	2.30%	2.20%	4.50%		
Survey of Professional Forecasters	2.30%	2.45%	4.75%		
Congressional Budget Office	2.53%	2.17%	4.70%		
Office of Budget and Management	2.38%	2.07%	4.45%		
OASDI Trustee Report	2.70%	2.70%	5.40%		
Average	2.44%	2.32%	4.76%		
Median	2.38%	2.20%	4.58%		
High	2.70%	2.70%	5.40%		
Low	2.30%	2.07%	4.37%		
<b>Say</b>	<b>2.40%</b>	<b>2.20%</b>	<b>4.60%</b>	<b>4.37%</b>	<b>5.40%</b>
<b>Rounded</b>					<b>6.00%</b>

<sup>5</sup> *Real Growth Sources: "The Livingston Survey", Federal Reserve Bank of Philadelphia (December 9, 2016); "Survey of Professional Forecasters", Federal Reserve Bank of Philadelphia (February 10, 2017); "Congressional Budget Office", An Update to the Budget and Economic Outlook: 2016 to 2026 (August 2016); "Office of Budget and Management", FY 2017 Mid-Session Review (July 15, 2016); "OASDI Trustee Report", Board of Trustees of the Federal Old-Age Survivors Insurance and Federal Disability Insurance Trust Funds (June 22, 2016)*



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**MONTANA DEPARTMENT OF REVENUE**

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Support for Beta Selection in CAPM  
 Industry: Electric Utilities  
 2017 Assessment Year

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A	B	C	D	E
Company	Ticker Symbol	Industry Group	Financial Strength	Beta
		<i>Value Line</i>	<i>Value Line</i>	<i>Value Line</i>
Alliant Energy	LNT	UTILCENT	A	0.70
Avista Corp.	AVA	UTILWEST	A	0.70
Black Hills	BKH	UTILWEST	A	0.85
G't Plains Energy	GXP	UTILCENT	B+	0.75
IDACORP Inc.	IDA	UTILWEST	A	0.75
NorthWestern Corp.	NWE	UTILWEST	B+	0.65
OGE Energy	OGE	UTILCENT	A	0.95
Pinnacle West Capital	PNW	UTILWEST	A+	0.70
PNM Resources	PNM	UTILWEST	B	0.70
Portland General	POR	UTILWEST	B++	0.70
Xcel Energy Inc.	XEL	UTILWEST	A+	0.60
<b>Average</b>				<b>0.73</b>
<b>Median</b>				<b>0.70</b>
High				0.95
Low				0.60
<b>Say</b>				<b>0.70</b>

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**MONTANA DEPARTMENT OF REVENUE**

**Support for Yield Capitalization Cost of Equity Component - Based on Dividend Growth Model  
Industry: Electric Utilities  
2017 Assessment Year**

$$K_e = (D_1 / P_0) + g$$

$K_e$  = Cost of Equity

$D_1$  = Expected Dividend

$P_0$  = Current Price Per Share

$g$  = Sustainable Growth

$b$  = Retention Ratio (1 - Payout Ratio)

ROE = Return on Equity

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Company Name	Ticker	Avg. 4Q Stock Price	2017 Est Dividend	Dividend Yield	2017 Est Earnings Per Share	2017 Est Payout Ratio	Retention Ratio	2017 Est Return on Equity	Multistage Long Term Earnings Growth Estimate	Multistage Long Term Dividends Growth Estimate	Sustainable Growth*	Cost of Equity	Cost of Equity	Cost of Equity
		$P_0$	$D_1$	$D_1/P_0$	EPS	$D_1/EPS$	$b = 1 - \text{Payout Ratio}$	ROE	$g = \text{Earnings } g$	$g = \text{Dividends } g$	$g = b \times \text{ROE}$	$K_e$ $g = \text{Earnings } g$	$K_e$ $g = \text{Dividends } g$	$K_e$ $g = b \times \text{ROE}$
		Yahoo	Value Line	D/C	Value Line	D/F	1-G	Value Line	Multi Stg g Wrksht	Multi Stg g Wrksht	H*I	E+J	E+K	E+L
Alliant Energy	LNT	36.97	1.26	3.41%	2.00	63.00%	37.00%	11.50%	5.48%	4.54%	4.26%	8.89%	7.95%	7.66%
Avista Corp.	AVA	40.65	1.37	3.37%	1.95	70.26%	29.74%	7.50%	3.59%	3.59%	2.23%	6.96%	6.96%	5.60%
Black Hills	BKH	59.28	1.84	3.10%	3.50	52.57%	47.43%	8.50%	6.42%	5.48%	4.03%	9.53%	8.58%	7.14%
G't Plains Energy	GXP	27.29	1.12	4.10%	1.30	86.15%	13.85%	5.00%	1.71%	5.17%	0.69%	5.81%	9.27%	4.80%
IDACORP Inc.	IDA	76.90	2.24	2.91%	4.05	55.31%	44.69%	9.00%	3.59%	6.42%	4.02%	6.51%	9.34%	6.94%
NorthWestern Corp.	NWE	56.28	2.08	3.70%	3.45	60.29%	39.71%	10.00%	5.80%	5.17%	3.97%	9.49%	8.86%	7.67%
OGE Energy	OGE	31.47	1.27	4.04%	2.05	61.95%	38.05%	11.50%	3.59%	7.68%	4.38%	7.63%	11.72%	8.41%
PNM Resources	PNM	32.36	0.97	3.00%	1.85	52.43%	47.57%	7.50%	7.37%	8.00%	3.57%	10.37%	10.99%	6.57%
Pinnacle West Capital	PNW	74.74	2.68	3.59%	4.30	62.33%	37.67%	9.00%	4.22%	4.85%	3.39%	7.81%	8.44%	6.98%
Portland General	POR	42.37	1.34	3.16%	2.30	58.26%	41.74%	8.50%	4.22%	5.48%	3.55%	7.39%	8.64%	6.71%
Xcel Energy Inc.	XEL	40.01	1.44	3.60%	2.30	62.61%	37.39%	10.00%	5.17%	5.48%	3.74%	8.77%	9.08%	7.34%
<b>Average</b>				<b>3.45%</b>		<b>62.29%</b>	<b>37.71%</b>	<b>8.91%</b>	<b>4.65%</b>	<b>5.62%</b>	<b>3.44%</b>	<b>8.10%</b>	<b>9.08%</b>	<b>6.89%</b>
<b>Median</b>				<b>3.41%</b>		<b>61.95%</b>	<b>38.05%</b>	<b>9.00%</b>	<b>4.22%</b>	<b>5.48%</b>	<b>3.74%</b>	<b>7.81%</b>	<b>8.86%</b>	<b>6.98%</b>
High				4.10%		86.15%	47.57%	11.50%	7.37%	8.00%	4.38%	10.37%	11.72%	8.41%
Low				2.91%		52.43%	13.85%	5.00%	1.71%	3.59%	0.69%	5.81%	6.96%	4.80%
<b>Say</b>												<b>7.90%</b>	<b>8.90%</b>	<b>7.00%</b>

MONTANA DEPARTMENT OF REVENUE

Support for Growth Rate Selection in DGM  
Industry: Electric Utilities  
2017 Assessment Year

Company	Alliant Energy	LNT
Value Line 5 yr est. earnings growth		6.00%
LT nominal economic growth rate		4.60%
Year	Weight	Adj. Growth Rate
1	30	0.06
2	29	0.06
3	28	0.06
4	27	0.06
5	26	0.06
6	25	0.06
7	24	0.06
8	23	0.06
9	22	0.06
10	21	0.06
11	20	0.05
12	19	0.05
13	18	0.05
14	17	0.05
15	16	0.05
16	15	0.05
17	14	0.05
18	13	0.05
19	12	0.05
20	11	0.05
21	10	0.05
22	9	0.05
23	8	0.05
24	7	0.05
25	6	0.05
26	5	0.05
27	4	0.05
28	3	0.05
29	2	0.05
30	1	0.05
<b>Weighted Average</b>		<b>5.48%</b>
Company	Alliant Energy	LNT
Value Line 5 yr est. div'd growth		4.50%
LT nominal economic growth rate		4.60%
Year	Weight	Adj. Growth Rate
1	30	0.05
2	29	0.05
3	28	0.05
4	27	0.05
5	26	0.05
6	25	0.05
7	24	0.05
8	23	0.05
9	22	0.05
10	21	0.05
11	20	0.05
12	19	0.05
13	18	0.05
14	17	0.05
15	16	0.05
16	15	0.05
17	14	0.05
18	13	0.05
19	12	0.05
20	11	0.05
21	10	0.05
22	9	0.05
23	8	0.05
24	7	0.05
25	6	0.05
26	5	0.05
27	4	0.05
28	3	0.05
29	2	0.05
30	1	0.05
<b>Weighted Average</b>		<b>4.54%</b>

Company	Avista Corp.	AVA
Value Line 5 yr est. earnings growth		3.00%
LT nominal economic growth rate		4.60%
Year	Weight	Adj. Growth Rate
1	30	0.03
2	29	0.03
3	28	0.03
4	27	0.03
5	26	0.03
6	25	0.03
7	24	0.03
8	23	0.03
9	22	0.03
10	21	0.04
11	20	0.04
12	19	0.04
13	18	0.04
14	17	0.04
15	16	0.04
16	15	0.04
17	14	0.04
18	13	0.04
19	12	0.04
20	11	0.05
21	10	0.05
22	9	0.05
23	8	0.05
24	7	0.05
25	6	0.05
26	5	0.05
27	4	0.05
28	3	0.05
29	2	0.05
30	1	0.05
<b>Weighted Average</b>		<b>3.59%</b>
Company	Avista Corp.	AVA
Value Line 5 yr est. div'd growth		3.00%
LT nominal economic growth rate		4.60%
Year	Weight	Adj. Growth Rate
1	30	0.03
2	29	0.03
3	28	0.03
4	27	0.03
5	26	0.03
6	25	0.03
7	24	0.03
8	23	0.03
9	22	0.03
10	21	0.04
11	20	0.04
12	19	0.04
13	18	0.04
14	17	0.04
15	16	0.04
16	15	0.04
17	14	0.04
18	13	0.04
19	12	0.04
20	11	0.05
21	10	0.05
22	9	0.05
23	8	0.05
24	7	0.05
25	6	0.05
26	5	0.05
27	4	0.05
28	3	0.05
29	2	0.05
30	1	0.05
<b>Weighted Average</b>		<b>3.59%</b>

Company	Black Hills	BKH
Value Line 5 yr est. earnings growth		7.50%
LT nominal economic growth rate		4.60%
Year	Weight	Adj. Growth Rate
1	30	0.08
2	29	0.08
3	28	0.08
4	27	0.08
5	26	0.08
6	25	0.07
7	24	0.07
8	23	0.07
9	22	0.07
10	21	0.07
11	20	0.06
12	19	0.06
13	18	0.06
14	17	0.06
15	16	0.06
16	15	0.06
17	14	0.05
18	13	0.05
19	12	0.05
20	11	0.05
21	10	0.05
22	9	0.05
23	8	0.05
24	7	0.05
25	6	0.05
26	5	0.05
27	4	0.05
28	3	0.05
29	2	0.05
30	1	0.05
<b>Weighted Average</b>		<b>6.42%</b>
Company	Black Hills	BKH
Value Line 5 yr est. div'd growth		6.00%
LT nominal economic growth rate		4.60%
Year	Weight	Adj. Growth Rate
1	30	0.06
2	29	0.06
3	28	0.06
4	27	0.06
5	26	0.06
6	25	0.06
7	24	0.06
8	23	0.06
9	22	0.06
10	21	0.06
11	20	0.05
12	19	0.05
13	18	0.05
14	17	0.05
15	16	0.05
16	15	0.05
17	14	0.05
18	13	0.05
19	12	0.05
20	11	0.05
21	10	0.05
22	9	0.05
23	8	0.05
24	7	0.05
25	6	0.05
26	5	0.05
27	4	0.05
28	3	0.05
29	2	0.05
30	1	0.05
<b>Weighted Average</b>		<b>5.48%</b>

**MONTANA DEPARTMENT OF REVENUE**

**Support for Growth Rate Selection in DGM  
Industry: Electric Utilities  
2017 Assessment Year**

Company	G't Plains Energy	GXP
Value Line 5 yr est. earnings growth		0.00%
LT nominal economic growth rate		4.60%
Year	Weight	Adj. Growth Rate
1	30	0.00
2	29	0.00
3	28	0.00
4	27	0.00
5	26	0.00
6	25	0.00
7	24	0.01
8	23	0.01
9	22	0.01
10	21	0.01
11	20	0.02
12	19	0.02
13	18	0.02
14	17	0.03
15	16	0.03
16	15	0.03
17	14	0.03
18	13	0.04
19	12	0.04
20	11	0.04
21	10	0.05
22	9	0.05
23	8	0.05
24	7	0.05
25	6	0.05
26	5	0.05
27	4	0.05
28	3	0.05
29	2	0.05
30	1	0.05
<b>Weighted Average</b>		<b>1.71%</b>
Company	G't Plains Energy	GXP
Value Line 5 yr est. div'd growth		5.50%
LT nominal economic growth rate		4.60%
Year	Weight	Adj. Growth Rate
1	30	0.06
2	29	0.06
3	28	0.06
4	27	0.06
5	26	0.06
6	25	0.05
7	24	0.05
8	23	0.05
9	22	0.05
10	21	0.05
11	20	0.05
12	19	0.05
13	18	0.05
14	17	0.05
15	16	0.05
16	15	0.05
17	14	0.05
18	13	0.05
19	12	0.05
20	11	0.05
21	10	0.05
22	9	0.05
23	8	0.05
24	7	0.05
25	6	0.05
26	5	0.05
27	4	0.05
28	3	0.05
29	2	0.05
30	1	0.05
<b>Weighted Average</b>		<b>5.17%</b>

Company	IDACORP. Inc.	IDA
Value Line 5 yr est. earnings growth		3.00%
LT nominal economic growth rate		4.60%
Year	Weight	Adj. Growth Rate
1	30	0.03
2	29	0.03
3	28	0.03
4	27	0.03
5	26	0.03
6	25	0.03
7	24	0.03
8	23	0.03
9	22	0.03
10	21	0.04
11	20	0.04
12	19	0.04
13	18	0.04
14	17	0.04
15	16	0.04
16	15	0.04
17	14	0.04
18	13	0.04
19	12	0.04
20	11	0.05
21	10	0.05
22	9	0.05
23	8	0.05
24	7	0.05
25	6	0.05
26	5	0.05
27	4	0.05
28	3	0.05
29	2	0.05
30	1	0.05
<b>Weighted Average</b>		<b>3.59%</b>
Company	IDACORP. Inc.	IDA
Value Line 5 yr est. div'd growth		7.50%
LT nominal economic growth rate		4.60%
Year	Weight	Adj. Growth Rate
1	30	0.08
2	29	0.08
3	28	0.08
4	27	0.08
5	26	0.08
6	25	0.07
7	24	0.07
8	23	0.07
9	22	0.07
10	21	0.07
11	20	0.06
12	19	0.06
13	18	0.06
14	17	0.06
15	16	0.06
16	15	0.06
17	14	0.05
18	13	0.05
19	12	0.05
20	11	0.05
21	10	0.05
22	9	0.05
23	8	0.05
24	7	0.05
25	6	0.05
26	5	0.05
27	4	0.05
28	3	0.05
29	2	0.05
30	1	0.05
<b>Weighted Average</b>		<b>6.42%</b>

Company	NorthWestern	NWE
Value Line 5 yr est. earnings growth		6.50%
LT nominal economic growth rate		4.60%
Year	Weight	Adj. Growth Rate
1	30	0.07
2	29	0.07
3	28	0.07
4	27	0.07
5	26	0.07
6	25	0.06
7	24	0.06
8	23	0.06
9	22	0.06
10	21	0.06
11	20	0.06
12	19	0.06
13	18	0.06
14	17	0.05
15	16	0.05
16	15	0.05
17	14	0.05
18	13	0.05
19	12	0.05
20	11	0.05
21	10	0.05
22	9	0.05
23	8	0.05
24	7	0.05
25	6	0.05
26	5	0.05
27	4	0.05
28	3	0.05
29	2	0.05
30	1	0.05
<b>Weighted Average</b>		<b>5.80%</b>
Company	NorthWestern	NWE
Value Line 5 yr est. div'd growth		5.50%
LT nominal economic growth rate		4.60%
Year	Weight	Adj. Growth Rate
1	30	0.06
2	29	0.06
3	28	0.06
4	27	0.06
5	26	0.06
6	25	0.05
7	24	0.05
8	23	0.05
9	22	0.05
10	21	0.05
11	20	0.05
12	19	0.05
13	18	0.05
14	17	0.05
15	16	0.05
16	15	0.05
17	14	0.05
18	13	0.05
19	12	0.05
20	11	0.05
21	10	0.05
22	9	0.05
23	8	0.05
24	7	0.05
25	6	0.05
26	5	0.05
27	4	0.05
28	3	0.05
29	2	0.05
30	1	0.05
<b>Weighted Average</b>		<b>5.17%</b>

**MONTANA DEPARTMENT OF REVENUE**

**Support for Growth Rate Selection in DGM  
Industry: Electric Utilities  
2017 Assessment Year**

Company	OGE Energy	OGE
Value Line 5 yr est. earnings growth		3.00%
LT nominal economic growth rate		4.60%
Year	Weight	Adj. Growth Rate
1	30	0.03
2	29	0.03
3	28	0.03
4	27	0.03
5	26	0.03
6	25	0.03
7	24	0.03
8	23	0.03
9	22	0.03
10	21	0.04
11	20	0.04
12	19	0.04
13	18	0.04
14	17	0.04
15	16	0.04
16	15	0.04
17	14	0.04
18	13	0.04
19	12	0.04
20	11	0.05
21	10	0.05
22	9	0.05
23	8	0.05
24	7	0.05
25	6	0.05
26	5	0.05
27	4	0.05
28	3	0.05
29	2	0.05
30	1	0.05
<b>Weighted Average</b>		<b>3.59%</b>
Company	OGE Energy	OGE
Value Line 5 yr est. div'd growth		9.50%
LT nominal economic growth rate		4.60%
Year	Weight	Adj. Growth Rate
1	30	0.10
2	29	0.10
3	28	0.10
4	27	0.10
5	26	0.10
6	25	0.09
7	24	0.09
8	23	0.09
9	22	0.08
10	21	0.08
11	20	0.08
12	19	0.07
13	18	0.07
14	17	0.07
15	16	0.06
16	15	0.06
17	14	0.06
18	13	0.06
19	12	0.05
20	11	0.05
21	10	0.05
22	9	0.05
23	8	0.05
24	7	0.05
25	6	0.05
26	5	0.05
27	4	0.05
28	3	0.05
29	2	0.05
30	1	0.05
<b>Weighted Average</b>		<b>7.68%</b>

Company	Pinnacle West	PNW
Value Line 5 yr est. earnings growth		4.00%
LT nominal economic growth rate		4.60%
Year	Weight	Adj. Growth Rate
1	30	0.04
2	29	0.04
3	28	0.04
4	27	0.04
5	26	0.04
6	25	0.04
7	24	0.04
8	23	0.04
9	22	0.04
10	21	0.04
11	20	0.04
12	19	0.04
13	18	0.04
14	17	0.04
15	16	0.04
16	15	0.04
17	14	0.04
18	13	0.04
19	12	0.05
20	11	0.05
21	10	0.05
22	9	0.05
23	8	0.05
24	7	0.05
25	6	0.05
26	5	0.05
27	4	0.05
28	3	0.05
29	2	0.05
30	1	0.05
<b>Weighted Average</b>		<b>4.22%</b>
Company	Pinnacle West	PNW
Value Line 5 yr est. div'd growth		5.00%
LT nominal economic growth rate		4.60%
Year	Weight	Adj. Growth Rate
1	30	0.05
2	29	0.05
3	28	0.05
4	27	0.05
5	26	0.05
6	25	0.05
7	24	0.05
8	23	0.05
9	22	0.05
10	21	0.05
11	20	0.05
12	19	0.05
13	18	0.05
14	17	0.05
15	16	0.05
16	15	0.05
17	14	0.05
18	13	0.05
19	12	0.05
20	11	0.05
21	10	0.05
22	9	0.05
23	8	0.05
24	7	0.05
25	6	0.05
26	5	0.05
27	4	0.05
28	3	0.05
29	2	0.05
30	1	0.05
<b>Weighted Average</b>		<b>4.85%</b>

Company	PNM Resources	PNM
Value Line 5 yr est. earnings growth		9.00%
LT nominal economic growth rate		4.60%
Year	Weight	Adj. Growth Rate
1	30	0.09
2	29	0.09
3	28	0.09
4	27	0.09
5	26	0.09
6	25	0.09
7	24	0.08
8	23	0.08
9	22	0.08
10	21	0.08
11	20	0.07
12	19	0.07
13	18	0.07
14	17	0.07
15	16	0.06
16	15	0.06
17	14	0.06
18	13	0.05
19	12	0.05
20	11	0.05
21	10	0.05
22	9	0.05
23	8	0.05
24	7	0.05
25	6	0.05
26	5	0.05
27	4	0.05
28	3	0.05
29	2	0.05
30	1	0.05
<b>Weighted Average</b>		<b>7.37%</b>
Company	PNM Resources	PNM
Value Line 5 yr est. div'd growth		10.00%
LT nominal economic growth rate		4.60%
Year	Weight	Adj. Growth Rate
1	30	0.10
2	29	0.10
3	28	0.10
4	27	0.10
5	26	0.10
6	25	0.10
7	24	0.09
8	23	0.09
9	22	0.09
10	21	0.08
11	20	0.08
12	19	0.08
13	18	0.07
14	17	0.07
15	16	0.07
16	15	0.06
17	14	0.06
18	13	0.06
19	12	0.05
20	11	0.05
21	10	0.05
22	9	0.05
23	8	0.05
24	7	0.05
25	6	0.05
26	5	0.05
27	4	0.05
28	3	0.05
29	2	0.05
30	1	0.05
<b>Weighted Average</b>		<b>8.00%</b>

