



**2021 Capitalization Rate Study
Electric Utilities**

FINAL

Completed: April 16, 2021

MONTANA DEPARTMENT OF REVENUE

Yield Capitalization Rate Conclusion

Industry: Electric Utilities

2021 Assessment Year

Capital Structure ^[1]

Equity	58.00%
Debt	42.00%

Equity Cost of Capital

		Weighting
Capital Asset Pricing Model - Ex Post ^[2]	8.34%	25%
Capital Asset Pricing Model - Ex Ante ^[2]	6.82%	25%
3 Stage Dividend Discount Model - Dividends ^[3]	8.50%	25%
3 Stage Dividend Discount Model - Earnings ^[3]	8.30%	25%
Weighted Average	<u>7.99%</u>	100%
Selected Cost of Equity	<u>7.99%</u>	

Debt Cost of Capital

		Weighting
A - Mergent's - Avg. YTM of A Rated Corporate Bonds ^[4]	2.72%	0%
Baa - Mergent's - Avg. YTM of Baa Rated Corporate Bonds ^[4]	3.16%	100%
Ba - MTDOR - Avg. YTM of Ba Rated Corporate Bonds ^[5]	6.54%	0%
Weighted Average	<u>3.16%</u>	100%
Selected Cost of Debt	<u>3.16%</u>	

Weighted Average Cost of Capital (WACC)

Source of Capital	Capital Structure	Cost of Capital	Marginal Tax Rate	After-tax Cost of Capital	Weighted Cost
Equity	58.00%	7.99%		7.99%	4.63%
Debt	42.00%	3.16%	24.00%	2.40%	1.01%
WACC	100.00%				5.64%
WACC (Rounded)					5.65%

Notes

- [1] From worksheet: Capital Structure
- [2] From worksheet: Capital Asset Pricing Model Summary
- [3] From worksheet: Yield Equity Summary
- [4] January 2021, Mergent Bond Record
- [5] Montana Department of Revenue High Yield Debt Study

MONTANA DEPARTMENT OF REVENUE

**Direct Capitalization Rate Conclusion
Industry: Electric Utilities
2021 Assessment Year**

Capital Structure ^[1]

Equity	58.00%
Debt	42.00%

Equity Capitalization Rate ^[2]

NOI After-tax	5.30%
GCF	11.90%

Debt Capitalization Rate ^[3]

Calculated Current Yield	3.80%
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NOI After-tax Direct Capitalization Rate - If Using Marginal Tax

Source of Capital	Capital Structure	Capitalization Rate	Marginal Tax Rate	After-tax Capitalization Rate	Weighted Capitalization Rate
Equity	58.00%	5.30%		5.30%	3.07%
Debt	42.00%	3.80%	24.00%	2.89%	1.21%
Total	100.00%				4.29%
Total (Rounded)					4.30%

GCF Direct Capitalization Rate - If Using Marginal Tax

Source of Capital	Capital Structure	Capitalization Rate	Marginal Tax Rate	After-tax Capitalization Rate	Weighted Capitalization Rate
Equity	58.00%	11.90%		11.90%	6.90%
Debt	42.00%	3.80%	24.00%	2.89%	1.21%
WACC	100.00%				8.11%
Total (Rounded)					8.15%

Notes:

[1] From worksheet: Capital Structure

[2] From worksheet: Direct Equity Summary

[3] From worksheet: Calculated Current Yield

MONTANA DEPARTMENT OF REVENUE

Direct Capitalization Rate Conclusion - Using Regulatory Tax Structure (Pre-Tax Debt)

Industry: Electric Utilities

2021 Assessment Year

Capital Structure ^[1]

Equity	58.00%
Debt	42.00%

Equity Capitalization Rate ^[2]

NOI After-tax	5.30%
GCF	11.90%

Debt Capitalization Rate ^[3]

Calculated Current Yield	3.80%
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NOI After-tax Direct Capitalization Rate - If Using Regulatory Tax Str.

Source of Capital	Capital Structure	Capitalization Rate	Marginal Tax Rate	After-tax Capitalization Rate	Weighted Capitalization Rate
Equity	58.00%	5.30%		5.30%	3.07%
Debt	42.00%	3.80%		3.80%	1.60%
Total	100.00%				4.67%

Total (Rounded) 4.70%

GCF Direct Capitalization Rate - If Using Regulatory Tax Str.

Source of Capital	Capital Structure	Capitalization Rate	Marginal Tax Rate	After-tax Capitalization Rate	Weighted Capitalization Rate
Equity	58.00%	11.90%		11.90%	6.90%
Debt	42.00%	3.80%		3.80%	1.60%
WACC	100.00%				8.50%

Total (Rounded) 8.50%

Notes:

[1] From worksheet: Capital Structure

[2] From worksheet: Direct Equity Summary

[3] From worksheet: Calculated Current Yield

MONTANA DEPARTMENT OF REVENUE

Selection of Guideline Companies

Industry: Electric Utilities

2021 Assessment Year

Screening Requirements:

The universe of companies is all companies listed in Value Line under the Electric Utility (West) industries.

