



NORTH DAKOTA
RATE CASE
2023

Otter Tail Power Company
Before the
North Dakota Public Service Commission

Application for Authority to
Increase Electric Rates in North Dakota
Case No. PU-23

November 2, 2023

Volume 4A
Work Papers

PUBLIC DOCUMENT - NOT PUBLIC DATA HAS BEEN EXCISED



**Otter Tail Power Company
North Dakota General Rate Case Documents
Case No. PU-23-**

Work Papers

- A. 2024 Test Year Workpapers**
1. Jurisdictional Cost of Service Study (JCOSS)
 2. Class Cost of Service Study (CCOSS)
 3. Functionalization
 4. Input Summary
 5. 2024 Test Year Adjustments
 - TY-01 – Normalized Plant in Service
 - TY-02 – Rate Case Expenses
 - TY-03 – Director Restricted Stock
 - TY-04 – Pension_OPEB Benefits
 - TY-05 – Rider Revenue Removal
 - TY-06 – Investor Relations
 - TY-07 – LT Incentives
 - TY-08 – Employee Gifts and Recognition
 - TY-09 – ESSRP
 - TY-10 – Plant Outage Normalization
- B. 2024 Regulatory Year Workpapers**
1. Jurisdictional Cost of Service Study (JCOSS)
 2. Functionalization
 3. Input Summary
 4. Work Papers A-D, ND
- C. Interim Cost of Service Study**
1. Jurisdictional Interim Cost of Service Study
 2. Proposed Interim Test Year Adjustments
 - ITY-01 – Proration of Federal ADIT
 - ITY-02 – 2018 Incentive Comp Settlement
 - ITY-03 – Langdon Repower Rider Revenue
- D. Bulkley Cost of Capital Workpapers**

NORTH DAKOTA

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget TEST YEAR 2024 - Simple Average

LINE NO	ITEM	ALLOC	REFERENCE	TOTAL COMPANY	NORTH DAKOTA	ALL OTHER	LINE NO
1	RATE BASE		Page 2-1 Line 32	1,841,431,164	661,733,555	1,179,697,609	1
2							2
3	TOTAL AVAILABLE FOR RETURN		Page 7-1 Line 43	107,112,742	21,208,695	85,904,047	3
4							4
5	RATE OF RETURN EARNED			5.82%	3.21%	7.28%	5
6							6
7	RATE OF RETURN REQUESTED		Page 17-1 Line 11		7.85%		7
8							8
9	OPERATING INCOME REQUIRED				51,946,084		9
10							10
11	TOTAL AVAILABLE FOR RETURN				21,208,695		11
12							12
13	OPERATING INCOME DEFECIENCY				30,737,389		13
14							14
15	INCREMENTAL TAXES	GRCF =	1.322837		9,923,169		15
16							16
17	REVENUE INCREASE REQUIRED				40,660,558		17
18							18
19	PERCENTAGE INCREASE				22.26%		19
20							20
21							21
22							22
23							23
24							24
25	RETURN ON EQUITY				1.93%		25
26							26
27							27
28							28
29							29
30							30
31							31
32							32
33							33
34							34
35							35
36							36
37							37
38							38
39							39
40							40
41							41
42							42
43							43
44							44
45							45
46							46
47							47
48							48
49							49
50							50
51							51
52							52
53							53
54							54
55							55
56							56
57							57
58							58
59							59
60							60

NORTH DAKOTA

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget TEST YEAR 2024 - Simple Average

LINE NO	ITEM	ALLOC	REFERENCE	TOTAL COMPANY	NORTH DAKOTA	ALL OTHER	LINE NO
1	ELECTRIC PLANT IN SERVICE		Page 3-1 Line 52	3,200,417,998	1,259,341,147	1,941,076,852	1
2							2
3	ACCUMULATED DEPRECIATION		Page 4-12 Line 22	(1,093,333,627)	(461,242,346)	(632,091,280)	3
4							4
5	NET PLANT EXCLUDING BIG STONE PLANT CAPITALIZED ITEMS			2,107,084,372	798,098,800	1,308,985,571	5
6							6
7	NET CAPITALIZED ITEMS - BIG STONE PLANT		Page 4-1 Line 28	0	0	0	7
8							8
9	NET ELECTRIC PLANT IN SERVICE			2,107,084,372	798,098,800	1,308,985,571	9
10							10
11	PLANT HELD FOR FUTURE USE		Page 4-1 Line 47	12,038	4,921	7,117	11
12							12
13	CONSTRUCTION WORK IN PROGRESS		Page 5-1 Line 31	1,770,919	780,995	989,924	13
14							14
15	MATERIALS AND SUPPLIES		Page 5-1 Line 39	33,967,093	14,737,569	19,229,523	15
16							16
17	FUEL STOCKS		Page 5-1 Line 46	10,476,711	4,495,117	5,981,594	17
18							18
19	PREPAYMENTS		Page 5-1 Line 49	49,187,428	18,630,686	30,556,742	19
20							20
21	CUSTOMER ADVANCES		Page 5-1 Line 51	(1,876,522)	(710,769)	(1,165,753)	21
22							22
23	CASH WORKING CAPITAL		Page 5-1 Line 53	6,322,479	1,464,908	4,857,571	23
24							24
25	ACCUMULATED DEFERRED INCOME TAXES		Page 6-1 Line 16	(365,513,353)	(175,768,672)	(189,744,681)	25
26							26
27	UNAMORTIZED BALANCE - SPIRITWOOD		Page 6-1 Line 19	0	0	0	27
28							28
29	UNAMORTIZED RATE CASE EXPENSE		Page 6-1 Line 22	0	0	0	29
30							30
31							31
32	TOTAL AVERAGE RATE BASE			1,841,431,164	661,733,555	1,179,697,609	32
33							33
34							34
35							35
36							36
37							37
38							38
39							39
40							40
41							41
42							42
43							43
44							44
45							45
46							46
47							47
48							48
49							49
50							50
51							51
52							52
53							53
54							54
55							55
56							56
57							57
58							58
59							59
60							60

NORTH DAKOTA

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget TEST YEAR 2024 - Simple Average

PAGE 3 - 1

LINE NO	ITEM	ALLOC	FERC ACCOUNTS	TOTAL COMPANY	NORTH DAKOTA	ALL OTHER	LINE NO
1	PLANT IN SERVICE						1
2	A/C 101 & 106 - Direct MN	Direct MN		61,800,001	0	61,800,001	2
3	A/C 101 & 106 - Direct ND	Direct ND		0	0	0	3
4	A/C 101 & 106 - Direct SD	Direct SD		0	0	0	4
5	Subtotal A/C 101 & 106 - Direct Assigned			61,800,001	0	61,800,001	5
6							6
7	PRODUCTION PLANT						7
8	A/C 101 & 106 - BASE DEMAND	E1		615,526,547	270,055,400	345,471,147	8
9	PEAK DEMAND	D1		409,182,398	161,565,372	247,617,026	9
10	BASE ENERGY	E2		466,637,663	209,898,508	256,739,154	10
11							11
12	SUBTOTAL A/C 101 & 106			1,491,346,608	641,519,280	849,827,327	12
13							13
14	A/C 114 - BASE DEMAND	E1		1,206,597	529,381	677,216	14
15	PEAK DEMAND	D1		381,658	150,697	230,960	15
16	BASE ENERGY	E1		0	0	0	16
17							17
18	SUBTOTAL A/C 114			1,588,255	680,078	908,176	18
19							19
20	TOTAL PRODUCTION PLANT	P10	310-317, 330-335, 340-347	1,492,934,862	642,199,358	850,735,504	20
21							21
22							22
23	TRANSMISSION PLANT						23
24	A/C 101 & 106	D2		550,572,537	215,798,006	334,774,531	24
25	A/C 101 & 106 (Direct FERC)	Direct FERC		274,079,794	0	274,079,794	25
26	A/C 114	D2		58,287	22,846	35,441	26
27							27
28	TOTAL TRANSMISSION PLANT		350-350.1, 353-356, 358	824,710,618	215,820,852	608,889,767	28
29							29
30							30
31	DISTRIBUTION PLANT						31
32	PRIMARY DEMAND	D3	360, 362, 364-365, 367	254,804,754	118,538,756	136,265,998	32
33	SECONDARY DEMAND	D4	365, 367-369.1	143,014,220	69,647,623	73,366,597	33
34	PRIMARY CUSTOMER	C2	364-365, 367	119,159,338	52,084,671	67,074,667	34
35	SECONDARY CUSTOMER	C3	365, 367-369.1, 370.2	87,138,987	38,091,927	49,047,061	35
36	STREETLIGHTING	C4	364-365, 367, 373	24,540,852	10,226,986	14,313,866	36
37	AREA LIGHTING	C5	364-365, 367, 371.2	15,570,818	8,488,723	7,082,095	37
38	METERS	C6	370	64,567,120	28,784,055	35,783,065	38
39	LOAD MANAGEMENT	C9	370.1	8,899,439	3,888,421	5,011,018	39
40							40
41	TOTAL DISTRIBUTION PLANT	P60		717,695,528	329,751,161	387,944,367	41
42							42
43							43
44	GENERAL PLANT						44
45	PRODUCTION	P10		41,841,785	17,998,620	23,843,165	45
46	TRANSMISSION	D2		19,903,693	7,801,292	12,102,401	46
47	DISTRIBUTION	P60		30,817,789	14,159,489	16,658,300	47
48	CUSTOMER ACCOUNTS	OXC		24,517,241	10,761,420	13,755,822	48
49	CUSTOMER SERVICE & INFO	OXI		5,696,124	2,508,909	3,187,215	49
50	LOAD MANAGEMENT	C9	397.3	165,980	72,521	93,459	50
51							51
52	TOTAL GENERAL PLANT	P90	389-398, 390.1-390.3, 391.1-391.6, 394.2, 397.1-397.2	122,942,613	53,302,252	69,640,361	52
53							53
54							54
55	INTANGIBLE PLANT	P90	302-303	42,134,377	18,267,524	23,866,853	55
56							56
57							57
58	TOTAL PLANT IN SERVICE	EPIS		3,200,417,998	1,259,341,147	1,941,076,852	58
59							59
60							60
61							61
62							62
63							63
64							64
65							65
66							66

NORTH DAKOTA

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget TEST YEAR 2024 - Simple Average

LINE NO	ITEM	ALLOC	FERC ACCOUNTS	TOTAL COMPANY	NORTH DAKOTA	ALL OTHER	LINE NO
1	ACCUMULATED DEPRECIATION						1
2	PRODUCTION PLANT						2
3	BASE DEMAND	E1	108, 115	(276,623,436)	(121,365,444)	(155,257,992)	3
4	PEAK DEMAND	D1	108, 115	(152,944,750)	(60,390,123)	(92,554,627)	4
5	BASE ENERGY	E2	108	(142,385,598)	(64,046,533)	(78,339,065)	5
6	Direct MN						6
7	TOTAL PRODUCTION PLANT			(571,953,785)	(245,802,101)	(326,151,684)	7
8							8
9							9
10	TRANSMISSION PLANT	D2	108, 115	(159,735,443)	(62,608,626)	(97,126,817)	10
11	TRANSMISSION PLANT (Direct FERC)	Direct FERC		(25,180,544)	0	(25,180,544)	11
12	TOTAL TRANSMISSION PLANT			(184,915,987)	(62,608,626)	(122,307,361)	12
13							13
14							14
15	DISTRIBUTION PLANT	P60	108, 115	(268,541,408)	(123,383,576)	(145,157,832)	15
16							16
17							17
18	GENERAL PLANT	P90	108	(50,534,999)	(21,909,647)	(28,625,352)	18
19							19
20							20
21	INTANGIBLE PLANT	P90	108	(17,387,448)	(7,538,396)	(9,849,052)	21
22							22
23							23
24	TOTAL ACCUMULATED DEPRECIATION			(1,093,333,627)	(461,242,346)	(632,091,280)	24
25							25
26							26
27	NET PLANT EXCLUDING BSP CAPITALIZED ITEMS			2,107,084,372	798,098,800	1,308,985,571	27
28							28
29							29
30	BSP CAPITALIZED ITEMS	P10		0	0	0	30
31							31
32							32
33	TOTAL NET PLANT IN SERVICE	NEPIS		2,107,084,372	798,098,800	1,308,985,571	33
34							34
35							35
36							36
37							37
38							38
39							39
40							40
41							41
42	PLANT HELD FOR FUTURE USE						42
43	PRODUCTION PLANT	P10		0	0	0	43
44	TRANSMISSION PLANT	D2		9,038	3,542	5,496	44
45	DISTRIBUTION PLANT	P60		3,000	1,378	1,622	45
46	GENERAL PLANT	P90		0	0	0	46
47	INTANGIBLE PLANT	P90		0	0	0	47
48							48
49	TOTAL PLANT HELD FOR FUTURE USE		105	12,038	4,921	7,117	49
50							50
51							51
52							52
53							53
54							54
55							55
56							56
57							57
58							58
59							59
60							60
61							61
62							62

NORTH DAKOTA

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget TEST YEAR 2024 - Simple Average

PAGE 5 - 1

LINE NO	ITEM	ALLOC	FERC ACCOUNTS	TOTAL COMPANY	NORTH DAKOTA	ALL OTHER	LINE NO
1	<u>CONST WORK-IN-PROGRESS - Direct Assigned</u>						1
2	PRODUCTION PLANT - Direct MN	P10	Directly Assigned to Jurisdiction	0	0	0	2
3	PRODUCTION PLANT - Direct ND	P10	Directly Assigned to Jurisdiction	0	0	0	3
4	PRODUCTION PLANT - Direct SD	P10	Directly Assigned to Jurisdiction	0	0	0	4
5	PRODUCTION PLANT - Direct FERC	Direct FERC	Directly Assigned to FERC	0	0	0	5
6	TRANSMISSION PLANT - Direct MN	D2	Directly Assigned to Jurisdiction	0	0	0	6
7	TRANSMISSION PLANT - Direct ND	D2	Directly Assigned to Jurisdiction	0	0	0	7
8	TRANSMISSION PLANT - Direct SD	D2	Directly Assigned to Jurisdiction	0	0	0	8
9	TRANSMISSION PLANT - Direct FERC	Direct FERC	Directly Assigned to FERC	0	0	0	9
10	DISTRIBUTION PLANT - Direct MN	P60	Directly Assigned to Jurisdiction	0	0	0	10
11	DISTRIBUTION PLANT - Direct ND	P60	Directly Assigned to Jurisdiction	0	0	0	11
12	DISTRIBUTION PLANT - Direct SD	P60	Directly Assigned to Jurisdiction	0	0	0	12
13	DISTRIBUTION PLANT - Direct FERC	Direct FERC	Directly Assigned to FERC	0	0	0	13
14	GENERAL PLANT - Direct MN	P90	Directly Assigned to Jurisdiction	0	0	0	14
15	GENERAL PLANT - Direct ND	P90	Directly Assigned to Jurisdiction	0	0	0	15
16	GENERAL PLANT - Direct SD	P90	Directly Assigned to Jurisdiction	0	0	0	16
17	GENERAL PLANT - Direct FERC	Direct FERC	Directly Assigned to FERC	0	0	0	17
18	INTANGIBLE PLANT - Direct MN	P90	Directly Assigned to Jurisdiction	0	0	0	18
19	INTANGIBLE PLANT - Direct ND	P90	Directly Assigned to Jurisdiction	0	0	0	19
20	INTANGIBLE PLANT - Direct SD	P90	Directly Assigned to Jurisdiction	0	0	0	20
21	INTANGIBLE PLANT - Direct FERC	Direct FERC	Directly Assigned to FERC	0	0	0	21
22	TOTAL CWIP - Direct Assigned		ALLOWED ONLY IN MN & FERC	0	0	0	22
23							23
24							24
25	<u>CONST WORK-IN-PROGRESS - SHORT-TERM</u>						25
26	PRODUCTION PLANT	P10		0	0	0	26
27	TRANSMISSION PLANT	D2		359,000	140,711	218,289	27
28	DISTRIBUTION PLANT	P60		1,086,337	499,127	587,211	28
29	GENERAL PLANT	P90		325,581	141,157	184,424	29
30	INTANGIBLE PLANT	P90		0	0	0	30
31							31
32	TOTAL CWIP - SHORT-TERM		ALLOWED ONLY IN MN, ND & FERC	1,770,919	780,995	989,924	32
33							33
34							34
35	<u>CONST WORK-IN-PROGRESS - LONG TERM</u>						35
36	PRODUCTION PLANT (AFUDC Projects)	P10		0	0	0	36
37	PRODUCTION PLANT (Rider Projects)	P10		0	0	0	37
38	TRANSMISSION PLANT (AFUDC Projects)	D2		0	0	0	38
39	TRANSMISSION PLANT (Rider Projects)	D2		0	0	0	39
40	DISTRIBUTION PLANT	P60		0	0	0	40
41	GENERAL PLANT	P90		0	0	0	41
42	INTANGIBLE PLANT	P90		0	0	0	42
43							43
44	TOTAL CWIP - LONG TERM - AFUDC Projects		ALLOWED ONLY IN MN & FERC	0	0	0	44
45	TOTAL CWIP - LONG TERM - Rider Projects			0	0	0	45
46							46
47							47
48	TOTAL CONSTRUCTION WORK-IN-PROGRESS		107	1,770,919	780,995	989,924	48
49							49
50							50
51	<u>MATERIALS & SUPPLIES</u>						51
52	PRODUCTION	P10		8,651,753	3,721,629	4,930,123	52
53	TRANSMISSION	D2		9,116,226	3,573,123	5,543,103	53
54	DISTRIBUTION	P60		16,199,114	7,442,817	8,756,297	54
55							55
56	TOTAL MATERIALS AND SUPPLIES		154, 158.1	33,967,093	14,737,569	19,229,523	56
57							57
58							58
59	<u>FUEL STOCKS</u>						59
60	COAL STOCKS	E1		8,165,846	3,582,674	4,583,172	60
61	FUEL OIL STOCKS	D1		2,310,865	912,443	1,398,422	61
62							62
63	TOTAL FUEL STOCKS		1510	10,476,711	4,495,117	5,981,594	63
64							64
65							65
66	PREPAYMENTS	NEPIS	128, 228.3	49,187,428	18,630,686	30,556,742	66
67							67
68	CUSTOMER ADVANCES	NEPIS	235, 253	(1,876,522)	(710,769)	(1,165,753)	68
69							69
70	CASH WORKING CAPITAL	OX		6,322,479	1,464,908	4,857,571	70
71							71
72							72
73							73
74							74
75							75
76							76
77							77

NORTH DAKOTA

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget TEST YEAR 2024 - Simple Average

PAGE 6 - 1

LINE NO	ITEM	ALLOC	FERC ACCOUNTS	TOTAL COMPANY	NORTH DAKOTA	ALL OTHER	LINE NO
1	ACCUMULATED DEFERRED INCOME TAXES						1
2	<u>ITEMS SD FLOWS THROUGH</u>						2
3	FEDERAL	NPMNR		(27,894)	(11,583)	(16,311)	3
4	MINNESOTA	NPISM		0	0	0	4
5	NORTH DAKOTA	NPISN		0	0	0	5
6							6
7	SUBTOTAL			(27,894)	(11,583)	(16,311)	7
8							8
9	<u>ALLOTHER</u>						9
10	FEDERAL	NEPIS EXDA		(294,490,488)	(126,341,210)	(168,149,278)	10
11	FEDERAL (Direct FERC)	Direct FERC		(20,921,619)	0	(20,921,619)	11
12	MINNESOTA	NPISM		0	0	0	12
13	NORTH DAKOTA	NPISN		(50,073,352)	(49,415,879)	(657,473)	13
14							14
15	SUBTOTAL			(365,485,459)	(175,757,089)	(189,728,370)	15
16							16
17	TOTAL ACCUMULATED DEFERRED INCOME TAXES		190, 255, 281-283	(365,513,353)	(175,768,672)	(189,744,681)	17
18							18
19							19
20	UNAMORTIZED BALANCE - SPIRITWOOD PLANT	P10		0	0	0	20
21							21
22							22
23	UNAMORTIZED RATE CASE EXPENSES	R10		0	0	0	23
24							24
25							25
26							26
27							27
28	TOTAL AVERAGE RATE BASE			1,841,431,164	661,733,555	1,179,697,609	28
29							29
30							30
31							31
32							32
33							33
34							34
35							35
36							36
37							37
38							38
39							39
40							40
41							41
42							42
43							43
44							44
45							45
46							46
47							47
48							48
49							49
50							50
51							51
52							52
53							53
54							54
55							55

NORTH DAKOTA

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget TEST YEAR 2024 - Simple Average

PAGE 7 - 1

LINE NO	ITEM	ALLOC	TOTAL COMPANY	NORTH DAKOTA	ALL OTHER	LINE NO
1	OPERATING REVENUES					1
2	SALES OF ELECTRICITY		464,563,634	182,686,888	281,876,746	2
3	OTHER OPERATING REVENUE		62,763,924	12,979,433	49,784,491	3
4						4
5	TOTAL OPERATING REVENUE		527,327,558	195,666,321	331,661,237	5
6						6
7	OPERATING EXPENSES					7
8	PRODUCTION EXPENSES		196,825,368	87,108,465	109,716,903	8
9	TRANSMISSION EXPENSES		35,939,490	14,086,555	21,852,935	9
10	DISTRIBUTION EXPENSES		18,488,356	8,393,231	10,095,125	10
11	CUSTOMER ACCOUNTING EXPENSES		16,621,213	7,295,595	9,325,619	11
12	CUSTOMER SERVICE AND INFORMATION EXPENSES		12,622,058	1,331,017	11,291,041	12
13	SALES EXPENSES		583,457	135,872	447,585	13
14	ADMINISTRATIVE AND GENERAL EXPENSES		50,936,338	20,775,268	30,161,070	14
15	CHARITABLE CONTRIBUTIONS		0	0	0	15
16	DEPRECIATION EXPENSE		80,537,485	33,093,414	47,444,072	16
17	AMORTIZATION OF BIG STONE PLANT CAPITALIZED COSTS		0	0	0	17
18	SPIRITWOOD AMORTIZATION		0	0	0	18
19	GENERAL TAXES		18,693,896	7,103,488	11,590,408	19
20						20
21	TOTAL OPERATING EXPENSES		431,247,662	179,322,905	251,924,757	21
22						22
23	NET OPERATING INCOME BEFORE INCOME TAXES		96,079,897	16,343,417	79,736,480	23
24						24
25	INCOME TAX EXPENSE					25
26	INVESTMENT TAX CREDIT		(6,628,472)	(2,939,781)	(3,688,691)	26
27	DEFERRED INCOME TAXES		2,209,233	(1,925,497)	4,134,730	27
28	INCOME TAXES		(297,609)	(0)	(297,609)	28
29						29
30	TOTAL INCOME TAX EXPENSE		(4,716,848)	(4,865,278)	148,430	30
31						31
32	NET OPERATING INCOME		100,796,745	21,208,695	79,588,050	32
33						33
34	Allowance for Funds Used During Construction		6,315,997	0	6,315,997	34
35	Allowance for Funds Used During Construction - MN Only		0	0	0	35
36	Allowance for Funds Used During Construction - SD Only		0	0	0	36
37	TOTAL ALLOWANCE FOR FUNDS USED DURING CONSTRUCTION		6,315,997	0	6,315,997	37
38						38
39	TOTAL AVAILABLE FOR RETURN		107,112,742	21,208,695	85,904,047	39
40						40
41						41
42						42
43						43
44						44
45						45
46						46
47						47
48						48
49						49
50						50
51	AVERAGE CENTS PER KWH					51
52						52
53						53
54						54
55						55
56						56
57						57
58						58
59						59
60						60
61						61
62						62
63						63

NORTH DAKOTA

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget TEST YEAR 2024 - Simple Average

LINE NO	ITEM	ALLOC	FERC ACCOUNTS		TOTAL COMPANY	NORTH DAKOTA	ALL OTHER	LINE NO
1	OPERATING REVENUES							1
2								2
3	SALES OF ELECTRICITY	R10	440, 442, 444-445	108, 115	464,563,634	182,686,888	281,876,746	3
4								4
5								5
6	OTHER OPERATING REVENUES							6
7	SALES FOR RESALE							7
8	MUNICIPALITIES & OFF SYSTEM SALES			DIRECTLY ASSIGNED TO FERC JURISDICTION	0	0	0	8
9	NON-ASSOCIATED UTILITIES, CO-OPS & OPA							9
10	BUY SELL TRANSACTIONS	D2			0	0	0	10
11	ALL OTHER TRANSACTIONS							11
12	BASE DEMAND	E1			0	0	0	12
13	PEAK DEMAND	D1			0	0	0	13
14	BASE ENERGY	E2			6,947,794	3,125,191	3,822,604	14
15	PEAK ENERGY	D1			0	0	0	15
16								16
17	TOTAL ALL OTHER TRANSACTIONS				6,947,794	3,125,191	3,822,604	17
18								18
19	TOTAL SALES FOR RESALE				6,947,794	3,125,191	3,822,604	19
20								20
21								21
22	OTHER ELECTRIC REVENUES							22
23	LATE FEES	C1	450	DIRECTLY ASSIGNED TO JURISDICTION	809,880	316,187	493,694	23
24	CONNECTION FEES	C1	451	DIRECTLY ASSIGNED TO JURISDICTION	340,532	136,812	203,720	24
25	RENT FROM ELECTRIC PROPERTY	NEPIS	454		435,931	165,117	270,814	25
26	RENT FROM ELECTRIC PROPERTY - BIG STONE	NEPIS	454		0	0	0	26
27	RENT FROM ELECTRIC PROPERTY - COYOTE	NEPIS	454		0	0	0	27
28	OTHER MISC ELECTRIC REVENUE	NEPIS	456		1,395,880	528,717	867,164	28
29	OTHER MISC ELECTRIC REVENUE - MN	C1	456	DIRECTLY ASSIGNED TO JURISDICTION	0	0	0	29
30	OTHER MISC ELECTRIC REVENUE - ND	C1	456	DIRECTLY ASSIGNED TO JURISDICTION	0	0	0	30
31	OTHER MISC ELECTRIC REVENUE - SD	C1	456	DIRECTLY ASSIGNED TO JURISDICTION	0	0	0	31
32	ITA DEFICIENCY PAYMENTS	NEPIS	456		848,757	321,483	527,274	32
33		NEPIS			0	0	0	33
34	MISCELLANEOUS SERVICES	NEPIS			0	0	0	34
35	WHEELING		456	DIRECTLY ASSIGNED TO FERC JURISDICTION	425,279	0	425,279	35
36	LOAD CONTROL AND DISPATCH	NEPIS EXDA	456		19,546,874	8,385,927	11,160,947	36
37	LOAD CONTROL AND DISPATCH (Direct FERC)	Direct FERC	456	DIRECTLY ASSIGNED TO FERC JURISDICTION	32,012,996	0	32,012,996	37
38	RESIDENTIAL CONSERVATION SERVICES	C1	456	DIRECTLY ASSIGNED TO JURISDICTION	0	0	0	38
39								39
40	TOTAL OTHER ELECTRIC REVENUES				55,816,129	9,854,243	45,961,887	40
41								41
42	TOTAL OTHER OPERATING REVENUES				62,763,924	12,979,433	49,784,491	42
43								43
44						0		44
45	TOTAL OPERATING REVENUES				527,327,558	195,666,321	331,661,237	45
46								46
47								47
48								48
49								49
50								50
51								51
52								52
53								53
54								54
55								55
56								56
57								57
58								58
59								59
60								60
61								61
62								62
63								63
64								64

NORTH DAKOTA

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget TEST YEAR 2024 - Simple Average

PAGE 9 - 1

LINE NO	ITEM	ALLOC	FERC ACCOUNTS	TOTAL COMPANY	NORTH DAKOTA	ALL OTHER	LINE NO
1	OPERATING EXPENSES						1
2	<u>PRODUCTION EXPENSES</u>						2
3	PROD EXPENSES EXCLUDING PURCHASED POWER						3
4	BASE DEMAND	E1	500, 502, 505-507, 509-511, 535, 537-543, 546, 548-554, 556-557	16,248,297	7,128,759	9,119,538	4
5	PEAK DEMAND	D1	500, 502, 506-507, 509-511, 535, 537-543, 546, 548-554, 556-557	8,794,983	3,472,693	5,322,291	5
6	BASE ENERGY	E2	501, 512-514, 544-546, 548-554	67,526,672	30,374,204	37,152,468	6
7	PEAK ENERGY	D1	547	10,397,281	4,105,359	6,291,922	7
8	BASE DEMAND (Direct MN)			0	0	0	8
9	PEAK DEMAND (Direct MN)			377,143	0	377,143	9
10							10
11	TOTAL EXCLUDING PURCHASED POWER			103,344,377	45,081,015	58,263,362	11
12					0		12
13					0		13
14	PURCHASED POWER						14
15	BUY SELL TRANSACTIONS	D2		0	0	0	15
16	ALL OTHER TRANSACTIONS						16
17	BASE DEMAND	E1	555	1,921,959	843,238	1,078,721	17
18	PEAK DEMAND	D1		0	0	0	18
19	BASE ENERGY	E2	555	91,559,032	41,184,212	50,374,820	19
20	PEAK ENERGY	D1		0	0	0	20
21							21
22	TOTAL ALL OTHER TRANSACTIONS			93,480,991	42,027,450	51,453,541	22
23							23
24	TOTAL PURCHASED POWER			93,480,991	42,027,450	51,453,541	24
25							25
26	TOTAL PRODUCTION EXPENSES			196,825,368	87,108,465	109,716,903	26
27							27
28							28
29	TRANSMISSION EXPENSES	D2	560, 561.1-561.2, 561.4-561.6, 562-563, 565-568, 569.1-569.3, 570-573	35,939,490	14,086,555	21,852,935	29
30	TRANSMISSION EXPENSES (Direct MN)			0	0	0	30
31	TRANSMISSION EXPENSES (Direct FERC)	Direct FERC		0	0	0	31
32	TOTAL TRANSMISSION EXPENSES			35,939,490	14,086,555	21,852,935	32
33							33
34							34
35	<u>DISTRIBUTION EXPENSES</u>						35
36	PRIMARY DEMAND	D3	580-584, 588-590, 592-594, 598	5,199,469	2,418,866	2,780,603	36
37	SECONDARY DEMAND	D4	580-581, 583-584, 588, 590, 593-595, 598	2,273,887	1,107,378	1,166,509	37
38	PRIMARY CUSTOMER	C2	580-581, 583-584, 588-590, 593-594, 598	3,917,270	1,712,243	2,205,027	38
39	SECONDARY CUSTOMER	C3	580-581, 583-584, 587-588, 590, 593-595, 598	1,431,452	625,745	805,707	39
40	STREETLIGHTING	C4	580-581, 583-585, 588-590, 593-594, 596, 598	526,349	219,347	307,002	40
41	AREA LIGHTING	C5	580-581, 583-584, 588-590, 593-594, 598	183,855	100,232	83,623	41
42	METERS	C6	580-581, 586, 588, 597-598	4,956,073	2,209,420	2,746,653	42
43	LOAD MANAGEMENT	C9		0	0	0	43
44							44
45	TOTAL DISTRIBUTION	OXD		18,488,356	8,393,231	10,095,125	45
46							46
47							47
48	<u>CUSTOMER ACCOUNTING EXPENSES</u>						48
49	METER READING	C7	901-902	6,074,375	2,685,754	3,388,622	49
50	OTHER	C8	901, 903-905	10,546,838	4,609,841	5,936,997	50
51							51
52	TOTAL CUSTOMER ACCOUNTS	OXC		16,621,213	7,295,595	9,325,619	52
53							53
54							54
55							55
56							56
57							57
58							58
59							59
60							60
61							61
62							62
63							63
64							64
65							65