**MONTANA DEPARTMENT OF REVENUE**

**Support for Growth Rate Selection in DGM  
Industry: Electric Utilities  
2017 Assessment Year**

Company	Portland Gen1	POR
Value Line 5 yr est. earnings growth		4.00%
LT nominal economic growth rate		4.60%
Year	Weight	Adj. Growth Rate
1	30	0.04
2	29	0.04
3	28	0.04
4	27	0.04
5	26	0.04
6	25	0.04
7	24	0.04
8	23	0.04
9	22	0.04
10	21	0.04
11	20	0.04
12	19	0.04
13	18	0.04
14	17	0.04
15	16	0.04
16	15	0.04
17	14	0.04
18	13	0.04
19	12	0.05
20	11	0.05
21	10	0.05
22	9	0.05
23	8	0.05
24	7	0.05
25	6	0.05
26	5	0.05
27	4	0.05
28	3	0.05
29	2	0.05
30	1	0.05
<b>Weighted Average</b>		<b>4.22%</b>
Company	Portland Gen1	POR
Value Line 5 yr est. div'd growth		6.00%
LT nominal economic growth rate		4.60%
Year	Weight	Adj. Growth Rate
1	30	0.06
2	29	0.06
3	28	0.06
4	27	0.06
5	26	0.06
6	25	0.06
7	24	0.06
8	23	0.06
9	22	0.06
10	21	0.06
11	20	0.05
12	19	0.05
13	18	0.05
14	17	0.05
15	16	0.05
16	15	0.05
17	14	0.05
18	13	0.05
19	12	0.05
20	11	0.05
21	10	0.05
22	9	0.05
23	8	0.05
24	7	0.05
25	6	0.05
26	5	0.05
27	4	0.05
28	3	0.05
29	2	0.05
30	1	0.05
<b>Weighted Average</b>		<b>5.48%</b>

Company	Xcel Energy, Inc.	XEL
Value Line 5 yr est. earnings growth		5.50%
LT nominal economic growth rate		4.60%
Year	Weight	Adj. Growth Rate
1	30	0.06
2	29	0.06
3	28	0.06
4	27	0.06
5	26	0.06
6	25	0.05
7	24	0.05
8	23	0.05
9	22	0.05
10	21	0.05
11	20	0.05
12	19	0.05
13	18	0.05
14	17	0.05
15	16	0.05
16	15	0.05
17	14	0.05
18	13	0.05
19	12	0.05
20	11	0.05
21	10	0.05
22	9	0.05
23	8	0.05
24	7	0.05
25	6	0.05
26	5	0.05
27	4	0.05
28	3	0.05
29	2	0.05
30	1	0.05
<b>Weighted Average</b>		<b>5.17%</b>
Company	Xcel Energy, Inc.	XEL
Value Line 5 yr est. div'd growth		6.00%
LT nominal economic growth rate		4.60%
Year	Weight	Adj. Growth Rate
1	30	0.06
2	29	0.06
3	28	0.06
4	27	0.06
5	26	0.06
6	25	0.06
7	24	0.06
8	23	0.06
9	22	0.06
10	21	0.06
11	20	0.05
12	19	0.05
13	18	0.05
14	17	0.05
15	16	0.05
16	15	0.05
17	14	0.05
18	13	0.05
19	12	0.05
20	11	0.05
21	10	0.05
22	9	0.05
23	8	0.05
24	7	0.05
25	6	0.05
26	5	0.05
27	4	0.05
28	3	0.05
29	2	0.05
30	1	0.05
<b>Weighted Average</b>		<b>5.48%</b>

MONTANA DEPARTMENT OF REVENUE

Support for Yield Capitalization Cost of Debt Component - Yield to Maturity From Standard & Poor's Bond Guide  
 Industry: Electric Utilities  
 2017 Assessment Year

Company Name	Coupon	CUSIP	Issue	Maturity Date	Years to Maturity	Old S&P Bond Rating	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Avg Full Year	Avg 4th QTR
Tennessee Valley Authority	6.75	880591CJ9	Global Pwr Bonds'95E	11/1/2025	9	AAA	2.62	2.47	2.46	2.45	2.47	2.16	2.09	2.20	2.20	2.69	2.85	2.40%	2.58%	
Tennessee Valley Authority	6.25	880591CU4	Pwr Bonds '97E	12/15/2017	1	AAA	0.95	0.85	0.87	0.89	0.94	0.74	0.84	0.91	0.80	0.80	0.97	0.97	0.88%	0.91%
Tennessee Valley Authority	7.125	880591DM1	Global Pwr Bonds '00G	5/1/2030	14	AAA	3.24	2.95	2.98	3.01	2.98	2.53	2.48	2.47	2.63	2.63	3.15	3.30	2.86%	3.03%
Tennessee Valley Authority	4.88	880591DS8	Global Pwr Bonds'01D	12/15/2016	0	AAA	0.76	0.77	0.67	0.82	0.53	0.51	0.37						0.64%	
Tennessee Valley Authority	4.7	880591DV1	Pwr Bonds'03 B"	7/15/2033	17	AAA	3.50	3.30	3.29	3.27	3.14	2.87	2.75	2.74	3.05	3.05	3.50	3.34	3.15%	3.30%
Madison Gas & Electric	7.7	557497AL8	1st	2/15/2028	12	AA-	7.60	7.59	7.59	7.59	7.60	7.59	7.59	7.59	7.59	7.59	7.61	7.63	7.60%	7.61%
Madison Gas & Elec Co MTN E	7.12	5574A0AB3	Tranche # Tr 00002	4/1/2032	16	AA-	4.39	4.16	4.09	4.01	3.94	3.71	3.57	3.60	3.87	3.87	4.29	4.28	3.98%	4.15%
Connecticut Lt & Pwr	7.875	207597CZ6	1st & Ref D	10/1/2024	8	A+	3.78	3.51	3.58	3.65	3.67	3.31	3.37	3.33	3.53	3.53	4.04	4.18	3.62%	3.92%
Connecticut Lt & Pwr	7.88	207597CZ6	1st Mtg Ser 94d	10/1/2024	8	A+	3.78	3.51	3.58	3.65	3.67	3.31	3.37	3.33	3.53	3.53	4.04	4.18	3.62%	3.92%
Connecticut Lt & Pwr	5.62	207597DU6	1st & Ref '05B	4/1/2035	19	A+	4.21	4.21	4.20	4.18	4.15	3.86	3.89	3.65	3.83	3.83	4.29	4.33	4.05%	4.15%
Connecticut Lt & Pwr	5.62	207597DU6	1st & Rfdg Mtg Bd 2005 Ser	4/1/2035	19	A+	4.21	4.21	4.20	4.18	4.15	3.86	3.89	3.65	3.83	3.83	4.29	4.33	4.05%	4.15%
Connecticut Lt & Pwr	6.35	207597DV4	1st & Ref'06A	6/1/2036	20	A+	4.11	4.11	4.10	4.08	4.05	3.76	3.79	3.64	3.78	3.78	4.24	4.28	3.98%	4.10%
Connecticut Lt & Pwr	6.35	207597DV4	1st & Rfdg Mtg Bd 2006 Ser	6/1/2036	20	A+	4.11	4.11	4.10	4.08	4.05	3.76	3.79	3.64	3.78	3.78	4.24	4.28	3.98%	4.10%
Connecticut Lt & Pwr	5.38	207597DW2	1st & Ref'07A	3/1/2017	1	A+	1.50	1.48	1.32	1.32	1.17	1.00	1.12	1.18	1.22	1.22	1.27	1.45	1.26%	1.31%
Connecticut Lt & Pwr	5.38	207597DW2	1st & Rfdg Mtg Bd 2007 Ser	3/1/2017	1	A+	1.50	1.48	1.32	1.32	1.17	1.00	1.12	1.18	1.22	1.22	1.27	1.45	1.26%	1.31%
Connecticut Lt & Pwr	5.75	207597DX0	1st & Ref'07B	3/1/2037	21	A+	4.21	4.21	4.20	4.18	4.15	3.86	3.89	3.74	3.88	3.88	4.44	4.48	4.09%	4.27%
Connecticut Lt & Pwr	5.75	207597DX0	1st & Rfdg Mtg Bd 2007 Ser	3/1/2037	21	A+	4.21	4.21	4.20	4.18	4.15	3.86	3.89	3.74	3.88	3.88	4.44	4.48	4.09%	4.27%
AmerenEnergy Generating	5.1	02360FAA4	Sr Sec Nts	10/1/2019	3	A	2.17	2.34	2.22	2.09	2.15	1.62	1.91	1.86	1.65	1.65	2.01	2.16	1.99%	1.94%
AmerenEnergy Generating	5.3	02360FAB2	Sr Sec Nts	8/1/2037	21	A	4.08	3.88	3.98	4.07	4.02	3.58	3.55	3.59	3.78	3.78	4.24	4.03	3.88%	4.02%
AmerenEnergy Generating	7.95	02360XAJ6	Sr Nts 'F'	6/1/2032	16	A	18.92	22.66	21.61	20.56	21.68	22.76	21.70	21.98	21.28	21.28	24.38	23.18	21.83%	22.95%
Carolina Power & Light	8.62	144141BP2	1st Mtg	9/15/2021	5	A	2.60	2.30	2.20	2.10	2.19	1.77	1.82	1.93	2.58	2.58	3.09	3.23	2.37%	2.97%
Carolina Power & Light	5.7	144141CV8	1st Mtg Bd	4/1/2035	19	A	4.27	4.09	4.04	3.99	4.03	3.70	3.71	3.67	3.78	3.78	4.20	4.20	3.96%	4.06%
Carolina Power & Light	6.3	144141CY2	1st Mtg Bd	4/1/2038	22	A	4.21	4.03	3.98	3.93	3.97	3.64	3.65	3.61	3.82	3.82	4.24	4.24	3.93%	4.10%
Detroit Edison Co.	6.35	250847DU1	Sr Nts	10/15/2032	16	A	4.35	4.13	4.02	3.91	3.89	3.55	3.67	3.63	3.83	3.83	4.22	4.29	3.94%	4.11%
Detroit Edison Co	5.45	250847DZ0	Sr(Sec)Nts'BR'	2/15/2035	19	A	4.24	4.18	4.03	3.88	3.86	3.52	3.64	3.58	3.78	3.78	4.13	4.19	3.90%	4.03%
Detroit Edison Co	5.7	250847EA4	Sr(Sec)Nts'E'	10/1/2037	5.7	A	4.19	3.98	4.02	4.06	4.03	3.69	3.54	3.50	3.73	3.73	4.19	4.03	3.89%	3.98%
Detroit Edison Co	6.62	250847EB2	Sr Nt 2006 Ser A	6/1/2036	20	A	4.19	3.96	3.91	3.86	3.84	3.50	3.62	3.58	3.78	3.78	4.17	4.24	3.87%	4.06%
Duke Energy Carolinas Llc	6.1	26442CAA2	Sr Nt	6/1/2037	21	A	4.55	4.33	4.23	4.13	4.04	3.80	3.77	3.79	4.03	4.03	4.44	4.41	4.13%	4.29%
Duke Energy Carolinas Llc	6	26442CAB0	1st & Rfdg Mtg Bd	1/15/2038	22	A	4.12	4.05	3.93	3.81	3.91	3.63	3.56	3.58	3.85	3.85	4.23	4.30	3.90%	4.13%
Duke Energy Carolinas Llc	5.25	26442CAC8	1st & Rfdg Mtg Bd	1/15/2018	2	A	1.68	1.37	1.35	1.33	1.40	0.98	1.37	1.34	1.24	1.24	1.44	1.61	1.36%	1.43%
Duke Energy Carolinas Llc	5.1	26442CAD6	1st & Rfdg Mtg Bd Ser B	4/15/2018	2	A	1.67	1.60	1.44	1.27	1.41	1.15	1.10	1.15	1.18	1.18	1.66	1.59	1.37%	1.48%
Duke Energy Carolinas Llc	6.05	26442CAE4	1st & Rfdg Mtg Ser B	4/15/2038	22	A	4.15	4.09	3.95	3.80	3.81	3.60	3.51	3.59	3.79	3.79	4.27	4.21	3.88%	4.09%
Florida Power & Light	5.85	341081EP8	1st	2/1/2033	17	A	4.07	3.86	3.87	3.88	3.78	3.56	3.55	3.49	3.72	3.72	4.12	4.10	3.81%	3.98%
Florida Power & Light	5.62	341081EQ6	First Mtg Bds	4/1/2034	18	A	4.08	3.87	3.82	3.77	3.67	3.37	3.34	3.30	3.58	3.58	3.99	3.95	3.69%	3.84%
Florida Power & Light	5.625	341081EQ6	1st	4/1/2034	18	A	4.08	3.87	3.82	3.77	3.67	3.37	3.34	3.30	3.58	3.58	3.99	3.95	3.69%	3.84%
Florida Power & Light	5.95	341081ER4	1st	10/1/2033	17	A	3.87	3.66	3.67	3.68	3.68	3.46	3.45	3.39	3.52	3.52	3.97	3.95	3.65%	3.81%
Florida Power & Light	4.95	341081ET0	1st	6/1/2035	19	A	3.98	3.85	3.79	3.73	3.66	3.37	3.25	3.28	3.63	3.63	4.03	3.86	3.67%	3.84%
Florida Power & Light	5.4	341081EU7	1st Mtg Bd	9/1/2035	19	A	4.01	3.80	3.89	3.98	3.78	3.48	3.40	3.42	3.61	3.61	4.03	4.08	3.76%	3.91%
Florida Power & Light	5.65	341081EV5	1st	2/1/2037	21	A	3.99	3.79	3.77	3.74	3.74	3.50	3.41	3.42	3.66	3.66	4.08	4.12	3.74%	3.95%
Florida Power & Light	6.2	341081EX1	1st	6/1/2036	20	A	4.15	3.94	3.98	4.02	3.83	3.55	3.46	3.52	3.74	3.74	4.16	4.20	3.86%	4.03%
Florida Power & Light	5.85	341081EY9	1st	5/1/2037	21	A	4.05	3.85	4.02	4.19	3.92	3.53	3.54	3.44	3.73	3.73	4.08	4.07	3.85%	3.96%
Florida Power Corp.	5.9	341099CB3	1st	3/1/2033	17	A	4.41	4.21	4.34	4.46	4.15	3.79	3.80	3.83	4.13	4.13	4.48	4.55	4.19%	4.39%
Florida Power Corp.	5.8	341099CG2	1st Mtg Bd	9/15/2017	1	A	1.70	1.35	1.31	1.27	1.36	0.99	1.12	1.20	1.33	1.33	1.32	1.33	1.30%	1.33%
Florida Power Corp.	6.35	341099CH0	1st	9/15/2037	21	A	4.15	4.13	4.02	3.91	3.82	3.54	3.53	3.56	3.83	3.83	4.21	4.27	3.90%	4.10%
Georgia Power Co.	5.75	373334FS5	Sr Nts 'N'	4/15/2023	7	A	3.27	3.00	3.06	3.12	3.15	2.78	2.90	2.83	2.93	2.93	3.46	3.55	3.08%	3.31%
Georgia Power Co.	5.8	373334FZ9	Sr Nts'Y'	4/15/2035	19	A	5.79	5.79	5.79	5.79	5.79	5.79	5.79	5.79	5.79	5.79	5.79	5.79	5.79%	5.79%
Georgia Power Co.	5.65	373334GC9	Sr Nt Ser 2007a	3/1/2037	21	A	4.72	4.48	4.43	4.38	4.20	3.91	3.88	3.78	4.01	4.01	4.45	4.50	4.23%	4.32%
Georgia Power Co.	5.65	373334GC9	Sr Nts'07A	3/1/2037	21	A	4.72	4.48	4.43	4.38	4.20	3.91	3.88	3.78	4.01	4.01	4.45	4.50	4.23%	4.32%
Georgia Power Co.	5.7	373334GE5	Sr Nts'07B	6/1/2017	1	A	1.24	1.74	1.55	1.35	1.30	1.38	1.08	1.03	1.11	1.11	1.22	1.27	1.28%	1.20%
Gulf Power Co.	5.65	402479BW8	Sr Nts'L'	9/1/2035	19	A	5.64	5.64	5.64	5.64	5.64	5.64	5.64	5.64	5.64	5.64	5.64	5.64	5.64%	5.64%
Gulf Power Co.	5.3	402479BX6	Sr Nts'M'	12/1/2016	0	A	1.08	1.09	1.16	1.23	1.28	1.13	1.27	1.31					1.19%	
MidAmerican Energy Co.	5.95	595620AG0	Sr Nts	7/15/2017	1	A	1.68	1.41	1.42	1.42	1.53	1.21	0.94	1.03	1.05	1.05	1.07	1.23	1.25%	1.12%
MidAmerican Energy Co	5.8	59562EAH8	MTN-tranche # Tr 00008	10/15/2036	20	A	4.19	3.99	3.94	3.89	3.85	3.61	3.57	3.49	3.83	3.83	4.24	4.25	3.89%	4.11%
Mississippi Power Co.	5.4	605417BT0	Sr Nts'G'	7/1/2035	19	A	6.28	6.03	5.78	5.52	5.43	5.16	4.93	4.94	5.14	5.14	5.54	5.55	5.45%	5.41%
Nevada Power	6.75	641423BU1	n & Refunding Mtg Nt Ser	7/1/2037	21	A	4.52	4.34	4.26	4.18	4.16	4.01	3.86	3.92	3.98	3.98	4.44	4.44	4.17%	4.29%
Northern Sts Pwr (Minn)	7.125	665772BN8	1st Mtg Bd	7/1/2025	9	A	3.11	2.84	2.92	2.99	2.82	2.45	2.56	2.48	2.63	2.63	3.16	3.29	2.82%	3.03%
Northern Sts Pwr (Minn)	6.5	665772BQ1	1st Mtg Bd	3/1/2028	12	A	4.05	3.79	3.86	3.93	3.57	3.20	3.31	3.23	3.38	3.38	3.91	4.03	3.64%	3.77%
Northern Sts Pwr (Minn)	5.25	665772CA5	1st Mtg Bd	7/15/2035	19	A	3.96	3.84	3.85	3.86	3.64	3.44	3.39	3.36	3.57	3.57	4.03	4.05	3.71%	3.88%
Northern Sts Pwr (Minn)	6.2	665772CC1	1st Mtg	7/1/2037	21	A	4.07	3.99	3.87	3.74	3.84	3.62	3.37	3.48	3.61	3.61	4.02	4.07	3.77%	3.90%
Oncor Electric Delivery	7.25	68233DAP2	Sr Sec Nts	1/15/2033	17	A	4.79	4.59	4.44	4.28	4.03	3.76	3.65	3.64	3.84	3.84	4.22	4.08	4.10%	4.05%
Oncor Electric Delivery	7	68233DAR8	Deb</																	

MONTANA DEPARTMENT OF REVENUE

Support for Yield Capitalization Cost of Debt Component - Yield to Maturity From Standard & Poor's Bond Guide  
 Industry: Electric Utilities  
 2017 Assessment Year