Companies were then selected using the following screening criteria:

1. Primarily supplies electricity to residential and commercial customers.
2. Headquartered and primarily operated in the United States.
3. Regulated by a state commission.
4. Generation portfolio primarily composed of coal, natural gas, renewables, and/or hydroelectric.
5. Not engaged in material M&A activity.

Ticker Symbol	Residential & Commercial Sales	Primarily in the US	Regulated	Generating portfolio sufficiently compatible	Consider as Potential Guideline Company	Not Engaged in Material M&A Activity	Use as Guideline Company	Note
AVA	72%	Yes	Yes	Yes	Yes	Yes	Yes	
BKH	65%	Yes	Yes	Yes	Yes	Yes	Yes	
EIX	82%	Yes	Yes	No	No		No	
HE	64%	Yes	Yes	No	No		No	
IDA	61%	Yes	Yes	Yes	Yes	Yes	Yes	
NWE	86%	Yes	Yes	Yes	Yes	Yes	Yes	
PNM	75%	Yes	Yes	Yes	Yes	No	No	[1]
PNW	89%	Yes	Yes	No	No		No	
POR	77%	Yes	Yes	Yes	Yes	Yes	Yes	
SRE				No	No			
XEL	85%	Yes	Yes	Yes	Yes	Yes	Yes	

[1] Announced strategic merger with AVANGRID on 10/21/20

MONTANA DEPARTMENT OF REVENUE

Support for Capital Structure

Industry: Electric Utilities

2021 Assessment Year

(\$ and Shares Outstanding In Thousands, except per share amounts)

A	B	C	D	E	F	G	H	I	J	K	L	M	N
Ticker	Company	Industry Group	Financial Strength	Shares Outstanding	End of Year Closing Stock Price	MV Common Stock	MV Preferred Stock	MV Long Term Debt	PV of Operating Leases	Total Common, Preferred, LT Debt, & Op Leases	% Common	% Preferred	% Debt & Op Leases
		<i>Value Line</i>	<i>Value Line</i>	<i>10-K</i>	<i>Yahoo</i>	<i>ExF</i>	<i>10-K</i>	<i>10-K</i>	<i>10-K</i>	<i>G+H+I+J</i>	<i>G/K</i>	<i>H/K</i>	<i>(I+J)/K</i>
							<i>Note [1]</i>	<i>Note [2]</i>					
AVA	Avista Corp.	UTILWEST	B++	69,239	40.14	2,779,249	0	2,409,324	71,965	5,260,538	53%	0%	47%
BKH	Black Hills	UTILWEST	A	62,795	61.45	3,858,734	0	4,208,167	4,543	8,071,444	48%	0%	52%
IDA	IDACORP Inc.	UTILWEST	A	50,469	96.03	4,846,560	0	2,466,967	0	7,313,527	66%	0%	34%
NWE	NorthWestern Corp.	UTILWEST	B++	54,145	58.31	3,157,182	0	2,747,194	0	5,904,376	53%	0%	47%
POR	Portland General	UTILWEST	B++	89,537	42.77	3,829,512	0	3,808,000	44,000	7,681,512	50%	0%	50%
XEL	Xcel Energy Inc.	UTILWEST	A+	537,438	66.67	35,831,017	0	24,412,000	1,558,000	61,801,017	58%	0%	42%
All Companies						54,302,254	0	40,051,652	1,678,508	96,032,414	57%	0%	43%
Average											55%	0%	45%
Median											53%	0%	47%
Trimmed Average											54%	0%	46%
High											66%	0%	52%
Low											48%	0%	34%
Selected											58%		42%

Notes

[1] Market value of preferred stock assumed to equal book value

[2] Market value of debt is fair value of long term debt from 10-K notes

MCA 15-1-210, rationale for changes to guideline companies:

2021 - PNM was removed due to M&A activity

		<u>Median</u>	
Current Year	53%	0%	47%
Prior Year	60%	0%	40%
2 Years Prior	60%	0%	40%
3 Year Average	58%	0%	42%

MONTANA DEPARTMENT OF REVENUE

Capital Asset Pricing Model (CAPM)

Industry: Electric Utilities

2021 Assessment Year

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

		<i>Ex Post</i>	<i>Ex Ante</i>
$k_e =$	Cost of Equity	8.34%	6.82%
$R_f =$	Risk Free Rate	1.45%	1.45%
$\beta =$	Beta	0.95	0.95
$ERP =$	Equity Risk Premium ($R_m - R_f$)	7.25%	5.65%
$R_m =$	Market Rate of Return	8.70%	7.10%

Risk Free Rate Measures (R_f):