NORTH DAKOTA

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget TEST YEAR 2024 - Simple Average

PAGE 10 - 1

LINE NO	ITEM	ALLOC	FERC ACCOUNTS		TOTAL COMPANY		NORTH DAKOTA		ALL OTHER	LINE NO
1	<u>CUSTOMER SERVICE & INFORMATION EXPENSE</u>									1
2	CONSERVATION & PROMOTIONAL REBATES	C1	908	DIRECTLY ASSIGNED TO JURISDICTION	9,600,172		0		9,600,172	2
3	OTHER	C1	907-910		3,021,886		1,331,017		1,690,869	3
4										4
5	TOTAL CUSTOMER SERV & INFORMATION EXP	OXI			12,622,058		1,331,017		11,291,041	5
6										6
7	<u>SALES EXPENSES</u>									7
8	OFF-PEAK DEVELOPMENT	C1	912	DIRECTLY ASSIGNED TO JURISDICTION	274,978		(0)		274,979	8
9	OTHER	C1	912-913, 916		308,479		135,872		172,606	9
10										10
11	TOTAL SALES EXPENSES				583,457		135,872		447,585	11
12										12
13	<u>ADMINISTRATIVE & GENERAL EXPENSES</u>									13
14	SALARIES, SUPPLIES, PENSIONS & BENEFITS									14
15	PRODUCTION	OXPD			11,088,805		4,706,353		6,382,452	15
16	TRANSMISSION	D2			5,274,827		2,067,479		3,207,348	16
17	DISTRIBUTION	OXD			8,167,253		3,707,720		4,459,534	17
18	CUSTOMER ACCOUNTS	OXC			6,497,498		2,851,965		3,645,533	18
19	CUSTOMER SERVICE & INFO	C1			1,509,573		664,905		844,668	19
20										20
21	TOTAL SALARIES, SUPPLIES, PENSIONS, AND BENEFITS		920-922, 926		32,537,956		13,998,421		18,539,535	21
22										22
23	LOAD MANAGEMENT EXPENSES	C9			0		0		0	23
24										24
25	OUTSIDE SERVICES	NEPIS	923		1,083,910		410,552		673,358	25
26										26
27	PROPERTY INSURANCE	NEPIS	924		4,230,959		1,602,557		2,628,402	27
28										28
29	INJURIES & DAMAGES	NEPIS	925		4,536,918		1,718,445		2,818,473	29
30										30
31	REGULATORY COMMISSION EXPENSE	R10	928	DIRECTLY ASSIGNED TO JURISDICTION	3,510,684		861,954		2,648,730	31
32										32
33	GENERAL ADVERTISING	C1	930.1		0		0		0	33
34										34
35	MISCELLANEOUS, RENTS, MAINTENANCE	P90	930.2, 931, 935		5,035,910		2,183,338		2,852,571	35
36										36
37	TOTAL ADMINISTRATIVE & GENERAL EXP				50,936,338		20,775,268		30,161,070	37
38										38
39	CHARITABLE CONTRIBUTIONS	C1	426.1	DIRECTLY ASSIGNED TO JURISDICTION	0		0		0	39
40										40
41										41
42										42
43										43
44										44
45	TOTAL O & M EXPENSES				332,016,280		139,126,003		192,890,278	45
46										46
47										47
48										48
49										49
50										50
51										51
52										52
53										53
54										54
55										55
56										56
57										57
58										58
59										59
60										60

NORTH DAKOTA

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget TEST YEAR 2024 - Simple Average

PAGE 11 - 1

LINE NO	ITEM	ALLOC	FERC ACCOUNTS	TOTAL COMPANY	NORTH DAKOTA	ALL OTHER	LINE NO
1	DEPRECIATION EXPENSE						1
2	<u>PRODUCTION</u>						2
3	BASE DEMAND	E1		15,980,135	7,011,106	8,969,029	3
4	PEAK DEMAND	D1		11,086,374	4,377,447	6,708,927	4
5	BASE ENERGY	E2		13,122,662	5,902,711	7,219,951	5
6							6
7	TOTAL PRODUCTION			40,189,172	17,291,264	22,897,908	7
8							8
9							9
10	TRANSMISSION	D2		8,706,848	3,412,666	5,294,181	10
11	TRANSMISSION (Direct FERC)	Direct FERC		4,176,849	0	4,176,849	11
12	TOTAL TRANSMISSION			12,883,697	3,412,666	9,471,030	12
13							13
14							14
15	DISTRIBUTION	P60		18,610,423	8,550,713	10,059,710	15
16							16
17							17
18	GENERAL	P90		4,236,745	1,836,857	2,399,887	18
19							19
20							20
21	INTANGIBLE	P90		4,617,449	2,001,913	2,615,536	21
22							22
23							23
24	TOTAL DEPRECIATION EXPENSE		403	80,537,485	33,093,414	47,444,072	24
25							25
26							26
27							27
28							28
29							29
30							30
31	BIG STONE EXPENSE OFFSETS	P10		0	0	0	31
32							32
33							33
34	SPIRITWOOD AMORTIZATION	P10	406	0	0	0	34
35							35
36							36
37							37
38							38
39							39
40							40
41							41
42							42
43							43
44							44
45							45
46							46
47							47
48							48
49							49
50							50
51							51
52							52
53							53
54							54
55							55
56							56
57							57
58							58
59							59
60							60
61							61
62							62

NORTH DAKOTA

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget TEST YEAR 2024 - Simple Average

PAGE 12 - 1

LINE NO	ITEM	ALLOC	FERC ACCOUNTS	TOTAL COMPANY	NORTH DAKOTA	ALL OTHER	LINE NO
1	GENERAL TAXES	NEPIS EXD		16,557,620	7,103,488	9,454,132	1
2	GENERAL TAXES (Direct FERC)	Direct FERC		2,136,276	0	2,136,276	2
3	TOTAL GENERAL TAXES		408.1	18,693,896	7,103,488	11,590,408	3
4							4
5	NET OPERATING INCOME BEFORE TAX (NOIBT)			96,079,897	16,343,417	79,736,480	5
6							6
7	<u>INVESTMENT TAX CREDIT</u>						7
8	AMORTIZE PRIOR YEARS CREDIT	EPIS		(6,628,472)	(2,939,781)	(3,688,691)	8
9	DEBITS UTILIZED	EPIS		0	0	0	9
10							10
11	TOTAL INVESTMENT TAX CREDIT		411.4	(6,628,472)	(2,939,781)	(3,688,691)	11
12							12
13	<u>DEFERRED INCOME TAXES</u>						13
14	ITEMS SOUTH DAKOTA FLOWS THROUGH						14
15	FEDERAL	NPMNR		0	0	0	15
16	MINNESOTA	NPISM		0	0	0	16
17	NORTH DAKOTA	NPISN		(31,934)	(31,515)	(419)	17
18							18
19	SUBTOTAL			(31,934)	(31,515)	(419)	19
20							20
21	<u>ALLOTTED</u>						21
22							22
23	FEDERAL- transfer from Current Income Taxes - NOL			(6,470,322)	(6,241,694)	(228,628)	23
24	FEDERAL (NEPIS)	NEPIS		12,091,374	4,579,841	7,511,533	24
25	FEDERAL			1,125,275	(1,661,853)	2,787,128	25
26							26
27	MINNESOTA- transfer from Current Income Taxes - NOL			(425,430)	0	(425,430)	27
28	MINNESOTA (NPISM)	NPISM		3,008,510	0	3,008,510	28
29	MINNESOTA			2,353,601	0	2,353,601	29
30							30
31	NORTH DAKOTA- transfer from Current Income Taxes - NOL			(1,339,765)	(1,339,765)	0	31
32	NORTH DAKOTA (NPISN)	NPISN		1,122,373	1,107,636	14,737	32
33	NORTH DAKOTA			(1,237,709)	(232,129)	(1,005,580)	33
34							34
35	SUBTOTAL			2,241,167	(1,893,982)	4,135,149	35
36							36
37	TOTAL DEFERRED INCOME TAXES		410.1-410.2, 411.1-411.2	2,209,233	(1,925,497)	4,134,730	37
38							38
39							39
40	<u>CURRENT INCOME TAXES</u>						40
41	FEDERAL- transfer to Deferred Income Taxes - NOL			6,470,322	6,241,694	228,628	41
42	FEDERAL CURRENT INCOME TAX			(6,470,322)	(6,241,695)	(228,627)	42
43	FEDERAL INCOME TAXES			0	(1)	1	43
44							44
45	MINNESOTA- transfer to Deferred Income Taxes - NOL			0	0	0	45
46	MINNESOTA CURRENT INCOME TAX			(490,140)	0	(490,140)	46
47	MINNESOTA INCOME TAXES			(490,140)	0	(490,140)	47
48							48
49	NORTH DAKOTA - transfer to Deferred Income Taxes - NOL			1,339,765	1,339,765	0	49
50	NORTH DAKOTA CURRENT INCOME TAX			(1,147,235)	(1,339,765)	192,530	50
51	NORTH DAKOTA INCOME TAXES			192,530	0	192,530	51
52							52
53	TOTAL CURRENT INCOME TAXES		409.1	(297,609)	(0)	(297,609)	53
54							54
55	TOTAL INCOME TAXES			(4,716,848)	(4,865,278)	148,430	55
56							56
57							57
58	NET OPERATING INCOME			100,796,745	21,208,695	79,588,050	58
59							59
60	AFDC	CWIPLT		6,315,997	0	6,315,997	60
61	AFDC - MN Only	CWIPLT		0	0	0	61
62	AFDC - SD Only	CWIPLT		0	0	0	62
63	Total AFDC	CWIPLT	419.1	6,315,997	0	6,315,997	63
64							64
65	TOTAL AVAILABLE FOR RETURN			107,112,742	21,208,695	85,904,047	65
66							66
67							67
68	RATE OF RETURN ON RATE BASE			5.82%	3.21%	7.28%	68
69							69
70							70
71							71
72							72
73							73
74							74

NORTH DAKOTA

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget TEST YEAR 2024 - Simple Average

PAGE 13 - 1

LINE NO	ITEM	ALLOC	TOTAL COMPANY	NORTH DAKOTA	ALL OTHER	LINE NO
1	DEVELOPMENT OF FEDERAL INCOME TAX EXPENSE					1
2						2
3	NET OPERATING INCOME BEFORE TAX (NOIBT)		96,079,897	16,343,417	79,736,480	3
4	LESS: INTEREST COST	CALCULATED BY JURISDICTION	41,457,520	14,425,792	27,031,729	4
5						5
6	NET INCOME BEFORE TAX		54,622,376	1,917,625	52,704,751	6
7						7
8	<u>FEDERAL SCHEDULE M ADJUSTMENTS:</u>					8
9	ADDITIONAL TAX DEPRECIATION	NEPIS	75,740,068	28,688,010	47,052,058	9
10	OTHER SCHEDULE M ITEMS	NEPIS	11,330,739	4,291,736	7,039,003	10
11			0	0	0	11
12			0	0	0	12
13			0	0	0	13
14			0	0	0	14
15			0	0	0	15
16			0	0	0	16
17			0	0	0	17
18						18
19	SUBTOTAL FEDERAL SCHEDULE M ADJUSTMENTS		87,070,807	32,979,746	54,091,061	19
20						20
21	FEDERAL ADJUSTED INCOME BEFORE INCOME TAXES		(32,448,431)	(31,062,120)	(1,386,310)	21
22						22
23	<u>LESS:</u>					23
24	MINNESOTA STATE INCOME TAXES	PER MINNESOTA STATE TAX CALCULATION	(490,140)	0	(490,140)	24
25	NORTH DAKOTA STATE INCOME TAXES	PER NORTH DAKOTA STATE TAX CALCULATION	(1,147,235)	(1,339,765)	192,530	25
26						26
27	FEDERAL TAXABLE INCOME		(30,811,056)	(29,722,356)	(1,088,700)	27
28	FEDERAL TAX RATE		21.00%	21.00%	21.00%	28
29						29
30	FEDERAL INCOME TAX BEFORE CREDITS		(6,470,322)	(6,241,695)	(228,627)	30
31	INVESTMENT TAX CREDIT - DEBITS UTILIZED	EPIS	0	0	0	31
32	FEDERAL INCOME TAXES before transfer to Deferred due to NOL		(6,470,322)	(6,241,695)	(228,627)	32
33	Less Current Federal Income Taxes Transferred to Deferred Income Taxes due to NOL		6,470,322	6,241,694	228,628	33
34	FEDERAL INCOME TAXES		0	(1)	1	34
35						35
36						36
37						37
38						38
39						39
40						40
41						41
42						42
43						43
44						44
45						45
46						46
47						47
48						48
49						49
50						50
51						51
52						52
53						53
54						54
55						55
56						56
57						57
58						58
59						59
60						60
61						61

NORTH DAKOTA

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget TEST YEAR 2024 - Simple Average

PAGE 14 - 1

LINE NO	ITEM	ALLOC	TOTAL COMPANY	NORTH DAKOTA	ALL OTHER	LINE NO
1	DEVELOPMENT OF MINNESOTA STATE INCOME TAX EXPENSE					1
2						2
3	FEDERAL ADJUSTED INCOME BEFORE INCOME TAXES		(5,001,428)	0	(5,001,428)	3
4						4
5	<u>MINNESOTA ADJUSTMENTS TO FEDERAL SCHEDULE M:</u>					5
6	PAYSOP ADJUSTMENT	NEPIS	0	0	0	6
7	CHANGE IN EXCESS TAX DEPRECIATION - MN	NEPIS	0	0	0	7
8	CHANGE IN ACRS - ORDINARY LOSS	NEPIS	0	0	0	8
9	PREFERRED DIVIDENDS PAID CREDIT	NEPIS	0	0	0	9
10	MISCELLANEOUS ADJUSTMENTS TO FED SCHEDULE M	NEPIS	0	0	0	10
11						11
12	TOTAL MINNESOTA ADJUSTMENTS TO FED SCHEDULE M		0	0	0	12
13						13
14	MINNESOTA TAXABLE INCOME		(5,001,428)	0	(5,001,428)	14
15	MINNESOTA TAX RATE		9.80%	0.00%	9.80%	15
16						16
17	MINNESOTA INCOME TAX prior to transfer to Deferred Income Tax due to NOL		(490,140)	0	(490,140)	17
18	Minnesota Current Income Tax transfer to Deferred Income Tax due to NOL		0	0	0	18
19	MINNESOTA INCOME TAX		(490,140)	0	(490,140)	19
20						20
21						21
22						22
23						23
24						24
25						25
26						26
27	DEVELOPMENT OF NORTH DAKOTA STATE INCOME TAX EXPENSE					27
28						28
29	FEDERAL ADJUSTED INCOME BEFORE INCOME TAXES		(23,191,587)	(31,062,120)	7,870,534	29
30						30
31	<u>NORTH DAKOTA ADJUSTMENTS TO FEDERAL SCHEDULE M:</u>					31
32	CHANGE IN EXCESS TAX DEPRECIATION - ND	NEPIS	(2,206)	(1,673)	(533)	32
33	CHANGE IN ACRS - ORDINARY LOSS - ND	NEPIS	0	0	0	33
34	CHANGE IN INCOME FROM ADR PROPERTY - ND	NEPIS	0	0	0	34
35	MISCELLANEOUS ADJUSTMENTS TO FED SCHEDULE M	NEPIS	0	0	0	35
36						36
37	TOTAL NORTH DAKOTA ADJUSTMENTS TO FED SCHEDULE M		(2,206)	(1,673)	(533)	37
38						38
39	SUBTOTAL		(23,193,793)	(31,063,794)	7,870,001	39
40	DEDUCTION OF FEDERAL INCOME TAXES		3,374,179	0	3,374,179	40
41						41
42	NORTH DAKOTA TAXABLE INCOME		(26,567,972)	(31,113,794)	4,545,821	42
43	NORTH DAKOTA TAX RATE		4.31%	4.31%	4.31%	43
44						44
45	NORTH DAKOTA INCOME TAX prior to transfer to Deferred Income Tax due to NOL		(1,147,235)	(1,339,765)	192,530	45
46	North Dakota Current Income Tax transfer to Deferred Income Tax due to NOL		1,339,765	1,339,765	-	46
47	NORTH DAKOTA INCOME TAX		192,530	0	192,530	47
48						48
49						49
50						50
51						51
52						52
53						53
54						54
55						55
56						56
57						57
58						58
59						59
60						60
61						61
62						62
63						63
64						64

NORTH DAKOTA

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget TEST YEAR 2024 - Simple Average

PAGE 15 - 1

ALLOCATION FACTORS

LINE NO	ITEM	FACTOR	TOTAL COMPANY		NORTH DAKOTA		ALL OTHER	LINE NO
1								
2								
3								
4	MWH CONSUMPTION AT GENERATORS - PARTIAL PERCENTAGE	E1	5,645,126 100.000000%		2,476,736 43.873883%		3,168,390 56.126117%	1 2
5								3
6								4
7	MWH CONSUMPTION AT GENERATORS - TOTAL PERCENTAGE	E2	6,171,457 100.000000%		2,775,986 44.981047%		3,395,471 55.018953%	5 6
8								7
9	GENERATION DEMAND FACTOR PERCENTAGE	D1	719,976 100.000000%		284,282 39.484927%		435,694 60.515073%	8 9
10								10
11	TRANSMISSION DEMAND FACTOR PERCENTAGE	D2	725,298 100.000000%		284,282 39.195200%		441,016 60.804800%	11 12
12								13
13	DISTRIBUTION - PRIMARY DEMAND FACTOR PERCENTAGE	D3	851,393 100.000000%		396,080 46.521407%		455,313 53.478593%	14 15
14								16
15	DISTRIBUTION - SECONDARY DEMAND FACTOR PERCENTAGE	D4	1,119,241 100.000000%		545,068 48.699789%		574,173 51.300211%	17 18
16								19
17	CUSTOMER OR METER FACTORS							20
18	TOTAL RETAIL CUSTOMERS PERCENTAGE	C1	135,411 100.000000%		59,643 44.045905%		75,768 55.954095%	21 22
19								23
20	RETAIL SERVICE LOCATIONS PERCENTAGE	C2	136,449 100.000000%		59,642 43.710104%		76,807 56.289896%	24 25
21								26
22	SECONDARY SERVICE LOCATIONS PERCENTAGE	C3	136,414 100.000000%		59,632 43.713988%		76,782 56.286012%	27 28
23								29
24	STREET LIGHTING FACTOR PERCENTAGE	C4	13,235,267 100.000000%		5,515,574 41.673311%		7,719,693 58.326689%	30 31
25								32
26	AREA LIGHTING FACTOR PERCENTAGE	C5	9,628,628 100.000000%		5,249,227 54.516874%		4,379,401 45.483126%	33 34
27								35
28	METER FACTOR PERCENTAGE	C6	57,578,353 100.000000%		25,668,459 44.580051%		31,909,894 55.419949%	36 37
29								38
30	METER READING FACTOR PERCENTAGE	C7	206,170 100.000000%		91,157 44.214483%		115,013 55.785517%	39 40
31								41
32	SYSTEM SERVICE LOCATIONS PERCENTAGE	C8	136,457 100.000000%		59,643 43.708274%		76,814 56.291726%	42 43
33								44
34	LOAD MANAGEMENT FACTOR PERCENTAGE	C9	41,469 100.000000%		18,119 43.692879%		23,350 56.307121%	45 46
35								47
36								48
37								49
38								50
39								51
40								52
41								53
42								54
43								55
44								56
45								57
46								58
47								59
48								60

NORTH DAKOTA

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget TEST YEAR 2024 - Simple Average

PAGE 16 - 1

LINE NO	ITEM	ALLOCATION FACTORS FACTOR	TOTAL COMPANY	NORTH DAKOTA	OTHER	LINE NO
1	GROSS PLANT IN SERVICE					1
7	PRODUCTION PLANT	P10	1,492,934,862	642,199,358	850,735,504	2
8	PERCENTAGE		100.000000%	43.015899%	56.984101%	3
9						4
10	DISTRIBUTION PLANT	P60	717,695,528	329,751,161	387,944,367	5
11	PERCENTAGE		100.000000%	45.945829%	54.054171%	6
12						7
13	GENERAL PLANT	P90	122,942,613	53,302,252	69,640,361	8
14	PERCENTAGE		100.000000%	43.355392%	56.644608%	9
15						10
16						11
17	ELECTRIC PLANT IN SERVICE	EPIS	3,200,417,998	1,259,341,147	1,941,076,852	12
18	PERCENTAGE		100.000000%	39.349271%	60.650729%	13
19						14
20	NET ELECTRIC PLANT IN SERVICE	NEPIS	2,107,084,372	798,098,800	1,308,985,571	15
21	PERCENTAGE		100.000000%	37.876927%	62.123073%	16
22						17
23	NET ELECTRIC PLANT IN SERVICE Excluding Direct Assignment	NEPIS EXD	1,860,299,622	798,098,800	1,062,200,821	18
24	PERCENTAGE		100.000000%	42.901627%	57.098373%	19
23	OPERATION AND MAINTENANCE EXPENSE					18
24	PRODUCTION EXPENSE (EXCL ENERGY)	OXPD	26,965,239	11,444,690	15,520,549	19
26	PERCENTAGE		100.000000%	42.442381%	57.557619%	20
27						21
28	DISTRIBUTION EXPENSE	OXD	18,488,356	8,393,231	10,095,125	22
29	PERCENTAGE		100.000000%	45.397391%	54.602609%	23
30						24
31	CUSTOMER ACCOUNTS EXPENSE	OXC	16,621,213	7,295,595	9,325,619	25
32	PERCENTAGE		100.000000%	43.893273%	56.106727%	26
33						27
34	CUSTOMER SERVICE & INFORMATION EXPENSE	OXI	3,021,886	1,331,017	1,690,869	28
35	PERCENTAGE		100.000000%	44.045905%	55.954095%	29
36						30
37	OTHER DEFERRED INCOME TAX FACTOR					31
38	MINNESOTA	NPISM	930,206,443	0	930,206,443	32
39	PERCENTAGE		100.000000%	0.000000%	100.000000%	33
40						34
41	NORTH DAKOTA	NPISN	1,052,218,734	798,098,800	254,119,933	35
42	PERCENTAGE		100.000000%	98.686980%	1.313020%	36
43						37
44	EXCLUDING SOUTH DAKOTA	NPMNR	1,921,953,640	798,098,800	1,123,854,839	38
45	PERCENTAGE		100.000000%	41.525393%	58.474607%	39
46						40
47	LONG-TERM CWIP RATIO (W/AFDC)	CWIPLT	0	0	0	41
48	PERCENTAGE		100.000000%	0.000000%	100.000000%	42
49						43
50	REVENUE	R10	464,563,634	182,686,888	281,876,746	44
51	PERCENTAGE		100.000000%	39.324406%	60.675594%	45
52						46
53	LABOR AND RELATED EXPENSE	LRE	151,972,523	63,326,356	88,646,167	47
54	PERCENTAGE		100.000000%	41.669609%	58.330391%	48
55						49
56	TOTAL O & M EXPENSE	OX				50
57	PERCENTAGE					51
58						52
59						53
60						54
61						55
62						56
63						57
64						58
65						59
66						60

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget TEST YEAR 2024 - Simple Average

LINE NO	ITEM	AMOUNT	AMOUNT AS A PERCENT OF TOTAL	COST OF CAPITAL	RATE OF RETURN	LINE NO
1	CAPITAL STRUCTURE - RATE OF RETURN					1
2						2
3						3
4	LONG-TERM DEBT	902,118,455	46.50%	4.68%	2.18%	4
5						5
6	PREFERRED STOCK	0	0.000%	0.00%	0.00%	6
7						7
8	COMMON EQUITY	1,037,715,500	53.50%	10.60%	5.67%	8
9						9
10						10
11	TOTAL	1,939,833,955	100.00%		7.85%	11
12						12
13						13
14						14
15						15
16						16
17						17
18						18
19						19
20						20
21						21
22						22
23						23
24						24
25						25
26						26
27						27
28						28
29						29
30						30
31						31
32						32
33						33
34						34
35						35
36						36
37						37
38						38
39						39
40						40
41						41
42						42
43						43
44						44
45						45
46						46
47						47
48						48
49						49
50						50
51						51
52						52
53						53
54						54
55						55
56						56
57						57
58						58
59						59
60						60

NORTH DAKOTA

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget TEST YEAR 2024 - Simple Average

LINE NO	ITEM	ALLOCATION	TOTAL COMPANY	NORTH DAKOTA	ALL OTHER	LINE NO
1	CASH WORKING CAPITAL CALCULATION - REVENUE LEAD DAYS					1
2						2
3	<u>REVENUES</u>					3
4	COMPUTER MAINTAINED BILLINGS		399,914,764	160,399,254	239,515,509	4
5	MANUALLY MAINTAINED BILLINGS		71,894,259	28,835,608	43,058,650	5
6	COST OF ENERGY REVENUES	R10	(6,094,976)	(6,094,976)	0	6
7	SALES FOR RESALE		6,947,794	3,125,191	3,822,604	7
8	RENT FROM ELECTRIC PROPERTY		435,931	165,117	270,814	8
9	MISCELLANEOUS		1,395,880	528,717	867,164	9
10	ITA DEFICIENCY PAYMENTS		848,757	321,483	527,274	10
11	WHEELING		425,279	0	425,279	11
12	LOAD CONTROL AND DISPATCH		19,546,874	8,385,927	11,160,947	12
13	RENT FROM ELECTRIC PROPERTY - BIG STONE		0	0	0	13
14	RENT FROM ELECTRIC PROPERTY - COYOTE		0	0	0	14
15	PROFIT ON MATERIALS AND SUPPLIES		0	0	0	15
16	RUBBER GOODS TESTING		0	0	0	16
17	RESIDENTIAL CONSERVATION SERVICES		0	0	0	17
18						18
19	TOTAL REVENUES		495,314,562	195,666,321	299,648,241	19
20						20
21						21
22	<u>REVENUE LEAD DAYS FROM SERVICE TO COLLECTION</u>					22
23	COMPUTER MAINTAINED BILLINGS		N/A	39.8	N/A	23
24	MANUALLY MAINTAINED BILLINGS		N/A	26.7	N/A	24
25	COST OF ENERGY REVENUES		N/A	126.8	N/A	25
26	SALES FOR RESALE		N/A	19.9	N/A	26
27	RENT FROM ELECTRIC PROPERTY		N/A	-63.3	N/A	27
28	MISCELLANEOUS		N/A	40.4	N/A	28
29	ITA DEFICIENCY PAYMENTS		N/A	27.5	N/A	29
30	WHEELING		N/A	39.3	N/A	30
31	LOAD CONTROL AND DISPATCH		N/A	28.8	N/A	31
32	RENT FROM ELECTRIC PROPERTY - BIG STONE		N/A	34.3	N/A	32
33	RENT FROM ELECTRIC PROPERTY - COYOTE		N/A	34.3	N/A	33
34	PROFIT ON MATERIALS AND SUPPLIES		N/A	34.3	N/A	34
35	RUBBER GOODS TESTING		N/A	34.3	N/A	35
36	RESIDENTIAL CONSERVATION SERVICES		N/A	34.3	N/A	36
37						37
38						38
39	<u>REVENUE DOLLAR DAYS (REVENUES X REVENUE LEAD DAYS)</u>					39
40	COMPUTER MAINTAINED BILLINGS		15,916,607,589	6,383,890,322	9,532,717,267	40
41	MANUALLY MAINTAINED BILLINGS		1,919,576,711	769,910,744	1,149,665,967	41
42	COST OF ENERGY REVENUES		(772,842,957)	(772,842,957)	0	42
43	SALES FOR RESALE		137,913,720	62,035,036	75,878,684	43
44	RENT FROM ELECTRIC PROPERTY		(27,581,376)	(10,446,977)	(17,134,398)	44
45	MISCELLANEOUS		56,337,728	21,339,000	34,998,728	45
46	ITA DEFICIENCY PAYMENTS		23,340,818	8,840,784	14,500,033	46
47	WHEELING		16,700,704	0	16,700,704	47
48	LOAD CONTROL AND DISPATCH		562,949,971	241,514,696	321,435,276	48
49	RENT FROM ELECTRIC PROPERTY - BIG STONE		0	0	0	49
50	RENT FROM ELECTRIC PROPERTY - COYOTE		0	0	0	50
51	PROFIT ON MATERIALS AND SUPPLIES		0	0	0	51
52	RUBBER GOODS TESTING		0	0	0	52
53	RESIDENTIAL CONSERVATION SERVICES		0	0	0	53
54						54
55	TOTAL DOLLAR DAYS		17,833,002,909	6,704,240,648	11,128,762,261	55
56						56
57						57
58	AVG REVENUE LEAD DAYS (TOTAL REV DOLLAR DAYS / TOTAL REV)		36.0	34.3	37.1	58
59						59
60						60

NORTH DAKOTA

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget TEST YEAR 2024 - Simple Average