Company Name	Coupon	CUSIP	Issue	Maturity Date	Years to Maturity	Old S&P Bond Rating	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Avg Full Year	Avg 4th QTR
PacifiCorp	5.9	695114BX5	1st	8/15/2034	18	A	4.45	4.32	4.31	4.30	4.27	4.08	3.82	3.80	4.00	4.00	4.34	4.32	4.17%	4.22%
PacifiCorp	5.25	695114BZ0	1st	6/15/2035	19	A	4.10	3.97	3.99	4.00	3.97	3.68	3.57	3.55	3.80	3.80	4.14	4.12	3.89%	4.02%
PacifiCorp	6.1	695114CB2	1st	8/1/2036	20	A	4.27	4.10	4.07	4.04	3.95	3.64	3.64	3.66	3.83	3.83	4.25	4.19	3.96%	4.09%
PacifiCorp	5.75	695114CD8	1st	4/1/2037	21	A	4.33	4.17	4.05	3.92	3.90	3.63	3.58	3.56	3.78	3.78	4.22	4.13	3.92%	4.04%
Potomac Electric Power	5.75	737679CY4	Sr Nts	4/15/2034	18	A	4.84	4.67	2.34										3.95%	
Potomac Electric Power	5.4	737679CZ1	Sr Nts	6/1/2035	19	A	4.84	4.67	4.46	4.25	4.21	4.02	3.87	3.91	4.01	4.01	4.39	4.52	4.26%	4.31%
Sierra Pacific Power	6.75	826418BE4	Ren & Refunding Mtg Nt Ser	7/1/2037	21	A	4.69	4.33	4.35	4.37	4.08	3.74	3.75	3.76	3.96	3.96	4.42	4.36	4.15%	4.25%
South Carolina Electric & Gas Co	6.62	837004BV1	1st	2/1/2032	16	A	4.50	4.30	4.17	4.03	4.01	3.93	3.75	3.68	3.93	3.93	4.38	4.07	4.06%	4.13%
South Carolina Electric & Gas Co	5.8	837004BW9	1st	1/15/2033	17	A	4.42	4.22	4.21	4.20	4.18	3.84	3.83	3.75	4.05	4.05	4.50	4.22	4.12%	4.26%
South Carolina Electric & Gas Co	5.3	837004BX7	1st	5/15/2033	17	A	4.32	4.12	4.11	4.10	4.08	3.74	3.75	3.68	3.98	3.98	4.43	4.14	4.04%	4.18%
South Carolina Electric & Gas Co	5.25	837004BY5	1st	11/1/2018	2	A	1.93	1.85	1.73	1.60	1.67	1.36	1.48	1.53	1.57	1.57	1.67	1.78	1.64%	1.67%
South Carolina Electric & Gas Co	5.25	837004BZ2	1st	3/1/2035	19	A	4.62	4.42	4.34	4.26	4.24	4.10	4.06	3.88	4.16	4.16	4.47	4.44	4.26%	4.36%
South Carolina EI & Gas	6.25	837004CA6	1st Mtg Bd	7/1/2036	20	A	4.77	4.56	4.49	4.41	4.39	4.25	4.20	4.03	4.32	4.32	4.62	4.59	4.41%	4.51%
Southern California Edison Co.	6	842400ES8	1st & Ref '04B	1/15/2034	18	A	4.06	3.97	3.84	3.70	3.74	3.52	3.47	3.44	3.63	3.63	4.06	4.09	3.76%	3.93%
Southern California Edison Co.	5.55	842400EZ2	1st & Ref'05B	1/15/2036	20	A	4.11	4.06	3.95	3.83	3.72	3.71	3.54	3.53	3.62	3.62	4.13	4.01	3.82%	3.92%
Southern California Edison Co.	5.35	842400FA6	1st & Ref'05E	7/15/2035	19	A	4.15	4.01	4.04	4.06	3.82	3.53	3.54	3.54	3.63	3.63	4.09	4.05	3.84%	3.92%
Southern California Edison Co.	5.62	842400FC2	1st & Ref'06A	2/1/2036	20	A	4.14	3.98	3.95	3.91	3.72	3.57	3.54	3.53	3.70	3.70	4.15	4.13	3.83%	3.99%
Southern California Edison Co.	5.55	842400FF5	1st & Ref'06E	1/15/2037	21	A	4.14	4.07	3.95	3.83	3.87	3.66	3.49	3.48	3.70	3.70	4.12	4.14	3.85%	3.99%
Wisconsin Power & Light Co.	6.25	976826BD8	Deb	7/31/2034	18	A	4.20	3.99	4.04	4.09	4.03	3.74	3.75	3.59	3.73	3.73	4.25	4.22	3.95%	4.07%
Wisconsin Public Service	7.125	976843AX0	1st	7/1/2023	7	A	7.12	7.12	7.12	7.12	7.12	7.12	7.12	7.12	7.12	7.12	7.12	7.12	7.12%	7.12%
Wisconsin Public Service	5.55	976843BE1	Sr(Sec)Nts	12/1/2036	20	A	4.32	4.12	4.11	4.09	4.12	3.84	3.74	3.61	3.77	3.77	4.10	4.14	3.98%	4.00%
Alabama Power Co.	5.5	010392DZ8	Sr Nts 'Q'	10/15/2017	1	A-	1.91	2.02	1.83	1.64	1.59	1.38	1.59	1.69	1.17	1.17	1.36	1.22	1.55%	1.25%
Alabama Power Co.	5.88	010392EB0	Sr Nts 'S'	12/1/2022	6	A-	3.14	2.89	2.81	2.73	2.81	2.36	2.38	2.39	2.40	2.40	3.00	3.14	2.70%	2.85%
Alabama Power Co.	5.7	010392EC8	Sr Nts 'T'	2/15/2033	17	A-	4.25	4.05	3.99	3.93	3.96	3.79	3.74	3.64	3.90	3.90	4.40	4.15	3.98%	4.15%
Alabama Power Co.	5.6	010392EE4	Sr Nts 'V'	3/15/2033	17	A-	4.63	4.70	4.39	4.07	4.07	3.78	3.73	3.69	3.90	3.90	4.40	4.30	4.13%	4.20%
Alabama Power Co.	5.12	010392EK0	Sr Nts 'Z'	2/15/2019	3	A	2.37	2.26	2.28	2.29	2.35	1.99	2.18	2.22	1.71	1.71	2.11	2.24	2.14%	2.02%
Alabama Power Co.	5.55	010392EW4	Sr Nts'07A	2/1/2017	1	A-	1.58	1.59	1.54	1.49	1.56	1.59	1.72	1.44	1.56	1.56	1.16	1.59	1.53%	1.44%
Alabama Power Co.	6.12	010392EZ7	Sr Nts'08A	5/15/2038	22	A-	4.49	4.33	4.31	4.28	4.17	3.98	3.85	3.78	4.03	4.03	4.40	4.35	4.17%	4.26%
Arizona Public Service	5.625	040555CF9	Nts	5/15/2033	17	A-	4.39	4.20	4.22	4.23	4.10	3.81	3.68	3.59	3.81	3.81	4.28	4.27	4.03%	4.12%
Arizona Public Service	5.5	040555CH5	Nts	9/1/2035	19	A-	4.19	4.00	4.02	4.03	4.00	3.71	3.58	3.54	3.73	3.73	4.19	4.18	3.91%	4.03%
Arizona Public Service	6.25	040555CJ1	Nt	8/1/2016	0	A-	1.54	1.55	1.29	1.02	1.13	0.95							1.25%	
Arizona Public Service	6.88	040555CK8	Nts	8/1/2036	20	A-	4.49	4.33	4.35	4.36	4.25	3.96	3.76	3.70	4.00	4.00	4.39	4.38	4.16%	4.26%
Avista Corp.	5.45	05379BAH0	1st	12/1/2019	3	A	3.36	3.28	3.36	3.43	3.14	2.82	2.99	3.01	2.58	2.58	3.04	3.10	3.06%	2.91%
Avista Corp.	5.45	05379BAH0	1st Mtg Bd	12/1/2019	3	A-	3.36	3.28	3.36	3.43	3.14	2.82	2.99	3.01	2.58	2.58	3.04	3.10	3.06%	2.91%
Avista Corp.	6.25	05379BAK3	1st Mtg Bd	12/1/2035	19	A-	4.22	4.09	4.29	4.49	4.37	4.18	4.19	4.16	4.24	4.24	4.66	4.65	4.32%	4.52%
Avista Corp.	5.7	05379BAM9	1st Mtg Bd	7/1/2037	21	A-	4.32	4.19	4.34	4.49	4.37	4.13	4.19	4.16	4.29	4.29	4.74	4.67	4.35%	4.57%
CenterPoint Energy Houston	6.95	15189XAD0	Gen MtgeK2	3/15/2033	17	A-	4.10	4.05	4.01	3.96	3.86	3.55	3.54	3.46	3.80	3.80	4.24	4.15	3.88%	4.06%
CenterPoint Energy Houston	5.6	15189XAH1	Gen MtgeL2	7/1/2023	7	A-	2.96	3.34	3.35	3.36	3.17	2.86	2.98	2.93	2.78	2.78	3.33	3.50	3.11%	3.20%
CenterPoint Energy Res	6.25	15189YAD8	Sr Nts	2/1/2037	21	A-	5.48	5.31	5.20	5.08	4.91	4.83	4.73	4.77	4.83	4.83	5.04	5.18	5.02%	5.02%
Commonwealth Edison	5.875	202795HG8	1st Ser 100	2/1/2033	17	A-	4.23	4.02	3.96	3.89	3.82	3.48	3.49	3.49	3.79	3.79	4.11	4.17	3.85%	4.02%
Commonwealth Edison	5.9	202795HK9	1st Ser 103	3/15/2036	20	A-	4.27	4.06	4.02	3.97	3.85	3.57	3.52	3.58	3.73	3.73	4.19	4.19	3.89%	4.04%
Commonwealth Edison	5.95	202795HN3	1st Ser 104	8/15/2016	0	A-	0.98	1.29	1.11	0.92	0.98	0.82							1.02%	
Consolidated Edison, Inc.	5.88	209111EB5	Deb '03A	4/1/2033	17	A-	4.34	4.24	4.19	4.14	4.06	3.84	3.74	3.68	3.91	3.91	4.33	4.33	4.06%	4.19%
Consolidated Edison, Inc.	5.7	209111EF6	Deb'04B	2/1/2034	18	A-	4.49	4.28	4.27	4.25	4.26	4.02	4.00	3.87	4.08	4.08	4.36	4.38	4.19%	4.27%
Consolidated Edison, Inc.	5.3	209111EH2	Deb '05A	3/1/2035	19	A-	4.18	4.09	4.04	3.98	3.94	3.65	3.69	3.68	3.87	3.87	4.24	4.16	3.95%	4.09%
Consolidated Edison, Inc.	5.25	209111EJ8	Deb '05B	7/1/2035	19	A-	4.55	4.57	4.50	4.43	4.42	3.99	3.88	3.74	3.86	3.86	4.29	4.27	4.20%	4.14%
Consolidated Edison, Inc.	5.85	209111EL3	Deb'06A	3/15/2036	20	A-	4.21	4.23	4.16	4.08	4.08	3.74	3.63	3.69	3.88	3.88	4.31	4.29	4.01%	4.16%
Consolidated Edison, Inc.	6.2	209111EM1	Deb'06B	6/15/2036	20	A-	4.37	4.33	4.31	4.28	4.24	3.94	3.74	3.74	3.98	3.98	4.21	4.28	4.12%	4.16%
Consolidated Edison, Inc.	5.5	209111EN9	Deb'06C	9/15/2016	0	A-	0.97	1.10	1.05	0.99	1.08	1.05	1.25						1.07%	
Consolidated Edison, Inc.	5.3	209111EP4	Deb'06D	12/1/2016	0	A-	1.13	1.88	1.55	1.21	0.89	1.03	0.80	0.89					1.17%	
Consolidated Edison, Inc.	5.7	209111EQ2	Deb'06E	12/1/2036	20	A-	4.34	4.14	4.12	4.10	4.11	3.81	3.79	3.69	3.95	3.95	4.28	4.28	4.05%	4.17%
Consolidated Edison, Inc.	6.3	209111ES8	Deb'07A	8/15/2037	21	A-	4.39	4.38	4.38	4.38	4.25	3.95	3.71	3.75	3.93	3.93	4.30	4.22	4.13%	4.15%
Consumers Energy Co.	5.5	210518CE4	1st 'P'	8/15/2016	0	A-	1.34	1.21	0.99	0.77	0.97	1.09							1.06%	
Consumers Energy Co.	5.65	210518CL8	1st	4/15/2020	4	A-	2.14	1.93	2.03	2.13	2.00	1.61	1.54	1.80	1.82	1.82	2.39	2.46	1.97%	2.22%
Entergy Arkansas	6.38	29364DAK6	1st	11/1/2034	18	A-	6.37	6.37	6.37	6.37	6.37	6.37	6.37	6.37	6.37	6.37	6.37	6.37	6.37%	6.37%
Entergy Arkansas	5.66	29364DAL4	1st	2/1/2025	9	A-	5.68	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65%	5.65%
Entergy Gulf States	6.18	29364LAT9	1st	3/1/2035	19	A-	6.16	6.25	6.23	6.20	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.17	6.18%	6.17%
Entergy Mississippi	6.25	29364NAL2	1st	4/1/2034	18	A-	6.02	6.02	6.03	6.03	6.02	6.02	6.02	6.02	6.02	6.02	6.02	6.02	6.02%	6.02%
Entergy New Orleans	5.65	29364PAJ2	1st	9/10/2029	13	A-	5.61	5.70	5.74	5.77	5.85	5.64	5.64	5.64	5.64	5.64	5.64	5.64	5.68%	5.64%
Entergy New Orleans	5.6	29364PAK9	1st	9/1/2024	8	A-	5.57	5.67	5.68	5.69	5.75	5.59	5.59	5.60	5.59	5.59	5.59	5.59	5.63%	5.59%
Idaho Pwr	6	45138LAL7	Sec M-T Nts 'D'	11/15/2032	16	A-	4.55	4.35	4.27	4.18	4.11	3.92	3.88	3.74	3.98	3.98	4.48	4.21	4.14%	4.22%
Idaho Pwr	5.5	45138LAN3	Sec M-T Nts 'E'	4/1/2033	17	A-	4.55	4.39	4.44	4.48	4.22	4.05	4.06	4.07	4.13	4.13	4.54	4.35	4.28%	4.34%



MONTANA DEPARTMENT OF REVENUE

Support for Yield Capitalization Cost of Debt Component - Yield to Maturity From Standard & Poor's Bond Guide  
 Industry: Electric Utilities  
 2017 Assessment Year

Company Name	Coupon	CUSIP	Issue	Maturity Date	Years to Maturity	Old S&P Bond Rating	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Avg Full Year	Avg 4th QTR	
Idaho Pwr	5.5	45138LAP8	Sec M-T Nts'E'	3/15/2034	18	A-	4.60	4.44	4.51	4.58	4.27	3.90	3.91	3.72	3.93	3.93	4.34	4.35	4.21%	4.21%	
Idaho Pwr	5.875	45138LAQ6	Sec M-T Nts'E'	8/15/2034	18	A-	4.55	4.45	4.39	4.33	4.22	4.25	4.39	3.77	4.03	4.03	4.98	4.48	4.32%	4.50%	
Idaho Pwr	5.3	45138LAR4	Sec M-T Nts'F'	1/4/1900	-116	A-	4.43	4.22	4.29	4.36	4.33	3.88	3.88	3.78	4.08	4.08	4.48	4.43	4.19%	4.33%	
Idaho Pwr Co 1st Mtg Secd MT	6.3	45138LAS2	Secd MTN Ser F	6/15/2037	21	A-	4.49	4.28	4.18	4.08	3.97	3.68	3.68	3.67	3.98	3.98	4.38	4.43	4.07%	4.26%	
Interstate Pwr & Lt	6.45	461070AC8	Sr Deb	10/15/2033	17	A-	4.00	3.79	3.84	3.89	3.87	3.58	3.59	3.61	3.80	3.80	4.26	4.26	3.86%	4.11%	
Interstate Pwr & Lt	6.3	461070AD6	Sr Deb	5/1/2034	18	A-	4.00	3.79	3.84	3.89	3.87	3.58	3.59	3.61	3.78	3.78	4.25	4.27	3.85%	4.10%	
Interstate Pwr & Lt	5.5	461070AE4	Sr Deb	7/15/2025	9	A-	3.18	3.09	2.98	2.86	2.86	2.44	2.57	2.64	2.76	2.76	3.35	3.44	2.91%	3.18%	
KeySpan Corp.	8	49337WAC4	Nts	11/15/2030	14	A-	4.93	4.69	4.60	4.51	4.51	4.11	4.22	4.19	4.32	4.32	4.76	4.74	4.49%	4.61%	
KeySpan Corp.	5.88	49337WAH3	Nts	4/1/2033	17	A-	4.93	4.74	4.64	4.54	4.54	4.53	4.54	4.45	4.70	4.70	5.06	4.88	4.69%	4.88%	
KeySpan Corp	5.8	49337WAJ9	Nt	4/1/2035	19	A-	4.92	4.73	4.63	4.53	4.51	4.13	4.14	4.05	4.30	4.30	4.66	4.73	4.47%	4.56%	
Oklahoma Gas & Elec Co	6.65	678858AZ4	Sr Nts	7/15/2027	11	A-	4.04	3.78	3.84	3.90	3.92	3.56	3.67	3.75	3.85	3.85	4.37	4.51	3.92%	4.24%	
Oklahoma Gas & Elec Co	6.5	678858BC4	Sr Nt	4/15/2028	12	A-	4.06	3.80	4.07	4.34	4.37	4.01	4.12	4.19	4.29	4.29	4.82	4.50	4.24%	4.54%	
Oklahoma Gas & Elec Co	6.5	678858BC4	Sr Nt	4/15/2028	12	A-	4.06	3.80	4.07	4.34	4.37	4.01	4.12	4.19	4.29	4.29	4.82	4.50	4.24%	4.54%	
Oklahoma Gas & Elec Co	5.75	678858BF7	Sr Nts	1/15/2036	20	A-	4.53	4.32	4.35	4.37	4.26	3.92	4.19	3.99	4.18	4.18	4.64	4.61	4.29%	4.48%	
Exelon Corp.	5.9	693304AG2	1st Ref Mtg	5/1/2034	18	A-	4.32	4.24	4.19	4.13	4.21	3.90	3.91	3.92	4.21	4.21	4.61	4.53	4.20%	4.45%	
Exelon Corp.	5.95	693304AH0	1st Ref Mtg	10/1/2036	20	A-	4.15	3.99	3.94	3.88	3.96	3.62	3.63	3.64	3.93	3.93	4.33	4.25	3.94%	4.17%	
Exelon Corp.	5.7	693304AJ6	1st Ref Mtg	3/15/2037	21	A-	4.40	4.24	4.19	4.13	4.21	3.92	3.93	3.94	4.23	4.23	4.63	4.55	4.22%	4.47%	
Portland Gen Elec Co MTN-bot	9.31	73651HAV3	1st Mortgage MTN	8/11/2021	5	A-	2.96	2.75	2.81	2.86	2.94	2.48	2.59	2.70	2.78	2.78	3.34	3.48	2.87%	3.20%	
Public Svc Co New Hampshire	5.6	744538AA7	1st Mtg Bd	10/5/2035	19	A-	4.28	4.06	4.15	4.23	4.29	3.71	3.84	3.78	3.97	3.97	4.43	4.57	4.11%	4.32%	
Public Service Electric and Gas	8	744567BA5	1st & Ref	6/1/2037	21	A-	4.83	4.71	4.76	4.81	4.79	4.30	4.23	4.28	4.44	4.44	4.90	4.85	4.61%	4.73%	
Public Serv Elec & Gas	5	744567BB3	1st & Ref Mtg	7/1/2037	21	A-	4.73	4.61	4.66	4.71	4.69	4.20	4.13	4.18	4.44	4.44	4.90	4.84	4.54%	4.73%	
Public Service Electric and Gas	5	744567BB3	1st & Ref	7/1/2037	21	A-	4.73	4.61	4.66	4.71	4.69	4.20	4.13	4.18	4.44	4.44	4.90	4.84	4.54%	4.73%	
Public Service Electric and Gas	9.25	744567CN6	1st & Ref CC	6/1/2021	5	A-	3.13	2.92	2.96	2.99	3.07	2.59	2.79	2.08	1.96	1.96	2.52	2.66	2.64%	2.38%	
Public Svc Elec Gas Co Secd T	7.04	74456QAG1	MTN Tranche # Tr 00007	11/6/2020	4	A-	3.51	3.31	3.38	3.44	3.51	3.10	3.29	3.41	3.48	3.48	4.04	4.19	3.51%	3.90%	
Public Svc Elec Gas Co Secd T	5.25	74456QAP1	Med Term Notes	7/1/2035	19	A-	3.95	3.75	3.80	3.85	3.83	3.49	3.49	3.50	3.49	3.49	3.94	4.05	3.72%	3.83%	
Public Svc Elec Gas Co Secd T	5.7	74456QAQ9	Secd Mtms, Ser D	12/1/2036	20	A-	4.02	3.82	3.83	3.83	3.81	3.51	3.42	3.42	3.66	3.66	4.12	4.03	3.76%	3.94%	
Public Svc Elec Gas Co Secd T	5.8	74456QAR7	Secured Mtn Series E Note	5/1/2037	21	A-	4.08	3.95	4.00	4.05	4.03	3.54	3.47	3.52	3.68	3.68	4.14	4.09	3.85%	3.97%	
Puget Sound Pwr & Lt	7.02	74531EAA0	Sr M-T Nts'A'	12/1/2027	11	A-	3.81	3.53	3.52	3.51	3.57	3.23	2.99	3.04	3.21	3.21	3.69	3.80	3.43%	3.57%	
Puget Sound Energy	6.74	74531EAB8	Sr M-T Nts 'A'	6/15/2018	2	A-	1.99	1.91	1.95	1.99	2.06	1.68	1.73	1.84	1.86	1.86	2.15	2.07	1.92%	2.03%	
Puget Sound Energy	7	74531EAC6	Sr M-T Nts 'B'	3/9/2029	13	A-	4.11	3.83	3.82	3.81	3.77	3.43	3.24	3.39	3.66	3.66	4.13	4.25	3.76%	4.01%	
Puget Sound Energy	5.48	745332BU9	Sr Nts	6/1/2035	19	A-	4.19	4.01	4.07	4.13	3.98	3.62	3.59	3.57	3.73	3.75	4.22	4.27	3.93%	4.08%	
Puget Sound Energy	6.72	745332BW5	Sr Nts	6/15/2036	20	A-	4.19	4.01	4.10	4.18	4.13	3.74	3.72	3.68	3.87	3.87	4.34	4.39	4.02%	4.20%	
Puget Sound Energy	6.27	745332BX3	Sr(Sec)Nts	3/15/2037	21	A-	4.04	4.04	4.02	4.00	4.00	3.72	3.65	3.67	3.91	3.91	4.36	4.40	3.99%	4.22%	
Southwestern Public Serv	5.6	845743BK8	Sr Nts'E'	10/1/2016	0	A-	1.22	1.35	1.36	1.36	1.80	1.42	1.35	1.46					1.41%		
Southwestern Public Serv	6	845743BL6	Sr Nts'F'	10/1/2036	20	A-	4.52	4.32	4.40	4.48	4.26	3.94	3.97	3.98	4.22	4.22	4.64	4.50	4.29%	4.45%	
Virginia Electric & Power Co.	6	927804FA7	Sr Nts'B'	1/15/2036	20	A-	4.05	4.13	4.06	3.99	4.02	3.68	3.62	3.61	3.90	3.90	4.28	4.24	3.96%	4.14%	
Virginia Electric & Power Co.	6	927804FB5	Sr Nt 2007 Ser A	5/15/2037	21	A-	4.21	4.16	4.10	4.03	4.04	3.63	3.64	3.64	3.80	3.80	4.23	4.27	3.96%	4.10%	
Virginia Electric & Power Co.	5.95	927804FC3	Sr Nt 2007 Ser B	9/15/2017	1	A-	1.37	1.42	1.35	1.28	1.27	1.11	1.18	1.15	1.38	1.38	1.49	1.60	1.33%	1.49%	
Virginia Electric & Power Co.	6.35	927804FE9	Sr Nt 2007 Ser D	11/30/2037	21	A-	4.14	4.08	4.07	4.06	4.04	3.69	3.74	3.69	3.93	3.93	4.30	4.28	4.00%	4.17%	
Virginia Electric & Power Co.	5.4	927804FF6	Sr Nt 2008 Ser A	4/30/2018	2	A-	1.99	1.72	1.61	1.49	1.51	1.31	1.28	1.38	1.31	1.31	1.64	1.72	1.52%	1.56%	
Washington Water Power	7.53	94068VAA1	Secd MTN	5/5/2023	7	A-	3.76	3.64	3.78	3.91	3.98	3.68	3.80	4.00	3.63	3.63	4.22	4.30	3.86%	4.05%	
Washington Water Power	7.39	94068VAF0	Secd Med-term Nt	5/11/2018	2	A-	3.04	2.96	2.99	3.02	3.10	2.62	2.78	2.66	2.55	2.83	2.74	2.82%	2.71%		
Westar Energy, Inc.	5.15	95709TAB6	1st Mtg Bd	1/1/2017	1	A-	1.77	1.77	1.73	1.69	1.75	1.52	1.65	1.17	1.28	1.28	1.45		1.55%	1.37%	
Westar Energy, Inc.	5.95	95709TAC4	1st Mtg Bd	1/1/2035	19	A-	5.94	5.94	5.94	5.94	5.94	5.94	5.94	5.94	5.94	5.94	5.94	5.94	5.94%	5.94%	
Westar Energy, Inc.	4.1	95709TAD2	Fixed Rt 1st Mtg Bd	7/15/2020	4	A-	2.35	2.14	2.17	2.19	2.20	1.72	1.96	2.10	1.92	1.92	2.53	2.58	2.15%	2.34%	
Westar Energy, Inc.	5.88	95709TAE0	1st Mtg Bd	7/15/2036	20	A-	5.87	5.87	5.87	5.87	5.87	5.87	5.87	5.87	5.87	5.87	5.87	5.87	5.87%	5.87%	
Wisconsin Electric Power Com	6.875	976656BL1	Deb	12/1/2095	79	A-	5.48	5.37	5.37	5.37	5.32	4.69	4.54	4.55	4.86	4.86	5.23	5.20	5.07%	5.10%	
Wisconsin Electric Power	6.5	976656BP2	Deb	6/1/2028	12	A-	4.02	3.80	3.48	3.16	3.43	2.90	3.01	3.06	3.34	3.34	3.87	4.01	3.45%	3.74%	
Wisconsin Electric Power	5.7	976656BZ0	Deb	12/1/2036	20	A-	4.10	3.88	3.87	3.86	3.83	3.56	3.57	3.51	3.84	3.84	4.17	4.11	3.85%	4.04%	
Progress Energy, Inc.	8.62	144141BP2	1st	9/15/2021	5	BBB+	2.60	2.30	2.20	2.10	2.19	1.77	1.82	1.93	2.58	2.58	3.09	3.23	2.37%	2.97%	
Progress Energy, Inc.	5.7	144141CV8	1st	4/1/2035	19	BBB+	4.27	4.09	4.04	3.99	4.03	3.70	3.71	3.67	3.78	3.78	4.20	4.20	3.96%	4.06%	
Progress Energy, Inc.	6.3	144141CY2	1st	4/1/2038	22	BBB+	4.21	4.03	3.98	3.93	3.97	3.64	3.65	3.61	3.82	3.82	4.24	4.24	3.93%	4.10%	
CenterPoint Energy, Inc.	5.95	15189TAN7	Sr Nt	2/1/2017	1	BBB+	1.84	2.02	1.99	1.96	1.90	1.64	1.73	1.92	1.64	1.64	1.50	1.66	1.79%	1.60%	
CenterPoint Energy, Inc.	5.95	15189TAN7	Sr Nts	2/1/2017	1	BBB+	1.84	2.02	1.99	1.96	1.90	1.64	1.73	1.92	1.64	1.64	1.50	1.66	1.79%	1.60%	
Central Illinois Light	6.7	153645BA3	Sr Secd Nt 144a	6/15/2036	20	BBB+	6.03	6.03	6.03	6.02	6.02	6.02	6.02	6.02	6.02	6.02	6.01	6.01	6.02%	6.01%	
Cincinnati Gas & Electric Co.	6.9	172070BT0	Deb	6/1/2025	9	BBB+	4.06	3.83	3.58	3.33	3.41	3.11	2.98	3.03	3.30	3.30	3.81	3.83	3.46%	3.65%	
Cleco Power LLC	6.5	185508AE8	Nts	12/1/2035	9	BBB+	4.59	4.45	4.28	4.59	5.23	5.02	4.58	4.39	4.17	4.26	4.26	4.69	4.70	4.61%	4.55%
Consumers Energy Co.	6.875	210518AT3	Sr Nts 'B'	3/1/2018	2	BBB+	1.76	1.67	1.82	1.97	2.04	1.57	1.68	1.45	1.44	1.44	1.71	1.79	1.70%	1.65%	
Consumers Energy Co.	5.15	210518CG9	1st	2/15/2017	1	BBB+	1.30	1.38	1.27	1.15	0.89	0.98	1.05	0.96	1.05	1.05	0.60	1.45	1.09%	1.03%	
Consumers Energy Co.	5.8	210518CP9	1st	9/15/2035	19	BBB+	3.97	3.91	3.93	3.95	3.88	3.59	3.49	3.48	3.89	3.89	4.29	4.36	3.89%	4.18%	
Consumers Energy Co.	5.65	210518CQ7	1st	9/15/2018	2	BBB+	1.96	1.88	1.77	1.65	1.64	1.32	1.44	1.56	1.42						