The Value Line Investment Survey: Selection & Opinion ^[1]

January 1, 2021 Page 701

Selected Yields on Taxable U.S. Treasury Securities as of 12/21/20

10-year	0.95%
30-year	1.68%

Federal Reserve Statistical Release ^[2] and U.S. Department of the Treasury, Daily Treasury Yield Curve Rates ^[3]

U.S. government securities, Treasury constant maturities, Nominal, December 31, 2020

10-year	0.93%
20-year	1.45%
30-year	1.65%

Risk Free Rate Selected 1.45%

Notes

[1] "Value Line Selection & Opinion", Value Line (January 3, 2020)

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

[3] <https://www.treasury.gov/resource-center/data-chart-center/interest-rates/>

Ex Post - Equity Risk Premium Measures ($ERP = R_m - R_f$)

Duff & Phelps, 2021 Cost of Capital Navigator

		R_m ^[4]	R_m	R_f	ERP
ERP "Historical" - <i>Ex Post</i>	Arithmetic Avg.	8.70%	8.70%	1.45%	7.25%
ERP "Supply-side" - <i>Ex Post</i>	Arithmetic Avg.	7.45%	7.45%	1.45%	6.00%
Ex Post Equity Risk Premium Selected		8.70%		1.45%	7.25%

MONTANA DEPARTMENT OF REVENUE

Capital Asset Pricing Model (CAPM)

Industry: Electric Utilities

2021 Assessment Year

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

Ex Ante - Equity Risk Premium Measures (ERP = Rm - Rf)

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

	<u>R_m^[4]</u>	<u>R_m</u>	<u>R_f</u>	<u>ERP</u>
ERP - <i>Ex Ante</i>	7.44%	7.44%	1.45%	5.99%

Duff & Phelps, 2021 Cost of Capital Navigator

	<u>R_m^[4]</u>	<u>R_m</u>	<u>R_f</u>	<u>ERP</u>
ERP "Conditional" - <i>Ex Ante</i>		8.00%	2.50%	5.50%

Damodaran Implied ERP (Jan 5, 2021)

	<u>R_m^[4]</u>	<u>R_m</u>	<u>R_f</u>	<u>ERP</u>
Implied Premium (FCFE) - <i>Ex Ante</i>	6.17%	5.65%	0.93%	4.72%
Implied Premium (FCFE with sustainable payout) - <i>Ex Ante</i>	6.39%	5.87%	0.93%	4.94%

	<u>R_m^[4]</u>	<u>R_m</u>	<u>R_f</u>	<u>ERP</u>
<u>Average</u>	6.67%	6.74%		5.29%
<u>Median</u>	6.39%	6.66%		5.22%
<u>High</u>	7.44%	8.00%		5.99%
<u>Low</u>	6.17%	5.65%		4.72%

Equity Risk Premium Selected

7.10%	1.45%	5.65%
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Notes

[4] R_m estimated using selected Risk Free Rate (R_f)

MONTANA DEPARTMENT OF REVENUE

Support for Beta Selection in CAPM**Industry: Electric Utilities****2021 Assessment Year**

A	B	C	D	E
Ticker	Company	Industry Group	Financial Strength	Beta
		<i>Value Line</i>	<i>Value Line</i>	<i>Value Line</i>
AVA	Avista Corp.	UTILWEST	B++	0.95
BKH	Black Hills	UTILWEST	A	1.00
IDA	IDACORP Inc.	UTILWEST	A	0.80
NWE	NorthWestern Corp.	UTILWEST	B++	0.95
POR	Portland General	UTILWEST	B++	0.90
XEL	Xcel Energy Inc.	UTILWEST	A+	0.80
Average				0.90
Median				0.93
Trimmed Average				0.90
High				1.00
Low				0.80
Selected				0.95

MONTANA DEPARTMENT OF REVENUE

**Inflation & Real Growth
Industry: Electric Utilities
2021 Assessment Year**

A	B	C	D	Nominal Growth	
				E	F
Source Description	Inflation (CPI)	Real Growth (GDP)	Nominal Growth	Low	High
Livingston Survey ^[1]	2.19%	2.21%	4.40%		
Survey of Professional Forecasters ^[2]	2.24%	2.27%	4.51%		
Congressional Budget Office ^[3]	1.90%	3.70%	5.60%		
Average	2.11%	2.73%	4.84%		
Median	2.19%	2.27%	4.46%		
High	2.24%	3.70%	5.94%		
Low	1.90%	2.21%	4.11%		
Selected	2.00%	2.50%	4.50%	4.11%	5.94%