LINE NO	ITEM		OPERATING EXPENSE	EXPENSE PER DAY 365 DAYS PER YEAR	EXPENSE LAG DAYS	EXCESS REVENUE LEAD DAYS OF 37.2 OVER EXPENSE LAG DAYS	NET REVENUE LAG DOLLARS	LINE NO
1	CASH WORKING CAPITAL CALCULATION BY THE APPLICATION OF							1
2	LEAD-LAG FACTORS-MINNESOTA JURISDICTION							2
3	FUEL - COAL	E2	23,731,084	65,017	19.1	18.1	1,176,152	3
4								4
5	FUEL - OIL	E1	4,853,219	13,296	8.9	28.3	376,424	5
6								6
7	PURCHASED POWER		42,840,818	117,372	32.8	4.4	519,958	7
8								8
9	LABOR AND ASSOCIATED PAYROLL EXPENSE	LRE	32,770,879	89,783	10.5	26.7	2,399,008	9
10								10
11	ALL OTHER O&M EXPENSE		55,175,329	151,165	12.5	24.7	3,735,294	11
12								12
13	PROPERTY TAXES (EXCL COAL CONVERSION TAXES)		7,696,095	21,085	297.1	-259.9	(5,480,530)	13
14								14
15	COAL CONVERSION TAXES		44,991	123	35.6	1.6	198	15
16								16
17	FEDERAL INCOME TAXES		(947,371)	(2,596)	0.0	37.2	0	17
18								18
19	STATE INCOME TAXES		(490,140)	(1,343)	0.0	37.2	0	19
20								20
21	INCREMENTAL FEDERAL INCOME TAXES		0	0	0.0	37.2	0	21
22								22
23	INCREMENTAL STATE INCOME TAXES		0	0	0.0	37.2	0	23
24								24
25	BANK BALANCES	NEPIS					0	25
26								26
27	SPECIAL DEPOSITS	NEPIS					890,930	27
28								28
29	WORKING FUNDS	NEPIS					5,165	29
30								30
31	TAX COLLECTIONS AVAIL - FICA WITHHOLDING	LRE	(2,705,740)	(7,413)	0.0		0	31
32								32
33	TAX COLLECTIONS AVAIL - FEDERAL WITHHOLDING	LRE	(4,373,754)	(11,983)	0.0		0	33
34								34
35	TAX COLLECTIONS AVAIL - STATE WITHHOLDING- MN	R10 ASSIGN TO JURIS	0	0	0.0		0	35
36								36
37	TAX COLLECTIONS AVAIL - STATE WITHHOLDING- ND	R10 ASSIGN TO JURIS	0	0	61.2		0	37
38								38
39	TAX COLLECTIONS AVAILABLE - STATE SALES TAX	R10	0	0	0.0		0	39
40								40
41	TAX COLLECTIONS AVAILABLE - FRANCHISE TAXES	R10	0	0	36.9		0	41
42								42
43								43
44	TOTAL CASH WORKING CAPITAL REQUIREMENT - MINNESOTA						3,622,600	44
45								45
46								46
47								47
48								48
49								49
50								50
51								51
52								52
53								53
54								54
55								55
56								56
57								57
58								58
59								59
60								60

NORTH DAKOTA

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget TEST YEAR 2024 - Simple Average

LINE NO	ITEM		OPERATING EXPENSE	EXPENSE PER DAY 365 DAYS PER YEAR	EXPENSE LAG DAYS	EXCESS REVENUE LEAD DAYS OF 34.3 OVER EXPENSE LAG DAYS	NET REVENUE LAG DOLLARS	LINE NO
1	CASH WORKING CAPITAL CALCULATION BY THE APPLICATION OF							
2	LEAD-LAG FACTORS-NORTH DAKOTA JURISDICTION							
3	FUEL - COAL	E2	23,301,382	63,839	19.1	15.2	969,721	3
4								4
5	FUEL - OIL	E1	4,561,691	12,498	8.9	25.4	317,569	5
6								6
7	PURCHASED POWER		42,027,450	115,144	32.8	1.5	176,170	7
8								8
9	LABOR AND ASSOCIATED PAYROLL EXPENSE	LRE	29,067,115	79,636	10.5	23.8	1,896,928	9
10								10
11	ALL OTHER O&M EXPENSE		40,168,364	110,050	12.5	21.8	2,400,197	11
12								12
13	PROPERTY TAXES (EXCL COAL CONVERSION TAXES)		7,062,203	19,349	297.1	-261.9	(5,066,851)	13
14								14
15	COAL CONVERSION TAXES		41,285	113	35.6	-1.3	(146)	15
16								16
17	FEDERAL INCOME TAXES		(1)	(0)	0.0	34.3	0	17
18								18
19	STATE INCOME TAXES		0	0	0.0	34.3	0	19
20								20
21	INCREMENTAL FEDERAL INCOME TAXES		0	0	0.0	34.3	0	21
22								22
23	INCREMENTAL STATE INCOME TAXES		0	0	0.0	34.3	0	23
24								24
25	BANK BALANCES	NEPIS					0	25
26								26
27	SPECIAL DEPOSITS	NEPIS					817,548	27
28								28
29	WORKING FUNDS	NEPIS					4,740	29
30								30
31	TAX COLLECTIONS AVAIL - FICA WITHHOLDING	LRE	(2,399,937)	(6,575)	0.0		0	31
32								32
33	TAX COLLECTIONS AVAIL - FEDERAL WITHHOLDING	LRE	(3,879,432)	(10,629)	0.0		0	33
34								34
35	TAX COLLECTIONS AVAIL - STATE WITHHOLDING- MN	R10 ASSIGN TO JURIS	0	0	0.0		0	35
36								36
37	TAX COLLECTIONS AVAIL - STATE WITHHOLDING- ND	R10 ASSIGN TO JURIS	(303,808)	(832)	61.2		(50,965)	37
38								38
39	TAX COLLECTIONS AVAILABLE - STATE SALES TAX	R10	(72)	(0)	13.8		(3)	39
40								40
41	TAX COLLECTIONS AVAILABLE - FRANCHISE TAXES	R10	0	0	0.0		0	41
42								42
43								43
44	TOTAL CASH WORKING CAPITAL REQUIREMENT - NORTH DAKOTA						1,464,908	44
45								45
46								46
47								47
48								48
49								49
50								50
51								51
52								52
53								53
54								54
55								55
56								56
57								57
58								58
59								59
60								60

NORTH DAKOTA

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget TEST YEAR 2024 - Simple Average

LINE NO	ITEM		OPERATING EXPENSE	EXPENSE PER DAY 365 DAYS PER YEAR	EXPENSE LAG DAYS	EXCESS REVENUE LEAD DAYS OF 37.1 OVER EXPENSE LAG DAYS	NET REVENUE LAG DOLLARS	LINE NO
1	CASH WORKING CAPITAL CALCULATION BY THE APPLICATION OF LEAD-LAG FACTORS-SOUTH DAKOTA JURISDICTION							
2	FUEL - COAL	E2	4,740,714	12,988	19.1	18.0	233,659	3
3	FUEL - OIL	E1	975,772	2,673	8.9	28.2	75,415	4
4	PURCHASED POWER		8,559,385	23,450	32.8	4.3	101,540	5
5	LABOR AND ASSOCIATED PAYROLL EXPENSE	LRE	6,706,379	18,374	10.5	26.6	489,106	6
6	ALL OTHER O&M EXPENSE		9,795,171	26,836	12.5	24.6	660,436	7
7	PROPERTY TAXES (EXCL COAL CONVERSION TAXES)		1,638,182	4,488	297.1	-260.0	(1,167,028)	8
8	COAL CONVERSION TAXES		9,577	26	35.6	1.5	40	9
9	FEDERAL INCOME TAXES		(1,714,347)	(4,697)	0.0	37.1	0	10
10	STATE INCOME TAXES		0	0	0.0	37.1	0	11
11	INCREMENTAL FEDERAL INCOME TAXES		0	0	0.0	37.1	0	12
12	INCREMENTAL STATE INCOME TAXES		0	0	0.0	37.1	0	13
13	BANK BALANCES	NEPIS					0	14
14	SPECIAL DEPOSITS	NEPIS					189,642	15
15	WORKING FUNDS	NEPIS					1,099	16
16	TAX COLLECTIONS AVAIL - FICA WITHHOLDING	LRE	(553,715)	(1,517)	0.0		0	17
17	TAX COLLECTIONS AVAIL - FEDERAL WITHHOLDING	LRE	(895,064)	(2,452)	0.0		0	18
18	TAX COLLECTIONS AVAIL - STATE WITHHOLDING- MN	R10 ASSIGN TO JURIS	0	0	0.0		0	19
19	TAX COLLECTIONS AVAIL - STATE WITHHOLDING- ND	R10 ASSIGN TO JURIS	0	0	61.2		0	20
20	TAX COLLECTIONS AVAILABLE - STATE SALES TAX	R10	0	0	0.0		0	21
21	TAX COLLECTIONS AVAILABLE - FRANCHISE TAXES	R10	0	0	0.0		0	22
22	TOTAL CASH WORKING CAPITAL REQUIREMENT - SOUTH DAKOTA						583,910	23
23								24
24								25
25								26
26								27
27								28
28								29
29								30
30								31
31								32
32								33
33								34
34								35
35								36
36								37
37								38
38								39
39								40
40								41
41								42
42								43
43								44
44								45
45								46
46								47
47								48
48								49
49								50
50								51
51								52
52								53
53								54
54								55
55								56
56								57
57								58
58								59
59								60

NORTH DAKOTA

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget TEST YEAR 2024 - Simple Average

LINE NO	ITEM		OPERATING EXPENSE		EXPENSE PER DAY 365 DAYS PER YEAR		EXPENSE LAG DAYS		EXCESS REVENUE LEAD DAYS OF 30.5 OVER EXPENSE LAG DAYS		NET REVENUE LAG DOLLARS	LINE NO
1	CASH WORKING CAPITAL CALCULATION BY THE APPLICATION OF LEAD-LAG FACTORS-FERC JURISDICTION											
2												
3	FUEL - COAL	E2	29,488		81		19.1		11.4		920	1
4												2
5	FUEL - OIL	E1	6,599		18		8.9		21.6		391	3
6												4
7	PURCHASED POWER		53,338		146		32.8		-2.3		(332)	5
8												6
9	LABOR AND ASSOCIATED PAYROLL EXPENSE	LRE	1,211,778		3,320		10.5		20.0		66,465	7
10												8
11	ALL OTHER O&M EXPENSE		1,440,325		3,946		12.5		18.0		71,069	9
12												10
13	PROPERTY TAXES (EXCL COAL CONVERSION TAXES)		64,907		178		297.1		-266.6		(47,413)	11
14												12
15	COAL CONVERSION TAXES		379		1		35.6		-5.1		(5)	13
16												14
17	FEDERAL INCOME TAXES		3,374,179		9,244		0.0		30.5		281,952	15
18												16
19	STATE INCOME TAXES		193,770		531		0.0		30.5		16,192	17
20												18
21	INCREMENTAL FEDERAL INCOME TAXES		0		0		0.0		30.5		0	19
22												20
23	INCREMENTAL STATE INCOME TAXES		0		0		0.0		30.5		0	21
24												22
25	BANK BALANCES	NEPIS									0	23
26												24
27	SPECIAL DEPOSITS	NEPIS									260,313	25
28												26
29	WORKING FUNDS	NEPIS									1,509	27
30												28
31	TAX COLLECTIONS AVAIL - FICA WITHHOLDING	LRE	(100,051)		(274)		0.0				0	29
32												30
33	TAX COLLECTIONS AVAIL - FEDERAL WITHHOLDING	LRE	(161,730)		(443)		0.0				0	31
34												32
35	TAX COLLECTIONS AVAIL - STATE WITHHOLDING- MN	R10	0		0		0.0				0	33
36		ASSIGN TO JURIS										34
37	TAX COLLECTIONS AVAIL - STATE WITHHOLDING- ND	R10	0		0		61.2				0	35
38		ASSIGN TO JURIS										36
39	TAX COLLECTIONS AVAILABLE - STATE SALES TAX	R10	0		0		0.0				0	37
40												38
41	TAX COLLECTIONS AVAILABLE - FRANCHISE TAXES	R10	0		0		0.0				0	39
42												40
43												41
44	TOTAL CASH WORKING CAPITAL REQUIREMENT - FERC										651,061	42
45												43
46												44
47												45
48												46
49												47
50												48
51												49
52												50
53												51
54												52
55												53
56												54
57												55
58												56
59												57
60												58

NORTH DAKOTA

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget TEST YEAR 2024 - Simple Average

LINE NO	ITEM		OPERATING EXPENSE		EXPENSE PER DAY 365 DAYS PER YEAR		EXPENSE LAG DAYS		EXCESS REVENUE LEAD DAYS OF 36.0 OVER EXPENSE LAG DAYS		NET REVENUE LAG DOLLARS	LINE NO
1	CASH WORKING CAPITAL CALCULATION BY THE APPLICATION OF											1
2	LEAD-LAG FACTORS - TOTAL CO.											2
3	FUEL - COAL	E2									2,380,452	3
4												4
5	FUEL - OIL	E1									769,799	5
6												6
7	PURCHASED POWER										797,337	7
8												8
9	LABOR AND ASSOCIATED PAYROLL EXPENSE	LRE									4,851,507	9
10												10
11	ALL OTHER O&M EXPENSE										6,866,997	11
12												12
13	PROPERTY TAXES (EXCL COAL CONVERSION TAXES)										(11,761,822)	13
14												14
15	COAL CONVERSION TAXES										87	15
16												16
17	FEDERAL INCOME TAXES										281,952	17
18												18
19	STATE INCOME TAXES										16,192	19
20												20
21	INCREMENTAL FEDERAL INCOME TAXES										0	21
22												22
23	INCREMENTAL STATE INCOME TAXES										0	23
24												24
25	BANK BALANCES	NEPIS									0	25
26												26
27	SPECIAL DEPOSITS	NEPIS									2,158,433	27
28												28
29	WORKING FUNDS	NEPIS									12,513	29
30												30
31	TAX COLLECTIONS AVAIL - FICA WITHHOLDING	LRE									0	31
32												32
33	TAX COLLECTIONS AVAIL - FEDERAL WITHHOLDING	LRE									0	33
34												34
35	TAX COLLECTIONS AVAIL - STATE WITHHOLDING- MN	R10	ASSIGN TO JURIS								0	35
36												36
37	TAX COLLECTIONS AVAIL - STATE WITHHOLDING- ND	R10	ASSIGN TO JURIS								(50,965)	37
38												38
39	TAX COLLECTIONS AVAILABLE - STATE SALES TAX	R10									(3)	39
40												40
41	TAX COLLECTIONS AVAILABLE - FRANCHISE TAXES	R10									0	41
42												42
43												43
44	TOTAL CASH WORKING CAPITAL REQUIREMENT - TOTAL COMPANY										6,322,479	44
45												45
46												46
47												47
48												48
49												49
50												50
51												51
52												52
53												53
54												54
55												55
56												56
57												57
58												58
59												59
60												60

The North Dakota Class Cost of Service Study can be found in Volume 3, Schedule E-3.

Otter Tail Power Company
Functionalization
Test Year 2024

Line No.	Description	Accounts 101	Simple Average 2024	Accounts 106	Simple Average 2024	Accounts 114	Simple Average 2024	Line No.
1	Production:		(1)		(1)			1
2	Steam	310 - 317	571,495,169	310 - 316	0	310 - 317	1,588,255	2
3	Wind	341 - 347	657,918,354	344 - 347	0	344 - 347	0	3
4	Hydro	330 - 335	13,285,684	330 - 335	0	330 - 335	0	4
5	Solar		62,522,146					5
6	Other IC	340 - 347	224,720,179	340 - 347	0	340 - 347	0	6
7								7
8	Transmission	350 - 358	824,652,331	350 - 358	0	350 - 358	58,287	8
9								9
10	Distribution:							10
11	Land	360	1,497,656	360	0	360	0	11
12	Station Equipment	362	140,726,088	362	0	362	586	12
13	Poles, Towers & Fixtures	364	88,713,769	364	0			13
14	Overhead Conductors & Devices	365	62,678,781	365	0			14
15	Underground Conduit	366	0	366	0			15
16	Underground Conductors & Devices	367	130,042,166	367	0			16
17	Line Transformers	368	130,954,946	368	0			17
18	Services	369	14,188,329	369	0			18
19	Underground Services	369.1	50,453,703	369.1	0			19
20	Meters	370	28,397,520	370	0			20
21	Smart Meters	370.05	36,169,600					21
22	Load Management Switches	370.1	8,899,439	370.1	0			22
23	Interruption Monitors	370.2	0	370.2	0			23
24	Installation on Customers' Premises	371.0	0	371.0	0			24
25	EV Charging	371.1	1,771,302					25
26	All Other Private Lighting	371.2	10,003,929	371.2	0			26
27	Streetlighting & Signal Systems	373	14,969,064	373	0			27
			719,466,292		0			
28	General:							28
29	Land	389	1,163,225	389	0			29
30	Structures & Improvements	390	30,082,305	390	0			30
31	General Office Buildings	390.1	6,672,208	390.1	0			31
32	Fleet Service Center Building	390.2	896,880	390.2	0			32
33		390.25	2,154,593					33
34	Central Stores Buildings	390.3	5,414,880	390.3	0			34
35	Office Furniture	391	603,912	391	0			35
36	Office Equipment	391.1	327,896	391.1	0			36
37	Duplicating Equipment	391.2	772,361	391.2	0			37
38	Engineering Computers	391.3	0	391.3	0			38
39	Business Computers	391.4	0	391.4	0			39
40	Computer Systems	391.5	4,156,850	391.5	0			40
41	Computer Related Equipment	391.6	3,281,758	391.6	0			41
42	Transportation Equipment	392 & 392.1	43,084,688	392	0			42
43	Stores Equipment	393	0	393	0			43
44	Tools, Shop & Garage Equipment	394	6,840,127	394	0			44
45	Central Stores Tools	394.1						45
46	AMR Equipment	394.2	401,984	394.2	0	101 (Above)	3,196,902,767.25	46
47	Laboratory Equipment	395		395	0	101.7 Intangible (1)	42,134,377.00	47
48	Power-Operated Equipment	396	1,750,019	396	0	Agrees to FERC T/B; GL 865A Report	3,239,037,144.25	48
49	Communication Equipment & Communications Towers	397 & 397.4	7,117,723	397	0			49
50	Radio Tele-Communication Equipment	397.1	1,060,758	397.1	0	106 (Above)	0.00	50
51	Microwave Equipment	397.2	6,994,464	397.2	0	114 (Above); Agrees to FERC T/B	1,647,128.00	51
52	Radio Loss Control Equipment	397.3	165,980	397.3	0	PHFU (1)		52
53	Miscellaneous Equipment	398	0	398	0	Total Plant in Service (F/S)	3,240,684,272.25	53
			122,942,613		0	(1) Actual Year Work Paper A-1	3,240,684,272.00	

Agrees to Actual Year Work Paper A-1 (0.25)

Line #	Description	Operating Statement Amounts		2024 Functionalization		Line #
		Accounts	Test Year 2024			
1	Steam Power Generation:		(2)			1
2	Supervision and Engineering	401 - 500	2,158,400			2
3	Fuel	401 - 501	51,977,346			3
4	Steam Expense	401 - 502	5,403,987			4
5	Electrical Expense	401 - 505	1,975,891			5
6	Miscellaneous Expense	401 - 506	4,956,569			6
7	Rent	401 - 507		401 =	66,472,193.39	7
8	Allowances	401 - 509				8
9						9
10	Steam Power Maintenance:					10
11	Supervision and Engineering	402 - 510	606,686			11
12	Structures	402 - 511	967,805			12
13	Boiler	402 - 512	5,404,699			13
14	Electric	402 - 513	972,464			14
15	Miscellaneous	402 - 514	1,209,743	402 =	9,161,397.51	15
16						16
17	Hydro:					17
18	Supervision and Engineering	401 - 535	11,290			17A
19	Electric Expense	401 - 537 & 538	30,770			18
20	Miscellaneous Expense	401 - 539	13,173	401 =	55,233.00	19
21	Rents	401 - 540				20
22	Supervision & Engineering	402 - 541	22			21
23	Structures	402 - 542	7,294			22
24	Reservoirs - Dams	402 - 543	341,324			23
25	Electric	402 - 544	3,006			24
26	Miscellaneous Expense	402 - 545	6,468	402 =	358,114.00	25
27						26
28	IC:					27
29	Supervision and Engineering	401 - 546	121,216			28
30	Supervision and Engineering-Wind	401 - 546(W)	1,487,738			28A
31	Fuel	401 - 547	10,397,281			29
32	Generation Expense	401 - 548	471,033			29A
33	Generation Expense-Wind	401 - 548(W)	1,361,579			30
34	Miscellaneous Expense	401 - 549	1,426,052			31
35	Miscellaneous Expense-Wind	401 - 549(W)	4,165,532			32
36	Rents	401 - 550		401 =	21,279,055.00	33
37	Rents-Wind	401 - 550(W)	1,848,624			34
38	Supervision and Engineering	402 - 551	30,637			35
39	Supervision and Engineering-Wind	402 - 551(W)	170,196			36
40	Structures	402 - 552	84,795	402 =	4,538,545.00	37
41	Generating and Electric	402 - 553	1,033,581			38
42	Generating and Electric-Wind	402 - 553(W)	1,157,939			39
43	Miscellaneous Expense	402 - 554	267,415			40
44	Miscellaneous Expense-Wind	402 - 554(W)	1,793,982	Production 401 =	87,806,481.39	41
45				Production 402 =	14,058,056.51	42
46	Other Power Supply Expenses:					43
47	System Control and Dispatch	401 - 556	485,549			44
48	Other Expenses	401 - 557	26,453	401 =	512,002.00	45
49						46
50	Transmission Expenses:					47
51	Supervision and Engineering	401 - 560	231,636			48
52	Load Dispatching	401 - 561	4,161,282			49
53	Station Expense	401 - 562	342,727			50
54	Overhead Lines	401 - 563	794,989			51
55	Transmission of Electricity by Others	401 - 565	23,131,177			52
56	Miscellaneous Expense	401 - 566	927,529			53
57	Rents	401 - 567	36,260	401 =	30,385,410.76	54
58	Supervision and Engineering	402 - 568	310,515			55
59	Computer Hardware, Software, etc	402 - 569	969,859			56
60	Station Equipment	402 - 570	1,525,157			57
61	Overhead System	402 - 571	1,877,768			58
62	Underground Lines	402 - 572	130			59
63	Maintenance of Miscellaneous Plant	402 - 573	-			60
64	Day-Ahead & Real-Time and Transmission Market Expense	401 - 575	759,810			61
65	Computer Software	402 - 576	260,227	402 =	4,943,655.53	62
66						63
67	Distribution Expense:					64
68	Operation, Supervision & Engineering	401 - 580	408,414			65
69	Load Dispatching	401 - 581	195,497			66
70	Station Expenses	401 - 582	292,870			67
71	Line Expenses	401 - 583	255,626			68
72	Underground Line Expenses	401 - 584	2,380,523			69
73	Streetlighting & Signal System	401 - 585				70
74						71
75	Not Used	401 - 586.01				72
76	Not Used	401 - 586.02				73
77	Not Used	401 - 586.03				74
78	Not Used	401 - 586.04				75
79	Not Used	401 - 586.05				76
80	Not Used	401 - 586.06				77
81	Not Used	401 - 586.07				78
82	Meter Expenses:	401 - 586	2,109,573			
83	Other Distribution Expenses	401 - 587	1,401			
84	Miscellaneous Distribution Expenses	401 - 588	3,792,991			
85	Rents	401 - 589	233,543	401 =	9,670,442.78	
86	Maintenance, Supervision & Engineering	402 - 590	982,657			
87	Maintenance of Station Equipment	402 - 592	744,378			
88	Maintenance of Overhead Lines	402 - 593	4,154,764			
89	Maintenance of Underground Lines	402 - 594	805,694			
90	Maintenance of Line Transformers	402 - 595	236,669			
91	Maintenance of Streetlighting & Signal	402 - 596	176,602			
92	Maintenance of Meters:	402 - 597	597,884			
93	Not Used	402 - 597.01				
94	Not Used	402 - 597.02				
95	Not Used	402 - 597.03				
96	Maintenance of Property in A/C 371	402 - 598	184,398	402 =	7,883,045.56	

Line #	Description	(3) Statement Amounts Test Year 2024		2024 Functionalization		Page 3 of 6	Line #
		Accounts					
1	Customer Accounting:						1
2	Supervision	401 - 901	23,039				2
3	Meter Reading Expenses	401 - 902	5,849,342				3
4	Customer Records & Collection Expense	401 - 903	7,768,248				4
5	Uncollectible Accounts	401 - 904	1,200,621				5
6	Miscellaneous Expenses	401 - 905	1,187,249	401 =	16,028,499.40		6
7							7
8	Customer Service and Information Expense:						8
9	Supervision	401 - 907	765,449				9
10							10
11	Customer Assistance Expenses	401 - 908	1,892,860				11
12	Not Used	401 - 908.2					12
13	Not Used	401 - 908.3					13
14	Not Used	401 - 908.4					14
15	Not Used	401 - 908.11					15
16	Not Used	401 - 908.12					16
17	Not Used	401 - 908.13					17
18	Conservation Investment Program - SD	401 - 908.16	485,000				18
19	Conservation Investment Program - ND	401 - 908.17	0				19
20	Conservation Investment Program - MN	401 - 908.18	9,000,000				20
21	Not Used	401 - 908.22					21
22	Not Used	401 - 908.23					22
23	Info & Instr Advertising Expense	401 - 909	209,751				23
24	Miscellaneous Expenses	401 - 910	117,574	401 =	12,470,633.78		24
25							25
26	Sales Expenses:						26
27	Supervisory Labor and Expenses	401 - 911	12,190				27
28	Minnesota Economic Development	401 - 912	274,979				28
29	North Dakota Economic Development	401 - 912	5,943				29
30	South Dakota Economic Development	401 - 912					30
31	Not Used	401 - 912.04					31
32	Expenses - Sales & Demonstrations	401 - 912					32
33	Not Used	401 - 912.10					33
34	Not Used	401 - 912.11 & 12					34
35	Not Used	401 - 912.13					35
36	Not Used	401 - 912.14					36
37	Not Used	401 - 912.20					37
38	Not Used	401 - 912.21 & 22					38
39	Not Used	401 - 912.23					39
40	Not Used	401 - 912.24					40
41	Not Used	401 - 912.30					41
42	Not Used	401 - 912.32					42
43	Not Used	401 - 912.33					43
44	Not Used	401 - 912.34					44
45	Advertising	401 - 913	1,348				45
46	Miscellaneous Sales Expense	401 - 916	296,288				46
47	Not Used	401 - 916.02					47
48	Not Used	401 - 916.03					48
49	Not Used	401 - 916.04					49
50	Not Used	401 - 916.08					50
51	Not Used	401 - 916.10					51
52	Not Used	401 - 916.11					52
53	Not Used	401 - 916.12					53
54	Not Used	401 - 916.13					54
55	Not Used	401 - 916.20					55
56	Not Used	401 - 916.21					56
57	Not Used	401 - 916.22					57
58	Not Used	401 - 916.23					58
59	Not Used	401 - 916.30					59
60	Not Used	401 - 916.31					60
61	Not Used	401 - 916.32					61
62	Not Used	401 - 916.33		401 =	590,748.00		62
63							63
64	Operating Expenses - Admin & General:						64
65	Salaries, Office Supplies & Expenses	401 - 920	20,291,006				65
66	Various Admin & General Expenses	401 - 921	12,108,238				66
67	Capitalized Admin & General Expenses	401 - 922	(2,720,136)				67
68	Outside Services Employed	401 - 923	1,083,910				68
69	Property Insurance	401 - 924	2,729,000				69
70	Property Insurance-Wind	401 - 924(W)	1,501,959				70
71	Injuries & Damages	401 - 925	4,536,918				71
72	Employee Pensions & Benefits	401 - 926	1,079,198				72
73	Regulatory Commission Expenses	401 - 928	3,151,279				73
74	Miscellaneous General Expenses	401 - 930	3,520,649	A/C 930.01 Included in This Account			74
75	Informational Advertising	401 - 930.01					75
76	Rents	401 - 931	562,704	401 =	47,844,715.00		76
77	Maintenance Expenses	402 - 935	1,810,327	A/C 935.06 Included in This Account			77
78	Radio Load Control Equipment	402 - 935.06					78

Check Totals	Amounts
Total 401 =	205,308,933.11
Total 402 =	28,695,084.59
Plus 555 (2)	90,662,127
Total	324,666,144.70
Gt. Total (2)	324,666,145.00
Difference	(0.30)

(2) FDW Transactions - 2011 located in Misc W/P file
(3) FDW Transactions - 2011 located in Misc W/P file

Line #	Factors	Peak	Base	2024					Functionalization	Page 4 of 6	Line #
1	Base/Peak Split									1	
2	2024 Excluding Wind - (3)	24.03%	75.97%	100.00%						2	
3	2024 Wind - (4)	31.49%	68.51%	100.00%						3	
4										4	
5										5	
6	Distribution Rate Base:									6	
7	(3)	Primary Demand	Secondary Demand	Primary Customer	Secondary Customer	Street Lights	Area Lights	Meters	Load Management	7	
28										28	
29	Ending Balances									29	
30	Land	1,497,656								30	
31	Station Equipment	140,726,674	0	28,722,762	0	4,417,399	2,462,203			31	
32	Poles, Towers & Fixtures	53,111,404		1,772,760		2,438,389	1,468,736			32	
33	Overhead Conductors & Devices	36,618,097	18,726,676	0	0	0	0			33	
34	Underground Conduit	0	0	0	0	0	0			34	
35	Underground Conductors & Devices	22,850,922	2,693,847	88,663,816	11,481,631	2,716,000	1,635,950			35	
36	Line Transformers	0	82,044,955	0	48,909,996	0	0			36	
37	Services	0	11,596,627	0	2,591,703	0	0			37	
38	Underground Services	0	27,952,158	0	22,501,544	0	0			38	
39	Meters							28,397,520		39	
40	Smart Meters							36,169,600		40	
41	Load Management Switches								8,899,439	41	
42	Interruption Monitors				0					42	
43	Installation on Customers' Premises			0						43	
44	EV Charging		1,447,748		323,554					44	
45	All Other Private Lighting						10,003,929			45	
46	Streetlighting & Signal Systems					14,969,064				46	
47										47	
48	Total Ending Balances	254,804,753	144,462,010	119,159,338	87,462,552	24,540,852	15,570,818	64,567,120	8,899,439	48	
49										49	
50										50	
51	Distribution Expenses	Primary Demand	Secondary Demand	Primary Customer	Secondary Customer	Street Lights	Area Lights	Meters	Load Management	51	
52	Operation, Supervision & Engineering	54,423	40,602	96,890	40,146	3,382	2,023	170,949	0	52	
53	Load Dispatching	22,817	19,567	48,377	19,347	1,889	1,119	82,382	0	53	
54	Station Expenses	292,870								54	
55	Line Expenses	77,351	96,867	26,289	45,823	5,910	3,389			55	
56	Underground Line Expenses	301,376	404,184	1,169,369	448,197	35,821	21,576			56	
57	Streetlighting & Signal System					0				57	
58	Meter Expenses:							2,109,573	0	58	
59	Other Distribution Expenses				1,401					59	
60	Miscellaneous Distribution Expenses	505,430	377,080	899,826	372,843	31,406	18,788	1,587,619	0	60	
61	Rents	139,818	75,614	186,469	55,673	11,629	6,482			61	
62	Maintenance, Supervision & Engineering	497,564	167,994			57,942	17,015			62	
63	Maintenance of Station Equipment	744,378								63	
64	Maintenance of Overhead Lines	2,251,497	760,874	765,195	106,537	172,026	98,635			64	
65	Maintenance of Underground Lines	102,002	136,797	395,776	151,693	12,124	7,303			65	
66	Maintenance of Line Transformers		148,276		88,393					66	
67	Maintenance of Streetlighting & Signal					176,602				67	
68	Maintenance of Meters:							597,884	0	68	
69	Maintenance of Property in A/C 371	85,057	28,718	31,876	9,517	9,905	2,909	16,416	0	69	
70	Rounding	309.00	(13.00)	(191.00)	(12.00)	(26.00)	(15.00)	(53.00)		70	
71	Total Distribution Expenses	5,074,892	2,380,947	3,695,490	1,339,557	518,608	179,224	4,564,770	0	71	
72										72	
73										73	
74										74	
75		Production	Transmission	Distribution	Customer Accounting	Customer Service				75	
76	Labor Ratios: 2024 (1)	34.08%	16.21%	25.10%	19.97%	4.64%	1.000000			76	
77										77	