MONTANA DEPARTMENT OF REVENUE

Support for Yield Capitalization Cost of Debt Component - Yield to Maturity From Standard & Poor's Bond Guide  
 Industry: Electric Utilities  
 2017 Assessment Year

Company Name	Coupon	CUSIP	Issue	Maturity Date	Years to Maturity	Old S&P Bond Rating	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Avg Full Year	Avg 4th QTR
Dominion Resources, Inc. (Va.)	5.95	25746UAV1	Fixed Rt Sr Nt 2005 Ser B	6/15/2035	19	BBB+	5.00	4.88	4.79	4.70	4.66	4.19	4.20	4.17	4.35	4.35	4.65	4.71	4.55%	4.57%
Duke Energy Corp.	6	264399DK9	Sr Nts 'A'	12/1/2028	12	BBB+	3.86	3.69	3.47	3.24	3.41	3.06	3.02	2.99	3.16	3.16	3.67	3.59	3.36%	3.47%
Duke Energy Corp.	6.45	264399ED4	Sr Nts	10/15/2032	16	BBB+	4.29	4.06	3.99	3.91	3.84	3.61	3.47	3.50	3.77	3.77	4.19	4.18	3.88%	4.05%
Empire District Electric Co. (Th	7.2	291641AS7	1st	12/1/2016	0	BBB+	1.63	1.65	1.68	1.71	1.80	1.60	1.76	1.92					1.72%	
Enersis S.A.	7.4	29274FAB0	Nt	12/1/2016	0	BBB+	1.60	1.99	2.01	2.03	2.28	1.95	2.23	2.91	3.10	3.10			2.32%	3.10%
Exelon Corp.	5.62	30161NAC5	Fixed Rt Sr Nt	6/15/2035	19	BBB+	5.05	4.88	4.63	4.38	4.29	4.18	4.06	4.04	4.27	4.27	4.76	4.78	4.47%	4.60%
Florida Pwr	6.75	34110QAL2	Nts	2/1/2028	12	BBB+	4.42	4.15	4.16	4.17	4.19	3.83	3.95	4.02	4.22	4.22	4.75	4.89	4.25%	4.62%
MidAmerican Funding	6.93	59562HAJ7	Sr Sec Bonds	3/1/2029	13	BBB+	4.25	4.02	3.84	3.65	3.65	3.04	3.01	3.02	3.06	3.06	3.60	3.66	3.49%	3.44%
MidAmerican Energy Hldg	6.12	59562VAM9	SrBonds	4/1/2036	20	BBB+	4.77	4.64	4.34	4.03	4.07	3.83	3.65	3.72	3.85	3.85	4.29	4.25	4.11%	4.13%
PSI Energy, Inc.	6.12	693627AY7	Deb	10/15/2035	19	BBB+	4.36	4.40	4.27	4.14	4.03	3.69	3.70	3.71	4.00	4.00	4.46	4.52	4.11%	4.33%
PSI Energy	6.05	693627AZ4	Deb	6/15/2016	0	BBB+	0.92	0.90	1.04	1.18									1.01%	
PSEG Power LLC	8.62	69362BAJ1	Sr Nts	4/15/2031	15	BBB+	5.95	5.81	6.05	6.29	6.50	5.90	5.66	5.52	5.62	5.62	6.30	6.42	5.97%	6.11%
Public Svc No Car	6.99	744516AA3	Sr Deb	1/15/2026	10	BBB+	3.92	3.88	3.79	3.69	3.78	3.37	3.34	3.37	3.57	3.57	4.14	4.15	3.71%	3.95%
Public Svc No Car	7.45	744516AB1	Sr Deb	12/15/2026	10	BBB+	4.04	3.88	3.79	3.69	3.78	3.37	3.34	3.37	3.57	3.57	4.14	4.15	3.72%	3.95%
Southern California Edison Co.	6.65	842400EB5	Nts	4/1/2029	13	BBB+	3.98	3.72	3.79	3.86	3.88	3.46	3.47	3.45	3.64	3.64	4.08	4.20	3.76%	3.97%
Southern Power Co	6.38	843646AG5	Sr Nt Ser E	11/15/2036	20	BBB+	6.17	6.18	6.20	6.22	6.25	6.26	6.27	6.30	6.36	6.36	6.36	6.37	6.28%	6.36%
Tampa Electric Co.	6.55	875127AV4	Nts	5/15/2036	20	BBB+	4.39	4.23	4.21	4.18	4.11	3.90	3.84	3.78	4.06	4.06	4.50	4.49	4.15%	4.35%
Tampa Electric Co.	6.15	875127AW2	Sr Nts	5/15/2037	21	BBB+	4.42	4.22	4.20	4.18	4.07	3.79	3.78	3.73	4.11	4.11	4.56	4.47	4.14%	4.38%
Tampa Electric Co.	6.1	875127AX0	Fixed Rt	5/15/2018	2	BBB+	2.03	2.11	1.88	1.65	1.93	1.59	1.68	1.85	2.01	2.01	2.42	1.74	1.91%	2.06%
Union Electric	5.5	906548BY7	Sr Sec Nts	3/15/2034	18	BBB+	4.35	4.15	4.17	4.18	4.11	3.78	3.69	3.64	3.86	3.86	4.32	4.25	4.03%	4.14%
Union Electric	5	906548CD2	Sr Sec Nts	2/1/2020	4	BBB+	2.14	2.35	2.21	2.06	2.11	1.54	1.62	1.75	1.96	1.96	2.48	2.63	2.07%	2.36%
Union Electric	6.4	906548CE0	Sr Sec Nts	6/15/2017	1	BBB+	1.48	1.62	1.41	1.20	1.12	1.07	1.03	1.14	1.19	1.19	1.47	1.40	1.28%	1.35%
Union Electric	6	906548CF7	Sr Sec Nts	4/1/2018	2	BBB+	1.89	1.80	1.81	1.82	1.78	1.33	1.36	1.49	1.46	1.46	1.71	1.85	1.65%	1.67%
Union Electric	6.7	906548CG5	Sr Sec Nts	2/1/2019	3	BBB+	1.82	2.07	1.91	1.75	1.82	1.28	1.38	1.46	1.55	1.55	1.92	2.06	1.71%	1.84%
Xcel Energy Inc.	6.5	93389BAH3	Sr Nts	7/1/2036	20	BBB+	4.59	4.43	4.40	4.37	4.32	4.03	3.79	3.80	4.05	4.05	4.49	4.53	4.24%	4.36%
Appalachian Power Co.	5.95	037735BZ9	Sr Nts'H	5/15/2033	17	BBB	4.94	5.46	5.20	4.94	4.87	4.54	4.39	4.33	4.28	4.28	4.62	4.60	4.70%	4.50%
Appalachian Power	5	037735CD7	Sr Nts'H	6/1/2017	1	BBB	1.73	1.81	1.66	1.51	1.50	1.41	1.47	1.43	1.44	1.44	1.56	1.73	1.56%	1.58%
Appalachian Power	5.8	037735CE5	Sr Nts'L	10/1/2035	19	BBB	4.74	4.65	4.63	4.63	4.51	4.25	4.23	4.25	4.31	4.31	4.72	4.59	4.49%	4.54%
Appalachian Power	6.38	037735CG0	Sr Nts'N	4/1/2036	20	BBB	4.87	5.04	4.88	4.72	4.55	4.38	4.26	4.29	4.33	4.33	4.69	4.60	4.58%	4.54%
CMS Energy Corp.	6.55	125896BA7	Sr Nts	7/17/2017	1	BBB	1.90	1.99	1.81	1.63	1.56	1.36	1.47	1.38	1.27	1.27	1.43	0.00	1.42%	0.90%
Cleveland Electric Illuminating	7.88	186108BU9	Sec Nts 'D'	11/1/2017	1	BBB	1.99	2.23	2.10	1.96	2.16	1.73	1.89	1.89	1.97	1.97	1.69	1.59	1.93%	1.75%
Commonwealth Edison	6.95	202795GX2	Nts	7/15/2018	2	BBB	2.17	2.09	2.12	2.15	2.22	1.93	2.05	2.15	2.15	2.15	2.43	2.07	2.14%	2.22%
DTE Energy Co.	6.35	233331AM9	Sr Nt 2006 Ser B	6/1/2016	0	BBB	1.20	1.27	1.38	1.48									1.33%	
Dominion Resources, Inc. (Va.)	7.5	25746UAY5	hanced Jr Sub Nt 2006 Ser	6/30/2066	50	BBB	8.98	8.97	8.96	8.94	9.00	9.12	4.09	4.01	3.99	3.99	4.05	4.05	6.51%	4.03%
Dominion Resources, Inc. (Va.)	2.58	25746UAZ2	Sub Nt 2006 Ser B Enhand	9/30/2066	50	BBB	4.43	4.57	4.49	4.41	4.17	4.18	4.02	3.88	4.13	4.13	4.25	4.25	4.24%	4.21%
El Paso Electric Co.	6	283677AW2	Sr Nts	5/15/2035	19	BBB	4.34	4.14	4.35	4.55	4.54	4.23	4.24	4.18	4.38	4.38	4.83	4.76	4.41%	4.66%
Empire District Electric Co. (Th	5.8	291641AZ1	Sr Nts	7/1/2035	19	BBB	5.78	5.79	5.82	5.85	5.85	5.51	5.51	5.52	5.18	5.18	5.64	5.70	5.61%	5.51%
Empire District Elec	6.7	29164RAA9	Sr Nts	11/15/2033	17	BBB	5.24	5.11	4.81	4.51	4.61	4.44	4.38	4.29	4.50	4.50	4.97	5.24	4.72%	4.90%
Energy East Corp.	6.75	29266MAE9	Nts	9/15/2033	17	BBB	5.79	5.81	5.64	5.46	5.55	5.21	5.31	5.09	5.31	5.31	5.79	5.44	5.48%	5.51%
Energy East	6.75	29266MAF6	Nt	7/15/2036	20	BBB	4.89	4.91	4.75	4.59	4.68	4.34	4.44	4.22	4.44	4.44	4.92	4.98	4.63%	4.78%
Enersis S.A.	6.6	29274FAC8	Nt	12/1/2026	10	BBB	5.94	5.94	5.94	5.93	5.93	5.93	5.92	5.92	5.91	5.91	5.91	5.90	5.92%	5.91%
Indiana Mich Pwr	6.05	454889AM8	Sr Nts'H	3/15/2037	21	BBB	4.84	4.82	4.80	4.78	4.59	4.27	4.19	4.14	4.27	4.27	4.64	4.57	4.52%	4.49%
Kansas City Power & Light	6.05	485134BH2	Sr Nt Ser A	11/15/2035	19	BBB	4.40	4.27	4.35	4.43	4.26	4.03	4.09	4.02	4.19	4.19	4.59	4.60	4.29%	4.46%
Kansas City Power & Light	5.85	485134BJ8	Sr Nt	6/15/2017	1	BBB	1.73	1.73	1.75	1.77	1.94	1.66	1.88	1.65	1.74	1.74	1.78	1.77	1.76%	1.76%
Kentucky Power	5.62	491386AL2	Sr Nts'D	12/1/2032	16	BBB	5.03	4.83	4.81	4.78	4.78	4.54	4.49	4.58	4.68	4.68	4.94	5.01	4.76%	4.88%
Ohio Power Co.	6.6	677415CF6	Sr Nts 'G'	2/15/2033	17	BBB	4.54	4.73	4.63	4.52	4.46	4.17	4.16	4.15	4.26	4.26	4.72	4.60	4.43%	4.53%
Ohio Power Co.	6	677415CL3	Sr Nts'K	6/1/2016	0	BBB	1.30	1.81	1.83	1.84										
PPL Energy Supply	5.7	69352JAG2	Reset PutSecs	10/15/2035	19	BBB														
PPL Energy Supply	6.2	69352JAH0	Sr Nts	5/15/2016	0	BBB	8.70	8.94											8.82%	
PPL Energy Supply	6	69352JAK3	Sr Nts	12/15/2036	20	BBB	16.76	16.00	13.60	11.19	12.01	12.35	10.93	11.32	10.87	10.87	11.35	11.61	12.40%	11.28%
PPL Energy Supply	6.5	69352JAL1	Sr Nts	5/1/2018	2	BBB	11.10	10.42	7.80	5.17	5.11	6.49	4.69	4.76	3.89	3.89	3.94	3.78	5.92%	3.87%
Pacific Gas & Electric Co.	6.05	694308GE1	1st	3/1/2034	18	BBB	4.34	4.21	3.91	3.61	3.71	3.54	3.48	3.39	3.60	3.60	4.07	4.04	3.79%	3.90%
Pacific Gas & Electric Co.	5.8	694308GJ0	Fixed Rt Sr Nt	3/1/2037	21	BBB	4.47	4.29	4.12	3.95	3.93	3.62	3.64	3.62	3.80	3.80	4.19	4.20	3.97%	4.06%
Pepco Holdings, Inc.	6.12	713291AP7	Nts	6/1/2017	1	BBB	3.07	3.07	1.54										2.56%	
Progress Energy, Inc.	7.75	743263AE5	Sr Nts	3/1/2031	15	BBB	4.78	4.54	4.40	4.26	4.22	4.06	4.07	4.03	4.20	4.20	4.72	4.27	4.31%	4.40%
Progress Energy, Inc.	7	743263AG0	Sr Nts	10/30/2031	15	BBB	4.68	4.54	4.39	4.23	4.26	3.95	3.97	3.92	4.03	4.03	4.66	4.35	4.25%	4.35%
Public Serv, New Mexico	7.5	744499AN4	Sr Unsec Nts 'B'	8/1/2018	2	BBB	2.54	2.39	2.41	2.42	2.50	1.82	2.00	2.05	1.94	1.94	2.14	2.14	2.19%	2.07%
Public Service Co. of Oklahom	6.15	744533BH2	Sr Nts'H	8/1/2016	0	BBB	1.36	1.90	1.92	1.93	1.94	1.74							1.80%	
Public Service Co. of Oklahom	6.62	744533BJ8	Sr Nts 'G'	11/15/2037	21	BBB	4.94	4.73	4.79	4.85	4.82	4.53	4.39	4.38	4.53	4.53	4.64	4.60	4.64%	4.59%
Southwest'n Elec Power	5.55	845437BH4	Sr Nt Ser E	11/15/2017	1	BBB	1.57	1.52	1.44	1.36	1.43	1.18	1.16	1.47	1.28	1.28	1.44		1.38%	1.36%
WPS Resources	6.11	92931BAC0	Jr Sub Nt	12/1/2066	50	BBB	0.00	0.00	0.00	0.00	0.00	0.00	8.09	7.31	6.51	6.51	6.70	3.42	3.21%	5.54%
Wisconsin Energy Corp.	6.25	976657AH9	2007 Ser A Jr Sub Nt	5/15/2067	51	BBB	8.66	8.48	8.02	7.56	7.63	7.91	8.09	7.34	7.17	7.17	7.21	7.16	7.66%	7.18%
Cleveland Elec. Illum	5.95	186108CE4	Sr Nts	12/15/2036	20	BBB-	5.35	5.28	5.23											

**MONTANA DEPARTMENT OF REVENUE**

**Support for Yield Capitalization Cost of Debt Component - Yield to Maturity From Standard & Poor's Bond Guide  
Industry: Electric Utilities  
2017 Assessment Year**