Inflationary Trend Factors						
Year	Dec. CPI-U Index	Percent Change From Previous	Dec. to Dec. Conversion Factor	Annual Avg. CPI-U Index	Percent Change From Previous	Annual Conversion Factor
	<i>Note [5]</i>	<i>Note [6]</i>	<i>Note [7]</i>	<i>Note [5]</i>	<i>Note [6]</i>	<i>Note [7]</i>
2008	210.228		1.2390	215.303		1.2021
2009	215.949	2.6%	1.2062	214.537	-0.4%	1.2064
2010	219.179	1.5%	1.1884	218.056	1.6%	1.1869
2011	225.672	2.9%	1.1542	224.939	3.1%	1.1506
2012	229.601	1.7%	1.1345	229.594	2.0%	1.1273
2013	233.049	1.5%	1.1177	232.957	1.4%	1.1110
2014	234.812	0.8%	1.1093	236.736	1.6%	1.0932
2015	236.525	0.7%	1.1013	237.017	0.1%	1.0920
2016	241.432	2.0%	1.0789	240.007	1.2%	1.0783
2017	246.524	2.1%	1.0566	245.120	2.1%	1.0559
2018	251.233	1.9%	1.0368	251.107	2.4%	1.0307
2019	256.974	2.2%	1.0136	255.657	1.8%	1.0123
2020	260.474	1.3%	1.0000	258.811	1.2%	1.0000

Notes

[1] Federal Reserve Bank of Philadelphia The Livingston Survey December 18, 2020 Table 3 Inflation Rate and Real GDP mean

<https://www.philadelphiafed.org/research-and-data/real-time-center/livingston-survey>

[2] Federal Reserve Bank of Philadelphia Survey of Professional Forecasters February 12, 2021 Table 8 and Table 9 Average over next 10-Year mean

<https://www.philadelphiafed.org/surveys-and-data/real-time-data-research/survey-of-professional-forecasters>

[3] Congressional Budget Office, The Budget and Economic Outlook: 2021 to 2031, Table 2-1

<https://www.cbo.gov/about/products/budget-economic-data#4>

[5] Historical Consumer Price Index for All Urban Consumers (CPI-U): U.S. city average, all items, index averages (1982-84=100, unless otherwise noted)

<https://www.bls.gov/cpi/tables/supplemental-files/historical-cpi-u-202001.pdf>

[6] (Row year - Previous Year) / Row Year

[7] Most current year / Row year

MONTANA DEPARTMENT OF REVENUE

3 Stage Dividend Discount Model (DDM)

Industry: Electric Utilities

2021 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 Long-Term Growth

A	B	C	D	E	F	G	H	I
Ticker	Company	2020 Year End Stock Price	2021 Est Div'ds Decl'd per sh	Expected Equity Payout Yield	Sustainable Long-Term Growth Rate ^[1]	Sustainable Long-Term Growth Rate ^[1]	Cost of Equity Dividend Growth	Cost of Equity Earnings Growth
		<i>Yahoo</i>	<i>Value Line</i>	<i>D/C</i>	<i>Dividends</i>	<i>Earnings</i>	<i>E+F</i>	<i>E+G</i>
		P_0	D_1	D_1/P_0	g	g	k_e	k_e
AVA	Avista Corp.	40.14	1.68	4.19%	4.35%	5.28%	8.53%	9.46%
BKH	Black Hills	61.45	2.31	3.76%	5.22%	4.18%	8.98%	7.94%
IDA	IDACORP Inc.	96.03	2.89	3.01%	5.40%	5.22%	8.41%	8.23%
NWE	NorthWestern Corp.	58.31	2.48	4.25%	4.01%	4.53%	8.27%	8.78%
POR	Portland General	42.77	1.68	3.93%	5.25%	4.37%	9.17%	8.30%
XEL	Xcel Energy Inc.	66.67	1.82	2.73%	4.97%	5.03%	7.70%	7.76%
Average							8.51%	8.41%
Median							8.47%	8.26%
Trimmed Average							8.55%	8.31%
High							9.17%	9.46%
Low							7.70%	7.76%
Selected							8.50%	8.30%

Notes

[1] From worksheet: DDM Sustainable Long-Term Growth

MONTANA DEPARTMENT OF REVENUE

Support for DDM - Short Term Growth Rate Calculations

Industry: Electric Utilities

2021 Assessment Year

A	B	C	D	E	F	G
Ticker	Company	End of Year Closing Stock Price	Div'ds Decl'd per sh 2021 Est	Expected Dividend Yield	Div'ds Decl'd per sh 2023-2025 Est	Short-Term Growth Rate
		<i>Yahoo</i>	<i>Value Line</i>	<i>D / C</i>	<i>Value Line</i>	<i>Note [1]</i>
AVA	Avista Corp.	40.14	1.68	4.19%	1.90	4.19%
BKH	Black Hills	61.45	2.31	3.76%	2.75	5.98%
IDA	IDACORP Inc.	96.03	2.89	3.01%	3.50	6.59%
NWE	NorthWestern Corp.	58.31	2.48	4.25%	2.75	3.50%
POR	Portland General	42.77	1.68	3.93%	2.00	5.98%
XEL	Xcel Energy Inc.	66.67	1.82	2.73%	2.15	5.71%