(1) C-2, Page 1 of 2

Line #	Amount	2024	Functionalization	Page 6 of 6	Line #
1	Customer Accounting Expenses				1
2	Meter Reading	5,857,762			2
3	Other	10,170,737			3
4					4
5	Total Customer Accounts	16,028,499			5
6					6
7	Customer Service & Info Expense - MN	9,000,000			7
8	- ND	0			8
9	- SD	485,000			9
10	- Other	2,985,634			10
11					11
12	Total Customer Serv & Information Exp	12,470,634			12
13					13
14	Sales Expenses - MN	274,979			14
15	- ND	5,943			15
16	- SD	0			16
17	- Other	309,826			17
18					18
19	Total Sales Expenses	590,748			19
20					20
21	Administrative & General Expenses				21
22	Salaries, Supplies, Pensions & Benefits				22
23	Production	10,482,304			23
24	Transmission	4,986,321			24
25	Distribution	7,720,546			25
26	Customer Accounts	6,142,118			26
27	Customer Service & Info	1,427,007			27
28					28
29	Total A&G Salaries, Supplies, Pensions & Benefits	30,758,296			29
30					30
31	Administrative & General Expenses				31
32	Load Management	0			32
33	Outside Services (A/C 923)	1,083,910			33
34	Property Insurance (A/C 924)	4,230,959			34
35	Injuries & Damages (A/C 925)	4,536,918			35
36					36
37	General Advertising (A/C 930.1)	0			37
38	Misc, Rents, Maintenance	5,893,680			38

Line		(A) Total Company 2024 Regulatory Year	(B) 2024 Test Year Adjustments		(C) Changes in Allocations Due to Effect of Test Year Adjustments	(D) OTP Total Company 2024 Test Year	(E) ND Allocation	(F) OTP ND 2024 Test Year
			Normalize Langdon Upgrade Project					
1	Plant in Service							
2	A/C 101 & 106 - Direct MN	\$0			\$0	0.0%	\$0	
3	A/C 101 & 106 - Direct ND	\$0			\$0	100.0%	\$0	
4	A/C 101 & 106 - Direct SD	\$0			\$0	0.0%	\$0	
5	Subtotal A/C 101 & 106 - Direct Assign	\$0			\$0		\$0	
6	Production Plant							
7	A/C 101 & 106 - Base Demand (E1)	\$615,526,547			\$615,526,547	43.9%	\$270,055,397	
8	A/C 101 & 106 - Peak Demand (D1)	\$401,843,629	7,338,769		\$409,182,398	39.5%	\$161,565,371	
9	A/C 101 & 106 - Base Energy (E2)	\$450,671,354	15,966,308		\$466,637,663	45.0%	\$209,898,506	
10	Subtotal A/C 101 & 106	\$1,468,041,531	23,305,077		\$1,491,346,608		\$641,519,275	
11								
12	A/C 114 - Base Demand (E1)	\$1,206,597			\$1,206,597	43.9%	\$529,381	
13	A/C 114 - Peak Demand (D1)	\$381,658			\$381,658	39.5%	\$150,697	
14	A/C 114 - Base Energy (E1)	\$0			\$0	43.9%	\$0	
15	Subtotal A/C 114	\$1,588,255			\$1,588,255		\$680,078	
16								
17	Total Production Plant	\$1,469,629,785	23,305,077		\$1,492,934,862		\$642,199,353	
18								
19	Transmission Plant							
20	A/C 101 & 106 (D2)	\$550,572,537			\$550,572,537	39.2%	\$215,798,007	
21	A/C 101 & 106 (Direct FERC)	\$274,079,794			\$274,079,794	0.0%	\$0	
22	A/C 114 (D2)	\$58,287			\$58,287	39.2%	\$22,846	
23	Total Transmission Plant	\$824,710,618			\$824,710,618		\$215,820,853	
24								
25	Distribution Plant							
26	Primary Demand (D3)	\$254,804,754			\$254,804,754	46.5%	\$118,538,757	
27	Secondary Demand (D4)	\$143,014,221			\$143,014,221	48.7%	\$69,647,624	
28	Primary Customer (C2)	\$119,159,338			\$119,159,338	43.7%	\$52,084,671	
29	Secondary Customer (C3)	\$87,138,987			\$87,138,987	43.7%	\$38,091,926	
30	Streetlighting (C4)	\$24,540,852			\$24,540,852	41.7%	\$10,226,985	
31	Area Lighting (C5)	\$15,570,817			\$15,570,817	54.5%	\$8,488,723	
32	Meters (C6)	\$64,567,120			\$64,567,120	44.6%	\$28,784,055	
33	Load Management (C9)	\$8,899,439			\$8,899,439	43.7%	\$3,888,421	
34	Total Distribution Plant	\$717,695,529			\$717,695,529		\$329,751,162	
35								
36	General Plant							
37	Production (P10)	\$41,841,785			\$41,841,785	43.0%	\$17,998,620	
38	Transmission (D2)	\$19,903,693			\$19,903,693	39.2%	\$7,801,292	
39	Distribution (P60)	\$30,817,789			\$30,817,789	45.9%	\$14,159,489	
40	Customer Accounts (OXC)	\$24,517,242			\$24,517,242	43.9%	\$10,761,420	
41	Customer Service & Info (OXI)	\$5,696,124			\$5,696,124	44.0%	\$2,508,909	
42	Load Management (C9)	\$165,980			\$165,980	43.7%	\$72,521	
43	Total General Plant	\$122,942,613			\$122,942,613		\$53,302,252	
44								
45	Intangible Plant (P90)	\$42,134,377			\$42,134,377	43.4%	\$18,267,524	
46								
47	Total Plant in Service	\$3,177,112,923	23,305,077		\$3,200,418,000		\$1,259,341,144	
48								
49	Accumulated Depreciation							
50	Production Plant							
51	Base Demand (E1)	(\$276,623,436)	-		(\$276,623,436)	43.9%	(\$121,365,443)	
52	Peak Demand (D1)	(\$152,831,378)	(113,373)		(\$152,944,750)	39.5%	(\$60,390,123)	
53	Base Energy (E2)	(\$142,138,944)	(246,654)		(\$142,385,598)	45.0%	(\$64,046,533)	
54	Total Production Plant	(\$571,593,758)	(360,027)		(\$571,953,785)		(\$245,802,099)	
55								
56	Transmission Plant (D2)	(\$159,735,443)			(\$159,735,443)	39.2%	(\$62,608,627)	
57	Transmission Plant - Direct FERC	(\$25,180,544)			(\$25,180,544)	0.0%	\$0	
58	Total Transmission Plant	(\$184,915,987)			(\$184,915,987)		(\$62,608,627)	
59								
60	Distribution Plant (P60)	(\$268,541,408)			(\$268,541,408)	45.9%	(\$123,383,576)	
61								
62	General Plant (P90)	(\$50,534,999)			(\$50,534,999)	43.4%	(\$21,909,647)	
63								
64	Intangible Plant (P90)	(\$17,387,448)			(\$17,387,448)	43.4%	(\$7,538,396)	
65								
66	Total Accumulated Depreciation	(\$1,092,973,600)	(360,027)		(\$1,093,333,627)		(\$461,242,344)	

	(A)	(B)	(C)	(D)	(E)	(F)
		2024 Test Year Adjustments				
Line	Total Company 2024 Regulatory Year	Normalize Langdon Upgrade Project	Changes in Allocations Due to Effect of Test Year Adjustments	OTP Total Company 2024 Test Year	ND Allocation	OTP ND 2024 Test Year
67						
68	Total Net Plant in Service	\$2,084,139,322	22,945,050	\$2,107,084,372		\$798,098,800

Line		(A)	(B)	(C)	(D)	(E)	(F)
		Total Company 2024 Regulatory Year	2024 Test Year Adjustments Normalize Langdon Upgrade Project	Changes in Allocations Due to Effect of Test Year Adjustments	OTP Total Company 2024 Test Year	ND Allocation	OTP ND 2024 Test Year
69							
70	Plant Held for Future Use						
71	Production Plant (P10)	\$0			\$0	43.0%	\$0
72	Transmission Plant (D2)	\$9,038			\$9,038	39.2%	\$3,542
73	Distribution Plant (P60)	\$3,000			\$3,000	45.9%	\$1,378
74	General Plant (P90)	\$0			\$0	43.4%	\$0
75	Intangible Plant (P90)	\$0			\$0	43.4%	\$0
76	Total Plant Held for Future Use	\$12,038			\$12,038		\$4,921
77							
78	Unamortized Holding Company Expense						
79	Unamortized Holding Company Expense - MN	\$0			\$0	0.0%	\$0
80	Unamortized Holding Company Expense - ND	\$0			\$0	100.0%	\$0
81	Unamortized Holding Company Expense - SD	\$0			\$0	0.0%	\$0
82	Unamortized Holding Company Expense - FERG	\$0			\$0	0.0%	\$0
83	Total Unamortized Holding Company Expense				\$0		\$0
84							
85	CIP Tracker Balance						
86	CIP Tracker - MN	\$0			\$0	0.0%	\$0
87	CIP Tracker - ND	\$0			\$0	100.0%	\$0
88	CIP Tracker - SD	\$0			\$0	0.0%	\$0
89	CIP Tracker - FERC	\$0			\$0	0.0%	\$0
90	Total CIP Tracker Balance				\$0		\$0
91							
92	Const Work-in-Progress - Direct Assigned						
93	Production Plant - Direct MN	\$0			\$0	0.0%	\$0
94	Production Plant - Direct ND	\$0			\$0	100.0%	\$0
95	Production Plant - Direct SD	\$0			\$0	0.0%	\$0
96	Production Plant - Direct FERC	\$0			\$0	0.0%	\$0
97	Transmission Plant - Direct MN	\$0			\$0	0.0%	\$0
98	Transmission Plant - Direct ND	\$0			\$0	100.0%	\$0
99	Transmission Plant - Direct SD	\$0			\$0	0.0%	\$0
100	Transmission Plant - Direct FERC	\$0			\$0	0.0%	\$0
101	Distribution Plant - Direct MN	\$0			\$0	0.0%	\$0
102	Distribution Plant - Direct ND	\$0			\$0	100.0%	\$0
103	Distribution Plant - Direct SD	\$0			\$0	0.0%	\$0
104	Distribution Plant - Direct FERC	\$0			\$0	0.0%	\$0
105	General Plant - Direct MN	\$0			\$0	0.0%	\$0
106	General Plant - Direct ND	\$0			\$0	100.0%	\$0
107	General Plant - Direct SD	\$0			\$0	0.0%	\$0
108	General Plant - Direct FERC	\$0			\$0	0.0%	\$0
109	Intangible Plant - Direct MN	\$0			\$0	0.0%	\$0
110	Intangible Plant - Direct ND	\$0			\$0	100.0%	\$0
111	Intangible Plant - Direct SD	\$0			\$0	0.0%	\$0
112	Intangible Plant - Direct FERC	\$0			\$0	0.0%	\$0
113	Total CWIP - Major Projects - Direct Assigned	\$0			\$0		\$0
114							
115	Const Work-in-Progress - Short-Term	\$0					
116	Production Plant (P10)	\$0			\$0	43.0%	\$0
117	Transmission Plant (D2)	\$359,000			\$359,000	39.2%	\$140,711
118	Distribution Plant (P60)	\$1,086,337			\$1,086,337	45.9%	\$499,127
119	General Plant (P90)	\$325,581			\$325,581	43.4%	\$141,157
120	Intangible Plant (P90)	\$0			\$0	43.4%	\$0
121	Total CWIP - Short-Term	\$1,770,919			\$1,770,919		\$780,995
122							
123	Const Work-in-Progress - Long Term						
124	Production Plant (AFUDC Projects P10)	\$0			\$0	43.0%	\$0
125	Production Plant (Rider Projects)	\$0			\$0	0.0%	\$0
126	Transmission Plant (AFUDC Projects)	\$0			\$0	0.0%	\$0
127	Transmission Plant (Rider Projects)	\$0			\$0	0.0%	\$0
128	Distribution Plant (P60)	\$0			\$0	45.9%	\$0
129	General Plant (P90)	\$0			\$0	43.4%	\$0
130	Intangible Plant (P90)	\$0			\$0	43.4%	\$0
131	Total CWIP - Long Term AFUDC Projects	\$0			\$0	0.0%	\$0
132	Total CWIP - Long Term Rider Projects	\$0			\$0	0.0%	\$0
133							
134	Total Construction Work-in-Progress	\$1,770,919			\$1,770,919		\$780,995

Line		(A)	(B)	(C)	(D)	(E)	(F)
		Total Company 2024 Regulatory Year	2024 Test Year Adjustments Normalize Langdon Upgrade Project	Changes in Allocations Due to Effect of Test Year Adjustments	OTP Total Company 2024 Test Year	ND Allocation	OTP ND 2024 Test Year
135							
136	Materials & Supplies						
137	Production (P10)	\$8,651,753			\$8,651,753	43.0%	\$3,721,629
138	Transmission (D2)	\$9,116,226			\$9,116,226	39.2%	\$3,573,123
139	Distribution (P60)	\$16,199,114			\$16,199,114	45.9%	\$7,442,817
140	Total Materials and Supplies	\$33,967,093			\$33,967,093		\$14,737,569
141							
142	Fuel Stocks						
143	Coal Stocks (E1)	\$8,165,846			\$8,165,846	43.9%	\$3,582,674
144	Fuel Oil Stocks (D1)	\$2,310,865			\$2,310,865	39.5%	\$912,443
145	Total Fuel Stocks	\$10,476,711			\$10,476,711		\$4,495,117
146							
147	Prepayments (NEPIS)	\$49,187,427			\$49,187,427	37.9%	\$18,630,685
148							
149	Customer Advances & Deposits						
150	Customer Advances & Deposits (NEPIS)	(\$1,876,522)			(\$1,876,522)	37.9%	(\$710,769)
151	Customer Deposits (Direct MN)				\$0	100.0%	\$0
152							
153	Cash Working Capital	\$3,629,386			\$3,629,386		\$1,464,907
154							
155	Accumulated Deferred Income Taxes						
156	<i>Items SD Flows Through</i>						
157	Federal (NPMNR)	(\$27,894)			(\$27,894)	41.5%	(\$11,583)
158	Minnesota (NPISM)	\$0			\$0	0.0%	\$0
159	North Dakota (NPISN)	\$0			\$0	98.7%	\$0
160	<i>Subtotal</i>	(\$27,894)			(\$27,894)		(\$11,583)
161	<i>All Other</i>						
162	Federal (NEPIS EXDA)	(\$294,490,488)			(\$294,490,488)	42.9%	(\$126,341,211)
163	Federal (Direct FERC)	(\$20,921,619)			(\$20,921,619)	0.0%	\$0
164	Minnesota (NPISM)	\$0			\$0	0.0%	\$0
165	North Dakota (NPISN)	(\$50,073,352)			(\$50,073,352)	98.7%	(\$49,415,878)
166	<i>Subtotal</i>	(\$365,485,459)			(\$365,485,459)		(\$175,757,089)
167							
168	Total Accumulated Deferred Income Taxes	(\$365,513,353)			(\$365,513,353)		(\$175,768,672)
169							
170	Unamortized Rate Case Expenses						
171	Minnesota	\$0			\$0	0.0%	\$0
172	North Dakota	\$0			\$0	100.0%	\$0
173	South Dakota	\$0			\$0	0.0%	\$0
174	FERC	\$0			\$0	0.0%	\$0
175	Total Unamortized Rate Case Expenses	\$0			\$0		\$0
176							
177	Total Average Rate Base	\$1,815,793,022	22,945,050	-	\$1,838,738,072		\$661,733,554

Line		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
		Total Company 2024 Regulatory Year	Rate Case Expenses	Normalize Langdon Upgrade Project	Normalize Pension and PRM	Non-Employee Director Restricred Stock	Rider Roll-In	ESSRP	Employe Recognition and Gift Expense
1	Operating Revenues								2024 Test Year
2	Sales of Electricity - Minnesota (Direct MN/R10)	\$237,847,135							
3	Sales of Electricity - North Dakota (Direct ND/R10)	\$205,989,209	-	-			(\$23,302,321)		
4	Sales of Electricity - South Dakota (Direct SD/R10)	\$44,029,611	-	-					
5	Sales of Electricity - FERC (Direct FERC/R10)	\$0	-	-					
6	Total Retail Sales	\$487,865,955	\$0	\$0	\$0	\$0	(\$23,302,321)	\$0	\$0
7									
8	Other Operating Revenues								
9	Other Sales for Resale								
10	Municipalities (Direct FERC)	\$0	-	-					
11	Non-Asset Wholesale Transactions (D2)	\$0	-	-					
12	All Other Transactions	\$0	-	-					
13	Base Demand (E1)	\$0	-	-					
14	Peak Demand (D1)	\$0	-	-					
15	Base Energy (E2)	\$6,947,794	-	-					
16	Peak Energy (D1)	\$0	-	-					
17									
18	Total Other Sales for Resale	\$6,947,794	\$0	\$0	\$0	\$0	\$0	\$0	\$0
19									
20	Other Electric Revenues								
21	Late Fees - Minnesota (Direct MNC1)	\$395,253	-	-					
22	Late Fees - North Dakota (Direct ND/C1)	\$316,187	-	-					
23	Late Fees - South Dakota (Direct SD/C1)	\$38,441	-	-					
24	Subtotal Late Fees	\$809,881	\$0	\$0	\$0	\$0	\$0	\$0	\$0
25	Connection Fees - Minnesota (Direct MNC1)	\$171,798	-	-					
26	Connection Fees - North Dakota (Direct ND/C1)	\$136,812	-	-					
27	Connection Fees - South Dakota (Direct SD/C1)	\$31,922	-	-					
28	Subtotal Connection Fees	\$340,532	\$0	\$0	\$0	\$0	\$0	\$0	\$0
29	Rent from Electric Property (NEPIS)	\$435,931	-	-					
30	Rent from Electric Property - Big Stone (NEPIS)	\$1,395,880	-	-					
31	Rent from Electric Property - Coyote (NEPIS)	\$0	-	-					
32	Other Miscellaneous Electric Revenue (NEPIS)	\$0	-	-					
33	Other Miscellaneous Electric Revenue (Direct MNC1)	\$0	-	-					
34	Other Miscellaneous Electric Revenue (Direct ND/C1)	\$0	-	-					
35	Other Miscellaneous Electric Revenue (Direct SD/C1)	\$0	-	-					
36	Subtotal Other Miscellaneous Electric Revenue	\$1,831,811	\$0	\$0	\$0	\$0	\$0	\$0	\$0
37	Integrated Transmission Deficiency Payments (NEPIS)	\$848,757	-	-					
38	Miscellaneous Services (NEPIS)	\$0	-	-					
39	Wheeling - All Jurisdictions (NEPIS)	\$425,279	-	-					
40	Load Control & Dispatching, MAPP & MISO (NEPIS EXDA)	\$19,546,874	-	-					
41	Load Control & Dispatching, MAPP & MISO (Direct FERC)	\$32,012,996	-	-					
42	Subtotal Load Control & Dispatching, MAPP & MISO	\$52,833,906	\$0	\$0	\$0	\$0	\$0	\$0	\$0
43	Loan Pool Interest - Minnesota (Direct MNC1)	\$0	-	-					
44	Loan Pool Interest - North Dakota (Direct ND/C1)	\$0	-	-					
45	Loan Pool Interest - South Dakota (Direct SD/C1)	\$0	-	-					
46	Subtotal Loan Pool Interest	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
47	Total Other Electric Revenues	\$55,816,130	\$0	\$0	\$0	\$0	\$0	\$0	\$0
48									
49	Total Other Operating Revenues	\$62,763,924	\$0	\$0	\$0	\$0	\$0	\$0	\$0
50									
51	Total Operating Revenues	\$550,629,879	\$0	\$0	\$0	\$0	(\$23,302,321)	\$0	\$0
52									
53	Operating Expenses								
54	Production Expenses								
55	<i>Production Expenses Excl Purchased Power</i>								
56	Base Demand (E1)	\$15,513,031	-	-	735,266				
57	Peak Demand (D1)	\$8,562,412	-	-	232,571				
58	Base Energy (E2)	\$67,526,672	-	-					
59	Peak Energy (D1)	\$10,397,281	-	-					
60	Base Demand (Direct MN)	\$0	-	-					
61	Peak Demand (Direct MN)	\$377,143	-	-					
62	Total Excluding Purchased Power	\$102,376,539	\$0	\$0	\$967,837	\$0	\$0	\$0	\$0
63									
64	<i>Purchased Power</i>								
65	Base Demand (E1)	\$1,921,959	-	-					
66	Peak Demand (D1)	\$0	-	-					
67	Base Energy (E2)	\$91,559,032	-	-					
68	Peak Energy (D1)	\$0	-	-					
69	Total Purchased Power	\$93,480,991	-	-					
70	Total Production Expenses	\$195,857,530	\$0	\$0	\$967,837	\$0	\$0	\$0	\$0
71									
72	Transmission Expenses (D2)	\$35,329,066	-	-	610,424				

Line		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
		Total Company 2024 Regulatory Year	Rate Case Expenses	Normalize Langdon Upgrade Project	Normalize Pension and PRM	Non-Employee Director Restricred Stock	Rider Roll-In	ESSRP	Employe Recognition and Gift Expense
73	Transmission Exoenses (Direct MN)	\$0	-	-					
74	Transmission Expenses (Direct FERC)	\$0	-	-					
75	Total Transmission Expenses	\$35,329,066	\$0	\$0	\$610,424	\$0	\$0	\$0	\$0
76									
77	Distribution Expenses								
78	Primary Demand (D3)	\$5,074,895	-	-	124,574				
79	Secondary Demand (D4)	\$2,180,947	-	-	92,940				
80	Primary Customer (C2)	\$3,695,488	-	-	221,782				
81	Secondary Customer (C3)	\$1,339,557	-	-	91,895				
82	Streelighting (C4)	\$518,608	-	-	7,741				
83	Area Lighting (C5)	\$179,224	-	-	4,631				
84	Meters (C6)	\$4,564,769	-	-	391,304				
85	Load Management (C9)	\$0	-	-					
86	Total Distribution	\$17,553,488	\$0	\$0	\$934,867	\$0	\$0	\$0	\$0
87									
88	Customer Accounting Expenses								
89	Meter Reading (C7)	\$5,857,762	-	-	216,613				
90	Other (C8)	\$10,170,737	-	-	376,101				
91	Total Customer Accounts	\$16,028,499	\$0	\$0	\$592,714	\$0	\$0	\$0	\$0
92									
93	Customer Service & Info Expenses								
94	Conservation & DSM Rebates - MN (Direct MN/E2)	\$9,000,000	-	-	109,283				
95	Conservation & DSM Rebates - ND (Direct ND/E2)	\$0	-	-					
96	Conservation & DSM Rebates - SD (Direct SD/E2)	\$485,000	-	-	5,899				
97	Other (C1)	\$2,985,633	-	-	36,253				
98	Total Customer Serv & Infomation Exp	\$12,470,633	\$0	\$0	\$151,425	\$0	\$0	\$0	\$0
99									
100	Sales Expenses								
101	Off-Peak Development - MN (Direct MN/C1)	\$274,979	-	-					
102	Off-Peak Development - ND (Direct ND/C1)	\$0	-	-					
103	Off-Peak Development - SD (Direct SD/C1)	\$0	-	-					
104	Other (C1)	\$308,479	-	-					
105	Total Sales Expenses	\$583,458	\$0	\$0	\$0	\$0	\$0	\$0	\$0
106									
107	Administrative & General Expenses								
108	<i>Salaries, Supplies, Pensions & Benefits</i>								
109	Production (OXPD)	\$8,891,759	-	-	895,984	208,215		48,555	76,811
110	Transmission (D2)	\$4,229,715	-	-	426,210	99,046		23,097	36,538
111	Distribution (OXD)	\$6,549,060	-	-	659,920	153,357		35,762	56,574
112	Customer Accounts (OXC)	\$5,210,136	-	-	525,003	122,004		28,451	45,007
113	Customer Service & Info (C1)	\$1,210,478	-	-	121,975	28,345		6,610	10,457
114	Total A&G Salaries, Supp, Pensions & Benefits	\$26,091,148	\$0	\$0	\$2,629,092	\$610,967	\$0	\$142,475	\$225,387
115									
116	Load Management (C9)	\$0	-	-					
117	Outside Services (A/C 923) (NEPIS)	\$1,083,910	-	-					
118	Property Insurance (A/C 924) (NEPIS)	\$4,230,959	-	-					
119	Injuries & Damages (A/C 925) (NEPIS)	\$4,536,918	-	-					
120	Regulatory Commission Exp (A/C 928) - MN (Direct MN/R10)	\$1,518,965	-	-					
121	Regulatory Commission Exp (A/C 928) - ND (Direct ND/R10)	\$502,550	359,404	-					
122	Regulatory Commission Exp (A/C 928) - SD (Direct SD/R10)	\$113,656	-	-					
123	Regulatory Commission Exp (A/C 928) - FERC (Direct FERC/R)	\$1,016,109	-	-					
124	Total Regulatory Commission Expense	\$3,151,280	\$359,404	\$0	\$0	\$0	\$0	\$0	\$0
125	General Advertising (A/C 930.1) (C1)	\$0	-	-					
126	Misc. Rents, Maintenance (P90)	\$4,799,643	-	-					
127	Total Administrative & General Expense	\$43,893,858	\$359,404	\$0	\$2,629,092	\$610,967	\$0	\$142,475	\$225,387
128									
129	Charitable Contributions (& Cust Dep Int)								
130	Minnesota Only (Direct MN/C1)	\$0	-	-					
131	North Dakota Only (Direct ND/C1)	\$0	-	-					
132	South Dakota Only (Direct SD/C1)	\$0	-	-					
133	Total Charitable Contributions (& Cust Dep Int)	\$0	-	-					
134									
135	Total O & M Expenses	\$321,716,532	\$359,404	\$0	\$5,886,359	\$610,967	\$0	\$142,475	\$225,387
136									
137	Depreciation Expense								
138	Production								
139	Base Demand (E1)	\$15,980,135	-	-					
140	Peak Demand (D1)	\$10,730,060	-	356,314					
141	Base Energy (E2)	\$12,347,461	-	775,201					
142	Total Production	\$39,057,656	\$0	\$1,131,515	\$0	\$0	\$0	\$0	\$0
143	Transmission (D2)	\$6,706,848	-	-					
144	Transmission (Direct FERC)	\$4,176,849	-	-					

Line		(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)
		Total Company 2024 Regulatory Year	Rate Case Expenses	Normalize Langdon Upgrade Project	Normalize Pension and PRM	Non-Employee Director Restricred Stock	Rider Roll-In	ESSRP	Employe Recognition and Gift Expense
145	Total Transmission	\$12,883,697	\$0	\$0	\$0	\$0	\$0	\$0	\$0
146	Distribution (P60)	\$18,610,423	-	-					
147	General (P90)	\$4,236,745							
148	Intangible (P90)	\$4,617,449							
149	Total Depreciation Expense	\$79,405,970	\$0	\$1,131,515	\$0	\$0	\$0	\$0	\$0
150									
157									
158	General Taxes (NEPIS EXDA)	\$16,557,620							
159	General Taxes (Direct FERC)	\$2,136,276							
160	Total General Taxes	\$18,693,896	\$0	\$0	\$0	\$0	\$0	\$0	\$0
161									
162	Total Operating Expense Before Tax	678,945,176	359,404	1,131,515	9,143,626	610,967		142,475	225,387
163									
164	Net Operating Income Before Tax	\$130,813,481	(\$359,404)	(\$1,131,515)	(\$5,886,359)	(\$610,967)	(\$23,302,321)	(\$142,475)	(\$225,387)
165									
166	Wind Investment Tax Credit & Production Tax Credit								
167	Amortization of Prior Year Credit (EPIS)	(\$741,779)							
168	Production Tax Credits (E2)	(\$5,886,693)							
169	Investment Tax Credits (EPIS)	\$0							
170	Debits Utilized (EPIS)								
171	Total Wind Investment Tax Credit & Production Tax Credit	(\$6,628,472)	\$0	\$0	\$0	\$0	\$0	\$0	\$0
172									
173	Deferred Income Taxes								
174	Items SD Flows Through	\$0							
175	Federal (NPMNR)	\$0							
176	Minnesota (NPISM)	\$0	-	-					
177	North Dakota (NPISN)	(\$31,934)	-	-					
178	Subtotal	(\$31,934)	-	-					
179	All Other								
180	Transfer of federal current income taxes due to NOL	\$897,726	-	-					
181	Federal (NEPIS)	\$12,091,374	-	-					
182	Federal (NEPIS)	\$12,989,100	\$0	\$0	\$0	\$0	\$0	\$0	\$0
183	Transfer of Minnesota current income taxes due to NOL	\$198,272	-	-					
184	Minnesota (NPISM)	\$3,663,420	-	-					
185	Minnesota (NPISM)	\$3,861,692	\$0	\$0	\$0	\$0	\$0	\$0	\$0
186	Transfer of North Dakota current income taxes due to NOL	(\$104,822)	-	-					
187	North Dakota (NPISN)	\$1,122,373	-	-					
188	North Dakota (NPISN)	\$1,017,551	\$0	\$0	\$0	\$0	\$0	\$0	\$0
189	Subtotal	\$17,868,343	-	-					
190	Total Deferred Income Taxes	\$17,836,409	\$0	\$0	\$0	\$0	\$0	\$0	\$0
191									
192	Current Income Taxes								
193	Federal Current Income Tax Transfer due to NOL	(\$897,726)	-	-					
194	Federal Current Income Tax	\$897,726	-	-					
195	Federal Income Taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
196	Minnesota Income Tax Transfer due to NOL	(\$198,272)	-	-					
197	Minnesota Income Tax	\$198,272	-	-					
198	Minnesota Income Taxes (Direct MN)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
199	North Dakota Income Tax Transfer due to NOL	\$0	-	-					
200	North Dakota Income Tax	\$0	-	-					
201	North Dakota Income Taxes (Direct ND)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
202	Subtotal State Income Taxes	\$0	-	-					
203	Total Current Income Taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
204									
205	Total Income Taxes	\$11,207,937	\$0	\$0	\$0	\$0	\$0	\$0	\$0
206									
207	Net Operating Income	\$119,605,544	(\$359,404)	(\$1,131,515)	(\$5,886,359)	(\$610,967)	(\$23,302,321)	(\$142,475)	(\$225,387)
208									
212	Total Allowance for Funds Used During Construction	\$0							
213									
214	Total Available for Return	\$119,605,545	(\$359,404)	(\$1,131,515)	(\$5,886,359)	(\$610,967)	(\$23,302,321)	(\$142,475)	(\$225,387)