Company Name	Coupon	CUSIP	Issue	Maturity Date	Years to Maturity	Old S&P Bond Rating	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Avg Full Year	Avg 4th QTR	
Cleveland Elec. Illum	5.7	186108CF1	Sr Nts	4/1/2017	1	BBB-	2.61	2.61	2.29	1.96	1.93	1.46	1.62	1.66	1.56	1.56	1.68	1.99	1.91%	1.74%	
Duquesne Light Holdings, Inc.	6.25	266233AB1	Sr Nts	8/15/2035	19	BBB-	5.59	5.59	5.59	5.58	5.51	5.22	5.23	5.20	5.24	5.24	5.71	5.70	5.45%	5.55%	
NiSource Finance	5.25	65473QAQ6	Gtd Nt	9/15/2017	1	BBB-	1.63	1.62	1.82	2.02	2.11	1.94	2.15	1.66	1.70	1.70	1.84	1.95	1.85%	1.83%	
NiSource Finance	5.45	65473QAR4	Gtd Nt	9/15/2020	4	BBB-	3.11	2.89	2.70	2.51	2.45	2.12	2.33	2.21	2.30	2.30	2.86	2.90	2.56%	2.69%	
Ohio Edison Co.	6.88	677347CE4	Sr Nts	7/15/2036	20	BBB-	5.34	5.20	5.14	5.08	5.12	5.01	4.66	4.49	4.58	4.58	4.89	4.77	4.91%	4.75%	
Pennsylvania Electric	6.625	708696BM0	Sr Nts 'C'	4/1/2019	3	BBB-	3.89	4.05	4.10	4.14	4.32	3.72	3.04	3.11	3.29	3.29	3.56	3.32	3.65%	3.39%	
Constellation Energy Group, In	7.6	210371AF7	Nts	4/1/2032	16	BB+	5.18	5.01	4.81	4.60	4.49	4.38	4.11	4.09	4.28	4.28	4.78	4.74	4.56%	4.60%	
FirstEnergy Corp.	7.38	337932AC1	Sr Nt Ser C	11/15/2031	15	BB+	5.20	5.12	5.12	5.11	5.34	5.06	4.96	4.63	4.58	4.58	4.98	4.73	4.95%	4.76%	
El Paso Energy Corp MTN BE	8.05	28368EAA4	MTN	10/15/2030	14	BB	8.22	8.00	7.53	7.06	7.09	6.77	6.48	6.29	6.13	6.13	6.69	6.05	6.87%	6.29%	
El Paso Energy Corp MTN BE	7.75	28368EAE6	MTN-tranche # Tr 00005	1/15/2032	16	BB	8.59	8.17	7.55	6.93	7.00	6.51	6.14	5.84	5.55	5.55	5.94	5.59	6.61%	5.69%	
TXU Corp.	6.5	873168AN8	Sr Nts'Q'	11/15/2024	8	D	11.44	12.29	12.28	12.26	18.35	18.43	18.32	15.17					14.82%		
TXU Corp.	6.55	873168AQ1	Sr Nts'R'	11/15/2034	18	D	9.69	10.24	10.21	10.17	14.30	14.31	14.89	12.00	22.91	22.91	0.00	0.00	11.80%	7.64%	
Allegheny Generating	6.88	017364AG5	Deb	9/1/2023	7	NR	6.70	6.70	6.70	6.70	6.69	6.69	6.69	6.69	6.69	6.69	6.68	6.68	6.69%	6.68%	
MDU Resources Group, Inc.	5.98	552690AF6	Sr Sec Nt	12/15/2033	17	NR	5.55	5.38	5.13	4.88	4.79	4.68	4.56	4.54	4.77	4.77	5.26	5.28	4.97%	5.10%	
Ohio Power Co.	6.38	677415CJ8	Sr Nts 'I'	7/15/2033	17	NR	6.37	6.37	6.37	6.37	6.37	6.37	6.37	6.37	6.37	6.37	6.37	6.37	6.37%	6.37%	
Orange & Rockland Utils	7	684065AU9	Deb 'G'	3/1/2029	13	NR	6.47	6.47	6.47	6.46	6.46	6.46	6.46	6.45	6.45	6.45	6.45	6.44	6.46%	6.45%	
PPL Energy Supply	2.62	69352JAE7	Sr Nt Conv	5/15/2023	7	NR	0.31	0.29	0.27	0.24	0.21	0.19	0.16	0.13	0.07	0.07	0.05	0.01	0.17%	0.04%	
Savannah Electric&Power	5.5	804787DJ5	Sr Nts'F'	12/15/2028	12	NR	5.49	5.49	5.49	5.49	5.49	5.49	5.49	5.49	5.49	5.49	5.49	5.49	5.49%	5.49%	
Sierra Pacific Resources	6.75	826428AN4	Sr Nts	8/15/2017	1	NR	5.21	5.13	5.03	4.93	4.81	4.67	4.52	4.32	3.80	3.80	3.50	3.07	4.40%	3.46%	
Tennessee Valley Authority	8.25	880591BL5	Pwr Bonds '92D	4/15/2042	26	NR	7.71	7.71	7.71	7.71	7.71	7.71	7.71	7.71	7.71	7.71	7.70	7.70	7.71%	7.70%	
Tennessee Valley Authority	6.235	880591CF7	Pwr Bonds '95B	7/15/2045	29	NR	5.19	5.12	5.14	5.16	5.19	5.05	5.12	5.18	5.23	5.23	5.37	5.37	5.20%	5.32%	
Tennessee Valley Authority	5.98	880591CK6	Pwr Bonds '96A	4/1/2036	20	NR	3.63	3.40	3.40	3.40	3.31	2.98	2.88	2.79	3.03	3.03	3.51	3.51	3.24%	3.35%	
Tennessee Valley Authority	6.15	880591CP5	Pwr Bonds '98B	1/15/2038	22	NR	3.70	3.38	3.43	3.48	3.48	3.03	2.94	2.86	3.13	3.13	3.56	3.65	3.31%	3.45%	
Tennessee Valley Authority	5.88	880591CS9	Pwr Bonds '97C	4/1/2036	20	NR	3.57	3.33	3.35	3.36	3.28	2.94	2.82	2.76	3.03	3.03	3.47	3.60	3.21%	3.37%	
Union Electric	7.69	906548BT8	Sub Cap Inc Sec'A'	12/15/2036	20	NR	7.43	7.43	7.43	7.43	7.43	7.43	7.43	7.42	7.42	7.42	7.42	7.42	7.43%	7.42%	
							276	275	275	274	272	268	268	264	263	257	257	256	254		

NOTES:

Data downloaded from the S&P website and missing data supplemented from month end Bond Guides when available.  
  means the data was not available in S&P Guide  
  means issuance matured or called

All Bonds		Annual	4th Qtr
All Bonds			
All Ratings		3.92%	4.04%
Investment Grade (BBB- & Above)		3.77%	3.96%
<b>Bonds With 20 or More Years to Maturity</b>			
All Ratings		4.44%	4.53%
Investment Grade (BBB- & Above)		4.39%	4.49%
<b>Say:</b>		<b>4.00%</b>	

**MONTANA DEPARTMENT OF REVENUE**

Support for Direct Capitalization Cost of Equity ( $k_e$ )

Industry: Electric Utilities

2017 Assessment Year

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Company	Ticker Symbol	Avg. 4Q Stock Price	VL Historic EPS	VL Est EPS	VL Historic P/E Ratio	VL Est P/E Ratio	Ke Estimate - Earnings (Hist. P/E)	Ke Estimate - Earnings (Est. P/E)	VL Historic Cash Flow Per Share	VL Est Cash Flow Per Share	VL Historic P/CF Ratio	VL Est P/CF Ratio	Ke Estimate - Cash Flow (Hist. P/CF)	Ke Estimate - Cash Flow (Est. P/CF)
		<i>Yahoo</i>	<i>Value Line</i>	<i>Value Line</i>	<i>C/D</i>	<i>C/E</i>	<i>1/F</i>	<i>1/G</i>	<i>Value Line</i>	<i>Value Line</i>	<i>C/J</i>	<i>C/K</i>	<i>1/L</i>	<i>1/M</i>
Alliant Energy	LNT	36.97	1.65	2.00	22.40	18.48	4.46%	5.41%	3.45	4.00	10.71	9.24	9.33%	10.82%
Avista Corp.	AVA	40.65	2.16	1.95	18.82	20.85	5.31%	4.80%	5.30	5.00	7.67	8.13	13.04%	12.30%
Black Hills	BKH	59.28	1.99	3.50	29.79	16.94	3.36%	5.90%	5.66	6.65	10.47	8.91	9.55%	11.22%
G't Plains Energy	GXP	27.29	1.62	1.30	16.85	20.99	5.94%	4.76%	3.36	3.50	8.12	7.80	12.31%	12.82%
IDACORP Inc.	IDA	76.90	3.94	4.05	19.52	18.99	5.12%	5.27%	6.86	7.15	11.21	10.76	8.92%	9.30%
NorthWestern Corp.	NWE	56.28	3.39	3.45	16.60	16.31	6.02%	6.13%	5.92	6.60	9.51	8.53	10.52%	11.73%
OGE Energy	OGE	31.47	1.69	2.05	18.62	15.35	5.37%	6.51%	3.31	3.75	9.51	8.39	10.52%	11.91%
Pinnacle West Capital	PNW	74.74	3.94	4.30	18.97	17.38	5.27%	5.75%	9.09	9.25	8.22	8.08	12.16%	12.38%
PNM Resources	PNM	32.36	1.65	1.85	19.61	17.49	5.10%	5.72%	3.98	3.85	8.13	8.41	12.30%	11.90%
Portland General	POR	42.37	2.16	2.30	19.62	18.42	5.10%	5.43%	5.78	6.10	7.33	6.95	13.64%	14.40%
Xcel Energy Inc.	XEL	40.01	2.21	2.30	18.10	17.39	5.52%	5.75%	4.56	5.05	8.77	7.92	11.40%	12.62%
<b>Average</b>					<b>19.90</b>	<b>18.05</b>	<b>5.14%</b>	<b>5.58%</b>			<b>9.06</b>	<b>8.46</b>	<b>11.24%</b>	<b>11.95%</b>
<b>Median</b>					<b>18.97</b>	<b>17.49</b>	<b>5.27%</b>	<b>5.72%</b>			<b>8.77</b>	<b>8.39</b>	<b>11.40%</b>	<b>11.91%</b>
High					29.79	20.99	6.02%	6.51%			11.21	10.76	13.64%	14.40%
Low					16.60	15.35	3.36%	4.76%			7.33	6.95	8.92%	9.30%
<b>Say</b>							<b>5.50%</b>						<b>11.60%</b>	

MONTANA DEPARTMENT OF REVENUE

Support for Direct Capitalization Cost of Debt Component - Current Yield From Standard & Poor's Bond Guide  
 Industry: Electric Utilities  
 2017 Assessment Year

Company Name	Coupon	CUSIP	Issue	Maturity Date	Years to Maturity	Old S&P Bond Rating	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Avg Full Year	Avg 4th QTR	
Tennessee Valley Authority	6.75	880591CJ9	Global Pwr Bonds'95E	11/1/2025	9	AAA	4.98	4.94	4.95	4.95	4.97	4.86	4.85	4.87	4.92	4.92	5.11	5.18	4.96%	5.07%	
Tennessee Valley Authority	6.25	880591CU4	Pwr Bonds '97E	12/15/2017	1	AAA	5.69	5.70	5.73	5.75	5.77	5.78	5.81	5.85	5.89	5.89	5.92	5.95	5.81%	5.92%	
Tennessee Valley Authority	7.125	880591DM1	Global Pwr Bonds '00G	5/1/2030	14	AAA	4.94	4.81	4.83	4.85	4.84	4.64	4.63	4.63	4.72	4.72	4.97	5.05	4.80%	4.91%	
Tennessee Valley Authority	4.88	880591DS8	Global Pwr Bonds'01D	12/15/2016	0	AAA	4.70	4.72	4.73	4.74	4.76	4.77	4.79	4.81	4.84	4.84			4.77%	4.84%	
Tennessee Valley Authority	4.7	880591DV1	Pwr Bonds'03 B"	7/15/2033	17	AAA	4.07	3.97	3.97	3.96	3.90	3.77	3.72	3.72	3.87	3.87	4.08	4.01	3.91%	3.99%	
Madison Gas & Elec Co MTN E	7.7	557497AL8	1st	2/15/2028	12	AA-	7.64	7.67	7.64	7.64	7.64	7.63	7.63	7.64	7.64	7.64	7.65	7.66	7.64%	7.65%	
Madison Gas & Elec Co MTN E	7.12	5574A0AB3	Tranche # Tr 00002	4/1/2032	16	AA-	5.42	5.29	5.26	5.22	5.19	5.07	5.00	5.02	5.18	5.18	5.41	5.41	5.22%	5.33%	
Connecticut Lt & Pwr	7.875	207597CZ6	1st & Ref D	10/1/2024	8	A+	6.05	5.96	6.00	6.04	6.06	5.93	5.96	5.96	6.07	6.07	6.27	6.33	6.06%	6.22%	
Connecticut Lt & Pwr	7.88	207597CZ6	1st Mtg Ser 94d	10/1/2024	8	A+	6.05	5.96	6.00	6.04	6.06	5.93	5.96	5.96	6.07	6.07	6.27	6.33	6.06%	6.22%	
Connecticut Lt & Pwr	5.62	207597DU6	1st & Ref '05B	4/1/2035	19	A+	4.75	4.75	4.75	4.74	4.72	4.56	4.58	4.45	4.55	4.55	4.81	4.84	4.67%	4.73%	
Connecticut Lt & Pwr	5.62	207597DU6	1st & Rfdg Mtg Bd 2005 Ser	4/1/2035	19	A+	4.75	4.75	4.75	4.74	4.72	4.56	4.58	4.45	4.55	4.55	4.81	4.84	4.67%	4.73%	
Connecticut Lt & Pwr	6.35	207597DV4	1st & Ref'06A	6/1/2036	20	A+	4.86	4.86	4.86	4.85	4.83	4.66	4.69	4.60	4.69	4.69	4.96	4.99	4.79%	4.88%	
Connecticut Lt & Pwr	6.35	207597DV4	1st & Rfdg Mtg Bd 2006 Ser	6/1/2036	20	A+	4.86	4.86	4.86	4.85	4.83	4.66	4.69	4.60	4.69	4.69	4.96	4.99	4.79%	4.88%	
Connecticut Lt & Pwr	5.38	207597DW2	1st & Ref'07A	3/1/2017	1	A+	5.16	5.16	5.16	5.19	5.20	5.22	5.24	5.26	5.30	5.30	5.31	5.33	5.24%	5.31%	
Connecticut Lt & Pwr	5.38	207597DW2	1st & Rfdg Mtg Bd 2007 Ser	3/1/2017	1	A+	5.16	5.17	5.18	5.19	5.20	5.22	5.24	5.26	5.30	5.30	5.31	5.33	5.24%	5.31%	
Connecticut Lt & Pwr	5.75	207597DX0	1st & Ref'07B	3/1/2037	21	A+	4.73	4.74	4.73	4.72	4.71	4.53	4.55	4.47	4.56	4.56	4.90	4.92	4.68%	4.79%	
Connecticut Lt & Pwr	5.75	207597DX0	1st & Rfdg Mtg Bd 2007 Ser	3/1/2037	21	A+	4.73	4.74	4.73	4.72	4.71	4.53	4.55	4.47	4.56	4.56	4.90	4.92	4.68%	4.79%	
AmerenEnergy Generating	5.1	02360FAA4	Sr Sec Nts	10/1/2019	3	A	4.62	4.65	4.65	4.64	4.66	4.59	4.64	4.65	4.64	4.64	4.70	4.73	4.65%	4.69%	
AmerenEnergy Generating	5.3	02360FAB2	Sr Sec Nts	8/1/2037	21	A	4.51	4.40	4.46	4.51	4.49	4.23	4.21	4.24	4.35	4.35	4.63	4.50	4.41%	4.49%	
AmerenEnergy Generating	7.95	02360XAJ6	Sr Nts 'F"	6/1/2032	16	A	17.66	21.48	20.38	19.27	20.38	21.48	20.38	20.64	19.87	19.87	23.04	21.78	20.52%	21.56%	
Carolina Power & Light	8.62	144141BP2	1st Mtg Bd	9/15/2021	5	A	6.56	6.49	6.49	6.48	6.53	6.43	6.47	6.53	6.67	6.76	6.92	6.99	6.62%	6.89%	
Carolina Power & Light	5.7	144141CV8	1st Mtg Bd	4/1/2035	19	A	4.81	4.70	4.68	4.65	4.68	4.49	4.50	4.48	4.55	4.55	4.78	4.79	4.64%	4.71%	
Carolina Power & Light	6.3	144141CY2	1st Mtg Bd	4/1/2038	22	A	4.85	4.74	4.71	4.68	4.71	4.51	4.52	4.40	4.63	4.63	4.89	4.90	4.69%	4.81%	
Detroit Edison Co.	6.35	250847DU1	Sr Nts	10/15/2032	16	A	5.14	5.02	4.97	4.91	4.90	4.72	4.79	4.77	4.89	4.89	5.10	5.14	4.94%	5.04%	
Detroit Edison Co	5.45	250847DZ0	Sr(Sec)Nts'BR'	2/15/2035	19	A	4.71	4.67	4.59	4.51	4.50	4.32	4.38	4.36	4.47	4.47	4.67	4.70	4.53%	4.61%	
Detroit Edison Co	5.7	250847EA4	Sr(Sec)Nts'E"	10/1/2037	21	A	4.69	4.57	4.60	4.62	4.61	4.40	4.32	4.30	4.44	4.44	4.71	4.62	4.53%	4.59%	
Detroit Edison Co	6.62	250847EB2	Sr Nt 2006 Ser A	6/1/2036	20	A	4.98	4.84	4.82	4.79	4.78	4.58	4.65	4.64	4.76	4.76	5.00	5.04	4.80%	4.93%	
Duke Energy Carolinas Llc	6.1	26442CAA2	Sr Nt	6/1/2037	4	A	5.04	4.90	4.84	4.78	4.73	4.59	4.57	4.58	4.74	4.74	4.99	4.97	4.79%	4.90%	
Duke Energy Carolinas Llc	6	26442CAB0	1st & Rfdg Mtg Bd	1/15/2038	22	A	4.72	4.68	4.61	4.54	4.60	4.44	4.39	4.41	4.58	4.58	4.82	4.86	4.60%	4.75%	
Duke Energy Carolinas Llc	5.25	26442CAC8	1st & Rfdg Mtg Bd	1/15/2018	2	A	4.91	4.89	4.91	4.92	4.94	4.92	4.97	4.98	5.01	5.01	5.03	5.06	4.96%	5.03%	
Duke Energy Carolinas Llc	5.1	26442CAD6	1st & Rfdg Mtg Bd Ser B	4/15/2018	2	A	4.74	4.75	4.75	4.74	4.77	4.76	4.77	4.79	4.82	4.82	4.87	4.88	4.79%	4.86%	
Duke Energy Carolinas Llc	6.05	26442CAE4	1st & Rfdg Mtg Ser B	4/15/2038	22	A	4.74	4.71	4.62	4.53	4.55	4.42	4.37	4.42	4.55	4.55	4.84	4.81	4.59%	4.73%	
Florida Power & Light	5.85	341081EP8	1st	2/1/2033	17	A	4.80	4.69	4.70	4.71	4.66	4.55	4.55	4.52	4.65	4.65	4.86	4.85	4.68%	4.79%	
Florida Power & Light	5.62	341081EQ6	First Mtg Bds	4/1/2034	18	A	4.70	4.58	4.56	4.54	4.48	4.33	4.31	4.30	4.45	4.45	4.67	4.65	4.50%	4.59%	
Florida Power & Light	5.625	341081EQ6	1st	4/1/2034	18	A	4.70	4.58	4.56	4.54	4.48	4.33	4.31	4.30	4.45	4.45	4.67	4.65	4.50%	4.59%	
Florida Power & Light	5.95	341081ER4	1st	10/1/2033	17	A	4.70	4.59	4.60	4.61	4.61	4.50	4.50	4.47	4.55	4.55	4.79	4.78	4.60%	4.71%	
Florida Power & Light	4.95	341081ET0	1st	6/1/2035	19	A	4.38	4.31	4.28	4.24	4.21	4.06	4.00	4.02	4.20	4.20	4.42	4.43	4.22%	4.32%	
Florida Power & Light	5.4	341081EU7	1st Mtg Bd	9/1/2035	19	A	4.54	4.43	4.49	4.54	4.42	4.26	4.22	4.23	4.34	4.34	4.58	4.61	4.42%	4.51%	
Florida Power & Light	5.65	341081EV5	1st	2/1/2037	21	A	4.58	4.46	4.45	4.43	4.44	4.30	4.25	4.26	4.40	4.40	4.65	4.68	4.44%	4.58%	
Florida Power & Light	6.2	341081EX1	1st	6/1/2036	20	A	4.84	4.72	4.75	4.77	4.66	4.50	4.46	4.49	4.63	4.63	4.88	4.90	4.69%	4.80%	
Florida Power & Light	5.85	341081EY9	1st	5/1/2037	21	A	4.66	4.54	4.65	4.75	4.59	4.36	4.37	4.32	4.49	4.49	4.70	4.70	4.55%	4.63%	
Florida Power Corp.	5.9	341099CB3	1st	3/1/2033	19	A	5.01	4.90	4.98	5.05	4.88	4.68	4.69	4.71	4.88	4.88	5.07	5.11	4.90%	5.02%	
Florida Power Corp.	5.8	341099CG2	1st Mtg Bd	9/15/2017	1	A	5.44	5.43	5.45	5.46	5.48	5.48	5.51	5.53	5.58	5.58	5.60	5.62	5.51%	5.60%	
Florida Power Corp.	6.35	341099CH0	1st	9/15/2037	21	A	4.84	4.83	4.77	4.70	4.64	4.48	4.48	4.50	4.67	4.67	4.90	4.94	4.70%	4.84%	
Georgia Power Co.	5.75	373334FS5	Sr Nts 'N"	4/15/2023	7	A	4.96	4.89	4.92	4.94	4.95	4.86	4.90	4.89	4.93	4.93	5.09	5.12	4.95%	5.05%	
Georgia Power Co.	5.8	373334FZ9	Sr Nts'Y"	4/15/2035	19	A	5.80	5.80	5.80	5.80	5.80	5.80	5.80	5.80	5.80	5.80	5.80	5.80	5.80%	5.80%	
Georgia Power Co.	5.65	373334GC9	Sr Nt Ser 2007a	3/1/2037	21	A	5.03	4.88	4.85	4.82	4.71	4.54	4.52	4.47	4.61	4.61	4.87	4.91	4.74%	4.80%	
Georgia Power Co.	5.65	373334GC9	Sr Nts'07A	3/1/2037	21	A	5.03	4.88	4.85	4.82	4.71	4.54	4.52	4.47	4.61	4.61	4.87	4.91	4.74%	4.80%	
Georgia Power Co.	5.7	373334GE5	Sr Nts'07B	6/1/2017	1	A	5.38	5.43	5.44	5.44	5.45	5.48	5.48	5.50	5.55	5.55	5.57	5.59	5.49%	5.57%	
Gulf Power Co.	5.65	402479BW8	Sr Nts'L"	9/1/2035	19	A	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65%	5.65%	
Gulf Power Co.	5.3	402479BX6	Sr Nts'M"	12/1/2016	0	A	5.12	5.13	5.15	5.17	5.19	5.20	5.22	5.24	5.28	5.28			5.20%	5.28%	
MidAmerican Energy Co.	5.95	595620AG0	Sr Nts	7/15/2017	1	A	5.60	5.60	5.62	5.64	5.66	5.67	5.67	5.70	5.75	5.75	5.77	5.80	5.69%	5.77%	
MidAmerican Energy Co	5.8	59562EAH8	MTN-tranche # Tr 00008	10/15/2036	20	A	4.75	4.63	4.60	4.57	4.55	4.41	4.39	4.35	4.56	4.56	4.80	4.81	4.58%	4.72%	
Mississippi Power Co.	5.4	605417BT0	Sr Nts'G"	7/1/2035	19	A	5.99	5.81	5.74	5.65	5.47	5.42	5.25	5.10	5.11	5.24	5.24	5.49	5.49	5.44%	5.41%
Nevada Power	6.75	641423BU1	1st & Refunding Mtg Nt Ser F	7/1/2037	21	A	5.17	5.06	5.02	4.97	4.96	4.86	4.78	4.82	4.87	4.87	5.15	5.15	4.97%	5.06%	
Northern Sts Pwr (Minn)	7.125	665772BN8	1st Mtg Bd	7/1/2025	9	A	5.37	5.28	5.32	5.36	5.30	5.17	5.23	5.21	5.29	5.29	5.49	5.55	5.32%	5.44%	
Northern Sts Pwr (Minn)	6.5	665772BQ1	1st Mtg Bd	3/1/2028	12	A	5.27	5.16	5.20	5.23	5.08	4.92	4.98	4.95	5.03	5.03	5.26	5.33	5.12%	5.21%	
Northern Sts Pwr (Minn)	5.25	665772CA5	1st Mtg Bd	7/15/2035	19	A	4.47	4.40	4.41	4.42	4.40	4.19	4.17	4.16	4.28	4.28	4.53	4.54	4.35%	4.45%	
Northern Sts Pwr (Minn)	6.2	665772CC1	1st Mtg	7/1/2037	21	A	4.76	4.71	4.64	4.56	4.63	4.50	4.36	4.42	4.51	4.51	4.75	4.79	4.59%	4.68%	
Oncor Electric Delivery	7.25	68233DAP2	Sr Sec Nts	1/15/2033	17	A	5.65	5.53	5.45	5.36	5.22	5.08	5.02	5.02	5.15	5.15	5.36	5.29			