A	B	C	D	E
Ticker	Company	Earnings per share 2021 Est	Earnings per share 2023-2025 Est	Short-Term Growth Rate
		<i>Value Line</i>	<i>Value Line</i>	<i>Note [1]</i>
AVA	Avista Corp.	2.10	2.50	5.98%
BKH	Black Hills	3.80	4.25	3.80%
IDA	IDACORP Inc.	4.80	5.75	6.20%
NWE	NorthWestern Corp.	3.50	4.00	4.55%
POR	Portland General	2.65	3.00	4.22%
XEL	Xcel Energy Inc.	2.95	3.50	5.86%

Notes

[1] 4 year compound annual growth rate (CAGR) - 3 periods

MONTANA DEPARTMENT OF REVENUE

Support for DDM - Sustainable Long Term Growth

Industry: Electric Utilities

2021 Assessment Year

Dividend Growth Rate									Stage 1				
Ticker	Company	Year End Stock Price	Expected Short-Term Dividend Growth Rate	Expected Long-Term Growth Rate	Expected Dividend Yield	Internal Rate of Return	Implied Sustainable Long-Term Growth Rate (g)	Initial Investment	D ₁	D ₂	D ₃	D ₄	D ₅
		Yahoo	Note [1]	Note [2]	D_1/P_0	$K_e = IRR \text{ of } D_1:D_{500}$	$g = IRR - Div. \text{ Yield}$						
AVA	Avista Corp.	40.14	4.19%	4.50%	4.19%	8.53%	4.35%	(40.14)	1.68	1.75	1.82	1.90	1.98
BKH	Black Hills	61.45	5.98%	4.50%	3.76%	8.98%	5.22%	(61.45)	2.31	2.45	2.59	2.75	2.91
IDA	IDACORP Inc.	96.03	6.59%	4.50%	3.01%	8.41%	5.40%	(96.03)	2.89	3.08	3.28	3.50	3.73
NWE	NorthWestern Corp.	58.31	3.50%	4.50%	4.25%	8.27%	4.01%	(58.31)	2.48	2.57	2.66	2.75	2.85
POR	Portland General	42.77	5.98%	4.50%	3.93%	9.17%	5.25%	(42.77)	1.68	1.78	1.89	2.00	2.12
XEL	Xcel Energy Inc.	66.67	5.71%	4.50%	2.73%	7.70%	4.97%	(66.67)	1.82	1.92	2.03	2.15	2.27

Earnings Growth Rate									Stage 1				
Ticker	Company	Year End Stock Price	Expected Short-Term Earnings Growth Rate	Expected Long-Term Growth Rate	Expected Dividend Yield	Internal Rate of Return	Implied Sustainable Long-Term Growth Rate (g)	Initial Investment	D ₁	D ₂	D ₃	D ₄	D ₅
		Yahoo	Note [1]	Note [2]	D_1/P_0	$K_e = IRR \text{ of } D_1:D_{500}$	$g = IRR - Div. \text{ Yield}$						
AVA	Avista Corp.	40.14	5.98%	4.50%	4.19%	9.46%	5.28%	(40.14)	1.68	1.78	1.89	2.00	2.12
BKH	Black Hills	61.45	3.80%	4.50%	3.76%	7.94%	4.18%	(61.45)	2.31	2.40	2.49	2.58	2.68
IDA	IDACORP Inc.	96.03	6.20%	4.50%	3.01%	8.23%	5.22%	(96.03)	2.89	3.07	3.26	3.46	3.68
NWE	NorthWestern Corp.	58.31	4.55%	4.50%	4.25%	8.78%	4.53%	(58.31)	2.48	2.59	2.71	2.83	2.96
POR	Portland General	42.77	4.22%	4.50%	3.93%	8.30%	4.37%	(42.77)	1.68	1.75	1.82	1.90	1.98
XEL	Xcel Energy Inc.	66.67	5.86%	4.50%	2.73%	7.76%	5.03%	(66.67)	1.82	1.93	2.04	2.16	2.29