Line		Adjustments		(I)	(J)	(O)	(P)	(Q)	(R)	(S)
		Investor Relations	Long-Term Incentive	Total Test Year Adjustments	Changes in Allocations Due to Effect of Test Year Adjustments	OTP Total Company 2024 Test Year	ND Allocation	OTP ND 2024 Test Year		
1	Operating Revenues									
2	Sales of Electricity - Minnesota (Direct MN/R10)			-		\$237,847,135		0.00%		\$0
3	Sales of Electricity - North Dakota (Direct ND/R10)			(23,302,321)		\$182,686,888		100.00%		\$182,686,888
4	Sales of Electricity - South Dakota (Direct SD/R10)			-		\$44,029,611		0.00%		\$0
5	Sales of Electricity - FERC (Direct FERC/R10)			-		\$0		0.00%		\$0
6	Total Retail Sales	\$0	\$0	(\$23,302,321)		\$464,563,634				\$182,686,888
7										
8	Other Operating Revenues									
9	Other Sales for Resale									
10	Municipalities (Direct FERC)			-		\$0		0.00%		\$0
11	Non-Asset Wholesale Transactions (D2)			-		\$0		39.20%		\$0
12	All Other Transactions			-		\$0				\$0
13	Base Demand (E1)			-		\$0		43.87%		\$0
14	Peak Demand (D1)			-		\$0		39.48%		\$0
15	Base Energy (E2)			-		\$6,947,794		44.98%		\$3,125,191
16	Peak Energy (D1)			-		\$0		39.20%		\$0
17										
18	Total Other Sales for Resale	\$0	\$0	\$0		\$6,947,794				\$3,125,191
19										
20	Other Electric Revenues									
21	Late Fees - Minnesota (Direct MN/C1)			-		\$395,253		0.00%		\$0
22	Late Fees - North Dakota (Direct ND/C1)			-		\$316,187		100.00%		\$316,187
23	Late Fees - South Dakota (Direct SD/C1)			-		\$99,441		0.00%		\$0
24	Subtotal Late Fees	\$0	\$0	\$0		\$809,881				\$316,187
25	Connection Fees - Minnesota (Direct MN/C1)			-		\$171,798		0.00%		\$0
26	Connection Fees - North Dakota (Direct ND/C1)			-		\$136,812		100.00%		\$136,812
27	Connection Fees - South Dakota (Direct SD/C1)			-		\$31,922		0.00%		\$0
28	Subtotal Connection Fees	\$0	\$0	\$0		\$340,532				\$136,812
29	Rent from Electric Property (NEPIS)			-		\$435,931		37.88%		\$165,117
30	Rent from Electric Property - Big Stone (NEPIS)			-		\$1,395,880		37.88%		\$528,716
31	Rent from Electric Property - Coyote (NEPIS)			-		\$0		37.88%		\$0
32	Other Miscellaneous Electric Revenue (NEPIS)			-		\$0		37.88%		\$0
33	Other Miscellaneous Electric Revenue (Direct MN/C1)			-		\$0		44.05%		\$0
34	Other Miscellaneous Electric Revenue (Direct ND/C1)			-		\$0		44.05%		\$0
35	Other Miscellaneous Electric Revenue (Direct SD/C1)			-		\$0		44.05%		\$0
36	Subtotal Other Miscellaneous Electric Revenue	\$0	\$0	\$0		\$1,831,811				\$693,834
37	Integrated Transmission Deficiency Payments (NEPIS)			-		\$848,757		37.88%		\$321,483
38	Miscellaneous Services (NEPIS)			-		\$0		37.88%		\$0
39	Wheeling - All Jurisdictions (NEPIS)			-		\$425,279		0.00%		\$0
40	Load Control & Dispatching, MAPP & MISO (NEPIS EXDA)			-		\$19,546,874		42.90%		\$8,385,928
41	Load Control & Dispatching, MAPP & MISO (Direct FERC)			-		\$32,012,996		0.00%		\$0
42	Subtotal Load Control & Dispatching, MAPP & MISO	\$0	\$0	\$0		\$52,833,906				\$8,707,411
43	Loan Pool Interest - Minnesota (Direct MN/C1)			-		\$0		44.05%		\$0
44	Loan Pool Interest - North Dakota (Direct ND/C1)			-		\$0		44.05%		\$0
45	Loan Pool Interest - South Dakota (Direct SD/C1)			-		\$0		44.05%		\$0
46	Subtotal Loan Pool Interest	\$0	\$0	\$0		\$0				\$0
47	Total Other Electric Revenues	\$0	\$0	\$0		\$55,816,130				\$9,854,243
48										
49	Total Other Operating Revenues	\$0	\$0	\$0		\$62,763,924				\$12,979,434
50										
51	Total Operating Revenues	\$0	\$0	(\$23,302,321)		\$527,327,558				\$195,666,322
52										
53	Operating Expenses									
54	Production Expenses									
55	<i>Production Expenses Excl Purchased Power</i>									
56	Base Demand (E1)			735,266		\$16,248,297		43.87%		\$7,128,758
57	Peak Demand (D1)			232,571		\$8,794,983		39.48%		\$3,472,693
58	Base Energy (E2)			-		\$67,526,672		44.98%		\$30,374,206
59	Peak Energy (D1)			-		\$10,397,281		39.48%		\$4,105,359
60	Base Demand (Direct MN)			-		\$0		0.00%		\$0
61	Peak Demand (Direct MN)			-		\$377,143		0.00%		\$0
62	Total Excluding Purchased Power	\$0	\$0	\$967,837		\$103,344,376				\$45,081,016
63										
64	<i>Purchased Power</i>									
65	Base Demand (E1)			-		\$1,921,959		43.87%		\$843,238
66	Peak Demand (D1)			-		\$0		39.48%		\$0
67	Base Energy (E2)			-		\$91,559,032		44.98%		\$41,184,214
68	Peak Energy (D1)			-		\$0		39.48%		\$0
69	Total Purchased Power			-		\$93,480,991				\$42,027,452
70	Total Production Expenses	\$0	\$0	\$967,837		\$196,825,367				\$87,108,468
71										
72	Transmission Expenses (D2)			610,424		\$35,939,490		39.20%		\$14,086,555

Line	Adjustments		(I)	(J)	(O)	(P)	(Q)	(R)	(S)
	Investor Relations	Long-Term Incentive	Total Test Year Adjustments	Changes in Allocations Due to Effect of Test Year Adjustments	OTP Total Company 2024 Test Year	ND Allocation	OTP ND 2024 Test Year		
73			-				\$0	0.00%	\$0
74			-				\$0	0.00%	\$0
75			\$610,424				\$35,939,490		\$14,086,555
76									
77									
78			124,574				\$5,199,469	46.52%	\$2,418,866
79			92,940				\$2,273,887	48.70%	\$1,107,378
80			221,782				\$3,917,270	43.71%	\$1,712,243
81			91,895				\$1,431,452	43.71%	\$625,745
82			7,741				\$526,349	41.67%	\$219,347
83			4,631				\$183,855	54.52%	\$100,232
84			391,304				\$4,956,073	44.58%	\$2,209,420
85			-				\$0	43.69%	\$0
86			\$934,867				\$18,488,355		\$8,393,231
87									
88									
89			216,613				\$6,074,375	44.21%	\$2,685,753
90			376,101				\$10,546,838	43.71%	\$4,609,840
91			\$592,714				\$16,621,213		\$7,295,594
92									
93									
94			109,283				\$9,109,283	0.00%	\$0
95			-				\$0	100.00%	\$0
96			5,899				\$490,889	0.00%	\$0
97			36,253				\$3,021,886	44.05%	\$1,331,017
98			\$151,425				\$12,622,058		\$1,331,017
99									
100									
101			-				\$274,979	0.00%	\$0
102			-				\$0	100.00%	\$0
103			-				\$0	0.00%	\$0
104			-				\$308,479	44.05%	\$135,872
105			\$0				\$583,458		\$135,872
106									
107									
108									
109			967,481	2,197,046			\$11,088,805	42.44%	\$4,706,353
110			460,221	1,045,112			\$5,274,827	39.20%	\$2,067,479
111			712,580	1,618,193			\$8,167,253	45.40%	\$3,707,720
112			566,897	1,287,362			\$6,497,498	43.89%	\$2,851,964
113			131,708	299,095			\$1,509,573	44.05%	\$664,905
114			\$2,838,887	\$6,446,808			\$32,537,956		\$13,998,421
115									
116			-				\$0	43.69%	\$0
117			-				\$1,083,910	37.88%	\$410,552
118			-				\$4,230,959	37.88%	\$1,602,557
119			-				\$4,536,918	37.88%	\$1,718,445
120			-				\$1,518,965	0.00%	\$0
121			-		359,404		\$861,954	100.00%	\$861,954
122			-		-		\$113,656	0.00%	\$0
123			-		-		\$1,016,109	0.00%	\$0
124			\$0	\$0	\$359,404		\$3,510,684		\$861,954
125			-		-		\$0	44.05%	\$0
126			236,267	236,267	-		\$5,035,910	43.36%	\$2,183,338
127			\$236,267	\$2,838,887	\$7,042,479		\$50,936,337		\$20,775,268
128									
129									
130			-				\$0	44.05%	\$0
131			-				\$0	44.05%	\$0
132			-				\$0	44.05%	\$0
133			-				\$0	44.05%	\$0
134									
135			\$236,267	\$2,838,887	\$10,299,746		\$332,016,278		\$139,126,005
136									
137									
138									
139			-				\$15,980,135	43.87%	\$7,011,105
140			356,314				\$11,086,374	39.48%	\$4,377,447
141			775,201				\$13,122,662	44.98%	\$5,902,711
142			\$0	\$0	\$1,131,515		\$40,189,171		\$17,291,263
143			-		-		\$8,706,848	39.20%	\$3,412,666
144			-		-		\$4,176,849	0.00%	\$0

Line		Adjustments						
		(I) Investor Relations	(J) Long-Term Incentive	(O) Total Test Year Adjustments	(P) Changes in Allocations Due to Effect of Test Year Adjustments	(Q) OTP Total Company 2024 Test Year	(R) ND Allocation	(S) OTP ND 2024 Test Year
145	Total Transmission	\$0	\$0	\$0		\$12,883,697		\$3,412,666
146	Distribution (P60)			-		\$18,610,423	45.95%	\$8,550,713
147	General (P90)			-		\$4,236,745	43.36%	\$1,836,857
148	Intangible (P90)			-		\$4,617,449	43.36%	\$2,001,913
149	Total Depreciation Expense	\$0	\$0	\$1,131,515		\$80,537,485		\$33,093,414
150								
157								
158	General Taxes (NEPIS EXDA)			-		\$16,557,620	42.90%	\$7,103,489
159	General Taxes (Direct FERC)			-		\$2,136,276	0.00%	\$0
160	Total General Taxes	\$0	\$0	\$0		\$18,693,896		\$7,103,489
161								
162	Total Operating Expense Before Tax	236,267	2,838,887	14,688,528		693,633,704		290,570,156
163								
164	Net Operating Income Before Tax	(\$236,267)	(\$2,838,887)	(\$34,733,582)		\$96,079,899		\$16,343,414
165								
166	Wind Investment Tax Credit & Production Tax Credit							
167	Amortization of Prior Year Credit (EPIS)			-		(\$741,779)	39.35%	(\$291,885)
168	Production Tax Credits (E2)			-		(\$5,886,693)	44.98%	(\$2,647,896)
169	Investment Tax Credits (EPIS)			-		\$0	39.35%	\$0
170	Debits Utilized (EPIS)			-		\$0	39.35%	\$0
171	Total Wind Investment Tax Credit & Production Tax Credit	\$0	\$0	\$0	\$0	(\$6,628,472)		(\$2,939,781)
172								
173	Deferred Income Taxes							
174	Items SD Flows Through			-				
175	Federal (NPMNR)			-		\$0	41.53%	\$0
176	Minnesota (NPISM)			-		\$0	98.69%	\$0
177	North Dakota (NPISN)			-		(\$31,934)	98.69%	(\$31,515)
178	Subtotal			-		(\$31,934)		(\$31,515)
179	All Other							
180	Transfer of federal current income taxes due to NOL			-		(\$6,244,483)	100.00%	(\$6,241,694)
181	Federal (NEPIS)			-		\$12,091,374	37.88%	\$4,579,841
182	Federal (NEPIS)	\$0	\$0	\$0		\$5,846,891		(\$1,661,853)
183	Transfer of Minnesota current income taxes due to NOL			-		(\$336,807)		\$0
184	Minnesota (NPISM)			-		\$3,663,420	0.00%	\$0
185	Minnesota (NPISM)	\$0	\$0	\$0		\$3,326,613		\$0
186	Transfer of North Dakota current income taxes due to NOL			-		(\$1,339,764)		(\$1,339,764)
187	North Dakota (NPISN)			-		\$1,122,373	98.69%	\$1,107,636
188	North Dakota (NPISN)	\$0	\$0	\$0		(\$217,391)		(\$232,128)
189	Subtotal			-		\$8,956,113		(\$1,893,981)
190	Total Deferred Income Taxes	\$0	\$0	\$0		\$8,924,179		(\$1,925,497)
191								
192	Current Income Taxes							
193	Federal Current Income Tax Transfer due to NOL			-		\$6,241,694	0.00%	\$0
194	Federal Current Income Tax			-		(\$6,241,694)	0.00%	\$0
195	Federal Income Taxes			\$0		\$0		\$0
196	Minnesota Income Tax Transfer due to NOL			-		\$336,807		\$0
197	Minnesota Income Tax			-		(\$336,807)		\$0
198	Minnesota Income Taxes (Direct MN)	\$0	\$0	\$0		\$0		\$0
199	North Dakota Income Tax Transfer due to NOL			-		\$1,339,764	0.00%	\$0
200	North Dakota Income Tax			-		(\$1,339,764)	0.00%	\$0
201	North Dakota Income Taxes (Direct ND)	\$0	\$0	\$0		\$0		\$0
202	Subtotal State Income Taxes					\$0		\$0
203	Total Current Income Taxes	\$0	\$0	\$0		\$0		\$0
204								
205	Total Income Taxes	\$0	\$0	\$0		\$2,295,707		(\$4,865,278)
206								
207	Net Operating Income	(\$236,267)	(\$2,838,887)	(\$34,733,582)		\$93,784,192		\$21,208,693
208								
212	Total Allowance for Funds Used During Construction					\$0		\$0
213								
214	Total Available for Return	(\$236,267)	(\$2,838,887)	(\$34,733,582)		\$93,784,193		\$21,208,694

ADJUSTMENT TO ANNUALIZE PLANT-IN-SERVICE ON CURRENT AND FUTURE CAPITAL PROJECTS

Line No.	Plant-in-Service	(A)	(B)	(C)	(D)	(E)
		System-Wide	Allocation Factor	Allocation Percentage	ND Test-Year Amount	CLP B-3 Reference
	Additions & Retirements					
1						
2	Production (Wind)	23,305,077				
3	Peak Demand	7,338,769	D1	39.484927%	2,897,707	Col (B); Line 1
4	Base Energy	15,966,308	E2	44.981047%	7,181,813	Col (B); Line 1
5	Transmission	-	D2	50.297428%	0	
6	Distribution - Load Mgmt	-	D3	44.665400%	0	
7	General					
8	Production	-	P10	53.311371%	0	
9	Transmission	-	D2	50.297428%	0	
10	Distribution	-	P60	44.943677%	0	
11	Customer Acctg	-	OXC	47.321236%	0	
12	Customer Srvc	-	OXI	46.634204%	0	
13	Total General	<u>0</u>			<u>0</u>	
14	Intangible	<u>0</u>	P90	49.310850%	<u>0</u>	
15	Total Plant-in-Service Additions	<u>23,305,077</u>			<u>10,079,520</u>	Col (B); Line 6
	Accumulated Depreciation					
	Additions & Retirements					
16						
17	Production (Wind)	(360,027)				
	Peak Demand	(113,373)		39.484927%	(44,765)	Col (B); Line 7
	Base Energy	(246,654)		44.981047%	(110,948)	Col (B); Line 7
18	Transmission	0		50.297428%	0	
19	Distribution	0	P60	44.943677%	0	
20	General	0	P90	49.310850%	0	
21	Intangible	<u>0</u>	P90	49.310850%	<u>0</u>	
22	Total A/D Additions	<u>(360,027)</u>			<u>(155,713)</u>	Col (B); Line 12
	L-T Construction Work-in-Progress					
	Transfers					
23	Production	0	0	0.000000%	0	
24	Total CWIP Transfers	<u>(1)</u>			<u>0</u>	

OTTER TAIL POWER COMPANY
Reference Workpaper for 2024 ND TY-01 and Required Schedule C-7

TY-01
ND Share
2 of 3

ADJUSTMENT TO ANNUALIZE DEPRECIATION & OTHER OPERATING EXPENSE ON CURRENT & FUTURE CAPITAL PROJECTS

Line No.		(A)	(B)	(C)	(D)	(E)
	<u>Depreciation Expense</u>	<u>System-Wide</u>	<u>Allocation Factor</u>	<u>Allocation Percentage</u>	<u>ND Test-Year Amount</u>	<u>CLP C-7 Reference</u>
	Additions					
1						
2	Production	1,131,515				
3	Peak Demand	356,314	D1	39.484927%	140,690	
4	Base Energy	775,201	E2	44.981047%	348,693	
5	Transmission	0	D2	50.297428%	0	
6	Distribution	0	P60	44.943677%	0	
7	General	0	P90	49.310850%	0	
8	Intangible	0	P90	49.310850%	0	
9	Total Depreciation Expense Additions	1,131,515			489,384	Col (C); Line 14
10	<u>AFUDC in L-T CWIP Removed</u>	<u>0</u>	CWIPLT		<u>-</u>	
11	Operating Income Impact	(1,131,515)			(489,384)	
12	ND Tax Rate	24.405%				
13	Income Tax Impact: ND Tax Rate is	(276,145)			<u>(119,434)</u>	Col (B); Line 19
14	Net Operating Income Impact	<u>(855,370)</u>			<u>(369,950)</u>	Col (B); Line 23

Otter Tail Power Company
Capitalized Projects Adjustment
Adjustment Annualizes the Investment

TY-01
ND Share
2 of 3

(A)	(B)	(C)	(D)	(E)	(F)	
Projects Moved from CWIP @ 12/31/22 to Capitalized Accounts During 2024						
Line No.	Project	Project Description	Function	Amount in CWIP @ 12/31/23	Additional Charges Incurred During 2024	Total Project Costs
1		Langdon Repower	Production	25,055,154	21,555,000	46,610,154

(A)	(B)	(C)	(D)	(E)	(F)	(G)	
Test Year Adjustment to Plant in Service to Transfer Project Costs to Capitalized Accounts							
Line No.	Project	Project Description	Function	Amount Capitalized @ 12/31/23	Simple Average Plant-in-Service @ 12/31/24	Difference	2024 Test Year Plant-in-Service Adjustment
2		Langdon Repower	Production	-	23,305,077	23,305,077	23,305,077
3				Total 2024 Test Year Adjustment to Plant in Service			<u>23,305,077</u>

Otter Tail Power Company
Capitalized Projects Adjustment
Adjustment Annualizes the Investment

(A)	(B)	(C)	(D)	(E)	(F)	(G)	
Test Year Adjustment to Accumulated Depreciation to Reflect Increase in Plant in Service							
Line No.	Project	Project Description	Function	Simple Aver A/D @ 12/31/24	Simple Average A/D @ 12/31/24 TY	Difference	2024 Test Year A/D Adjustment
4		Langdon Repower	Production	(51,433)	(411,460)	(360,027)	(360,027)
5				Total 2024 Test Year Adjustment to Accumulated Depreciation			<u>(360,027)</u>

(A)	(B)	(C)	(D)	(E)	(F)	(G)	
Test Year Adjustment Depreciation Expense to Reflect Increase in Plant in Service							
Line No.	Project	Project Description	Function	Depreciation Expense 2024	Annual Depreciation Expense	Difference	2021 Test Year Expense Adjustment
6		Langdon Repower	Production	102,865	1,234,380	1,131,515	1,131,515
7				Total 2024 Test Year Adjustment to Depreciation Expense			<u>1,131,515</u>

OTTER TAIL POWER COMPANY
TEST YEAR ADJUSTMENTS

OTTER TAIL POWER COMPANY
Reference Workpaper for 2024 ND TY-02 and Required Schedule C-7

ADJUSTMENT FOR AMORTIZED RATE CASE EXPENSES

	(A)	(B)	(C)	(D)	(E)	
Line No.	Description	Total Utility	Allocator	Allocator %	ND	CLP C-7 Reference
1	2024 Rate Case Expense Adjustment	N/A	Directly Assigned	100.00%	359,404	Col (B); Line 12
2	Income Tax Impact: ND Tax Rate from Sch C-7 is 24.40%				<u>(87,712)</u>	Col (B); Line 21
3	Net Operating Income Impact				<u>(271,692)</u>	Col (B); Line 25

OTTER TAIL POWER COMPANY
TEST YEAR ADJUSTMENTS

Rate Case Expense Amortization

Line No.	(A) Description	(B) Amount
1	Rate Case Expenses	\$1,080,000
2	External Attorney Fees	\$750,000
3	Administrative Costs, Consultants, etc.	\$155,000
4	PSC Costs	175,000
5	Estimated rate case expenses	<u>\$1,080,000</u>
6	Regulated revenue	\$511,853,779
7	Unregulated revenue	<u>848,434</u>
8	Total regulated and unregulated revenue	<u>\$512,702,213</u>
9	Percent unregulated	0.17%
10	Less allocation to unregulated activity	\$1,787
11	Total estimated rate case expenses	<u>\$1,078,213</u>
12	Three Year amortization	\$359,404
13	2024 O&M Budget for FERC 928-ND	-
14	Amount of Test Year adjustment	<u>\$359,404</u>

OTTER TAIL POWER COMPANY
Reference Workpaper for 2024 ND TY-03 and Required Schedule C-7

TY-03
ND Share
1 of 1

Test Year Adjustment for Director Restricted Stock

Line No.	Description from JCOSS INPUT SUMMARY	(A) Total Utility	(B) Allocator	(C) Allocator %	(D) ND share	(E) CLP C-7 Reference
	Administrative and General Expense					
	<u>Salaries, Supplies, Pensions & Benefits</u>					
1	Production	208,218	OXPD	42.442380%	88,373	
2	Transmission	99,038	D2	39.195200%	38,818	
3	Distribution	153,353	OXD	45.397390%	69,618	
4	Customer Accounts	122,010	OXC	43.893270%	53,554	
5	Customer Service & Information	28,349	C1	44.045910%	12,487	
	Total A&G Salaries, Supplies, Pensions & Benefits	<u>610,968</u>			<u>262,850</u>	Col (E); Line 12
6	Total	<u>610,968</u>			<u>262,850</u>	Col (E); Line 16
7	Operating Income Impact	(610,968)			(262,850)	
8	Income Tax Impact: SD Tax Rate is 24.40%				<u>(64,148)</u>	Col (E); Line 21
9	Net Operating Income Impact				<u><u>(198,702)</u></u>	Col (E); Line 25

OTTER TAIL POWER COMPANY
Reference Workpaper for 2024 ND TY-04 and Required Schedule C-7

TY-04
ND Share
1 of 1

Normalization adjustment for Pension and Retiree Medical

Line No.	Description from JCOSS INPUT SUMMARY	(A) Total Utility	(B) Allocator	(C) Allocator %	(D) ND	(E) CLP C-7 Reference
<u>Production</u>						
1	Base Demand	735,266	E1	43.873883%	322,590	
2	Peak Demand	232,571	D1	39.484927%	91,831	
3	Total Production Expense	967,837			414,420	Col (D); Line 6
4	Transmission Expense	610,424	D2	39.195070%	239,257	Col (D); Line 7
<u>Distribution Expense</u>						
5	Primary Demand	124,575	D3	46.521407%	57,954	
6	Secondary Demand	92,940	D4	48.699789%	45,261	
7	Primary Customer	221,782	C2	43.710104%	96,941	
8	Secondary Customer	91,896	C3	43.713988%	40,171	
9	Streetlighting	7,741	C4	41.673311%	3,226	
10	Area Lighting	4,630	C5	54.516874%	2,524	
11	Meters	391,303	C6	44.580051%	174,443	
12	Load Management	-				
13	Total Distribution Expense	934,867			420,521	Col (D); Line 8
<u>Customer Accounting Expense</u>						
14	Meter Reading	216,613	C7	44.214500%	95,774	
15	Other	376,101	C8	43.708300%	164,387	
16	Total Customer Accounts	592,714			260,162	Col (D); Line 9
<u>Customer Service & Info Expense (MN CIP)</u>						
17	- MN	109,283	Direct	0.000000%	-	
18	- ND	-	Direct	0.000000%	-	
19	- SD	5,889	Direct	0.000000%	-	
20	- Other	36,253	C1	44.045900%	15,968	
21	Total Customer Service & Information Expense	151,425			15,968	Col (D); Line 10
<u>Administrative and General Expense</u>						
<u>Salaries, Supplies, Pensions & Benefits</u>						
22	Production	895,984	OXPD	42.442381%	380,277	
23	Transmission	426,210	D2	39.195070%	167,053	
24	Distribution	659,920	OXD	45.397391%	299,587	
25	Customer Accounts	525,003	OXC	43.893273%	230,441	
26	Customer Service & Information	121,975	C1	44.045900%	53,725	
	Total A&G Salaries, Supplies, Pensions & Benefits	2,629,092			1,131,083	Col (D); Line 12
27	Total	5,886,358			2,481,410	Col (D); Line 16
28	Operating Income Impact	(5,886,358)			(2,481,410)	
29	Income Tax Impact: SD Tax Rate is	24.40%			(605,586)	Col (D); Line 21
30	Net Operating Income Impact				(1,875,825)	Col (D); Line 25

OTTER TAIL POWER COMPANY
Reference Workpaper for 2024 TY-05 and Required Schedule C-7

TY-05
ND Share
Page 1 of 1

ADJUSTMENT FOR REMOVAL OF RIDER REVENUES

Line No.	Description	(A) Total Utility	(B) Allocator	(C) Allocator %	(D) ND	(E) CLP C-7 Reference
1	Remove Renewable Rider Revenues		N/A	Directly Assigned	(15,539,967)	
2	Remove Metering & Distribution Technology Rider Revenues		N/A	Directly Assigned	(618,840)	
3	Remove Generation Rider Revenues		N/A	Directly Assigned	(3,595,685)	
4	Remove Transmission Rider Revenues		N/A	Directly Assigned	(3,547,829)	
5	Operating Income Impact				<u>(23,302,321)</u>	Col (F); Line 2
6	Income Tax Impact: ND Tax Rate is 24.40%				<u>(5,686,908)</u>	Col (F); Line 21
7	Net Operating Income Impact				<u><u>(17,615,413)</u></u>	Col (F); Line 25

OTTER TAIL POWER COMPANY
Reference Workpaper for 2024 ND TY-06 and Required Schedule C-7

TY-06
ND Share
Page 1 of 1

Adjustment for Investor Relations

Line No.	Description from JCOSS INPUT SUMMARY	(A) Total Utility	(B) Allocator	(C) Allocator %	(D) ND share	(E) CLP C-7 Reference
	Administrative and General Expense					
1	Misc, Rents, Maintenance	236,267	P90	43.354130%	102,433	
2	Total	<u>236,267</u>			<u>102,433</u>	Col (I); Line 12
3	Operating Income Impact	(236,267)			(102,433)	
4	Income Tax Impact: SD Tax Rate is 24.40%				<u>(24,999)</u>	Col (I); Line 21
5	Net Operating Income Impact				<u>(77,433)</u>	Col (I); Line 25

OTTER TAIL POWER COMPANY
Reference Workpaper for 2024 ND TY-07 and Required Schedule C-7

Adjustment for Long-term Incentives

Line No.	Description from JCOSS INPUT SUMMARY	(A) Total Utility	(B) Allocator	(C) Allocator %	(D) ND share	(E) CLP C-7 Reference
	Administrative and General Expense					
	<u>Salaries, Supplies, Pensions & Benefits</u>					
1	Production	967,493	OXPD	42.442381%	410,606	
2	Transmission	460,184	D2	39.195200%	180,370	
3	Distribution	712,561	OXD	45.397391%	323,484	
4	Customer Accounts	566,926	OXC	43.893273%	248,842	
5	Customer Service & Information	131,724	C1	44.045905%	58,019	
	Total A&G Salaries, Supplies, Pensions & Benefits	<u>2,838,887</u>			<u>1,221,321</u>	Col (J); Line 12
6	Total	<u>2,838,887</u>			<u>1,221,321</u>	Col (J); Line 16
7	Operating Income Impact	(2,838,887)			(1,221,321)	
8	Income Tax Impact: SD Tax Rate is 24.40%				<u>(298,062)</u>	Col (J); Line 21
9	Net Operating Income Impact				<u><u>(923,259)</u></u>	Col (J); Line 25

OTTER TAIL POWER COMPANY
Reference Workpaper for 2024 ND TY-08 and Required Schedule C-7

Adjustment for Employee Recognition and Gifts

Line No.	Description from JCOSS INPUT SUMMARY	(A) Total Utility	(B) Allocator	(C) Allocator %	(D) ND share	(E) CLP C-7 Reference
	Administrative and General Expense					
	<u>Salaries, Supplies, Pensions & Benefits</u>					
1	Production	76,812	OXPD	42.442380%	32,601	
2	Transmission	36,535	D2	39.195200%	14,320	
3	Distribution	56,572	OXD	45.397390%	25,682	
4	Customer Accounts	45,010	OXC	43.893270%	19,756	
5	Customer Service & Information	10,458	C1	44.045910%	4,606	
	Total A&G Salaries, Supplies, Pensions & Benefits	<u>225,387</u>			<u>96,965</u>	Col (H); Line 12
6	Total	<u>225,387</u>			<u>96,964</u>	Col (H); Line 16
7	Operating Income Impact	(225,387)			(96,964)	
8	Income Tax Impact: SD Tax Rate is 24.40%				<u>(23,664)</u>	Col (H); Line 21
9	Net Operating Income Impact				<u><u>(73,300)</u></u>	Col (H); Line 25