MONTANA DEPARTMENT OF REVENUE

Support for Direct Capitalization Cost of Debt Component - Current Yield From Standard & Poor's Bond Guide  
 Industry: Electric Utilities  
 2017 Assessment Year

Company Name	Coupon	CUSIP	Issue	Maturity Date	Years to Maturity	Old S&P Bond Rating	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Avg Full Year	Avg 4th QTR
PacifiCorp	5.9	695114BX5	1st	8/15/2034	18	A	4.99	4.92	4.92	4.91	4.90	4.79	4.65	4.64	4.76	4.76	4.95	4.94	4.84%	4.88%
PacifiCorp	5.25	695114BZ0	1st	6/15/2035	19	A	4.55	4.48	4.49	4.50	4.49	4.33	4.27	4.26	4.40	4.40	4.59	4.58	4.45%	4.52%
PacifiCorp	6.1	695114CB2	1st	8/1/2036	20	A	4.89	4.78	4.77	4.75	4.70	4.52	4.53	4.54	4.65	4.65	4.90	4.86	4.71%	4.80%
PacifiCorp	5.75	695114CD8	1st	4/1/2037	21	A	4.81	4.71	4.64	4.56	4.55	4.39	4.37	4.36	4.50	4.50	4.76	4.71	4.57%	4.66%
Potomac Electric Power	5.75	737679CY4	Sr Nts	4/15/2034	18	A	5.18	5.08	2.54											4.27%
Potomac Electric Power	5.4	737679CZ1	Sr Nts	6/1/2035	19	A	5.04	4.94	4.82	4.70	4.68	4.57	4.48	4.51	4.57	4.57	4.79	4.87	4.71%	4.74%
Sierra Pacific Power	6.75	826418BE4	Ren & Refunding Mtg Nt Ser	7/1/2037	21	A	5.29	5.06	5.08	5.09	4.91	4.70	4.71	4.72	4.85	4.85	5.14	5.11	4.96%	5.03%
South Carolina Electric & Gas Co	6.62	837004BV1	1st	2/1/2032	16	A	5.34	5.23	5.16	5.09	5.08	5.05	4.96	4.93	5.07	5.07	5.31	5.15	5.12%	5.18%
South Carolina Electric & Gas Co	5.8	837004BW9	1st	1/15/2033	17	A	4.99	4.87	4.87	4.87	4.86	4.68	4.68	4.64	4.80	4.80	5.05	4.90	4.83%	4.92%
South Carolina Electric & Gas Co	5.3	837004BX7	1st	5/15/2033	17	A	4.74	4.63	4.63	4.62	4.61	4.44	4.44	4.41	4.57	4.57	4.81	4.66	4.59%	4.68%
South Carolina Electric & Gas Co	5.25	837004BY5	1st	11/1/2018	2	A	4.82	4.82	4.82	4.81	4.84	4.82	4.84	4.86	4.89	4.89	4.91	4.94	4.85%	4.91%
South Carolina Electric & Gas Co	5.25	837004BZ2	1st	3/1/2035	19	A	4.86	4.74	4.70	4.66	4.65	4.57	4.54	4.45	4.61	4.61	4.79	4.77	4.66%	4.72%
South Carolina EI & Gas	6.25	837004CA6	1st Mtg Bd	7/1/2036	20	A	5.24	5.11	5.07	5.02	5.01	4.93	4.90	4.80	4.98	4.98	5.17	5.15	5.03%	5.10%
Southern California Edison Co.	6	842400ES8	1st & Ref '04B	1/15/2034	18	A	4.81	4.77	4.70	4.62	4.65	4.53	4.51	4.50	4.61	4.61	4.84	4.87	4.67%	4.77%
Southern California Edison Co.	5.55	842400EZ2	1st & Ref'05B	1/15/2036	20	A	4.64	4.62	4.56	4.49	4.43	4.42	4.33	4.33	4.39	4.39	4.67	4.61	4.49%	4.56%
Southern California Edison Co.	5.35	842400FA6	1st & Ref'05E	7/15/2035	19	A	4.61	4.54	4.56	4.57	4.43	4.28	4.28	4.29	4.34	4.34	4.60	4.58	4.45%	4.51%
Southern California Edison Co.	5.62	842400FC2	1st & Ref'06A	2/1/2036	20	A	4.68	4.59	4.58	4.56	4.45	4.37	4.35	4.35	4.45	4.45	4.71	4.70	4.52%	4.62%
Southern California Edison Co.	5.55	842400FF5	1st & Ref'06E	1/15/2037	21	A	4.64	4.60	4.53	4.46	4.48	4.36	4.27	4.26	4.40	4.40	4.64	4.66	4.48%	4.57%
Wisconsin Power & Light Co.	6.25	976826BD8	Deb	7/31/2034	18	A	4.95	4.83	4.87	4.90	4.87	4.71	4.71	4.72	4.72	4.72	5.01	5.00	4.83%	4.91%
Wisconsin Public Service	7.125	976843AX0	1st	7/1/2023	7	A	7.12	7.12	7.12	7.12	7.12	7.12	7.12	7.12	7.12	7.12	7.12	7.12	7.12%	7.12%
Wisconsin Public Service	5.55	976843BE1	Sr(Sec)Nts	12/1/2036	20	A	4.75	4.63	4.63	4.62	4.64	4.47	4.42	4.35	4.44	4.44	4.64	4.66	4.56%	4.58%
Alabama Power Co.	5.5	010392DZ8	Sr Nts 'Q'	10/15/2017	1	A-	5.18	5.21	5.21	5.21	5.22	5.22	5.25	5.27	5.28	5.28	5.30	5.32	5.25%	5.30%
Alabama Power Co.	5.88	010392EB0	Sr Nts 'S'	12/1/2022	6	A-	5.03	4.97	4.96	4.94	4.97	4.86	4.87	4.89	4.91	4.91	5.08	5.12	4.96%	5.04%
Alabama Power Co.	5.7	010392EC8	Sr Nts 'T'	2/15/2033	17	A-	4.85	4.74	4.71	4.68	4.70	4.62	4.59	4.55	4.69	4.69	4.96	4.83	4.72%	4.83%
Alabama Power Co.	5.6	010392EE4	Sr Nts 'V'	3/15/2033	17	A-	5.03	5.06	4.89	4.72	4.73	4.57	4.55	4.53	4.65	4.65	4.92	4.87	4.76%	4.81%
Alabama Power Co.	5.12	010392EK0	Sr Nts 'Z'	2/15/2019	3	A-	4.74	4.73	4.75	4.76	4.77	4.74	4.77	4.79	4.76	4.76	4.81	4.83	4.77%	4.80%
Alabama Power Co.	5.55	010392EW4	Sr Nts'07A	2/1/2017	1	A-	5.33	5.35	5.37	5.38	5.40	5.42	5.44	5.45	5.49	5.49	5.50	5.53	5.43%	5.51%
Alabama Power Co.	6.12	010392EZ7	Sr Nts'08A	5/15/2038	22	A-	4.99	4.88	4.87	4.86	4.79	4.67	4.59	4.55	4.71	4.71	4.95	4.92	4.79%	4.86%
Arizona Public Service	5.625	040555CF9	Nts	5/15/2033	17	A-	4.90	4.79	4.80	4.81	4.74	4.59	4.53	4.48	4.61	4.61	4.86	4.85	4.71%	4.77%
Arizona Public Service	5.5	040555CH5	Nts	9/1/2035	19	A-	4.69	4.57	4.59	4.60	4.58	4.42	4.35	4.33	4.44	4.44	4.70	4.70	4.53%	4.61%
Arizona Public Service	6.25	040555CJ1	Nt	8/1/2016	0	A-	6.10	6.12	6.14	6.16	6.19	6.22								6.16%
Arizona Public Service	6.88	040555CK8	Nts	8/1/2036	20	A-	5.22	5.12	5.13	5.14	5.08	4.90	4.79	4.76	4.95	4.95	5.19	5.18	5.03%	5.11%
Avista Corp.	5.45	05379BAH0	1st	12/1/2019	3	A-	5.07	5.06	5.08	5.10	5.08	5.02	5.05	5.07	5.02	5.02	5.09	5.11	5.06%	5.07%
Avista Corp.	5.45	05379BAH0	1st Mtg Bd	12/1/2019	3	A-	5.07	5.06	5.08	5.10	5.06	5.02	5.05	5.07	5.02	5.02	5.09	5.11	5.06%	5.07%
Avista Corp.	6.25	05379BAK3	1st Mtg Bd	12/1/2035	19	A-	4.91	4.84	4.97	5.09	5.02	4.91	4.91	4.90	4.95	4.95	5.21	5.20	4.99%	5.12%
Avista Corp.	5.7	05379BAM9	1st Mtg Bd	7/1/2037	21	A-	4.78	4.70	4.80	4.90	4.82	4.67	4.71	4.69	4.78	4.78	5.06	5.02	4.81%	4.95%
CenterPoint Energy Houston	6.95	15189XAD0	Gen Mtge K2	3/15/2033	17	A-	5.15	5.13	5.11	5.09	5.04	4.87	4.87	4.83	5.03	5.03	5.28	5.23	5.06%	5.18%
CenterPoint Energy Houston	5.6	15189XAH1	Gen Mtge L2	7/1/2023	7	A-	4.76	4.88	4.89	4.90	4.85	4.77	4.81	4.81	4.78	4.78	4.94	4.94	4.85%	4.90%
CenterPoint Energy Res	6.25	15189YAD8	Sr Nts	2/1/2037	21	A-	5.71	5.59	5.52	5.44	5.33	5.28	5.21	5.24	5.29	5.29	5.42	5.52	5.40%	5.41%
Commonwealth Edison	5.875	202795HG8	1st Ser 100	2/1/2033	17	A-	4.90	4.79	4.76	4.73	4.69	4.52	4.52	4.53	4.69	4.69	4.86	4.90	4.72%	4.82%
Commonwealth Edison	5.9	202795HK9	1st Ser 103	3/15/2036	20	A-	4.84	4.72	4.70	4.67	4.60	4.44	4.41	4.45	4.55	4.55	4.82	4.82	4.63%	4.73%
Commonwealth Edison	5.95	202795HN3	1st Ser 104	8/15/2016	0	A-	5.79	5.82	5.84	5.86	5.88	5.91								5.85%
Consolidated Edison, Inc.	5.88	209111EB5	Deb '03A	4/1/2033	17	A-	4.96	4.90	4.88	4.86	4.81	4.70	4.65	4.62	4.75	4.75	4.98	4.98	4.82%	4.90%
Consolidated Edison, Inc.	5.7	209111EF6	Deb'04B	2/1/2034	18	A-	4.96	4.84	4.84	4.83	4.84	4.71	4.70	4.63	4.75	4.75	4.91	4.92	4.81%	4.86%
Consolidated Edison, Inc.	5.3	209111EH2	Deb '05A	3/1/2035	19	A-	4.62	4.57	4.54	4.51	4.49	4.34	4.36	4.36	4.46	4.46	4.67	4.63	4.50%	4.59%
Consolidated Edison, Inc.	5.25	209111EJ8	Deb '05B	7/1/2035	19	A-	4.82	4.83	4.79	4.75	4.75	4.50	4.44	4.36	4.44	4.44	4.68	4.67	4.62%	4.60%
Consolidated Edison, Inc.	5.85	209111EL3	Deb'06A	3/15/2036	20	A-	4.79	4.80	4.76	4.72	4.72	4.52	4.46	4.50	4.62	4.62	4.87	4.86	4.69%	4.78%
Consolidated Edison, Inc.	6.2	209111EM1	Deb'06B	6/15/2036	20	A-	4.98	4.96	4.95	4.93	4.91	4.73	4.62	4.62	4.77	4.77	4.90	4.95	4.84%	4.87%
Consolidated Edison, Inc.	5.5	209111EN9	Deb'06C	9/15/2016	0	A-	5.34	5.37	5.39	5.40	5.42	5.44	5.46							5.40%
Consolidated Edison, Inc.	5.3	209111EP4	Deb'06D	12/1/2016	0	A-	5.12	5.16	5.17	5.17	5.18	5.20	5.22	5.24	5.28	5.28				5.20%
Consolidated Edison, Inc.	5.7	209111EQ2	Deb'06E	12/1/2036	20	A-	4.81	4.68	4.68	4.67	4.67	4.50	4.49	4.44	4.59	4.59	4.79	4.79	4.64%	4.72%
Consolidated Edison, Inc.	6.3	209111ES8	Deb'07A	8/15/2037	21	A-	4.98	4.98	4.98	4.98	4.90	4.72	4.58	4.61	4.72	4.72	4.95	4.90	4.84%	4.86%
Consumers Energy Co.	5.5	210518CE4	1st 'P'	8/15/2016	0	A-	5.37	5.39	5.41	5.42	5.44	5.46								5.41%
Consumers Energy Co.	5.65	210518CL8	1st	4/15/2020	4	A-	4.95	4.92	4.95	4.98	4.97	4.92	4.92	4.98	5.01	5.01	5.11	5.13	4.99%	5.08%
Entergy Arkansas	6.38	29364DAK6	1st	11/1/2034	18	A-	6.37	6.37	6.37	6.37	6.37	6.37	6.38	6.38	6.38	6.38	6.38	6.38	6.38%	6.38%
Entergy Arkansas	5.86	29364DAL4	1st	2/1/2025	9	A-	5.66	5.66	5.66	5.66	5.66	5.66	5.66	5.66	5.66	5.66	5.66	5.66	5.66%	5.66%
Entergy Gulf States	6.18	29364LAT9	1st	3/1/2035	19	A-	6.16	6.23	6.21	6.19	6.17	6.18	6.18	6.18	6.18	6.18	6.18	6.18	6.19%	6.18%
Entergy Mississippi	6.25	29364NAL2	1st	4/1/2034	18	A-	6.10	6.10	6.10	6.10	6.10	6.10	6.10	6.10	6.10	6.10	6.10	6.10	6.10%	6.10%
Entergy New Orleans	5.65	29364PAJ2	1st	9/10/2029	13	A-	5.63	5.68	5.70	5.71	5.75	5.65	5.65	5.65	5.65	5.65	5.65	5.65	5.65%	5.65%
Entergy New Orleans	5.6	29364PAK9	1st	9/1/2024	8	A-	5.58	5.62	5.63	5.63	5.65	5.60	5.60	5.60	5.60	5.60	5.60	5.60	5.61%	5.60%
Idaho Pwr	6	45138LAL7	Sec M-T Nts'D'	11/15/2032	16	A-	5.13	5.02	4.98	4.93	4.90	4.80	4.78	4.71	4.85	4.85	5.12	4.97	4.92%	4.98%
Idaho Pwr	5.5	45138LAN3	Sec M-T Nts 'E'	4/1/2033	17	A-	4.95	4.85	4.88	4.91	4.77	4.68	4.69	4.69	4.73	4.73	4.95	4.85	4.81%	4.84%

MONTANA DEPARTMENT OF REVENUE

Support for Direct Capitalization Cost of Debt Component - Current Yield From Standard & Poor's Bond Guide  
 Industry: Electric Utilities  
 2017 Assessment Year