Notes

[1] From worksheet: DDM Short Term Growth Rate Calculations

[2] From worksheet: Inflation & Real Growth

MONTANA DEPARTMENT OF REVENUE

Support for DDM - Sustainable Long Term Growth

Industry: Electric Utilities

2021 Assessment Year

Dividend	Stage 2															Stage 3		
Ticker	D ₆	D ₇	D ₈	D ₉	D ₁₀	D ₁₁	D ₁₂	D ₁₃	D ₁₄	D ₁₅	D ₁₆	D ₁₇	D ₁₈	D ₁₉	D ₂₀	D ₂₁	D ₂₂	D ₅₀₀
AVA	2.06	2.15	2.24	2.33	2.43	2.54	2.64	2.75	2.87	2.99	3.12	3.25	3.38	3.53	3.67	3.84	4.01	5,506,970,169
BKH	3.09	3.27	3.46	3.66	3.88	4.11	4.35	4.61	4.88	5.16	5.47	5.79	6.13	6.49	6.87	7.18	7.50	10,301,776,014
IDA	3.97	4.23	4.50	4.79	5.10	5.43	5.78	6.15	6.55	6.97	7.42	7.90	8.41	8.95	9.53	9.96	10.41	14,286,765,213
NWE	2.95	3.05	3.16	3.28	3.39	3.51	3.64	3.77	3.90	4.04	4.19	4.34	4.49	4.65	4.82	5.03	5.26	7,222,575,239
POR	2.24	2.38	2.52	2.66	2.82	2.99	3.16	3.35	3.55	3.76	3.98	4.21	4.46	4.72	5.00	5.22	5.46	7,492,200,738
XEL	2.40	2.54	2.68	2.83	2.99	3.16	3.33	3.52	3.72	3.93	4.15	4.39	4.63	4.89	5.17	5.40	5.64	7,748,834,117

Earnings	Stage 2															Stage 3		
Ticker	D ₆	D ₇	D ₈	D ₉	D ₁₀	D ₁₁	D ₁₂	D ₁₃	D ₁₄	D ₁₅	D ₁₆	D ₁₇	D ₁₈	D ₁₉	D ₂₀	D ₂₁	D ₂₂	D ₅₀₀
AVA	2.24	2.38	2.52	2.66	2.82	2.99	3.16	3.35	3.55	3.76	3.98	4.21	4.46	4.72	5.00	5.22	5.46	7,492,200,738
BKH	2.78	2.89	3.00	3.12	3.24	3.36	3.49	3.63	3.77	3.91	4.06	4.22	4.38	4.55	4.72	4.94	5.16	7,082,536,654
IDA	3.90	4.14	4.39	4.66	4.94	5.24	5.56	5.90	6.26	6.64	7.05	7.47	7.93	8.41	8.93	9.33	9.75	13,379,688,038
NWE	3.10	3.24	3.39	3.54	3.70	3.87	4.05	4.23	4.42	4.62	4.83	5.05	5.28	5.52	5.77	6.03	6.31	8,656,435,893
POR	2.07	2.15	2.25	2.34	2.44	2.54	2.65	2.76	2.88	3.00	3.13	3.26	3.40	3.55	3.70	3.86	4.04	5,539,859,023
XEL	2.42	2.56	2.71	2.86	3.03	3.20	3.39	3.58	3.79	4.01	4.24	4.48	4.74	5.02	5.31	5.54	5.79	7,952,748,059

MONTANA DEPARTMENT OF REVENUE

Support for Yield Capitalization Rate - Debt Rating

Industry: Electric Utilities

2021 Assessment Year

A	B	C	D	E	F
Ticker	Company	Industry Group	Financial Strength	Moody's Long Term Rating	Numeric Rating
		<i>Value Line</i>	<i>Value Line</i>	<i>Moody's.com</i>	
AVA	Avista Corp.	UTILWEST	B++	Baa2	9
BKH	Black Hills	UTILWEST	A	Baa2	9
IDA	IDACORP Inc.	UTILWEST	A	Baa1	8
NWE	NorthWestern Corp.	UTILWEST	B++	Baa2	9
POR	Portland General	UTILWEST	B++	A3	7
XEL	Xcel Energy Inc.	UTILWEST	A+	Baa1	8
Average					8
Median					9
Trimmed Average					9
High					9
Low					7
Selected				Baa2	9