OTTER TAIL POWER COMPANY
Reference Workpaper for 2024 ND TY-09 and Required Schedule C-7

TY-09
ND Share
Page 1 of 1

Adjustment for ESSRP

Line No.	Description from JCOSS INPUT SUMMARY	(A) Total Utility	(B) Allocator	(C) Allocator %	(D) ND share	(E) CLP C-7 Reference
	Administrative and General Expense					
	<u>Salaries, Supplies, Pensions & Benefits</u>					
1	Production	48,555	OXPD	42.442380%	20,608	
2	Transmission	23,095	D2	39.195200%	9,052	
3	Distribution	35,761	OXD	45.397390%	16,235	
4	Customer Accounts	28,452	OXC	43.893270%	12,489	
5	Customer Service & Information	6,611	C1	44.045910%	2,912	
	Total A&G Salaries, Supplies, Pensions & Benefits	<u>142,474</u>			<u>61,295</u>	Col (G); Line 12
6	Total	<u>142,474</u>			<u>61,294</u>	Col (G); Line 16
7	Operating Income Impact	(142,474)			(61,294)	
8	Income Tax Impact: SD Tax Rate is 24.40%				<u>(14,959)</u>	Col (G); Line 21
9	Net Operating Income Impact				<u><u>(46,335)</u></u>	Col (G); Line 25

OTTER TAIL POWER COMPANY
Reference Workpaper for 2024 ND TY-01 and Required Schedule C-7

TY-10
ND Share
Page 1 of 1

ADJUSTMENT FOR PLANT O&M OUTAGE EXPENSES

Line No.	Description	(A) Total Utility	(B) Allocator	(C) Allocator %	(D) ND	(E) CLP TBD Reference
1	2024 Plant Outage Adjustment					Col (D); Line 10
	Base	1,936,260	E1	43.873900%	849,513	
	Peak	612,457	D1	39.484900%	241,828	
	Total	<u>2,548,717</u>			<u>1,091,341</u>	
2	Operating Income Impact	(2,548,717)			(1,091,341)	
3	Income Tax Impact: ND Tax Rate is	24.40%			<u>266,341</u>	Col (D); Line 19
4	Net Operating Income Impact				(825,000)	Col (D); Line 21

OTTER TAIL POWER COMPANY
TEST YEAR ADJUSTMENTS

TY-02
Total Company
Page 2 of 2

Normalization of Plant O&M Outage Expenses
(A)

Line No.	Description	(B) Total	(C) Parntershare of Plant	(D) OTP Total
1	2022 Actual Coyote Outage Costs	\$9,758,662	35%	\$3,415,532
2	2021 Actual BSP Outage Costs	7,849,014	54%	4,230,619
3	Total Plant Outage Costs	\$17,607,676		<u>\$7,646,150</u>
4	Major Plant Outage occurs every 3 years			3
5	Additional outage costs per year for a normalized year			\$2,548,717
6	2024 Budgeted Major Outage Costs			-
7	Add outage costs to the 2024 O&M Budget			2,548,717

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget REGULATORY YEAR 2024 - Simple Average

LINE NO	ITEM	ALLOC	REFERENCE	TOTAL COMPANY	NORTH DAKOTA	ALL OTHER	LINE NO
1	RATE BASE		Page 2-1 Line 32	1,878,410,729	651,646,255	1,226,764,474	1
2							2
3	TOTAL AVAILABLE FOR RETURN		Page 7-1 Line 43	134,544,164	42,604,664	91,939,500	3
4							4
5	RATE OF RETURN EARNED			7.16%	6.54%	7.49%	5
6							6
7	RATE OF RETURN REQUESTED		Page 17-1 Line 11		7.41%		7
8							8
9	OPERATING INCOME REQUIRED				48,286,988		9
10							10
11	TOTAL AVAILABLE FOR RETURN				42,604,665		11
12							12
13	OPERATING INCOME DEFECIENCY				5,682,322		13
14							14
15	INCREMENTAL TAXES	GRCF = 1.322837			1,834,464		15
16							16
17	REVENUE INCREASE REQUIRED				7,516,785		17
18							18
19	PERCENTAGE INCREASE				3.65%		19
20							20
21							21
22							22
23							23
24							24
25	RETURN ON EQUITY				8.15%		25
26							26
27							27
28							28
29							29
30							30
31							31
32							32
33							33
34							34
35							35
36							36
37							37
38							38
39							39
40							40
41							41
42							42
43							43
44							44
45							45
46							46
47							47
48							48
49							49
50							50
51							51
52							52
53							53
54							54
55							55
56							56
57							57
58							58
59							59
60							60

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget REGULATORY YEAR 2024 - Simple Average

LINE NO	ITEM	ALLOC	REFERENCE	TOTAL COMPANY	NORTH DAKOTA	ALL OTHER	LINE NO
1	ELECTRIC PLANT IN SERVICE		Page 3-1 Line 52	3,238,912,922	1,249,259,538	1,989,653,384	1
2							2
3	ACCUMULATED DEPRECIATION		Page 4-12 Line 22	(1,094,302,064)	(461,085,774)	(633,216,290)	3
4							4
5	NET PLANT EXCLUDING BIG STONE PLANT CAPITALIZED ITEMS			2,144,610,858	788,173,764	1,356,437,095	5
6							6
7	NET CAPITALIZED ITEMS - BIG STONE PLANT		Page 4-1 Line 28	0	0	0	7
8							8
9	NET ELECTRIC PLANT IN SERVICE			2,144,610,858	788,173,764	1,356,437,095	9
10							10
11	PLANT HELD FOR FUTURE USE		Page 4-1 Line 47	12,038	4,921	7,117	11
12							12
13	CONSTRUCTION WORK IN PROGRESS		Page 5-1 Line 31	1,770,919	780,990	989,928	13
14							14
15	MATERIALS AND SUPPLIES		Page 5-1 Line 39	33,967,093	14,737,248	19,229,845	15
16							16
17	FUEL STOCKS		Page 5-1 Line 46	10,476,711	4,495,117	5,981,594	17
18							18
19	PREPAYMENTS		Page 5-1 Line 49	49,187,428	18,601,559	30,585,869	19
20							20
21	CUSTOMER ADVANCES		Page 5-1 Line 51	(1,876,522)	(709,657)	(1,166,864)	21
22							22
23	CASH WORKING CAPITAL		Page 5-1 Line 53	5,775,557	1,304,937	4,470,621	23
24							24
25	ACCUMULATED DEFERRED INCOME TAXES		Page 6-1 Line 16	(365,513,353)	(175,742,621)	(189,770,733)	25
26							26
27	UNAMORTIZED BALANCE - SPIRITWOOD		Page 6-1 Line 19	0	0	0	27
28							28
29	UNAMORTIZED RATE CASE EXPENSE		Page 6-1 Line 22	0	0	0	29
30							30
31							31
32	TOTAL AVERAGE RATE BASE			1,878,410,729	651,646,257	1,226,764,472	32
33							33
34							34
35							35
36							36
37							37
38							38
39							39
40							40
41							41
42							42
43							43
44							44
45							45
46							46
47							47
48							48
49							49
50							50
51							51
52							52
53							53
54							54
55							55
56							56
57							57
58							58
59							59
60							60

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget REGULATORY YEAR 2024 - Simple Average

LINE NO	ITEM	ALLOC	FERC ACCOUNTS	TOTAL COMPANY	NORTH DAKOTA	ALL OTHER	LINE NO
1	PLANT IN SERVICE						1
2	A/C 101 & 106 - Direct MN	Direct MN		61,800,001	0	61,800,001	2
3	A/C 101 & 106 - Direct ND	Direct ND		0	0	0	3
4	A/C 101 & 106 - Direct SD	Direct SD		0	0	0	4
5	Subtotal A/C 101 & 106 - Direct Assigned			61,800,001	0	61,800,001	5
6							6
7	PRODUCTION PLANT						7
8	A/C 101 & 106 - BASE DEMAND	E1		615,526,547	270,055,400	345,471,147	8
9	PEAK DEMAND	D1		401,843,629	158,667,665	243,175,964	9
10	BASE ENERGY	E2		450,671,354	202,716,696	247,954,659	10
11							11
12	SUBTOTAL A/C 101 & 106			1,529,841,532	631,439,760	898,401,772	12
13							13
14	A/C 114 - BASE DEMAND	E1		1,206,597	529,381	677,216	14
15	PEAK DEMAND	D1		381,658	150,697	230,960	15
16	BASE ENERGY	E1		0	0	0	16
17							17
18	SUBTOTAL A/C 114			1,588,255	680,078	908,176	18
19							19
20	TOTAL PRODUCTION PLANT	P10	310-317, 330-335, 340-347	1,531,429,786	632,119,838	899,309,948	20
21							21
22							22
23	TRANSMISSION PLANT						23
24	A/C 101 & 106	D2		550,572,537	215,798,006	334,774,531	24
25	A/C 101 & 106 (Direct FERC)	Direct FERC		274,079,794	0	274,079,794	25
26	A/C 114	D2		58,287	22,846	35,441	26
27							27
28	TOTAL TRANSMISSION PLANT		350-350.1, 353-356, 358	824,710,618	215,820,852	608,889,767	28
29							29
30							30
31	DISTRIBUTION PLANT						31
32	PRIMARY DEMAND	D3	360, 362, 364-365, 367	254,804,754	118,538,756	136,265,998	32
33	SECONDARY DEMAND	D4	365, 367-369.1	143,014,220	69,647,623	73,366,597	33
34	PRIMARY CUSTOMER	C2	364-365, 367	119,159,338	52,084,671	67,074,667	34
35	SECONDARY CUSTOMER	C3	365, 367-369.1, 370.2	87,138,987	38,091,927	49,047,061	35
36	STREETLIGHTING	C4	364-365, 367, 373	24,540,852	10,226,986	14,313,866	36
37	AREA LIGHTING	C5	364-365, 367, 371.2	15,570,818	8,488,723	7,082,095	37
38	METERS	C6	370	64,567,120	28,784,055	35,783,065	38
39	LOAD MANAGEMENT	C9	370.1	8,899,439	3,888,421	5,011,018	39
40							40
41	TOTAL DISTRIBUTION PLANT	P60		717,695,528	329,751,161	387,944,367	41
42							42
43							43
44	GENERAL PLANT						44
45	PRODUCTION	P10		41,841,785	17,997,065	23,844,720	45
46	TRANSMISSION	D2		19,903,693	7,801,292	12,102,401	46
47	DISTRIBUTION	P60		30,817,789	14,159,489	16,658,300	47
48	CUSTOMER ACCOUNTS	OXC		24,517,241	10,761,420	13,755,822	48
49	CUSTOMER SERVICE & INFO	OXI		5,696,124	2,508,909	3,187,215	49
50	LOAD MANAGEMENT	C9	397.3	165,980	72,521	93,459	50
51							51
52	TOTAL GENERAL PLANT	P90	389-398, 390.1-390.3, 391.1-391.6, 394.2, 397.1-397.2	122,942,613	53,300,696	69,641,917	52
53							53
54							54
55	INTANGIBLE PLANT	P90	302-303	42,134,377	18,266,991	23,867,386	55
56							56
57							57
58	TOTAL PLANT IN SERVICE	EPIS		3,238,912,922	1,249,259,538	1,989,653,384	58
59							59
60							60
61							61
62							62
63							63
64							64
65							65
66							66

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget REGULATORY YEAR 2024 - Simple Average

NORTH DAKOTA

PAGE 4 - 1

LINE NO	ITEM	ALLOC	FERC ACCOUNTS	TOTAL COMPANY	NORTH DAKOTA	ALL OTHER	LINE NO
1	ACCUMULATED DEPRECIATION						1
2	PRODUCTION PLANT						2
3	BASE DEMAND	E1	108, 115	(276,623,436)	(121,365,444)	(155,257,992)	3
4	PEAK DEMAND	D1	108, 115	(152,831,378)	(60,345,358)	(92,486,019)	4
5	BASE ENERGY	E2	108	(142,138,944)	(63,935,586)	(78,203,358)	5
6	Direct MN						6
7	TOTAL PRODUCTION PLANT			(572,922,222)	(245,646,388)	(327,275,834)	7
8							8
9							9
10	TRANSMISSION PLANT	D2	108, 115	(159,735,443)	(62,608,626)	(97,126,817)	10
11	TRANSMISSION PLANT (Direct FERC)	Direct FERC		(25,180,544)	0	(25,180,544)	11
12	TOTAL TRANSMISSION PLANT			(184,915,987)	(62,608,626)	(122,307,361)	12
13							13
14							14
15	DISTRIBUTION PLANT	P60	108, 115	(268,541,408)	(123,383,576)	(145,157,832)	15
16							16
17							17
18	GENERAL PLANT	P90	108	(30,534,999)	(21,909,007)	(28,625,991)	18
19							19
20							20
21	INTANGIBLE PLANT	P90	108	(17,387,448)	(7,538,176)	(9,849,272)	21
22							22
23							23
24	TOTAL ACCUMULATED DEPRECIATION			(1,094,302,064)	(461,085,774)	(633,216,290)	24
25							25
26							26
27	NET PLANT EXCLUDING BSP CAPITALIZED ITEMS			2,144,610,858	788,173,764	1,356,437,095	27
28							28
29							29
30	BSP CAPITALIZED ITEMS	P10		0	0	0	30
31							31
32							32
33	TOTAL NET PLANT IN SERVICE	NEPIS		2,144,610,858	788,173,764	1,356,437,095	33
34							34
35							35
36							36
37							37
38							38
39							39
40							40
41							41
42	PLANT HELD FOR FUTURE USE						42
43	PRODUCTION PLANT	P10		0	0	0	43
44	TRANSMISSION PLANT	D2		9,038	3,542	5,496	44
45	DISTRIBUTION PLANT	P60		3,000	1,378	1,622	45
46	GENERAL PLANT	P90		0	0	0	46
47	INTANGIBLE PLANT	P90		0	0	0	47
48							48
49	TOTAL PLANT HELD FOR FUTURE USE		105	12,038	4,921	7,117	49
50							50
51							51
52							52
53							53
54							54
55							55
56							56
57							57
58							58
59							59
60							60
61							61
62							62

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget REGULATORY YEAR 2024 - Simple Average

LINE NO	ITEM	ALLOC	FERC ACCOUNTS	TOTAL COMPANY	NORTH DAKOTA	ALL OTHER	LINE NO
1	<u>CONST WORK-IN-PROGRESS - Direct Assigned</u>						1
2	PRODUCTION PLANT - Direct MN	P10	Directly Assigned to Jurisdiction	0	0	0	2
3	PRODUCTION PLANT - Direct ND	P10	Directly Assigned to Jurisdiction	0	0	0	3
4	PRODUCTION PLANT - Direct SD	P10	Directly Assigned to Jurisdiction	0	0	0	4
5	PRODUCTION PLANT - Direct FERC	Direct FERC	Directly Assigned to FERC	0	0	0	5
6	TRANSMISSION PLANT - Direct MN	D2	Directly Assigned to Jurisdiction	0	0	0	6
7	TRANSMISSION PLANT - Direct ND	D2	Directly Assigned to Jurisdiction	0	0	0	7
8	TRANSMISSION PLANT - Direct SD	D2	Directly Assigned to Jurisdiction	0	0	0	8
9	TRANSMISSION PLANT - Direct FERC	Direct FERC	Directly Assigned to FERC	0	0	0	9
10	DISTRIBUTION PLANT - Direct MN	P60	Directly Assigned to Jurisdiction	0	0	0	10
11	DISTRIBUTION PLANT - Direct ND	P60	Directly Assigned to Jurisdiction	0	0	0	11
12	DISTRIBUTION PLANT - Direct SD	P60	Directly Assigned to Jurisdiction	0	0	0	12
13	DISTRIBUTION PLANT - Direct FERC	Direct FERC	Directly Assigned to FERC	0	0	0	13
14	GENERAL PLANT - Direct MN	P90	Directly Assigned to Jurisdiction	0	0	0	14
15	GENERAL PLANT - Direct ND	P90	Directly Assigned to Jurisdiction	0	0	0	15
16	GENERAL PLANT - Direct SD	P90	Directly Assigned to Jurisdiction	0	0	0	16
17	GENERAL PLANT - Direct FERC	Direct FERC	Directly Assigned to FERC	0	0	0	17
18	INTANGIBLE PLANT - Direct MN	P90	Directly Assigned to Jurisdiction	0	0	0	18
19	INTANGIBLE PLANT - Direct ND	P90	Directly Assigned to Jurisdiction	0	0	0	19
20	INTANGIBLE PLANT - Direct SD	P90	Directly Assigned to Jurisdiction	0	0	0	20
21	INTANGIBLE PLANT - Direct FERC	Direct FERC	Directly Assigned to FERC	0	0	0	21
22	TOTAL CWIP - Direct Assigned		ALLOWED ONLY IN MN & FERC	0	0	0	22
23							23
24							24
25	<u>CONST WORK-IN-PROGRESS - SHORT-TERM</u>						25
26	PRODUCTION PLANT	P10		0	0	0	26
27	TRANSMISSION PLANT	D2		359,000	140,711	218,289	27
28	DISTRIBUTION PLANT	P60		1,086,337	499,127	587,211	28
29	GENERAL PLANT	P90		325,581	141,153	184,428	29
30	INTANGIBLE PLANT	P90		0	0	0	30
31	TOTAL CWIP - SHORT-TERM		ALLOWED ONLY IN MN, ND & FERC	1,770,919	780,990	989,928	31
32							32
33							33
34							34
35	<u>CONST WORK-IN-PROGRESS - LONG TERM</u>						35
36	PRODUCTION PLANT (AFUDC Projects)	P10		0	0	0	36
37	PRODUCTION PLANT (Rider Projects)	P10		0	0	0	37
38	TRANSMISSION PLANT (AFUDC Projects)	D2		0	0	0	38
39	TRANSMISSION PLANT (Rider Projects)	D2		0	0	0	39
40	DISTRIBUTION PLANT	P60		0	0	0	40
41	GENERAL PLANT	P90		0	0	0	41
42	INTANGIBLE PLANT	P90		0	0	0	42
43	TOTAL CWIP - LONG TERM - AFUDC Projects		ALLOWED ONLY IN MN & FERC	0	0	0	43
44	TOTAL CWIP - LONG TERM - Rider Projects			0	0	0	44
45							45
46							46
47							47
48	TOTAL CONSTRUCTION WORK-IN-PROGRESS		107	1,770,919	780,990	989,928	48
49							49
50							50
51	<u>MATERIALS & SUPPLIES</u>						51
52	PRODUCTION	P10		8,651,753	3,721,308	4,930,445	52
53	TRANSMISSION	D2		9,116,226	3,573,123	5,543,103	53
54	DISTRIBUTION	P60		16,199,114	7,442,817	8,756,297	54
55	TOTAL MATERIALS AND SUPPLIES		154, 158.1	33,967,093	14,737,248	19,229,845	55
56							56
57							57
58	<u>FUEL STOCKS</u>						58
59	COAL STOCKS	E1		8,165,846	3,582,674	4,583,172	59
60	FUEL OIL STOCKS	D1		2,310,865	912,443	1,398,422	60
61							61
62	TOTAL FUEL STOCKS		1510	10,476,711	4,495,117	5,981,594	62
63							63
64							64
65	PREPAYMENTS	NEPIS	128, 228.3	49,187,428	18,601,559	30,585,869	65
66							66
67	CUSTOMER ADVANCES	NEPIS	235, 253	(1,876,522)	(709,657)	(1,166,864)	67
68							68
69	CASH WORKING CAPITAL	OX		5,775,557	1,304,937	4,470,621	69
70							70
71							71
72							72
73							73
74							74
75							75
76							76
77							77

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget REGULATORY YEAR 2024 - Simple Average

PAGE 6 - 1

LINE NO	ITEM	ALLOC	FERC ACCOUNTS	TOTAL COMPANY	NORTH DAKOTA	ALL OTHER	LINE NO
1	ACCUMULATED DEFERRED INCOME TAXES						1
2	<u>ITEMS SD FLOWS THROUGH</u>						2
3	FEDERAL	NPMNR		(27,894)	(11,564)	(16,330)	3
4	MINNESOTA	NPISM		0	0	0	4
5	NORTH DAKOTA	NPISN		0	0	0	5
6							6
7	SUBTOTAL			(27,894)	(11,564)	(16,330)	7
8							8
9	<u>ALL OTHER</u>						9
10	FEDERAL	NEPIS EXDA		(294,490,488)	(126,327,051)	(168,163,438)	10
11	FEDERAL (Direct FERC)	Direct FERC		(20,921,619)	0	(20,921,619)	11
12	MINNESOTA	NPISM		0	0	0	12
13	NORTH DAKOTA	NPISN		(50,073,352)	(49,404,006)	(669,346)	13
14							14
15	SUBTOTAL			(365,485,459)	(175,731,057)	(189,754,402)	15
16							16
17	TOTAL ACCUMULATED DEFERRED INCOME TAXES		190,255,281-283	(365,513,353)	(175,742,621)	(189,770,733)	17
18							18
19							19
20	UNAMORTIZED BALANCE - SPIRITWOOD PLANT	P10		0	0	0	20
21							21
22							22
23	UNAMORTIZED RATE CASE EXPENSES	R10		0	0	0	23
24							24
25							25
26							26
27							27
28	TOTAL AVERAGE RATE BASE			1,878,410,729	651,646,257	1,226,764,472	28
29							29
30							30
31							31
32							32
33							33
34							34
35							35
36							36
37							37
38							38
39							39
40							40
41							41
42							42
43							43
44							44
45							45
46							46
47							47
48							48
49							49
50							50
51							51
52							52
53							53
54							54
55							55

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget REGULATORY YEAR 2024 - Simple Average

LINE NO	ITEM	ALLOC	TOTAL COMPANY	NORTH DAKOTA	ALL OTHER	LINE NO
1	OPERATING REVENUES					1
2	SALES OF ELECTRICITY		487,865,956	205,989,209	281,876,746	2
3	OTHER OPERATING REVENUE		62,763,924	12,976,906	49,787,018	3
4						4
5	TOTAL OPERATING REVENUE		550,629,880	218,966,115	331,663,764	5
6						6
7						7
8	OPERATING EXPENSES					8
9	PRODUCTION EXPENSES		195,480,388	86,694,044	108,786,343	9
10	TRANSMISSION EXPENSES		35,329,066	13,847,298	21,481,768	10
11	DISTRIBUTION EXPENSES		17,553,489	7,972,703	9,580,786	11
12	CUSTOMER ACCOUNTING EXPENSES		16,028,499	7,035,433	8,993,066	12
13	CUSTOMER SERVICE AND INFORMATION EXPENSES		12,470,633	1,315,049	11,155,584	13
14	SALES EXPENSES		583,457	135,872	447,585	14
15	ADMINISTRATIVE AND GENERAL EXPENSES		43,893,859	17,534,200	26,359,659	15
16	CHARITABLE CONTRIBUTIONS		0	0	0	16
17	DEPRECIATION EXPENSE		79,405,970	32,603,918	46,802,053	17
18	AMORTIZATION OF BIG STONE PLANT CAPITALIZED COSTS		0	0	0	18
19	SPIRITWOOD AMORTIZATION		0	0	0	19
20	GENERAL TAXES		18,693,896	7,102,692	11,591,204	20
21						21
22	TOTAL OPERATING EXPENSES		419,439,257	174,241,209	245,198,048	22
23						23
24				0		24
25	NET OPERATING INCOME BEFORE INCOME TAXES		131,190,623	44,724,906	86,465,717	25
26						26
27						27
28	INCOME TAX EXPENSE					28
29	INVESTMENT TAX CREDIT		(6,628,472)	(2,939,568)	(3,688,904)	29
30	DEFERRED INCOME TAXES		2,209,233	5,059,809	(2,850,575)	30
31	INCOME TAXES		7,381,694	0	7,381,694	31
32						32
33	TOTAL INCOME TAX EXPENSE		2,962,455	2,120,241	842,214	33
34						34
35						35
36						36
37	NET OPERATING INCOME		128,228,167	42,604,665	85,623,502	37
38						38
39						39
40	Allowance for Funds Used During Construction		6,315,997	0	6,315,997	40
41	Allowance for Funds Used During Construction - MN Only		0	0	0	41
42	Allowance for Funds Used During Construction - SD Only		0	0	0	42
43	TOTAL ALLOWANCE FOR FUNDS USED DURING CONSTRUCTION		6,315,997	0	6,315,997	43
44						44
45				0		45
46	TOTAL AVAILABLE FOR RETURN		134,544,164	42,604,665	91,939,499	46
47						47
48						48
49						49
50						50
51	AVERAGE CENTS PER KWH					51
52						52
53						53
54						54
55						55
56						56
57						57
58						58
59						59
60						60
61						61
62						62
63						63

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget REGULATORY YEAR 2024 - Simple Average

LINE NO	ITEM	ALLOC	FERC ACCOUNTS		TOTAL COMPANY	NORTH DAKOTA	ALL OTHER	LINE NO
1	OPERATING REVENUES							1
2								2
3	SALES OF ELECTRICITY	R10	440,442,444-445	108,115	487,865,956	205,989,209	281,876,746	3
4								4
5								5
6	OTHER OPERATING REVENUES							6
7	SALES FOR RESALE							7
8	MUNICIPALITIES & OFF SYSTEM SALES			DIRECTLY ASSIGNED TO FERC JURISDICTION	0	0	0	8
9	NON-ASSOCIATED UTILITIES, CO-OPS & OPA							9
10	BUY SELL TRANSACTIONS	D2			0	0	0	10
11	ALL OTHER TRANSACTIONS							11
12	BASE DEMAND	E1			0	0	0	12
13	PEAK DEMAND	D1			0	0	0	13
14	BASE ENERGY	E2			6,947,794	3,125,191	3,822,604	14
15	PEAK ENERGY	D1			0	0	0	15
16								16
17	TOTAL ALL OTHER TRANSACTIONS				6,947,794	3,125,191	3,822,604	17
18								18
19	TOTAL SALES FOR RESALE				6,947,794	3,125,191	3,822,604	19
20								20
21								21
22	OTHER ELECTRIC REVENUES							22
23	LATE FEES	C1	450	DIRECTLY ASSIGNED TO JURISDICTION	809,880	316,187	493,694	23
24	CONNECTION FEES	C1	451	DIRECTLY ASSIGNED TO JURISDICTION	340,532	136,812	203,720	24
25	RENT FROM ELECTRIC PROPERTY	NEPIS	454		435,931	164,859	271,072	25
26	RENT FROM ELECTRIC PROPERTY - BIG STONE	NEPIS	454		0	0	0	26
27	RENT FROM ELECTRIC PROPERTY - COYOTE	NEPIS	454		0	0	0	27
28	OTHER MISC ELECTRIC REVENUE	NEPIS	456		1,395,880	527,890	867,990	28
29	OTHER MISC ELECTRIC REVENUE - MN	C1	456	DIRECTLY ASSIGNED TO JURISDICTION	0	0	0	29
30	OTHER MISC ELECTRIC REVENUE - ND	C1	456	DIRECTLY ASSIGNED TO JURISDICTION	0	0	0	30
31	OTHER MISC ELECTRIC REVENUE - SD	C1	456	DIRECTLY ASSIGNED TO JURISDICTION	0	0	0	31
32	ITA DEFICIENCY PAYMENTS	NEPIS	456		848,757	320,980	527,777	32
33		NEPIS			0	0	0	33
34	MISCELLANEOUS SERVICES	NEPIS			0	0	0	34
35	WHEELING		456	DIRECTLY ASSIGNED TO FERC JURISDICTION	425,279	0	425,279	35
36	LOAD CONTROL AND DISPATCH	NEPIS EXDA	456		19,546,874	8,384,987	11,161,887	36
37	LOAD CONTROL AND DISPATCH (Direct FERC)	Direct FERC	456	DIRECTLY ASSIGNED TO FERC JURISDICTION	32,012,996	0	32,012,996	37
38	RESIDENTIAL CONSERVATION SERVICES	C1	456	DIRECTLY ASSIGNED TO JURISDICTION	0	0	0	38
39								39
40	TOTAL OTHER ELECTRIC REVENUES				55,816,129	9,851,715	45,964,414	40
41								41
42	TOTAL OTHER OPERATING REVENUES				62,763,924	12,976,906	49,787,018	42
43								43
44						0		44
45	TOTAL OPERATING REVENUES				550,629,880	218,966,115	331,663,764	45
46								46
47								47
48								48
49								49
50								50
51								51
52								52
53								53
54								54
55								55
56								56
57								57
58								58
59								59
60								60
61								61
62								62
63								63
64								64

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget REGULATORY YEAR 2024 - Simple Average