Company Name	Coupon	CUSIP	Issue	Maturity Date	Years to Maturity	Old S&P Bond Rating	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Avg Full Year	Avg 4th QTR	
Idaho Pwr	5.875	45138LAQ6	Sec M-T Nts'E'	8/15/2034	18	A-	5.04	4.99	4.96	4.92	4.86	4.88	4.96	4.61	4.77	4.77	5.32	5.03	4.93%	5.04%	
Idaho Pwr	5.3	45138LAR4	Sec M-T Nts'F'	1/4/1900	-116	A-	4.76	4.64	4.68	4.72	4.71	4.45	4.45	4.40	4.78	4.63%	4.72%				
Idaho Pwr Co 1st Mtg Secd MT	6.3	45138LAS2	Secd MTN Ser F	6/15/2037	21	A-	5.05	4.92	4.86	4.80	4.73	4.56	4.57	4.56	4.76	4.76	5.00	5.04	4.80%	4.93%	
Interstate Pwr & Lt	6.45	461070AC8	Sr Deb	10/15/2033	17	A-	4.93	4.81	4.85	4.88	4.87	4.71	4.72	4.74	4.85	4.85	5.11	5.11	4.87%	5.02%	
Interstate Pwr & Lt	6.3	461070AD6	Sr Deb	5/1/2034	18	A-	4.86	4.74	4.78	4.81	4.80	4.64	4.65	4.67	4.77	4.77	5.03	5.05	4.80%	4.95%	
Interstate Pwr & Lt	5.5	461070AE4	Sr Deb	7/15/2025	9	A-	4.62	4.60	4.57	4.53	4.54	4.41	4.46	4.49	4.54	4.54	4.74	4.77	4.57%	4.68%	
KeySpan Corp.	8	49337WAC4	Nts	11/15/2030	14	A-	6.06	5.93	5.89	5.84	5.85	5.64	5.70	5.69	5.78	5.78	6.02	6.02	5.85%	5.94%	
KeySpan Corp.	5.88	49337WAH3	Nts	4/1/2033	17	A-	5.30	5.19	5.14	5.08	5.07	5.08	5.09	5.04	5.18	5.18	5.39	5.29	5.17%	5.29%	
KeySpan Corp.	5.8	49337WAJ9	Nt	4/1/2035	19	A-	5.23	5.12	5.06	5.00	4.99	4.77	4.78	4.73	4.88	4.88	5.09	5.13	4.97%	5.03%	
Oklahoma Gas & Elec Co	6.65	678858AZ4	Sr Nts	7/15/2027	11	A-	5.37	5.26	5.30	5.33	5.34	5.19	5.25	5.29	5.34	5.34	5.58	5.64	5.35%	5.52%	
Oklahoma Gas & Elec Co	6.5	678858BC4	Sr Nt	4/15/2028	12	A-	5.27	5.15	5.29	5.42	5.43	5.27	5.33	5.37	5.42	5.42	5.67	5.53	5.38%	5.54%	
Oklahoma Gas & Elec Co	5.75	678858BF7	Sr Nts	1/15/2036	20	A-	4.96	4.83	4.85	4.87	4.80	4.60	4.77	4.65	4.77	4.77	5.04	5.03	4.83%	4.95%	
Exelon Corp.	5.9	693304AG2	1st Ref Mtg	5/1/2034	18	A-	4.92	4.88	4.85	4.82	4.87	4.70	4.71	4.71	4.88	4.88	5.11	5.07	4.87%	5.02%	
Exelon Corp.	5.95	693304AH0	1st Ref Mtg	10/1/2036	20	A-	4.77	4.67	4.64	4.61	4.66	4.46	4.47	4.48	4.66	4.66	4.90	4.85	4.65%	4.80%	
Exelon Corp.	5.7	693304AJ6	1st Ref Mtg	3/15/2037	21	A-	4.84	4.74	4.71	4.68	4.73	4.55	4.56	4.57	4.75	4.75	5.00	4.95	4.74%	4.90%	
Portland Gen Elec Co MTN-bot	9.31	73651HAV3	1st Mortgage MTN	8/11/2021	5	A-	7.04	6.99	7.04	7.08	7.13	7.02	7.07	7.14	7.21	7.21	7.40	7.47	7.15%	7.36%	
Public Svc Co New Hampshire	5.6	744538AA7	1st Mtg Bd	10/5/2035	19	A-	4.77	4.64	4.69	4.74	4.78	4.45	4.52	4.49	4.61	4.61	4.87	4.96	4.68%	4.81%	
Public Service Electric and Gas	8	744567BA5	1st & Ref	6/1/2037	21	A-	5.64	5.56	5.60	5.63	5.62	5.31	5.27	5.30	5.42	5.42	5.72	5.69	5.51%	5.61%	
Public Serv Elec & Gas	5	744567BB3	1st & Ref Mtg	7/1/2037	21	A-	4.83	4.75	4.78	4.81	4.80	4.50	4.46	4.49	4.65	4.65	4.93	4.90	4.71%	4.83%	
Public Service Electric and Gas	5	744567BB3	1st & Ref	7/1/2037	21	A-	4.83	4.75	4.78	4.81	4.80	4.50	4.46	4.49	4.65	4.65	4.93	4.90	4.71%	4.83%	
Public Service Electric and Gas	9.25	744567CN6	1st & Ref CC	6/1/2021	5	A-	7.12	7.08	7.12	7.15	7.20	7.08	7.16	6.99	7.02	7.02	7.19	7.26	7.12%	7.16%	
Public Svc Elec Gas Co Secd M	7.04	74456QAG1	MTN Tranche # Tr 00007	11/6/2020	4	A-	6.10	6.06	6.09	6.12	6.15	6.07	6.13	6.17	6.21	6.21	6.35	6.39	6.17%	6.32%	
Public Svc Elec Gas Co Secd M	5.25	74456QAP1	Med Term Notes	7/1/2035	19	A-	4.47	4.35	4.38	4.41	4.40	4.22	4.23	4.23	4.23	4.23	4.48	4.54	4.35%	4.42%	
Public Svc Elec Gas Co Secd M	5.7	74456QAQ9	Secd Mtns, Ser D	12/1/2036	20	A-	4.61	4.49	4.50	4.50	4.49	4.32	4.27	4.28	4.42	4.42	4.69	4.64	4.47%	4.58%	
Public Svc Elec Gas Co Secd M	5.8	74456QAR7	Secured Mtn Series E Note	5/1/2037	21	A-	4.66	4.59	4.62	4.65	4.64	4.36	4.32	4.35	4.45	4.45	4.73	4.70	4.54%	4.63%	
Puget Sound Pwr & Lt	7.02	74531EAA0	Sr M-T Nts'A'	12/1/2027	11	A-	5.38	5.26	5.27	5.27	5.30	5.16	5.06	5.09	5.19	5.19	5.40	5.46	5.25%	5.35%	
Puget Sound Energy	6.74	74531EAB8	Sr M-T Nts 'A'	6/15/2018	2	A-	6.07	6.08	6.11	6.13	6.16	6.14	6.17	6.20	6.25	6.25	6.30	6.31	6.18%	6.29%	
Puget Sound Energy	7	74531EAC6	Sr M-T Nts 'B'	3/9/2029	13	A-	5.42	5.29	5.29	5.29	5.28	5.12	5.04	5.12	5.26	5.26	5.49	5.55	5.28%	5.43%	
Puget Sound Energy	5.48	745332BU9	Sr Nts	6/1/2035	19	A-	4.69	4.58	4.62	4.66	4.57	4.37	4.36	4.35	4.46	4.46	4.72	4.75	4.55%	4.64%	
Puget Sound Energy	6.72	745332BW5	Sr Nts	6/15/2036	20	A-	5.00	4.89	4.95	5.00	4.97	4.74	4.74	4.72	4.83	4.83	5.12	5.16	4.91%	5.04%	
Puget Sound Energy	6.27	745332BX3	Sr(Sec)Nts	3/15/2037	21	A-	4.90	4.77	4.76	4.75	4.75	4.59	4.55	4.57	4.72	4.72	4.99	5.02	4.76%	4.91%	
Southwestern Public Serv	5.6	845743BK8	Sr Nts'E'	10/1/2016	0	A-	5.44	5.46	5.48	5.50	5.52	5.54	5.55	5.58					5.51%		
Southwestern Public Serv	6	845743BL6	Sr Nts'F'	10/1/2036	20	A-	5.01	4.89	4.94	4.99	4.86	4.67	4.69	4.70	4.85	4.85	5.10	5.02	4.88%	4.99%	
Virginia Electric & Power Co.	6	927804FA7	Sr Nts'B'	1/15/2036	20	A-	4.74	4.79	4.75	4.71	4.73	4.54	4.51	4.51	4.68	4.68	4.90	4.88	4.70%	4.82%	
Virginia Electric & Power Co.	6	927804FB5	Sr Nt 2007 Ser A	5/15/2037	21	A-	4.80	4.77	4.74	4.70	4.70	4.46	4.47	4.47	4.57	4.57	4.84	4.86	4.66%	4.76%	
Virginia Electric & Power Co.	5.95	927804FC3	Sr Nt 2007 Ser B	9/15/2017	1	A-	5.54	5.56	5.58	5.59	5.61	5.62	5.64	5.66	5.72	5.72	5.74	5.77	5.65%	5.74%	
Virginia Electric & Power Co.	6.35	927804FE9	Sr Nt 2007 Ser D	11/30/2037	21	A-	4.83	4.79	4.79	4.78	4.77	4.56	4.59	4.57	4.72	4.72	4.95	4.95	4.75%	4.87%	
Virginia Electric & Power Co.	5.4	927804FF6	Sr Nt 2008 Ser A	4/30/2018	2	A-	5.02	5.00	5.01	5.01	5.03	5.02	5.04	5.06	5.09	5.09	5.13	5.15	5.05%	5.12%	
Washington Water Power	7.53	94068VAA1	Secd MTN	5/5/2023	7	A-	6.08	6.05	6.11	6.17	6.20	6.11	6.16	6.24	6.15	6.15	6.35	6.39	6.18%	6.30%	
Washington Water Power	7.39	94068VAF0	Secd Med-term Nt	5/11/2018	2	A-	6.74	6.75	6.78	6.80	6.83	6.80	6.84	6.85	6.89	6.89	6.94	6.96	6.84%	6.93%	
Westar Energy, Inc.	5.15	95709TAB6	1st Mtg Bd	1/1/2017	1	A-	4.99	5.00	5.02	5.03	5.04	5.05	5.07	5.08	5.11	5.11	5.13			5.06%	5.12%
Westar Energy, Inc.	5.95	95709TAC4	1st Mtg Bd	1/1/2035	19	A-	5.95	5.95	5.95	5.95	5.95	5.95	5.95	5.95	5.95	5.95	5.95	5.95	5.95%	5.95%	
Westar Energy, Inc.	5.1	95709TAD2	Fixed Rt 1st Mtg Bd	7/15/2020	4	A-	4.57	4.54	4.55	4.56	4.57	4.50	4.55	4.59	4.58	4.58	4.68	4.70	4.58%	4.65%	
Westar Energy, Inc.	5.88	95709TAE0	1st Mtg Bd	7/15/2036	20	A-	5.87	5.87	5.87	5.87	5.87	5.87	5.87	5.87	5.87	5.87	5.87	5.87	5.87%	5.87%	
Wisconsin Electric Power Com	6.875	976656BL1	Deb	12/1/2095	79	A-	5.50	5.39	5.39	5.39	5.34	4.73	4.59	4.59	4.89	4.89	5.26	5.22	5.10%	5.12%	
Wisconsin Electric Power	6.5	976656BP2	Deb	6/1/2028	12	A-	5.24	5.15	5.01	4.87	5.00	4.77	4.83	4.86	4.99	4.99	5.23	5.30	5.02%	5.17%	
Wisconsin Electric Power	5.7	976656BZ0	Deb	12/1/2036	20	A-	4.66	4.53	4.53	4.53	4.51	4.35	4.36	4.33	4.52	4.52	4.72	4.69	4.52%	4.64%	
Progress Energy, Inc.	8.62	144141BP2	1st	9/15/2021	5	BBB+	6.56	6.49	6.49	6.48	6.53	6.43	6.47	6.53	6.76	6.76	6.92	6.99	6.62%	6.89%	
Progress Energy, Inc.	5.7	144141CV8	1st	4/1/2035	19	BBB+	4.81	4.70	4.68	4.65	4.68	4.49	4.50	4.48	4.55	4.55	4.78	4.79	4.64%	4.71%	
Progress Energy, Inc.	6.3	144141CY2	1st	4/1/2038	22	BBB+	4.85	4.74	4.71	4.68	4.71	4.51	4.52	4.50	4.63	4.63	4.89	4.90	4.69%	4.81%	
CenterPoint Energy, Inc.	5.95	15189TAN7	Sr Nt	2/1/2017	1	BBB+	5.71	5.74	5.76	5.77	5.79	5.80	5.82	5.85	5.88	5.88	5.90	5.92	5.82%	5.90%	
CenterPoint Energy, Inc.	5.95	15189TAN7	Sr Nts	2/1/2017	1	BBB+	5.71	5.74	5.76	5.77	5.79	5.80	5.82	5.85	5.88	5.88	5.90	5.92	5.82%	5.90%	
Central Illinois Light	6.2	153645AX4	Sr Secd Nt 144a	6/15/2016	0	BBB+	5.49	5.49	5.49	5.49										5.49%	
Central Illinois Light	6.7	153645BA3	Sr Secd Nt 144a	6/15/2036	20	BBB+	6.21	6.21	6.21	6.21	6.21	6.21	6.21	6.21	6.21	6.21	6.21	6.21	6.21%	6.21%	
Cincinnati Gas & Electric Co.	6.9	172070BT0	Deb	6/1/2025	9	BBB+	5.66	5.57	5.49	5.40	5.43	5.33	5.29	5.32	5.44	5.44	5.64	5.66	5.47%	5.58%	
Cleco Power LLC	6.5	185508AE8	Nts	12/1/2035	19	BBB+	5.21	5.18	5.41	5.63	5.49	5.22	5.10	4.98	5.03	5.03	5.30	5.31	5.24%	5.21%	
Consumers Energy Co.	6.875	210518AT3	Sr Nts 'B'	3/1/2018	2	BBB+	6.24	6.25	6.30	6.34	6.36	6.34	6.38	6.39	6.44	6.44	6.48	6.52	6.37%	6.48%	
Consumers Energy Co.	5.15	210518CG9	1st	2/15/2017	1	BBB+	4.95	4.97	4.98	4.99	4.99	5.01	5.03	5.05	5.09	5.09	5.10	5.12	5.03%	5.10%	
Consumers Energy Co.	5.8	210518CP9	1st	9/15/2035	19	BBB+	4.65	4.61	4.63	4.64	4.61	4.44	4.39	4.39	4.63	4.63	4.86	4.90	4.61%	4.80%	
Consumers Energy Co.	5.65	210518CQ7	1st	9/15/2018	2	BBB+	5.16	5.16	5.17	5.17	5.18	5.16	5.19	5.22	5.24	5.24	5.28	5.30	5.21%	5.27%	
Consumers Energy Co.	6.12	210518CR5	1st	3/15/2019	3	BBB+	5.44	5.43	5.44	5.44	5.43	5.39	5.44	5.48	5.53	5.53	5.59	5.62	5.48%	5.58%	

MONTANA DEPARTMENT OF REVENUE

Support for Direct Capitalization Cost of Debt Component - Current Yield From Standard & Poor's Bond Guide  
 Industry: Electric Utilities  
 2017 Assessment Year

Company Name	Coupon	CUSIP	Issue	Maturity Date	Years to Maturity	Old S&P Bond Rating	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Avg Full Year	Avg 4th QTR	
Dominion Resources, Inc. (Va.)	5.6	25746UBB4	SrNts'06A	11/15/2016	0	BBB+	5.16	5.16	5.16	5.16	5.16	5.16	5.16	5.16					5.16%		
Duke Energy Corp.	6	264399DK9	Sr Nts 'A'	12/1/2028	12	BBB+	4.94	4.86	4.77	4.67	4.75	4.61	4.59	4.59	4.67	4.67	4.89	4.87	4.74%	4.81%	
Duke Energy Corp.	6.45	264399ED4	Sr Nts	10/15/2032	16	BBB+	5.13	5.01	4.98	4.94	4.90	4.78	4.72	4.74	4.89	4.89	5.12	5.12	4.93%	5.04%	
Empire District Electric Co. (Th)	7.2	291641AS7	1st	12/1/2016	0	BBB+	6.88	6.91	6.94	6.97	7.00	7.03	7.06	7.10	7.17	7.17			7.02%	7.17%	
Enersis S.A.	7.4	29274FAB0	Nt	12/1/2016	0	BBB+	7.06	7.11	7.14	7.16	7.21	7.23	7.26	7.31	7.37	7.37			7.22%	7.37%	
Exelon Corp.	5.62	30161NAC5	Fixed Rt Sr Nt	6/15/2035	19	BBB+	5.25	5.15	5.00	4.85	4.80	4.73	4.67	4.66	4.79	4.79	5.09	5.10	4.91%	4.99%	
Florida Pwr	6.75	34110QAL2	Nts	2/1/2028	12	BBB+	5.55	5.43	5.44	5.45	5.47	5.31	5.37	5.41	5.51	5.51	5.76	5.83	5.50%	5.70%	
MidAmerican Funding	6.93	59562HAJ7	Sr Sec Bonds	3/1/2029	13	BBB+	5.47	5.36	5.28	5.19	5.20	4.92	4.92	4.93	4.96	4.96	5.22	5.25	5.14%	5.14%	
MidAmerican Energy Hldg	6.12	59562VAM9	SrBonds	4/1/2036	20	BBB+	5.21	5.13	4.95	4.76	4.79	4.65	4.55	4.60	4.68	4.68	4.94	4.92	4.82%	4.85%	
PSI Energy, Inc.	6.12	693627AY7	Deb	10/15/2035	19	BBB+	4.97	5.00	4.93	4.85	4.78	4.59	4.60	4.60	4.78	4.78	5.05	5.09	4.83%	4.97%	
PSI Energy	6.05	693627AZ4	Deb	6/15/2016	0	BBB+	5.93	5.95	5.98	6.01									5.97%		
PSEG Power LLC	8.62	69362BAJ1	Sr Nts	4/15/2031	15	BBB+	6.82	6.73	6.89	7.04	7.18	6.81	6.67	6.59	6.66	6.66	7.08	7.16	6.86%	6.97%	
Public Svc No Car	6.99	744516AA3	Sr Deb	1/15/2026	10	BBB+	5.58	5.58	5.55	5.51	5.56	5.40	5.40	5.42	5.52	5.52	5.75	5.76	5.55%	5.68%	
Public Svc No Car	7.45	744516AB1	Sr Deb	12/15/2026	10	BBB+	5.74	5.67	5.65	5.61	5.65	5.49	5.48	5.50	5.61	5.61	5.87	5.88	5.65%	5.79%	
Southern California Edison Co.	6.65	842400EB5	Nts	4/1/2029	13	BBB+	5.23	5.11	5.15	5.18	5.20	5.01	5.02	5.02	5.12	5.12	5.33	5.39	5.16%	5.28%	
Southern Power Co	6.38	843646AG5	Sr Nt Ser E	11/15/2036	20	BBB+	6.22	6.23	6.25	6.26	6.28	6.29	6.30	6.32	6.37	6.37	6.36	6.37	6.30%	6.37%	
Tampa Electric Co.	6.55	875127AV4	Nts	5/15/2036	20	BBB+	5.09	4.98	4.97	4.96	4.92	4.80	4.77	4.74	4.91	4.91	5.18	5.18	4.95%	5.09%	
Tampa Electric Co.	6.15	875127AW2	Sr Nts	5/15/2037	21	BBB+	4.97	4.84	4.84	4.83	4.76	4.59	4.59	4.57	4.80	4.80	5.08	5.03	4.81%	4.97%	
Tampa Electric Co.	6.1	875127AX0	Fixed Rt	5/15/2018	2	BBB+	5.59	5.61	5.61	5.60	5.64	5.63	5.65	5.69	5.74	5.74	5.79	5.76	5.67%	5.76%	
Union Electric	5.5	906548BY7	Sr Sec Nts	3/15/2034	18	BBB+	4.81	4.69	4.71	4.72	4.68	4.50	4.46	4.44	4.56	4.56	4.81	4.77	4.64%	4.71%	
Union Electric	5	906548CD2	Sr Sec Nts	2/1/2020	4	BBB+	4.50	4.54	4.54	4.52	4.53	4.46	4.48	4.51	4.56	4.56	4.64	4.67	4.54%	4.62%	
Union Electric	6.4	906548CE0	Sr Sec Nts	6/15/2017	1	BBB+	5.99	6.03	6.04	6.04	6.06	6.09	6.11	6.14	6.20	6.20	6.23	6.25	6.11%	6.23%	
Union Electric	6	906548CF7	Sr Sec Nts	4/1/2018	2	BBB+	5.51	5.52	5.54	5.56	5.57	5.55	5.57	5.60	5.64	5.64	5.67	5.70	5.59%	5.67%	
Union Electric	6.7	906548CG5	Sr Sec Nts	2/1/2019	3	BBB+	5.86	5.92	5.92	5.91	5.94	5.89	5.92	5.96	6.01	6.01	6.08	6.12	5.96%	6.07%	
Xcel Energy Inc.	6.5	93389BAH3	Sr Nts	7/1/2036	20	BBB+	5.20	5.09	5.08	5.06	5.04	4.86	4.72	4.73	4.89	4.89	5.16	5.18	4.99%	5.08%	
Appalachian Power Co.	5.95	037735BZ9	Sr Nts'H	5/15/2033	17	BBB	5.33	5.64	5.49	5.33	5.29	5.11	5.02	4.99	4.97	4.97	5.16	5.16	5.20%	5.10%	
Appalachian Power	5	037735CD7	Sr Nts'K	6/1/2017	1	BBB	4.79	4.80	4.81	4.81	4.83	4.84	4.85	4.87	4.89	4.89	4.91	4.93	4.85%	4.91%	
Appalachian Power	5.8	037735CE5	Sr Nts'L	10/1/2035	5.8	BBB	5.11	5.06	5.06	5.05	4.98	4.82	4.81	4.83	4.87	4.87	5.11	5.04	4.97%	5.01%	
Appalachian Power	6.38	037735CG0	Sr Nts'N	4/1/2036	20	BBB	5.34	5.46	5.36	5.26	5.16	5.05	4.98	5.00	5.03	5.03	5.25	5.20	5.18%	5.16%	
AMS Energy Corp.	6.55	125896A7	Sr Nts	7/17/2017	1	BBB	6.13	6.16	6.17	6.18	6.20	6.21	6.24	6.26	6.31	6.31	6.34	6.34	6.00%	5.71%	
Cleveland Electric Illuminating	7.88	186108BU9	Sec Nts 'D'	11/1/2017	1	BBB	7.15	7.21	7.23	7.24	7.29	7.28	7.33	7.37	7.44	7.44	7.45	7.49	7.33%	7.46%	
Commonwealth Edison	6.95	202795GX2	Nts	7/15/2018	2	BBB	6.23	6.24	6.27	6.30	6.33	6.31	6.35	6.39	6.43	6.43	6.48	6.47	6.35%	6.46%	
DTE Energy Co.	6.35	233331AM9	Sr Nt 2006 Ser B	6/1/2016	0	BBB	6.24	6.26	6.29	6.32									6.28%		
Dominion Resources, Inc. (Va.)	7.5	25746UAY5	hanced Jr Sub Nt 2006 Ser	6/30/2066	50	BBB	8.96	8.95	8.94	8.92	8.98	9.10	3.99	3.92	3.94	3.94	3.99	3.99	6.47%	3.97%	
Dominion Resources, Inc. (Va.)	2.58	25746UAZ2	Sub Nt 2006 Ser B Enhand	9/30/2066	50	BBB	4.19	4.32	4.25	4.17	3.96	3.96	3.83	3.71	3.97	3.97	4.07	4.07	4.04%	4.04%	
El Paso Electric Co.	6	283677AW2	Sr Nts	5/15/2035	19	BBB	4.93	4.82	4.95	5.07	5.07	4.88	4.89	4.86	4.98	4.98	5.25	5.21	4.99%	5.15%	
Empire District Electric Co. (Th)	5.8	291641AZ1	Sr Nts	7/1/2035	19	BBB	5.78	5.79	5.81	5.83	5.83	5.60	5.61	5.62	5.40	5.40	5.70	5.74	5.68%	5.61%	
Empire District Elec	6.7	29164RAA9	Sr Nts	11/15/2033	17	BBB	5.74	5.66	5.48	5.30	5.36	5.26	5.24	5.19	5.32	5.32	5.59	5.76	5.44%	5.56%	
Energy East Corp.	6.75	29266MAE9	Nts	9/15/2033	17	BBB	6.11	6.12	6.01	5.90	5.96	5.75	5.81	5.68	5.82	5.82	6.12	5.91	5.92%	5.95%	
Energy East	6.75	29266MAF6	Nt	7/15/2036	20	BBB	5.45	5.46	5.36	5.26	5.32	5.11	5.18	5.04	5.18	5.18	5.49	5.54	5.30%	5.40%	
Enersis S.A.	6.6	29274FAC8	Nt	12/1/2026	10	BBB	6.27	6.27	6.27	6.27	6.27	6.27	6.27	6.27	6.27	6.27	6.27	6.27	6.27%	6.27%	
Indiana Mich Pwr	6.05	454889AM8	Sr Nts'H	3/15/2037	21	BBB	5.22	5.20	5.20	5.19	5.06	4.87	4.82	4.79	4.87	4.87	5.11	5.07	5.02%	5.02%	
Kansas City Power & Light	6.05	485134BH2	Sr Nt Ser A	11/15/2035	19	BBB	4.97	4.90	4.95	5.00	4.90	4.76	4.80	4.76	4.87	4.87	5.11	5.12	4.92%	5.03%	
Kansas City Power & Light	5.85	485134BJ8	Sr Nt	6/15/2017	1	BBB	5.54	5.55	5.57	5.59	5.62	5.62	5.65	5.66	5.70	5.70	5.72	5.74	5.64%	5.72%	
Kentucky Power	5.62	491386AL2	Sr Nts'D	12/1/2032	16	BBB	5.27	5.15	5.14	5.13	5.13	5.00	4.97	5.03	5.09	5.09	5.23	5.27	5.13%	5.20%	
Ohio Power Co.	6.6	677415CF6	Sr Nts 'G'	2/15/2033	17	BBB	5.31	5.43	5.37	5.31	5.28	5.12	5.12	5.12	5.19	5.19	5.45	5.38	5.27%	5.34%	
Ohio Power Co.	6	677415CL3	Sr Nts'K	6/1/2016	0	BBB	5.90	5.93	5.95	5.97									5.94%		
PPL Energy Supply	5.7	69352JAG2	Reset PutSecs	10/15/2035	19	BBB	5.70	5.70	5.70	5.70	5.70	5.70	5.70	5.70	5.70	5.70	5.70	5.70	5.70%	5.70%	
PPL Energy Supply	6.2	69352JAH0	Sr Nts	5/15/2016	0	BBB	6.24	6.23											6.24%		
PPL Energy Supply	6	69352JAK3	Sr Nts	12/15/2036	20	BBB	15.78	15.00	12.63	10.25	11.00	11.32	10.00	10.34	9.91	9.91	10.34	10.57	11.42%	10.27%	
PPL Energy Supply	6.5	69352JAL1	Sr Nts	5/1/2018	2	BBB	7.14	7.02	6.68	6.34	6.34	6.50	6.31	6.32	6.26	6.26	6.28	6.28	6.48%	6.27%	
Pacific Gas & Electric Co.	6.05	694308GE1	1st	3/1/2034	18	BBB	4.99	4.91	4.75	4.59	4.64	4.55	4.53	4.48	4.60	4.60	4.86	4.85	4.70%	4.77%	
Pacific Gas & Electric Co.	5.8	694308GJ0	Fixed Rt Sr Nt	3/1/2037	21	BBB	4.91	4.80	4.70	4.60	4.59	4.41	4.42	4.41	4.53	4.53	4.76	4.77	4.62%	4.69%	
Pepco Holdings, Inc.	6.12	713291AP7	Nts	6/1/2017	1	BBB	5.89	5.90	2.95										4.91%		
Progress Energy, Inc.	7.75	743263AE5	Sr Nts	3/1/2031	15	BBB	5.89	5.75	5.68		5.61	5.59	5.51	5.52	5.51	5.62	5.62	5.91	5.67	5.66%	5.73%
Progress Energy, Inc.	7	743263AG0	Sr Nts	10/30/2031	15	BBB	5.57	5.49	5.41	5.33	5.35	5.19	5.20	5.18	5.25	5.25	5.60	5.43	5.35%	5.43%	
Public Serv, New Mexico	7.5	744499AN4	Sr Unsec Nts 'B'	8/1/2018	2	BBB	6.69	6.69	6.72	6.75	6.78	6.72	6.77	6.80	6.84	6.84	6.89	6.92	6.78%	6.88%	
Public Service Co. of Oklahoma	6.15	744533BH2	Sr Nts'F	8/1/2016	0	BBB	6.00	6.04	6.06	6.08	6.10	6.12							6.07%		
Public Service Co. of Oklahoma	6.62	744533BJ8	Sr Nts 'G'	11/15/2037	21	BBB	5.42	5.28	5.32	5.36	5.34	5.15	5.07	5.06	5.17	5.17	5.24	5.22	5.23%	5.21%	
Southwest'n Elec Power	5.55	845437BH4	Sr Nt Ser E	1/15/2017	1	BBB	5.34	5.36	5.38	5.39	5.41	5.42	5.43	5.46	5.50	5.50	5.52		5.43%	5.51%	
WPS Resources	6.11	92931BAC0	Jr Sub Nt	12/1/2066	0	BBB	0.00	0.00	0.00	0.00	0.00	0.00	8.05	7.27	6.50	6.50	6.67	3.35	3.20%	5.51%	
Wisconsin Energy Corp.	6.25	976657AH9	2007 Ser A Jr Sub Nt	5/15/2067	51	BBB	8.62	8.44	7.99	7.53	7.59	7.87	7.62	7.30	7.14	7.14	7.18	7.13	7.63%	7.15%	
Cleveland Elec. Illum	5.95	186108CE4	Sr Nts	12																	