MONTANA DEPARTMENT OF REVENUE

Support for Direct Capitalization - Equity Capitalization Rates

Industry: Electric Utilities

2021 Assessment Year

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
Ticker	Company	End of Year Closing 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)	Market Value of Equity	Book Value of Equity	MTBR
		Yahoo	Value Line	Value Line	C/D	C/E	1/F	1/G	Value Line	Value Line	C/J	C/K	1/L	1/M	Price x Shrs	Value Line	P/Q
AVA	Avista Corp.	40.14	1.90	2.10	21.13	19.11	4.73%	5.23%	5.16	5.40	7.78	7.43	12.86%	13.45%	2,779,249	2,029,700	1.37
BKH	Black Hills	61.45	3.73	3.80	16.47	16.17	6.07%	6.18%	7.02	7.30	8.75	8.42	11.42%	11.88%	3,858,734	2,362,100	1.63
IDA	IDACORP Inc.	96.03	4.69	4.80	20.48	20.01	4.88%	5.00%	8.19	8.40	11.73	11.43	8.53%	8.75%	4,846,560	2,560,000	1.89
NWE	NorthWestern Corp.	58.31	3.07	3.50	18.99	16.66	5.26%	6.00%	6.72	7.25	8.68	8.04	11.52%	12.43%	3,157,182	2,079,100	1.52
POR	Portland General	42.77	1.72	2.65	24.87	16.14	4.02%	6.20%	6.80	7.50	6.29	5.70	15.90%	17.54%	3,829,512	2,613,000	1.47
XEL	Xcel Energy Inc.	66.67	2.78	2.95	23.98	22.60	4.17%	4.42%	6.61	7.20	10.09	9.26	9.91%	10.80%	35,831,017	14,575,000	2.46
Average					20.99	18.45	4.86%	5.51%			8.89	8.38	11.69%	12.47%			1.72
Median					20.80	17.89	4.81%	5.62%			8.72	8.23	11.47%	12.16%			1.58
Trimmed Average					21.14	17.99	4.76%	5.60%			8.82	8.29	11.43%	12.14%			1.63
High					24.87	22.60	6.07%	6.20%			11.73	11.43	15.90%	17.54%			2.46
Low					16.47	16.14	4.02%	4.42%			6.29	5.70	8.53%	8.75%			1.37
Selected							5.30%						11.90%				1.60

MONTANA DEPARTMENT OF REVENUE

Support for Direct Capitalization - Debt Capitalization Rate

Industry: Electric Utilities

2021 Assessment Year

(\$ in Thousands)

A	B	C	D	E	F	G	H	I	J
Ticker	Company	Current Year Interest Exp.	Previous Year MV LT Debt	Previous Year BV LT Debt	Current Year MV LT Debt	Current Year BV LT Debt	Average MV LT Debt	Current Yield	MTBR
		<i>10-K</i>	<i>10-K</i>	<i>10-K</i>	<i>10-K</i>	<i>10-K</i>	<i>(D+F)/2</i>	<i>(C/H)</i>	<i>(F/G)</i>
AVA	Avista Corp.	104,348	2,151,498	1,895,768	2,409,324	2,008,534	2,280,411	4.58%	1.20
BKH	Black Hills	144,931	3,479,367	3,145,839	4,208,167	3,536,536	3,843,767	3.77%	1.19
IDA	IDACORP Inc.	84,251	2,083,931	1,836,659	2,466,967	2,000,414	2,275,449	3.70%	1.23
NWE	NorthWestern Corp.	96,812	2,436,729	2,253,196	2,747,194	2,432,700	2,591,962	3.74%	1.13
POR	Portland General	136,000	3,039,000	2,597,000	3,808,000	3,046,000	3,423,500	3.97%	1.25
XEL	Xcel Energy Inc.	840,000	20,227,000	18,109,000	24,412,000	20,066,000	22,319,500	3.76%	1.22
All Companies		1,406,342			40,051,652	33,090,184	36,734,589	3.83%	1.21
Average								3.92%	1.20
Median								3.77%	1.21
Trimmed Average								3.81%	1.21
High								4.58%	1.25
Low								3.70%	1.13
Selected								3.80%	1.21