LINE NO	ITEM	ALLOC	FERC ACCOUNTS	TOTAL COMPANY	NORTH DAKOTA	ALL OTHER	LINE NO
1	OPERATING EXPENSES						1
2	PRODUCTION EXPENSES						2
3	PROD EXPENSES EXCLUDING PURCHASED POWER						3
4	BASE DEMAND	E1	500, 502, 505-507, 509-511, 535, 537-543, 546, 548-554, 556-557	15,513,031	6,806,169	8,706,862	4
5	PEAK DEMAND	D1	500, 502, 506-507, 509-511, 535, 537-543, 546, 548-554, 556-557	8,562,412	3,380,862	5,181,550	5
6	BASE ENERGY	E2	501, 512-514, 544-546, 548-554	67,526,672	30,374,204	37,152,468	6
7	PEAK ENERGY	D1	547	10,397,281	4,105,359	6,291,922	7
8	BASE DEMAND (Direct MN)			0	0	0	8
9	PEAK DEMAND (Direct MN)			0	0	0	9
10							10
11	TOTAL EXCLUDING PURCHASED POWER			101,999,397	44,666,595	57,332,802	11
12					0		12
13	PURCHASED POWER				0		13
14	BUY SELL TRANSACTIONS	D2		0	0	0	14
15	ALL OTHER TRANSACTIONS			0	0	0	15
16	BASE DEMAND	E1	555	1,921,959	843,238	1,078,721	16
17	PEAK DEMAND	D1		0	0	0	17
18	BASE ENERGY	E2	555	91,559,032	41,184,212	50,374,820	18
19	PEAK ENERGY	D1		0	0	0	19
20							20
21	TOTAL ALL OTHER TRANSACTIONS			93,480,991	42,027,450	51,453,541	21
22							22
23	TOTAL PURCHASED POWER			93,480,991	42,027,450	51,453,541	23
24							24
25	TOTAL PRODUCTION EXPENSES			195,480,388	86,694,044	108,786,343	25
26							26
27							27
28	TRANSMISSION EXPENSES	D2	560, 561.1-561.2, 561.4-561.6, 562-563, 565-568, 569.1-569.3, 570-573	35,329,066	13,847,298	21,481,768	28
29	TRANSMISSION EXPENSES (Direct MN)			0	0	0	29
30	TRANSMISSION EXPENSES (Direct FERC)	Direct FERC		0	0	0	30
31	TOTAL TRANSMISSION EXPENSES			35,329,066	13,847,298	21,481,768	31
32							32
33							33
34	DISTRIBUTION EXPENSES						34
35	PRIMARY DEMAND	D3	580-584, 588-590, 592-594, 598	5,074,583	2,360,768	2,713,816	35
36	SECONDARY DEMAND	D4	580-581, 583-584, 588-590, 593-595, 598	2,180,960	1,062,123	1,118,837	36
37	PRIMARY CUSTOMER	C2	580-581, 583-584, 588-590, 593-594, 598	3,695,681	1,615,386	2,080,295	37
38	SECONDARY CUSTOMER	C3	580-581, 583-584, 587-588, 590, 593-595, 598	1,339,569	585,579	753,990	38
39	STREETLIGHTING	C4	580-581, 583-585, 588-590, 593-594, 596, 598	518,634	216,132	302,502	39
40	AREA LIGHTING	C5	580-581, 583-584, 588-590, 593-594, 598	179,239	97,715	81,523	40
41	METERS	C6	580-581, 586, 588, 597-598	4,564,823	2,035,000	2,529,822	41
42	LOAD MANAGEMENT	C9		0	0	0	42
43							43
44	TOTAL DISTRIBUTION	OXD		17,553,489	7,972,703	9,580,786	44
45							45
46	CUSTOMER ACCOUNTING EXPENSES						46
47	METER READING	C7	901-902	5,857,762	2,589,979	3,267,783	47
48	OTHER	C8	901, 903-905	10,170,737	4,445,454	5,725,283	48
49							49
50	TOTAL CUSTOMER ACCOUNTS	OXC		16,028,499	7,035,433	8,993,066	50
51							51
52							52
53							53
54							54
55							55
56							56
57							57
58							58
59							59
60							60
61							61
62							62
63							63
64							64
65							65

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget REGULATORY YEAR 2024 - Simple Average

LINE NO	ITEM	ALLOC	FERC ACCOUNTS		TOTAL COMPANY	NORTH DAKOTA	ALL OTHER	LINE NO
1	CUSTOMER SERVICE & INFORMATION EXPENSE							1
2	CONSERVATION & PROMOTIONAL REBATES	C1	908	DIRECTLY ASSIGNED TO JURISDICTION	9,485,000	0	9,485,000	2
3	OTHER	C1	907-910		2,985,633	1,315,049	1,670,584	3
4								4
5	TOTAL CUSTOMER SERV & INFORMATION EXP	OXI			12,470,633	1,315,049	11,155,584	5
6								6
7								7
8	SALES EXPENSES							8
9	OFF-PEAK DEVELOPMENT	C1	912	DIRECTLY ASSIGNED TO JURISDICTION	274,978	(0)	274,979	9
10	OTHER	C1	912-913, 916		308,479	135,872	172,606	10
11								11
12	TOTAL SALES EXPENSES				583,457	135,872	447,585	12
13								13
14								14
15	ADMINISTRATIVE & GENERAL EXPENSES							15
16	SALARIES, SUPPLIES, PENSIONS & BENEFITS							16
17	PRODUCTION	OXPD			8,891,759	3,772,627	5,119,132	17
18	TRANSMISSION	D2			4,229,715	1,657,845	2,571,870	18
19	DISTRIBUTION	OXD			6,549,060	2,974,549	3,574,511	19
20	CUSTOMER ACCOUNTS	OXC			5,210,136	2,286,899	2,923,237	20
21	CUSTOMER SERVICE & INFO	C1			1,210,478	533,166	677,312	21
22								22
23	TOTAL SALARIES, SUPPLIES, PENSIONS, AND BENEFITS		920-922, 926		26,091,148	11,225,086	14,866,062	23
24								24
25	LOAD MANAGEMENT EXPENSES	C9			0	0	0	25
26								26
27	OUTSIDE SERVICES	NEPIS	923		1,083,910	409,910	674,000	27
28								28
29	PROPERTY INSURANCE	NEPIS	924		4,230,959	1,600,052	2,630,907	29
30								30
31	INJURIES & DAMAGES	NEPIS	925		4,536,918	1,715,759	2,821,160	31
32								32
33	REGULATORY COMMISSION EXPENSE	R10	928	DIRECTLY ASSIGNED TO JURISDICTION	3,151,280	502,550	2,648,730	33
34								34
35	GENERAL ADVERTISING	C1	930.1		0	0	0	35
36								36
37	MISCELLANEOUS, RENTS, MAINTENANCE	P90	930.2, 931, 935		4,799,643	2,080,843	2,718,800	37
38								38
39	TOTAL ADMINISTRATIVE & GENERAL EXP				43,893,859	17,534,200	26,359,659	39
40								40
41								41
42	CHARITABLE CONTRIBUTIONS	C1	426.1	DIRECTLY ASSIGNED TO JURISDICTION	0	0	0	42
43								43
44						0		44
45								45
46	TOTAL O & M EXPENSES				321,339,391	134,534,600	186,804,791	46
47								47
48								48
49								49
50								50
51								51
52								52
53								53
54								54
55								55
56								56
57								57
58								58
59								59
60								60

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget REGULATORY YEAR 2024 - Simple Average

LINE NO	ITEM	ALLOC	FERC ACCOUNTS	TOTAL COMPANY	NORTH DAKOTA	ALL OTHER	LINE NO
1	DEPRECIATION EXPENSE						1
2	PRODUCTION						2
3	BASE DEMAND	E1		15,980,135	7,011,106	8,969,029	3
4	PEAK DEMAND	D1		10,730,060	4,236,756	6,493,304	4
5	BASE ENERGY	E2		12,347,461	5,554,017	6,793,444	5
6							6
7	TOTAL PRODUCTION			39,057,657	16,801,880	22,255,777	7
8							8
9							9
10	TRANSMISSION	D2		8,706,848	3,412,666	5,294,181	10
11	TRANSMISSION (Direct FERC)	Direct FERC		4,176,849	0	4,176,849	11
12	TOTAL TRANSMISSION			12,883,697	3,412,666	9,471,030	12
13							13
14							14
15	DISTRIBUTION	P60		18,610,423	8,550,713	10,059,710	15
16							16
17							17
18	GENERAL	P90		4,236,745	1,836,804	2,399,941	18
19							19
20							20
21	INTANGIBLE	P90		4,617,449	2,001,855	2,615,594	21
22							22
23							23
24	TOTAL DEPRECIATION EXPENSE		403	79,405,970	32,603,918	46,802,053	24
25							25
26							26
27							27
28							28
29							29
30							30
31	BIG STONE EXPENSE OFFSETS	P10		0	0	0	31
32							32
33							33
34	SPIRITWOOD AMORTIZATION	P10	406	0	0	0	34
35							35
36							36
37							37
38							38
39							39
40							40
41							41
42							42
43							43
44							44
45							45
46							46
47							47
48							48
49							49
50							50
51							51
52							52
53							53
54							54
55							55
56							56
57							57
58							58
59							59
60							60
61							61
62							62

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget REGULATORY YEAR 2024 - Simple Average

LINE NO	ITEM	ALLOC	FERC ACCOUNTS	TOTAL COMPANY	NORTH DAKOTA	ALL OTHER	LINE NO
1	GENERAL TAXES	NEPIS EXD		16,557,620	7,102,692	9,454,928	1
2	GENERAL TAXES (Direct FERC)	Direct FERC		2,136,276	0	2,136,276	2
3	TOTAL GENERAL TAXES		408.1	18,693,896	7,102,692	11,591,204	3
4							4
5	NET OPERATING INCOME BEFORE TAX (NOIBT)			131,190,623	44,724,906	86,465,717	5
6							6
7	<u>INVESTMENT TAX CREDIT</u>						7
8	AMORTIZE PRIOR YEARS CREDIT	EPIS		(6,628,472)	(2,939,568)	(3,688,904)	8
9	DEBITS UTILIZED	EPIS		0	0	0	9
10							10
11	TOTAL INVESTMENT TAX CREDIT		411.4	(6,628,472)	(2,939,568)	(3,688,904)	11
12							12
13	<u>DEFERRED INCOME TAXES</u>						13
14	ITEMS SOUTH DAKOTA FLOWS THROUGH						14
15	FEDERAL	NPMNR		0	0	0	15
16	MINNESOTA	NPISM		0	0	0	16
17	NORTH DAKOTA	NPISN		(31,934)	(31,507)	(427)	17
18							18
19	SUBTOTAL			(31,934)	(31,507)	(427)	19
20							20
21	<u>ALL OTHER</u>						21
22							22
23	FEDERAL- transfer from Current Income Taxes - NOL	NEPIS		(6,470,322)	(483,913)	(5,986,409)	23
24	FEDERAL (NEPIS)			12,091,374	4,572,681	7,518,693	24
25	FEDERAL			1,125,275	4,088,768	(2,963,493)	25
26							26
27	MINNESOTA- transfer from Current Income Taxes - NOL			(425,430)	0	(425,430)	27
28	MINNESOTA (NPISM)	NPISM		3,008,510	0	3,008,510	28
29	MINNESOTA			2,353,601	0	2,353,601	29
30							30
31	NORTH DAKOTA- transfer from Current Income Taxes - NOL			(104,822)	(104,822)	0	31
32	NORTH DAKOTA (NPISN)	NPISN		1,122,373	1,107,370	15,003	32
33	NORTH DAKOTA			(1,237,709)	1,002,548	(2,240,257)	33
34							34
35	SUBTOTAL			2,241,167	5,091,316	(2,850,148)	35
36							36
37	TOTAL DEFERRED INCOME TAXES		410.1-410.2, 411.1-411.2	2,209,233	5,059,809	(2,850,575)	37
38							38
39							39
40	<u>CURRENT INCOME TAXES</u>						40
41	FEDERAL- transfer to Deferred Income Taxes - NOL			6,470,322	483,913	5,986,409	41
42	FEDERAL CURRENT INCOME TAX			629,434	(483,913)	1,113,346	42
43	FEDERAL INCOME TAXES			7,099,756	0	7,099,755	43
44							44
45	MINNESOTA- transfer to Deferred Income Taxes - NOL			0	0	0	45
46	MINNESOTA CURRENT INCOME TAX			92,965	0	92,965	46
47	MINNESOTA INCOME TAXES			92,965	0	92,965	47
48							48
49	NORTH DAKOTA - transfer to Deferred Income Taxes - NOL			104,822	104,822	0	49
50	NORTH DAKOTA CURRENT INCOME TAX			84,151	(104,822)	188,973	50
51	NORTH DAKOTA INCOME TAXES			188,973	(0)	188,973	51
52							52
53	TOTAL CURRENT INCOME TAXES		409.1	7,381,694	0	7,381,694	53
54							54
55	TOTAL INCOME TAXES			2,962,455	2,120,241	842,214	55
56							56
57							57
58	NET OPERATING INCOME			128,228,167	42,604,665	85,623,502	58
59							59
60	AFDC	CWIPLT		6,315,997	0	6,315,997	60
61	AFDC - MN Only	CWIPLT		0	0	0	61
62	AFDC - SD Only	CWIPLT		0	0	0	62
63	Total AFDC	CWIPLT	419.1	6,315,997	0	6,315,997	63
64							64
65	TOTAL AVAILABLE FOR RETURN			134,544,164	42,604,665	91,939,499	65
66							66
67							67
68	RATE OF RETURN ON RATE BASE			7.16%	6.54%	7.49%	68
69							69
70							70
71							71
72							72
73							73
74							74

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget REGULATORY YEAR 2024 - Simple Average

LINE NO	ITEM	ALLOC	TOTAL COMPANY	NORTH DAKOTA	ALL OTHER	LINE NO
1	DEVELOPMENT OF FEDERAL INCOME TAX EXPENSE					1
2						2
3	NET OPERATING INCOME BEFORE TAX (NOIBT)		131,190,623	44,724,906	86,465,717	3
4	LESS: INTEREST COST	CALCULATED BY JURISDICTION	40,945,395	14,205,888	26,739,507	4
5						5
6	NET INCOME BEFORE TAX		90,245,227	30,519,018	59,726,210	6
7						7
8	FEDERAL SCHEDULE M ADJUSTMENTS:					8
9	ADDITIONAL TAX DEPRECIATION	NEPIS	75,740,068	28,643,159	47,096,909	9
10	OTHER SCHEDULE M ITEMS	NEPIS	11,330,739	4,285,026	7,045,713	10
11	DIRECTLY ASSIGNED SCHEDULE M ITEMS	NEPIS DIRECTLY ASSIGNED TO JURISDICTION	0	0	0	11
12	ACCRUED VACATION PAY	NEPIS	0	0	0	12
13	CHARGES - OPERATING RESERVES	NEPIS	0	0	0	13
14	PROVISIONS - OPERATING RESERVES	NEPIS	0	0	0	14
15	UNBILLED REVENUES	NEPIS	0	0	0	15
16	PREFERRED DIVIDENDS PAID CREDIT	NEPIS	0	0	0	16
17	OTHER SCHEDULE M ITEMS	NEPIS	0	0	0	17
18						18
19	SUBTOTAL FEDERAL SCHEDULE M ADJUSTMENTS		87,070,807	32,928,185	54,142,622	19
20						20
21	FEDERAL ADJUSTED INCOME BEFORE INCOME TAXES		3,174,420	(2,409,168)	5,583,588	21
22						22
23	LESS:					23
24	MINNESOTA STATE INCOME TAXES	PER MINNESOTA STATE TAX CALCULATION	92,965	0	92,965	24
25	NORTH DAKOTA STATE INCOME TAXES	PER NORTH DAKOTA STATE TAX CALCULATION	84,151	(104,822)	188,973	25
26						26
27	FEDERAL TAXABLE INCOME		2,997,304	(2,304,346)	5,301,650	27
28	FEDERAL TAX RATE		21.00%	21.00%	21.00%	28
29						29
30	FEDERAL INCOME TAX BEFORE CREDITS		629,434	(483,913)	1,113,346	30
31	INVESTMENT TAX CREDIT - DEBITS UTILIZED	EPIS	0	0	0	31
32	FEDERAL INCOME TAXES before transfer to Deferred due to NOL		629,434	(483,913)	1,113,346	32
33	Less Current Federal Income Taxes Transferred to Deferred Income Taxes due to NOL		6,470,322	483,913	5,986,409	33
34	FEDERAL INCOME TAXES		7,099,756	0	7,099,755	34
35						35
36						36
37						37
38						38
39						39
40						40
41						41
42						42
43						43
44						44
45						45
46						46
47						47
48						48
49						49
50						50
51						51
52						52
53						53
54						54
55						55
56						56
57						57
58						58
59						59
60						60
61						61

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget REGULATORY YEAR 2024 - Simple Average

LINE NO	ITEM	ALLOC	TOTAL COMPANY	NORTH DAKOTA	ALL OTHER	LINE NO
1	DEVELOPMENT OF MINNESOTA STATE INCOME TAX EXPENSE					1
2						2
3	FEDERAL ADJUSTED INCOME BEFORE INCOME TAXES		948,625	0	948,625	3
4						4
5	<u>MINNESOTA ADJUSTMENTS TO FEDERAL SCHEDULE M:</u>					5
6	PAYSOP ADJUSTMENT	NEPIS	0	0	0	6
7	CHANGE IN EXCESS TAX DEPRECIATION - MN	NEPIS	0	0	0	7
8	CHANGE IN ACRS - ORDINARY LOSS	NEPIS	0	0	0	8
9	PREFERRED DIVIDENDS PAID CREDIT	NEPIS	0	0	0	9
10	MISCELLANEOUS ADJUSTMENTS TO FED SCHEDULE M	NEPIS	0	0	0	10
11						11
12	TOTAL MINNESOTA ADJUSTMENTS TO FED SCHEDULE M		0	0	0	12
13						13
14	MINNESOTA TAXABLE INCOME		948,625	0	948,625	14
15	MINNESOTA TAX RATE		9.80%	0.00%	9.80%	15
16						16
17	MINNESOTA INCOME TAX prior to transfer to Deferred Income Tax due to NOL		92,965	0	92,965	17
18	Minnesota Current Income Tax transfer to Deferred Income Tax due to NOL		0	0	0	18
19	MINNESOTA INCOME TAX		92,965	0	92,965	19
20						20
21						21
22						22
23						23
24						24
25						25
26						26
27	DEVELOPMENT OF NORTH DAKOTA STATE INCOME TAX EXPENSE					27
28						28
29	FEDERAL ADJUSTED INCOME BEFORE INCOME TAXES		5,357,858	(2,409,168)	7,767,025	29
30						30
31	<u>NORTH DAKOTA ADJUSTMENTS TO FEDERAL SCHEDULE M:</u>					31
32	CHANGE IN EXCESS TAX DEPRECIATION - ND	NEPIS	(2,209)	(1,671)	(539)	32
33	CHANGE IN ACRS - ORDINARY LOSS - ND	NEPIS	0	0	0	33
34	CHANGE IN INCOME FROM ADR PROPERTY - ND	NEPIS	0	0	0	34
35	MISCELLANEOUS ADJUSTMENTS TO FED SCHEDULE M	NEPIS	0	0	0	35
36						36
37	TOTAL NORTH DAKOTA ADJUSTMENTS TO FED SCHEDULE M		(2,209)	(1,671)	(539)	37
38						38
39	SUBTOTAL		5,355,648	(2,410,839)	7,766,487	39
40	DEDUCTION OF FEDERAL INCOME TAXES		3,353,190	0	3,353,190	40
41						41
42	NORTH DAKOTA TAXABLE INCOME		2,002,459	(2,460,839)	4,463,297	42
43	NORTH DAKOTA TAX RATE		4.31%	4.31%	4.31%	43
44						44
45	NORTH DAKOTA INCOME TAX prior to transfer to Deferred Income Tax due to NOL		84,151	(104,822)	188,973	45
46	North Dakota Current Income Tax transfer to Deferred Income Tax due to NOL		104,822	104,822	-	46
47	NORTH DAKOTA INCOME TAX		188,973	(0)	188,973	47
48						48
49						49
50						50
51						51
52						52
53						53
54						54
55						55
56						56
57						57
58						58
59						59
60						60
61						61
62						62
63						63
64						64

NORTH DAKOTA

PAGE 15 - 1

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget REGULATORY YEAR 2024 - Simple Average

ALLOCATION FACTORS

LINE NO	ITEM	FACTOR	TOTAL COMPANY	NORTH DAKOTA	ALL OTHER	LINE NO
1	MWH CONSUMPTION AT GENERATORS - PARTIAL PERCENTAGE	E1	5,645,126 100.000000%	2,476,736 43.873883%	3,168,390 56.126117%	1
2						2
3						3
4	MWH CONSUMPTION AT GENERATORS - TOTAL PERCENTAGE	E2	6,171,457 100.000000%	2,775,986 44.981047%	3,395,471 55.018953%	4
5						5
6						6
7	GENERATION DEMAND FACTOR PERCENTAGE	D1	719,976 100.000000%	284,282 39.484927%	435,694 60.515073%	7
8						8
9						9
10	TRANSMISSION DEMAND FACTOR PERCENTAGE	D2	725,298 100.000000%	284,282 39.195200%	441,016 60.804800%	10
11						11
12						12
13	DISTRIBUTION - PRIMARY DEMAND FACTOR PERCENTAGE	D3	851,393 100.000000%	396,080 46.521407%	455,313 53.478593%	13
14						14
15						15
16	DISTRIBUTION - SECONDARY DEMAND FACTOR PERCENTAGE	D4	1,119,241 100.000000%	545,068 48.699789%	574,173 51.300211%	16
17						17
18						18
19	CUSTOMER OR METER FACTORS					19
20	TOTAL RETAIL CUSTOMERS PERCENTAGE	C1	135,411 100.000000%	59,643 44.045905%	75,768 55.954095%	20
21						21
22						22
23	RETAIL SERVICE LOCATIONS PERCENTAGE	C2	136,449 100.000000%	59,642 43.710104%	76,807 56.289896%	23
24						24
25						25
26	SECONDARY SERVICE LOCATIONS PERCENTAGE	C3	136,414 100.000000%	59,632 43.713988%	76,782 56.286012%	26
27						27
28						28
29	STREET LIGHTING FACTOR PERCENTAGE	C4	13,235,267 100.000000%	5,515,574 41.673311%	7,719,693 58.326689%	29
30						30
31						31
32	AREA LIGHTING FACTOR PERCENTAGE	C5	9,628,628 100.000000%	5,249,227 54.516874%	4,379,401 45.483126%	32
33						33
34						34
35	METER FACTOR PERCENTAGE	C6	57,578,353 100.000000%	25,668,459 44.580051%	31,909,894 55.419949%	35
36						36
37						37
38	METER READING FACTOR PERCENTAGE	C7	206,170 100.000000%	91,157 44.214483%	115,013 55.785517%	38
39						39
40						40
41	SYSTEM SERVICE LOCATIONS PERCENTAGE	C8	136,457 100.000000%	59,643 43.708274%	76,814 56.291726%	41
42						42
43						43
44	LOAD MANAGEMENT FACTOR PERCENTAGE	C9	41,469 100.000000%	18,119 43.692879%	23,350 56.307121%	44
45						45
46						46
47						47
48						48
49						49
50						50
51						51
52						52
53						53
54						54
55						55
56						56
57						57
58						58
59						59
60						60

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget REGULATORY YEAR 2024 - Simple Average

LINE NO	ITEM	ALLOCATION FACTORS FACTOR	TOTAL COMPANY	NORTH DAKOTA	OTHER	LINE NO
1	GROSS PLANT IN SERVICE					1
7	PRODUCTION PLANT	P10	1,469,629,785	632,119,838	837,509,947	2
8	PERCENTAGE		100.000000%	43.012182%	56.987818%	3
9						4
10	DISTRIBUTION PLANT	P60	717,695,528	329,751,161	387,944,367	5
11	PERCENTAGE		100.000000%	45.945829%	54.054171%	6
12						7
13	GENERAL PLANT	P90	122,942,613	53,300,696	69,641,917	8
14	PERCENTAGE		100.000000%	43.354127%	56.645873%	9
15						10
16						11
17	ELECTRIC PLANT IN SERVICE	EPIS	3,177,112,921	1,249,259,538	1,927,853,383	12
18	PERCENTAGE		100.000000%	39.320590%	60.679410%	13
19						14
20	NET ELECTRIC PLANT IN SERVICE	NEPIS	2,084,139,321	788,173,764	1,295,965,558	15
21	PERCENTAGE		100.000000%	37.817710%	62.182290%	16
22						17
23	NET ELECTRIC PLANT IN SERVICE Excluding Direct Assignment	NEPIS EXD	1,837,371,138	788,173,764	1,049,197,375	18
24	PERCENTAGE		100.000000%	42.896819%	57.103181%	19
25						20
26	OPERATION AND MAINTENANCE EXPENSE					21
24	PRODUCTION EXPENSE (EXCL.ENERGY)	OXPD	25,997,402	11,030,269	14,967,133	22
26	PERCENTAGE		100.000000%	42.428352%	57.571648%	23
27						24
28	DISTRIBUTION EXPENSE	OXD	17,553,489	7,972,703	9,580,786	25
29	PERCENTAGE		100.000000%	45.419479%	54.580521%	26
30						27
31	CUSTOMER ACCOUNTS EXPENSE	OXC	16,028,499	7,035,433	8,993,066	28
32	PERCENTAGE		100.000000%	43.893273%	56.106727%	29
33						30
34	CUSTOMER SERVICE & INFORMATION EXPENSE	OXI	2,985,633	1,315,049	1,670,584	31
35	PERCENTAGE		100.000000%	44.045905%	55.954095%	32
36						33
37	OTHER DEFERRED INCOME TAX FACTOR					34
38	MINNESOTA	NPISM	919,398,576	0	919,398,576	35
39	PERCENTAGE		100.000000%	0.000000%	100.000000%	36
40						37
41	NORTH DAKOTA	NPISN	1,042,277,136	788,173,764	254,103,372	38
42	PERCENTAGE		100.000000%	98.663270%	1.336730%	39
43						40
44	EXCLUDING SOUTH DAKOTA	NPMNR	1,901,204,175	788,173,764	1,113,030,411	41
45	PERCENTAGE		100.000000%	41.456555%	58.543445%	42
46						43
47	LONG-TERM CWIP RATIO (W/AFDC)	CWIPLT	0	0	0	44
48	PERCENTAGE		100.000000%	0.000000%	100.000000%	45
49						46
50	REVENUE	R10	487,865,956	205,989,209	281,876,746	47
51	PERCENTAGE		100.000000%	42.222501%	57.777499%	48
52						49
53	LABOR AND RELATED EXPENSE	LRE	141,787,949	58,734,953	83,052,996	50
54	PERCENTAGE		100.000000%	41.424503%	58.575497%	51
55						52
56	TOTAL O & M EXPENSE	OX				53
57	PERCENTAGE					54
58						55
59						56
60						57
61						58
62						59
63						60
64						
65						
66						

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget REGULATORY YEAR 2024 - Simple Average

LINE NO	ITEM	AMOUNT	AMOUNT AS		COST OF CAPITAL	RATE OF RETURN	LINE NO
			A PERCENT OF TOTAL				
1	<u>CAPITAL STRUCTURE - RATE OF RETURN</u>						1
2							2
3							3
4	LONG-TERM DEBT	902,118,455	46.50%		4.68%	2.18%	4
5							5
6	PREFERRED STOCK	0	0.000%		0.00%	0.00%	6
7							7
8	COMMON EQUITY	1,037,715,500	53.50%		9.77%	5.23%	8
9							9
10							10
11	TOTAL	<u>1,939,833,955</u>	<u>100.00%</u>			<u>7.41%</u>	11
12							12
13							13
14							14
15							15
16							16
17							17
18							18
19							19
20							20
21							21
22							22
23							23
24							24
25							25
26							26
27							27
28							28
29							29
30							30
31							31
32							32
33							33
34							34
35							35
36							36
37							37
38							38
39							39
40							40
41							41
42							42
43							43
44							44
45							45
46							46
47							47
48							48
49							49
50							50
51							51
52							52
53							53
54							54
55							55
56							56
57							57
58							58
59							59
60							60

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget REGULATORY YEAR 2024 - Simple Average

NORTH DAKOTA

PAGE 18 - 1

LINE NO	ITEM	ALLOCATION	TOTAL COMPANY	NORTH DAKOTA	ALL OTHER	LINE NO
1	CASH WORKING CAPITAL CALCULATION - REVENUE LEAD DAYS					
2	REVENUES					
3	COMPUTER MAINTAINED BILLINGS		419,666,277	180,150,768	239,515,509	3
4	MANUALLY MAINTAINED BILLINGS		75,445,067	32,386,416	43,058,650	4
5	COST OF ENERGY REVENUES	R10	(6,094,976)	(6,094,976)	0	5
6	SALES FOR RESALE		6,947,794	3,125,191	3,822,604	6
7	RENT FROM ELECTRIC PROPERTY		435,931	164,859	271,072	7
8	MISCELLANEOUS		1,395,880	527,890	867,990	8
9	ITA DEFICIENCY PAYMENTS		848,757	320,980	527,777	9
10	WHEELING		425,279	0	425,279	10
11	LOAD CONTROL AND DISPATCH		19,546,874	8,384,987	11,161,887	11
12	RENT FROM ELECTRIC PROPERTY - BIG STONE		0	0	0	12
13	RENT FROM ELECTRIC PROPERTY - COYOTE		0	0	0	13
14	PROFIT ON MATERIALS AND SUPPLIES		0	0	0	14
15	RUBBER GOODS TESTING		0	0	0	15
16	RESIDENTIAL CONSERVATION SERVICES		0	0	0	16
17	TOTAL REVENUES		518,616,884	218,966,115	299,650,768	17
18	REVENUE LEAD DAYS FROM SERVICE TO COLLECTION					
19	COMPUTER MAINTAINED BILLINGS		N/A	39.8	N/A	19
20	MANUALLY MAINTAINED BILLINGS		N/A	26.7	N/A	20
21	COST OF ENERGY REVENUES		N/A	126.8	N/A	21
22	SALES FOR RESALE		N/A	19.9	N/A	22
23	RENT FROM ELECTRIC PROPERTY		N/A	-63.3	N/A	23
24	MISCELLANEOUS		N/A	40.4	N/A	24
25	ITA DEFICIENCY PAYMENTS		N/A	27.5	N/A	25
26	WHEELING		N/A	39.3	N/A	26
27	LOAD CONTROL AND DISPATCH		N/A	28.8	N/A	27
28	RENT FROM ELECTRIC PROPERTY - BIG STONE		N/A	34.6	N/A	28
29	RENT FROM ELECTRIC PROPERTY - COYOTE		N/A	34.6	N/A	29
30	PROFIT ON MATERIALS AND SUPPLIES		N/A	34.6	N/A	30
31	RUBBER GOODS TESTING		N/A	34.6	N/A	31
32	RESIDENTIAL CONSERVATION SERVICES		N/A	34.6	N/A	32
33	REVENUE DOLLAR DAYS (REVENUES X REVENUE LEAD DAYS)					33
34	COMPUTER MAINTAINED BILLINGS		16,702,717,825	7,170,000,558	9,532,717,267	34
35	MANUALLY MAINTAINED BILLINGS		2,014,383,276	864,717,309	1,149,665,967	35
36	COST OF ENERGY REVENUES		(772,842,957)	(772,842,957)	0	36
37	SALES FOR RESALE		137,913,720	62,035,036	75,878,684	37
38	RENT FROM ELECTRIC PROPERTY		(27,581,376)	(10,430,645)	(17,150,731)	38
39	MISCELLANEOUS		56,337,728	21,305,639	35,032,090	39
40	ITA DEFICIENCY PAYMENTS		23,340,818	8,826,963	14,513,855	40
41	WHEELING		16,700,704	0	16,700,704	41
42	LOAD CONTROL AND DISPATCH		562,949,971	241,487,628	321,462,343	42
43	RENT FROM ELECTRIC PROPERTY - BIG STONE		0	0	0	43
44	RENT FROM ELECTRIC PROPERTY - COYOTE		0	0	0	44
45	PROFIT ON MATERIALS AND SUPPLIES		0	0	0	45
46	RUBBER GOODS TESTING		0	0	0	46
47	RESIDENTIAL CONSERVATION SERVICES		0	0	0	47
48	TOTAL DOLLAR DAYS		18,713,919,710	7,585,099,531	11,128,820,179	48
49	AVG REVENUE LEAD DAYS (TOTAL REV DOLLAR DAYS / TOTAL REV)		36.1	34.6	37.1	49
50						50
51						51
52						52
53						53
54						54
55						55
56						56
57						57
58						58
59						59
60						60