**MONTANA DEPARTMENT OF REVENUE**

Support for Direct Capitalization Cost of Debt Component - Current Yield From Standard & Poor's Bond Guide  
 Industry: Electric Utilities  
 2017 Assessment Year

Company Name	Coupon	CUSIP	Issue	Maturity Date	Years to Maturity	Old S&P Bond Rating	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Avg Full Year	Avg 4th QTR
Cleveland Elec. Illum	5.7	186108CF1	Sr Nts	4/1/2017	1	BBB-	5.50	5.51	5.51	5.51	5.52	5.52	5.54	5.56	5.60	5.60	5.62	5.64	5.55%	5.62%
Duquesne Light Holdings, Inc.	6.25	266233AB1	Sr Nts	8/15/2035	19	BBB-	5.79	5.80	5.80	5.80	5.75	5.56	5.57	5.55	5.58	5.58	5.89	5.88	5.71%	5.78%
NiSource Finance	5.25	65473QAQ6	Gtd Nt	9/15/2017	1	BBB-	4.96	4.97	5.00	5.03	5.04	5.05	5.07	5.06	5.09	5.09	5.11	5.13	5.05%	5.11%
NiSource Finance	5.45	65473QAR4	Gtd Nt	9/15/2020	4	BBB-	4.95	4.91	4.89	4.86	4.85	4.80	4.85	4.84	4.88	4.88	4.98	5.00	4.89%	4.95%
Ohio Edison Co.	6.88	677347CE4	Sr Nts	7/15/2036	20	BBB-	5.78	5.69	5.65	5.61	5.64	5.57	5.35	5.24	5.31	5.31	5.50	5.43	5.51%	5.41%
Pennsylvania Electric	6.625	708696BM0	Sr Nts 'C'	4/1/2019	3	BBB-	6.13	6.16	6.18	6.20	6.24	6.16	6.07	6.09	6.15	6.15	6.20	6.18	6.16%	6.18%
Constellation Energy Group, In	7.6	210371AF7	Nts	4/1/2032	16	BB+	6.02	5.92	5.81	5.69	5.63	5.57	5.43	5.42	5.54	5.54	5.83	5.81	5.68%	5.73%
FirstEnergy Corp.	7.38	337932AC1	Sr Nt Ser C	11/15/2031	15	BB+	5.98	5.94	5.94	5.94	6.08	5.92	5.87	5.68	5.67	5.67	5.90	5.76	5.86%	5.78%
El Paso Energy Corp MTN BE	8.05	28368EAA4	MTN	10/15/2030	14	BB	8.16	8.02	7.71	7.39	7.41	7.21	7.03	6.92	6.83	6.83	7.17	6.79	7.29%	6.93%
El Paso Energy Corp MTN BE	7.75	28368EAE6	MTN-tranche # Tr 00005	1/15/2032	16	BB	8.35	8.05	7.62	7.19	7.24	6.92	6.68	6.50	6.33	6.33	6.57	6.36	7.01%	6.42%
TXU Corp.	6.5	873168AN8	Sr Nts'Q'	11/15/2024	8	D	8.90	9.35	9.32	9.28	13.00	13.00	12.87	10.83	21.66	21.66			12.99%	21.66%
TXU Corp.	6.55	873168AQ1	Sr Nts'R'	11/15/2034	18	D	8.97	9.42	9.39	9.35	13.10	13.10	13.64	10.91	21.83	21.83			13.15%	21.83%
Allegheny Generating	6.88	017364AG5	Deb	9/1/2023	7	NR	6.80	6.80	6.80	6.80	6.80	6.80	6.80	6.80	6.80	6.80	6.80	6.80	6.80%	6.80%
MDU Resources Group, Inc.	5.98	552690AF6	Sr Sec Nt	12/15/2033	17	NR	5.70	5.59	5.45	5.30	5.24	5.18	5.11	5.10	5.24	5.24	5.54	5.55	5.35%	5.44%
Madison Gas & Elec Co MTN E	5.26	5574A0AC1	MTN	9/29/2017	1	NR	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.58	4.58%	4.58%
Ohio Power Co.	6.38	677415CJ8	Sr Nts 'I'	7/15/2033	17	NR	6.37	6.37	6.37	6.37	6.37	6.37	6.37	6.37	6.37	6.37	6.37	6.37	6.37%	6.37%
Orange & Rockland Utils	7	684065AU9	Deb 'G'	3/1/2029	13	NR	6.69	6.69	6.69	6.69	6.69	6.69	6.69	6.69	6.69	6.69	6.69	6.69	6.69%	6.69%
PPL Energy Supply	2.62	69352JAE7	Sr Nt Conv	5/15/2023	7	NR	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25%	2.25%
Savannah Electric&Power	5.5	804787DJ5	Sr Nts'F'	12/15/2028	12	NR	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50%	5.50%
Sierra Pacific Resources	6.75	826428AN4	Sr Nts	8/15/2017	1	NR	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60	6.60%	6.60%
Tennessee Valley Authority	8.25	880591BL5	Pwr Bonds '92D	4/15/2042	26	NR	7.78	7.78	7.78	7.78	7.78	7.78	7.78	7.78	7.78	7.78	7.78	7.78	7.78%	7.78%
Tennessee Valley Authority	6.235	880591CF7	Pwr Bonds '95B	7/15/2045	29	NR	5.39	5.33	5.35	5.37	5.39	5.29	5.34	5.39	5.43	5.43	5.54	5.54	5.40%	5.50%
Tennessee Valley Authority	5.98	880591CK6	Pwr Bonds '96A	4/1/2036	20	NR	4.48	4.35	4.36	4.36	4.31	4.14	4.08	4.04	4.18	4.18	4.45	4.45	4.28%	4.36%
Tennessee Valley Authority	6.15	880591CP5	Pwr Bonds '98B	1/15/2038	22	NR	4.50	4.31	4.35	4.38	4.38	4.12	4.07	4.04	4.19	4.19	4.45	4.50	4.29%	4.38%
Tennessee Valley Authority	5.88	880591CS9	Pwr Bonds '97C	4/1/2036	20	NR	4.42	4.29	4.30	4.31	4.27	4.09	4.03	4.00	4.15	4.15	4.40	4.47	4.24%	4.34%
Union Electric	7.69	906548BT8	Sub Cap Inc Sec'A'	12/15/2036	20	NR	7.48	7.48	7.48	7.48	7.48	7.48	7.48	7.48	7.48	7.48	7.48	7.48	7.48%	7.48%
						278	278	278	277	275	270	270	266	265	263	263	256	254		

NOTES:

Data downloaded from the S&P website and missing data supplemented from month end Bond Guides when available.  
 means the data was not available in S&P Guide  
 means issuance matured or called

	Annual	4th Qtr
<u>All Bonds</u>		
All Ratings	5.36%	5.48%
Investment Grade (BBB- & Above)	5.28%	5.33%
<u>Bonds With 20 or More Years to Maturity</u>		
All Ratings	5.01%	5.06%
Investment Grade (BBB- & Above)	4.96%	5.02%
<b>Say:</b>	<b>5.10%</b>	

## MONTANA DEPARTMENT OF REVENUE

Support for Direct Capitalization Cost of Debt Component - Calculated Current Yield  
Industry: Electric Utilities  
2017 Assessment Year

A	B	C	D	E	F	G	H	I	J	K
	2016	YE 2016	YE 2015	YE 2015	YE 2016	YE 2016	2016 Avg	2016	2016 Avg	
Company	Ticker	Interest Exp.	MV LT Debt	BV LT Debt	MV LT Debt	BV LT Debt	MV LT Debt	Current Yield	BV LT Debt	MTBR
Source		10-K	10-K	10-K	10-K	10-K	(D+F)/2	(C/H)	(E+G)/2	(H/I)
		(\$000)	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)		(\$000)	
Alliant Energy	LNT	196,200	4,336,100	3,995,400	4,799,000	4,564,300	4,567,550	4.30%	4,279,850	1.07
Avista Corp	AVA	86,496	1,750,048	1,729,825	1,825,372	1,853,551	1,787,710	4.84%	1,791,688	1.00
Black Hills Corp.	BKH	139,590	1,992,274	1,853,682	3,351,305	3,216,932	2,671,790	5.22%	2,535,307	1.05
Great Plains Energy	GXP	161,500	4,000,000	3,746,200	4,000,000	3,747,300	4,000,000	4.04%	3,746,750	1.07
IDACORP Inc.	IDA	81,956	1,813,243	1,726,474	1,858,666	1,745,678	1,835,955	4.46%	1,736,076	1.06
NorthWestern Corp.	NWE	94,970	1,873,136	1,796,345	1,878,377	1,819,663	1,875,757	5.06%	1,808,004	1.04
OGE Energy	OGE	141,700	2,899,200	2,639,300	2,803,900	2,530,800	2,851,550	4.97%	2,585,050	1.10
Pinnacle West Capital	PNW	205,720	4,106,367	3,819,971	4,425,789	4,146,785	4,266,078	4.82%	3,983,378	1.07
PNM Resources	PNM	128,633	2,264,869	2,091,948	2,540,693	2,392,712	2,402,781	5.35%	2,242,330	1.07
Portland General	POR	112,000	2,455,000	2,193,000	2,693,000	2,350,000	2,574,000	4.35%	2,271,500	1.13
Xcel Energy Inc.	XEL	646,907	14,094,744	13,055,901	15,513,209	14,450,247	14,803,977	4.37%	13,753,074	1.08
<b>Total</b>		1,995,672					43,637,146	<b>4.57%</b>	40,733,007	<b>1.07</b>
<b>Average</b>								<b>4.71%</b>		<b>1.07</b>
<b>Median</b>								<b>4.82%</b>		<b>1.07</b>
High								5.35%		1.13
Low								4.04%		1.00
<b>Say</b>								<b>4.82%</b>		<b>1.07</b>

**MONTANA DEPARTMENT OF REVENUE**

Support of Stock Price - From YAHOO Finance

Industry: Electric Utilities

2017 Assessment Year

Ticker	Company		Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	End of Year Closing	4th Qtr Average	Annual Average
AVA	Avista Corp.	high	\$ 37.10	\$ 39.30	\$ 41.31	\$ 41.37	\$ 42.17	\$ 44.81	\$ 45.22	\$ 43.71	\$ 43.74	\$ 41.74	\$ 42.26	\$ 43.00	\$ 39.99	\$ 40.65	\$ 40.48
		low	\$ 34.31	\$ 36.72	\$ 36.89	\$ 38.48	\$ 38.83	\$ 40.00	\$ 42.87	\$ 40.30	\$ 40.38	\$ 38.99	\$ 39.21	\$ 38.69			
BKH	Black Hills	high	\$ 49.73	\$ 57.74	\$ 61.13	\$ 60.93	\$ 62.26	\$ 63.53	\$ 64.58	\$ 63.87	\$ 63.79	\$ 62.07	\$ 61.90	\$ 62.83	\$ 61.34	\$ 59.28	\$ 58.32
		low	\$ 44.65	\$ 48.19	\$ 54.88	\$ 56.16	\$ 57.10	\$ 60.02	\$ 61.17	\$ 56.86	\$ 57.51	\$ 56.53	\$ 54.76	\$ 57.58			
GXP	G't Plains Energy	high	\$ 28.08	\$ 29.88	\$ 32.44	\$ 32.74	\$ 32.24	\$ 30.42	\$ 31.24	\$ 29.82	\$ 28.14	\$ 28.48	\$ 28.70	\$ 28.01	\$ 27.35	\$ 27.29	\$ 28.77
		low	\$ 25.87	\$ 27.80	\$ 28.49	\$ 30.21	\$ 28.50	\$ 28.08	\$ 29.51	\$ 26.84	\$ 26.37	\$ 26.33	\$ 26.38	\$ 25.85			
IDA	IDACORP Inc.	high	\$ 69.96	\$ 73.82	\$ 74.96	\$ 74.99	\$ 74.47	\$ 81.36	\$ 83.40	\$ 81.71	\$ 81.55	\$ 78.86	\$ 79.43	\$ 81.81	\$ 80.55	\$ 76.90	\$ 75.12
		low	\$ 65.03	\$ 68.30	\$ 69.03	\$ 70.40	\$ 69.83	\$ 72.91	\$ 79.21	\$ 75.46	\$ 75.14	\$ 73.33	\$ 72.93	\$ 75.03			
LNT	Alliant Energy Stock Split 2:1 5/20/16	high	\$ 32.67	\$ 35.13	\$ 37.17	\$ 37.59	\$ 37.10	\$ 40.24	\$ 40.99	\$ 40.58	\$ 40.60	\$ 38.33	\$ 38.67	\$ 38.34	\$ 37.57	\$ 36.97	\$ 35.94
		low	\$ 30.38	\$ 32.38	\$ 33.26	\$ 34.08	\$ 17.77	\$ 36.92	\$ 39.07	\$ 37.69	\$ 37.09	\$ 36.31	\$ 34.88	\$ 35.26			
NWE	NorthWestern Corp.	high	\$ 55.85	\$ 60.76	\$ 62.22	\$ 62.51	\$ 59.44	\$ 63.30	\$ 63.75	\$ 61.32	\$ 60.71	\$ 57.76	\$ 59.13	\$ 58.08	\$ 56.87	\$ 56.28	\$ 58.11
		low	\$ 52.16	\$ 55.49	\$ 57.46	\$ 55.91	\$ 55.34	\$ 57.52	\$ 60.05	\$ 57.09	\$ 56.18	\$ 53.85	\$ 54.78	\$ 54.07			
OGE	OGE Energy	high	\$ 26.52	\$ 27.81	\$ 28.74	\$ 29.62	\$ 31.07	\$ 32.75	\$ 32.96	\$ 32.29	\$ 33.10	\$ 31.69	\$ 32.48	\$ 34.23	\$ 33.15	\$ 31.47	\$ 29.77
		low	\$ 23.37	\$ 24.39	\$ 24.83	\$ 27.27	\$ 28.97	\$ 30.09	\$ 31.30	\$ 29.91	\$ 30.59	\$ 29.61	\$ 29.57	\$ 31.26			
PNM	PNM Resources	high	\$ 31.41	\$ 33.34	\$ 34.07	\$ 33.93	\$ 33.49	\$ 35.46	\$ 36.15	\$ 34.51	\$ 34.91	\$ 33.25	\$ 33.45	\$ 34.53	\$ 34.06	\$ 32.36	\$ 32.67
		low	\$ 29.22	\$ 31.24	\$ 31.30	\$ 30.62	\$ 31.20	\$ 32.79	\$ 33.61	\$ 31.56	\$ 31.20	\$ 30.98	\$ 30.95	\$ 31.00			
PNW	Pinnacle West Capital	high	\$ 66.49	\$ 71.40	\$ 75.15	\$ 75.81	\$ 74.65	\$ 81.08	\$ 82.78	\$ 79.54	\$ 80.19	\$ 76.59	\$ 77.34	\$ 78.97	\$ 78.03	\$ 74.74	\$ 73.74
		low	\$ 62.51	\$ 66.02	\$ 66.35	\$ 70.23	\$ 70.11	\$ 73.07	\$ 77.79	\$ 74.28	\$ 73.94	\$ 72.07	\$ 70.86	\$ 72.61			
POR	Portland General	high	\$ 39.02	\$ 40.48	\$ 39.90	\$ 40.03	\$ 41.94	\$ 44.12	\$ 45.21	\$ 44.46	\$ 44.12	\$ 44.32	\$ 43.91	\$ 44.14	\$ 43.33	\$ 42.37	\$ 41.16
		low	\$ 35.27	\$ 37.40	\$ 37.04	\$ 37.77	\$ 39.47	\$ 40.96	\$ 43.28	\$ 41.51	\$ 41.71	\$ 40.28	\$ 40.87	\$ 40.71			
XEL	Xcel Energy Inc.	high	\$ 38.26	\$ 40.42	\$ 41.85	\$ 42.04	\$ 41.98	\$ 44.78	\$ 45.42	\$ 44.13	\$ 43.49	\$ 41.80	\$ 41.75	\$ 41.20	\$ 40.70	\$ 40.01	\$ 40.66
		low	\$ 35.19	\$ 36.25	\$ 38.26	\$ 38.43	\$ 39.69	\$ 40.99	\$ 43.10	\$ 41.07	\$ 40.34	\$ 39.08	\$ 38.00	\$ 38.22			