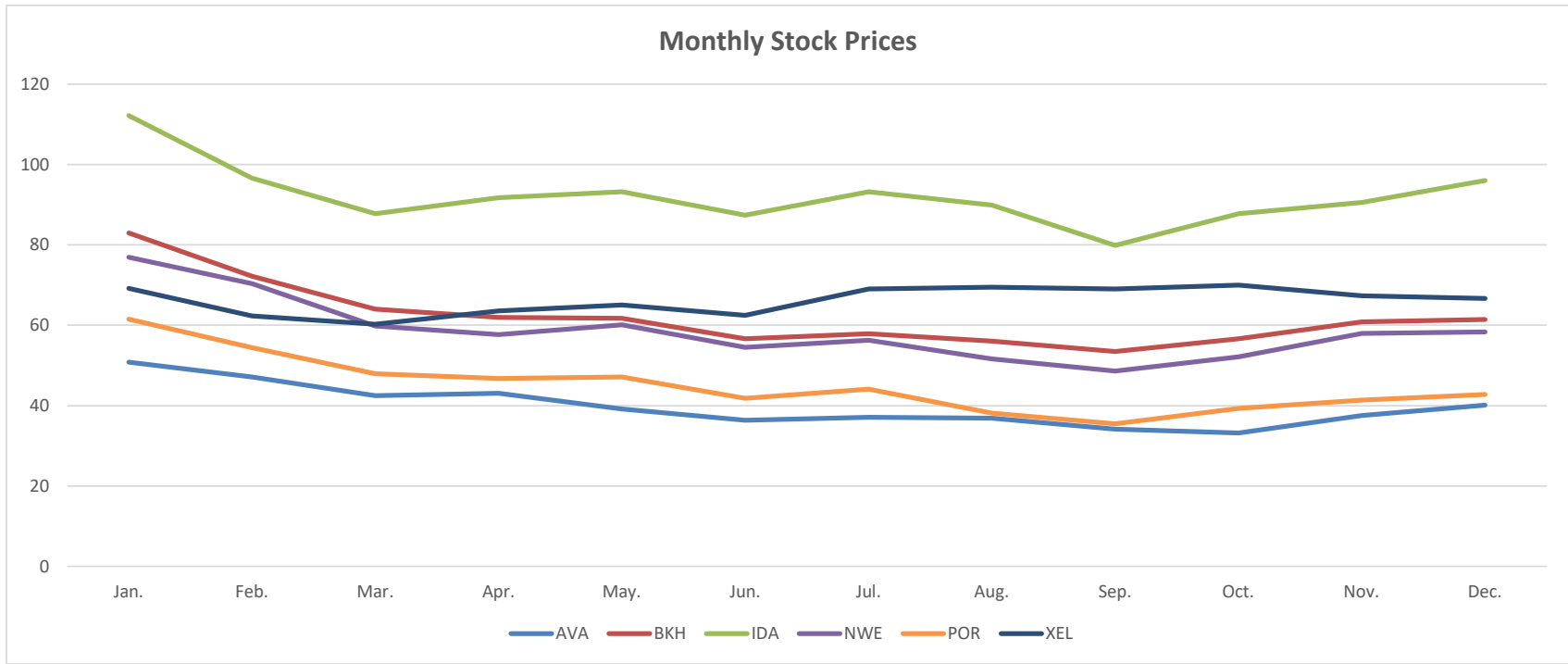
MONTANA DEPARTMENT OF REVENUE

Support of Stock Price - From YAHOO Finance

Industry: Electric Utilities

2021 Assessment Year

		End of Period Closing Stock Price											
1	2	3	4	5	6	7	8	9	10	11	12	13	14
A	B	C	D	E	F	G	H	I	J	K	L	M	N
Ticker	Company	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
AVA	Avista Corp.	50.85	47.15	42.49	43.04	39.17	36.39	37.13	36.86	34.12	33.22	37.52	40.14
BKH	Black Hills	83.03	72.2	64.03	61.94	61.71	56.66	57.86	56.08	53.49	56.66	60.83	61.45
IDA	IDACORP Inc.	112.19	96.64	87.79	91.78	93.23	87.37	93.25	89.9	79.9	87.73	90.58	96.03
NWE	NorthWestern Corp.	76.97	70.34	59.83	57.69	60.12	54.52	56.26	51.64	48.64	52.13	58	58.31
POR	Portland General	61.5	54.41	47.94	46.79	47.11	41.81	44.13	38.15	35.5	39.3	41.38	42.77
XEL	Xcel Energy Inc.	69.19	62.32	60.3	63.56	65.03	62.5	69.04	69.47	69.01	70.03	67.36	66.67



MONTANA DEPARTMENT OF REVENUE

Maintenance Capital Expenditures Estimate Based on Guideline Companies

Industry: Electric Utilities

2021 Assessment Year

(\$ In Thousands)

1	2	3	4	5	6	7	8	9	10	11	
A	B	C	D	E	F	G	H	I	J	K	L
Ticker	Company	Inflation	PP&E, Gross	PP&E, Gross	Average PP&E	Depreciation Expense	Average Life of Assets			Replacement Cost (RC)	RC as % of Depreciation
			Current Year	Previous Year				Note [1]	Note [1]	Note [1]	
		MTDOR (CPI)	10-K, Notes	10-K, Notes	(D+E)/2	10-K (CF)	F/G	C*H	1/(1+C)^H	G*I/(1-J)	K/G
AVA	Avista Corp.	2.00%	6,985,564	6,627,934	6,806,749	224,223	30	0.61	0.55	301,304	134.38%
BKH	Black Hills	2.00%	7,305,530	6,784,679	7,045,105	224,457	31	0.63	0.54	304,397	135.61%
IDA	IDACORP Inc.	2.00%	6,283,790	6,113,567	6,198,679	175,941	35	0.70	0.50	246,831	140.29%
NWE	NorthWestern Corp.	2.00%	6,916,107	6,553,928	6,735,018	179,644	37	0.75	0.48	257,043	143.08%
POR	Portland General	2.00%	10,974,000	10,928,000	10,951,000	454,000	24	0.48	0.62	576,720	127.03%
XEL	Xcel Energy Inc.	2.00%	59,296,000	55,844,000	57,570,000	1,959,000	29	0.59	0.56	2,609,751	133.22%
Average											135.60%
Median											135.00%
Trimmed Average											135.88%
High											143.08%
Low											127.03%
Selected											135.00%

Notes

[1] Cornell, B. & Gerger, R. (2017). Estimating Terminal Values with Inflation: The Inputs Matter-It Is Not a Formulaic Exercise. *Business Valuation Review*, Volume 36, Number 4, 117-123.