NORTH DAKOTA

PAGE 19 - 1

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget REGULATORY YEAR 2024 - Simple Average

LINE NO	ITEM		OPERATING EXPENSE	EXPENSE PER DAY 365 DAYS PER YEAR	EXPENSE LAG DAYS		EXCESS REVENUE LEAD DAYS OF 37.2 OVER EXPENSE LAG DAYS		NET REVENUE LAG DOLLARS		LINE NO
1	CASH WORKING CAPITAL CALCULATION BY THE APPLICATION OF										1
2	LEAD-LAG FACTORS-MINNESOTA JURISDICTION										2
3	FUEL - COAL	E2	23,731,084	65,017	19.1		18.1	1,176,152			3
4											4
5	FUEL - OIL	E1	4,853,219	13,296	8.9		28.3	376,424			5
6											6
7	PURCHASED POWER		42,840,818	117,372	32.8		4.4	519,958			7
8											8
9	LABOR AND ASSOCIATED PAYROLL EXPENSE	LRE	32,845,103	89,987	10.5		26.7	2,404,441			9
10											10
11	ALL OTHER O&M EXPENSE		49,980,917	136,934	12.5		24.7	3,383,640			11
12											12
13	PROPERTY TAXES (EXCL COAL CONVERSION TAXES)		7,695,304	21,083	297.2		-260.0	(5,480,798)			13
14											14
15	COAL CONVERSION TAXES		44,987	123	35.6		1.6	198			15
16											16
17	FEDERAL INCOME TAXES		179,689	492	0.0		37.2	18,313			17
18											18
19	STATE INCOME TAXES		92,965	255	0.0		37.2	9,475			19
20											20
21	INCREMENTAL FEDERAL INCOME TAXES		0	0	0.0		37.2	0			21
22											22
23	INCREMENTAL STATE INCOME TAXES		0	0	0.0		37.2	0			23
24											24
25	BANK BALANCES	NEPIS						0			25
26											26
27	SPECIAL DEPOSITS	NEPIS						889,545			27
28											28
29	WORKING FUNDS	NEPIS						5,157			29
30											30
31	TAX COLLECTIONS AVAIL - FICA WITHHOLDING	LRE	(2,711,868)	(7,430)	0.0			0			31
32											32
33	TAX COLLECTIONS AVAIL - FEDERAL WITHHOLDING	LRE	(4,383,660)	(12,010)	0.0			0			33
34											34
35	TAX COLLECTIONS AVAIL - STATE WITHHOLDING- MN	R10 ASSIGN TO JURIS	0	0	0.0			0			35
36											36
37	TAX COLLECTIONS AVAIL - STATE WITHHOLDING- ND	R10 ASSIGN TO JURIS	0	0	61.2			0			37
38											38
39	TAX COLLECTIONS AVAILABLE - STATE SALES TAX	R10	0	0	0.0			0			39
40											40
41	TAX COLLECTIONS AVAILABLE - FRANCHISE TAXES	R10	0	0	36.9			0			41
42											42
43											43
44	TOTAL CASH WORKING CAPITAL REQUIREMENT - MINNESOTA							3,302,507			44
45											45
46											46
47											47
48											48
49											49
50											50
51											51
52											52
53											53
54											54
55											55
56											56
57											57
58											58
59											59
60											60

NORTH DAKOTA

PAGE 20 - 1

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget REGULATORY YEAR 2024 - Simple Average

LINE NO	ITEM		OPERATING EXPENSE	EXPENSE PER DAY 365 DAYS PER YEAR	EXPENSE LAG DAYS		EXCESS REVENUE LEAD DAYS OF 34.6 OVER EXPENSE LAG DAYS		NET REVENUE LAG DOLLARS		LINE NO
1	CASH WORKING CAPITAL CALCULATION BY THE APPLICATION OF										1
2	LEAD-LAG FACTORS-NORTH DAKOTA JURISDICTION										2
3	FUEL - COAL	E2	23,301,382	63,839	19.1		15.5		988,872		3
4											4
5	FUEL - OIL	E1	4,561,691	12,498	8.9		25.7		321,318		5
6											6
7	PURCHASED POWER		42,027,450	115,144	32.8		1.8		210,713		7
8											8
9	LABOR AND ASSOCIATED PAYROLL EXPENSE	LRE	28,896,139	79,168	10.5		24.1		1,909,520		9
10											10
11	ALL OTHER O&M EXPENSE		35,747,938	97,940	12.5		22.1		2,165,444		11
12											12
13	PROPERTY TAXES (EXCL COAL CONVERSION TAXES)		7,061,411	19,346	297.2		-261.6		(5,060,853)		13
14											14
15	COAL CONVERSION TAXES		41,281	113	35.6		-1.0		(112)		15
16											16
17	FEDERAL INCOME TAXES		0	0	0.0		34.6		0		17
18											18
19	STATE INCOME TAXES		(0)	(0)	0.0		34.6		0		19
20											20
21	INCREMENTAL FEDERAL INCOME TAXES		0	0	0.0		34.6		0		21
22											22
23	INCREMENTAL STATE INCOME TAXES		0	0	0.0		34.6		0		23
24											24
25	BANK BALANCES	NEPIS							0		25
26											26
27	SPECIAL DEPOSITS	NEPIS							816,270		27
28											28
29	WORKING FUNDS	NEPIS							4,732		29
30											30
31	TAX COLLECTIONS AVAIL - FICA WITHHOLDING	LRE	(2,385,820)	(6,536)	0.0				0		31
32											32
33	TAX COLLECTIONS AVAIL - FEDERAL WITHHOLDING	LRE	(3,856,613)	(10,566)	0.0				0		33
34											34
35	TAX COLLECTIONS AVAIL - STATE WITHHOLDING- MN	R10 ASSIGN TO JURIS	0	0	0.0				0		35
36											36
37	TAX COLLECTIONS AVAIL - STATE WITHHOLDING- ND	R10 ASSIGN TO JURIS	(303,808)	(832)	61.2				(50,965)		37
38											38
39	TAX COLLECTIONS AVAILABLE - STATE SALES TAX	R10	(72)	(0)	13.8				(3)		39
40											40
41	TAX COLLECTIONS AVAILABLE - FRANCHISE TAXES	R10	0	0	0.0				0		41
42											42
43											43
44	TOTAL CASH WORKING CAPITAL REQUIREMENT - NORTH DAKOTA								1,304,937		44
45											45
46											46
47											47
48											48
49											49
50											50
51											51
52											52
53											53
54											54
55											55
56											56
57											57
58											58
59											59
60											60

NORTH DAKOTA

PAGE 21 - 1

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget REGULATORY YEAR 2024 - Simple Average

LINE NO	ITEM	OPERATING EXPENSE	EXPENSE PER DAY 365 DAYS PER YEAR	EXPENSE LAG DAYS	EXCESS REVENUE LEAD DAYS OF 37.1 OVER EXPENSE LAG DAYS	NET REVENUE LAG DOLLARS	LINE NO
1	CASH WORKING CAPITAL CALCULATION BY THE APPLICATION OF						1
2	LEAD-LAG FACTORS-SOUTH DAKOTA JURISDICTION						2
3	FUEL - COAL	E2	4,740,714	12,988	19.1	233,659	3
4							4
5	FUEL - OIL	E1	975,772	2,673	8.9	75,415	5
6							6
7	PURCHASED POWER		8,559,385	23,450	32.8	101,540	7
8							8
9	LABOR AND ASSOCIATED PAYROLL EXPENSE	LRE	6,719,682	18,410	10.5	490,077	9
10							10
11	ALL OTHER O&M EXPENSE		8,823,871	24,175	12.5	594,946	11
12							12
13	PROPERTY TAXES (EXCL COAL CONVERSION TAXES)		1,638,954	4,490	297.2	(1,167,755)	13
14							14
15	COAL CONVERSION TAXES		9,581	26	35.6	40	15
16							16
17	FEDERAL INCOME TAXES		(1,478,443)	(4,051)	0.0	37.1	17
18							18
19	STATE INCOME TAXES		0	0	0.0	37.1	19
20							20
21	INCREMENTAL FEDERAL INCOME TAXES		0	0	0.0	37.1	21
22							22
23	INCREMENTAL STATE INCOME TAXES		0	0	0.0	37.1	23
24							24
25	BANK BALANCES	NEPIS				0	25
26							26
27	SPECIAL DEPOSITS	NEPIS				189,456	27
28							28
29	WORKING FUNDS	NEPIS				1,098	29
30							30
31	TAX COLLECTIONS AVAIL - FICA WITHHOLDING	LRE	(554,813)	(1,520)	0.0	0	31
32							32
33	TAX COLLECTIONS AVAIL - FEDERAL WITHHOLDING	LRE	(896,840)	(2,457)	0.0	0	33
34							34
35	TAX COLLECTIONS AVAIL - STATE WITHHOLDING- MN	R10 ASSIGN TO JURIS	0	0	0.0	0	35
36							36
37	TAX COLLECTIONS AVAIL - STATE WITHHOLDING- ND	R10 ASSIGN TO JURIS	0	0	61.2	0	37
38							38
39	TAX COLLECTIONS AVAILABLE - STATE SALES TAX	R10	0	0	0.0	0	39
40							40
41	TAX COLLECTIONS AVAILABLE - FRANCHISE TAXES	R10	0	0	0.0	0	41
42							42
43							43
44	TOTAL CASH WORKING CAPITAL REQUIREMENT - SOUTH DAKOTA					518,477	44
45							45
46							46
47							47
48							48
49							49
50							50
51							51
52							52
53							53
54							54
55							55
56							56
57							57
58							58
59							59
60							60

NORTH DAKOTA

PAGE 22 - 1

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget REGULATORY YEAR 2024 - Simple Average

LINE NO	ITEM	OPERATING EXPENSE	EXPENSE PER DAY 365 DAYS PER YEAR	EXPENSE LAG DAYS	EXCESS REVENUE LEAD DAYS OF 30.4 OVER EXPENSE LAG DAYS	NET REVENUE LAG DOLLARS	LINE NO	
1	CASH WORKING CAPITAL CALCULATION BY THE APPLICATION OF						1	
2	LEAD-LAG FACTORS-FERC JURISDICTION						2	
3	FUEL - COAL	E2	29,488	81	19.1	11.3	912	3
4								4
5	FUEL - OIL	E1	6,599	18	8.9	21.5	389	5
6								6
7	PURCHASED POWER		53,338	146	32.8	-2.4	(346)	7
8								8
9	LABOR AND ASSOCIATED PAYROLL EXPENSE	LRE	1,295,228	3,549	10.5	19.9	70,688	9
10								10
11	ALL OTHER O&M EXPENSE		1,349,574	3,697	12.5	17.9	66,222	11
12								12
13	PROPERTY TAXES (EXCL COAL CONVERSION TAXES)		65,717	180	297.2	-266.8	(48,030)	13
14								14
15	COAL CONVERSION TAXES		384	1	35.6	-5.2	(5)	15
16								16
17	FEDERAL INCOME TAXES		3,353,190	9,187	0.0	30.4	279,279	17
18								18
19	STATE INCOME TAXES		190,213	521	0.0	30.4	15,842	19
20								20
21	INCREMENTAL FEDERAL INCOME TAXES		0	0	0.0	30.4	0	21
22								22
23	INCREMENTAL STATE INCOME TAXES		0	0	0.0	30.4	0	23
24								24
25	BANK BALANCES	NEPIS					0	25
26								26
27	SPECIAL DEPOSITS	NEPIS					263,161	27
28								28
29	WORKING FUNDS	NEPIS					1,526	29
30								30
31	TAX COLLECTIONS AVAIL - FICA WITHHOLDING	LRE	(106,941)	(293)	0.0	0	0	31
32								32
33	TAX COLLECTIONS AVAIL - FEDERAL WITHHOLDING	LRE	(172,867)	(474)	0.0	0	0	33
34								34
35	TAX COLLECTIONS AVAIL - STATE WITHHOLDING- MN	R10	0	0	0.0	0	0	35
36								36
37	TAX COLLECTIONS AVAIL - STATE WITHHOLDING- ND	R10	0	0	61.2	0	0	37
38								38
39	TAX COLLECTIONS AVAILABLE - STATE SALES TAX	R10	0	0	0.0	0	0	39
40								40
41	TAX COLLECTIONS AVAILABLE - FRANCHISE TAXES	R10	0	0	0.0	0	0	41
42								42
43								43
44	TOTAL CASH WORKING CAPITAL REQUIREMENT - FERC						649,637	44
45								45
46								46
47								47
48								48
49								49
50								50
51								51
52								52
53								53
54								54
55								55
56								56
57								57
58								58
59								59
60								60

NORTH DAKOTA

PAGE 23 - 1

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget REGULATORY YEAR 2024 - Simple Average

LINE NO	ITEM	OPERATING EXPENSE	EXPENSE PER DAY 365 DAYS PER YEAR	EXPENSE LAG DAYS	EXCESS REVENUE LEAD DAYS OF 36.1 OVER EXPENSE LAG DAYS	NET REVENUE LAG DOLLARS	LINE NO
1	CASH WORKING CAPITAL CALCULATION BY THE APPLICATION OF						1
2	LEAD-LAG FACTORS - TOTAL CO.						2
3	FUEL - COAL	E2				2,399,595	3
4							4
5	FUEL - OIL	E1				773,546	5
6							6
7	PURCHASED POWER					831,865	7
8							8
9	LABOR AND ASSOCIATED PAYROLL EXPENSE	LRE				4,874,726	9
10							10
11	ALL OTHER O&M EXPENSE					6,210,251	11
12							12
13	PROPERTY TAXES (EXCL COAL CONVERSION TAXES)					(11,757,435)	13
14							14
15	COAL CONVERSION TAXES					121	15
16							16
17	FEDERAL INCOME TAXES					297,593	17
18							18
19	STATE INCOME TAXES					25,317	19
20							20
21	INCREMENTAL FEDERAL INCOME TAXES					0	21
22							22
23	INCREMENTAL STATE INCOME TAXES					0	23
24							24
25	BANK BALANCES	NEPIS				0	25
26							26
27	SPECIAL DEPOSITS	NEPIS				2,158,433	27
28							28
29	WORKING FUNDS	NEPIS				12,513	29
30							30
31	TAX COLLECTIONS AVAIL - FICA WITHHOLDING	LRE				0	31
32							32
33	TAX COLLECTIONS AVAIL - FEDERAL WITHHOLDING	LRE				0	33
34							34
35	TAX COLLECTIONS AVAIL - STATE WITHHOLDING- MN	R10	ASSIGN TO JURIS			0	35
36							36
37	TAX COLLECTIONS AVAIL - STATE WITHHOLDING- ND	R10	ASSIGN TO JURIS			(50,965)	37
38							38
39	TAX COLLECTIONS AVAILABLE - STATE SALES TAX	R10				(3)	39
40							40
41	TAX COLLECTIONS AVAILABLE - FRANCHISE TAXES	R10				0	41
42							42
43							43
44	TOTAL CASH WORKING CAPITAL REQUIREMENT - TOTAL COMPANY					5,775,557	44
45							45
46							46
47							47
48							48
49							49
50							50
51							51
52							52
53							53
54							54
55							55
56							56
57							57
58							58
59							59
60							60

Otter Tail Power Company
Functionalization
Regulatory Year 2024

Line No.	Description	Accounts 101	Simple Average 2024	Accounts 106	Simple Average 2024	Accounts 114	Simple Average 2024	Line No.
1	Production:		(1)		(1)		(1)	1
2	Steam	310 - 317	571,495,169	310 - 316	0	310 - 317	1,588,255	2
3	Wind	341 - 347	657,918,354	344 - 347	0	344 - 347	0	3
4	Hydro	330 - 335	13,285,684	330 - 335	0	330 - 335	0	4
5	Solar		62,522,146					5
6	Other IC	340 - 347	224,720,179	340 - 347	0	340 - 347	0	6
7								7
8	Transmission	350 - 358	824,652,331	350 - 358	0	350 - 358	58,287	8
9								9
10	Distribution:							10
11	Land	360	1,497,656	360	0	360	0	11
12	Station Equipment	362	140,726,088	362	0	362	586	12
13	Poles, Towers & Fixtures	364	88,713,769	364	0			13
14	Overhead Conductors & Devices	365	62,678,781	365	0			14
15	Underground Conduit	366	0	366	0			15
16	Underground Conductors & Devices	367	130,042,166	367	0			16
17	Line Transformers	368	130,954,946	368	0			17
18	Services	369	14,188,329	369	0			18
19	Underground Services	369.1	50,453,703	369.1	0			19
20	Meters	370	28,397,520	370	0			20
21	Smart Meters	370.05	36,169,600					21
22	Load Management Switches	370.1	8,899,439	370.1	0			22
23	Interruption Monitors	370.2	0	370.2	0			23
24	Installation on Customers' Premises	371.0	0	371.0	0			24
25	EV Charging	371.1	1,771,302					25
26	All Other Private Lighting	371.2	10,003,929	371.2	0			26
27	Streetlighting & Signal Systems	373	14,969,064	373	0			27
28			719,466,292		0			28
29	General:							29
30	Land	389	1,163,225	389	0			30
31	Structures & Improvements	390	30,082,305	390	0			31
32	General Office Buildings	390.1	6,672,208	390.1	0			32
33	Fleet Service Center Building	390.2	896,880	390.2	0			33
34		390.25	2,154,593					34
35	Central Stores Buildings	390.3	5,414,880	390.3	0			35
36	Office Furniture	391	603,912	391	0			36
37	Office Equipment	391.1	327,896	391.1	0			37
38	Duplicating Equipment	391.2	772,361	391.2	0			38
39	Engineering Computers	391.3	0	391.3	0			39
40	Business Computers	391.4	0	391.4	0			40
41	Computer Systems	391.5	4,156,850	391.5	0			41
42	Computer Related Equipment	391.6	3,281,758	391.6	0			42
43	Transportation Equipment	392 & 392.1	43,084,688	392	0			43
44	Stores Equipment	393	0	393	0			44
45	Tools, Shop & Garage Equipment	394	6,840,127	394	0			45
46	Central Stores Tools	394.1						46
47	AMR Equipment	394.2	401,984	394.2	0	101 (Above)	3,196,902,767.25	47
48	Laboratory Equipment	395		395	0	101.7 Intangible (1)	42,134,377.00	48
49	Power-Operated Equipment	396	1,750,019	396	0	Agrees to FERC T/B; GL 865A Report	3,239,037,144.25	49
50	Communication Equipment & Communications Towers	397 & 397.4	7,117,723	397	0			50
51	Radio Tele-Communication Equipment	397.1	1,060,758	397.1	0	106 (Above)	0.00	51
52	Microwave Equipment	397.2	6,994,464	397.2	0	T14 (Above); Agrees to FERC T/B	1,647,128.00	52
53	Radio Local Control Equipment	397.3	165,980	397.3	0	PHFU (1)		53
54	Miscellaneous Equipment	398	0	398	0	Total Plant in Service (F/S)	3,240,684,272.25	54
			122,942,613		0	(1) Actual Year Work Paper A-1	3,240,684,272.00	

Agrees to Actual Year Work Paper A-1 (0.25)

Line #	Description	Operating Statement Amounts		2024 Functionalization		Page 2 of 6
		Accounts	Regulatory Year 2024			
1	Steam Power Generation:		(2)			1
2	Supervision and Engineering	401 - 500	2,158,400			2
3	Fuel	401 - 501	51,977,346			3
4	Steam Expense	401 - 502	5,403,987			4
5	Electrical Expense	401 - 505	1,975,891			5
6	Miscellaneous Expense	401 - 506	4,956,569			6
7	Rent	401 - 507		401 =	66,472,193.39	7
8	Allowances	401 - 509				8
9						9
10	Steam Power Maintenance:					10
11	Supervision and Engineering	402 - 510	606,686			11
12	Structures	402 - 511	967,805			12
13	Boiler	402 - 512	5,404,699			13
14	Electric	402 - 513	972,464			14
15	Miscellaneous	402 - 514	1,209,743	402 =	9,161,397.51	15
16						16
17	Hydro:					17
18	Supervision and Engineering	401 - 535	11,290			17A
19	Electric Expense	401 - 537 & 538	30,770			18
20	Miscellaneous Expense	401 - 539	13,173	401 =	55,233.00	19
21	Rents	401 - 540				20
22	Supervision & Engineering	402 - 541	22			21
23	Structures	402 - 542	7,294			22
24	Reservoirs - Dams	402 - 543	341,324			23
25	Electric	402 - 544	3,006			24
26	Miscellaneous Expense	402 - 545	6,468	402 =	358,114.00	25
27						26
28	IC:					27
29	Supervision and Engineering	401 - 546	121,216			28
30	Supervision and Engineering-Wind	401 - 546(W)	1,487,738			28A
31	Fuel	401 - 547	10,397,281			29
32	Generation Expense	401 - 548	471,033			29A
33	Generation Expense-Wind	401 - 548(W)	1,361,579			30
34	Miscellaneous Expense	401 - 549	1,426,052			31
35	Miscellaneous Expense-Wind	401 - 549(W)	4,165,532			32
36	Rents	401 - 550		401 =	21,279,055.00	
37	Rents-Wind	401 - 550(W)	1,848,624			
38	Supervision and Engineering	402 - 551	30,637			
39	Supervision and Engineering-Wind	402 - 551(W)	170,196			
40	Structures	402 - 552	84,795	402 =	4,538,545.00	
41	Generating and Electric	402 - 553	1,033,581			
42	Generating and Electric-Wind	402 - 553(W)	1,157,939			
43	Miscellaneous Expense	402 - 554	267,415			
44	Miscellaneous Expense-Wind	402 - 554(W)	1,793,982	Production 401 =	87,806,481.39	
45				Production 402 =	14,058,056.51	
46	Other Power Supply Expenses:					
47	System Control and Dispatch	401 - 556	485,549			
48	Other Expenses	401 - 557	26,453	401 =	512,002.00	
49						
50	Transmission Expenses:					
51	Supervision and Engineering	401 - 560	231,636			
52	Load Dispatching	401 - 561	4,161,282			
53	Station Expense	401 - 562	342,727			
54	Overhead Lines	401 - 563	794,989			
55	Transmission of Electricity by Others	401 - 565	23,131,177			
56	Miscellaneous Expense	401 - 566	927,529			
57	Rents	401 - 567	36,260	401 =	30,385,410.76	
58	Supervision and Engineering	402 - 568	310,515			
59	Computer Hardware, Software, etc	402 - 569	969,859			
60	Station Equipment	402 - 570	1,525,157			
61	Overhead System	402 - 571	1,877,768			
62	Underground Lines	402 - 572	130			
63	Maintenance of Miscellaneous Plant	402 - 573	-			
64	Day-Ahead & Real-Time and Transmission Market Expense	401 - 575	759,810			
65	Computer Software	402 - 576	260,227	402 =	4,943,655.53	
66						
67	Distribution Expense:					
68	Operation, Supervision & Engineering	401 - 580	408,414			
69	Load Dispatching	401 - 581	195,497			
70	Station Expenses	401 - 582	292,870			
71	Line Expenses	401 - 583	255,626			
72	Underground Line Expenses	401 - 584	2,380,523			
73	Streetlighting & Signal System	401 - 585				
74						
75	Not Used	401 - 586.01				
76	Not Used	401 - 586.02				
77	Not Used	401 - 586.03				
78	Not Used	401 - 586.04				
79	Not Used	401 - 586.05				
80	Not Used	401 - 586.06				
81	Not Used	401 - 586.07				
82	Meter Expenses:	401 - 586	2,109,573			
83	Other Distribution Expenses	401 - 587	1,401			
84	Miscellaneous Distribution Expenses	401 - 588	3,792,991			
85	Rents	401 - 589	233,543	401 =	9,670,442.78	
86	Maintenance, Supervision & Engineering	402 - 590	982,657			
87	Maintenance of Station Equipment	402 - 592	744,378			
88	Maintenance of Overhead Lines	402 - 593	4,154,764			
89	Maintenance of Underground Lines	402 - 594	805,694			
90	Maintenance of Line Transformers	402 - 595	236,669			
91	Maintenance of Streetlighting & Signal	402 - 596	176,602			
92	Maintenance of Meters:	402 - 597	597,884			
93	Not Used	402 - 597.01				
94	Not Used	402 - 597.02				
95	Not Used	402 - 597.03				
96	Maintenance of Property in A/C 371	402 - 598	184,398	402 =	7,883,045.56	

79

Line #	Description	Accounts	(3)	2024		Line #
			Statement Amounts	Functionalization	Page 3 of 6	
			Regulatory Year 2024			
1	Customer Accounting:					1
2	Supervision	401 - 901	23,039			2
3	Meter Reading Expenses	401 - 902	5,849,342			3
4	Customer Records & Collection Expense	401 - 903	7,768,248			4
5	Uncollectible Accounts	401 - 904	1,200,621			5
6	Miscellaneous Expenses	401 - 905	1,187,249	401 =	16,028,499.40	6
7						7
8	Customer Service and Information Expense:					8
9	Supervision	401 - 907	765,449			9
10						10
11	Customer Assistance Expenses	401 - 908	1,892,860			11
12	Not Used	401 - 908.2				12
13	Not Used	401 - 908.3				13
14	Not Used	401 - 908.4				14
15	Not Used	401 - 908.11				15
16	Not Used	401 - 908.12				16
17	Not Used	401 - 908.13				17
18	Conservation Investment Program - SD	401 - 908.16	485,000			18
19	Conservation Investment Program - ND	401 - 908.17	0			19
20	Conservation Investment Program - MN	401 - 908.18	9,000,000			20
21	Not Used	401 - 908.22				21
22	Not Used	401 - 908.23				22
23	Info & Instr Advertising Expense	401 - 909	209,751			23
24	Miscellaneous Expenses	401 - 910	117,574	401 =	12,470,633.78	24
25						25
26	Sales Expenses:					26
27	Supervisory Labor and Expenses	401 - 911	12,190			27
28	Minnesota Economic Development	401 - 912	274,979			28
29	North Dakota Economic Development	401 - 912	5,943			29
30	South Dakota Economic Development	401 - 912				30
31	Not Used	401 - 912.04				31
32	Expenses - Sales & Demonstrations	401 - 912				32
33	Not Used	401 - 912.10				33
34	Not Used	401 - 912.11 & 12				34
35	Not Used	401 - 912.13				35
36	Not Used	401 - 912.14				36
37	Not Used	401 - 912.20				37
38	Not Used	401 - 912.21 & 22				38
39	Not Used	401 - 912.23				39
40	Not Used	401 - 912.24				40
41	Not Used	401 - 912.30				41
42	Not Used	401 - 912.32				42
43	Not Used	401 - 912.33				43
44	Not Used	401 - 912.34				44
45	Advertising	401 - 913	1,348			45
46	Miscellaneous Sales Expense	401 - 916	296,288			46
47	Not Used	401 - 916.02				47
48	Not Used	401 - 916.03				48
49	Not Used	401 - 916.04				49
50	Not Used	401 - 916.08				50
51	Not Used	401 - 916.10				51
52	Not Used	401 - 916.11				52
53	Not Used	401 - 916.12				53
54	Not Used	401 - 916.13				54
55	Not Used	401 - 916.20				55
56	Not Used	401 - 916.21				56
57	Not Used	401 - 916.22				57
58	Not Used	401 - 916.23				58
59	Not Used	401 - 916.30				59
60	Not Used	401 - 916.31				60
61	Not Used	401 - 916.32				61
62	Not Used	401 - 916.33		401 =	590,748.00	62
63						63
64	Operating Expenses - Admin & General:					64
65	Salaries, Office Supplies & Expenses	401 - 920	20,291,006			65
66	Various Admin & General Expenses	401 - 921	12,108,238			66
67	Capitalized Admin & General Expenses	401 - 922	(2,720,136)			67
68	Outside Services Employed	401 - 923	1,083,910			68
69	Property Insurance	401 - 924	2,729,000			69
70	Property Insurance-Wind	401 - 924(W)	1,501,959			70
71	Injuries & Damages	401 - 925	4,536,918			71
72	Employee Pensions & Benefits	401 - 926	1,079,198			72
73	Regulatory Commission Expenses	401 - 928	3,151,279			73
74	Miscellaneous General Expenses	401 - 930	3,520,649	A/C 930.01 Included in This Account		74
75	Informational Advertising	401 - 930.01				75
76	Rents	401 - 931	562,704	401 =	47,844,715.00	76
77	Maintenance Expenses	402 - 935	1,810,327	A/C 935.06 Included in This Account		77
78	Radio Load Control Equipment	402 - 935.06				78

Check Totals	Amounts
Total 401 =	205,308,933.11
Total 402 =	28,695,084.59
Plus 555 (2)	90,662,127
Total	324,666,144.70
Gt. Total (2)	324,666,145.00
Difference	(0.30)

(2) FDW Transactions - 2011 located in Misc W/P file
(3) FDW Transactions - 2011 located in Misc W/P file

Line #	Factors	Peak	Base	2024					Functionalization	Page 4 of 6	Line #
1	Base/Peak Split									1	
2	2024 Excluding Wind - (3)	24.03%	75.97%	100.00%						2	
3	2024 Wind - (4)	31.49%	68.51%	100.00%						3	
4										4	
5										5	
6	Distribution Rate Base:									6	
7	(3)	Primary Demand	Secondary Demand	Primary Customer	Secondary Customer	Street Lights	Area Lights	Meters	Load Management	7	
28										28	
29	Ending Balances									29	
30	Land	1,497,656								30	
31	Station Equipment	140,726,674	0	28,722,762	0	4,417,399	2,462,203			31	
32	Poles, Towers & Fixtures	53,111,404		1,772,760		2,438,389	1,468,736			32	
33	Overhead Conductors & Devices	36,618,097	18,726,676		1,654,124					33	
34	Underground Conduit	0	0		0					34	
35	Underground Conductors & Devices	22,850,922	2,693,847	88,663,816	11,481,631	2,716,000	1,635,950			35	
36	Line Transformers	0	82,044,955	0	48,909,996	0	0			36	
37	Services	0	11,596,627	0	2,591,703	0	0			37	
38	Underground Services	0	27,952,158	0	22,501,544	0	0			38	
39	Meters							28,397,520		39	
40	Smart Meters							36,169,600		40	
41	Load Management Switches								8,899,439	41	
42	Interruption Monitors				0					42	
43	Installation on Customers' Premises			0						43	
44	EV Charging		1,447,748		323,554					44	
45	All Other Private Lighting						10,003,929			45	
46	Streetlighting & Signal Systems					14,969,064				46	
47										47	
48	Total Ending Balances	254,804,753	144,462,010	119,159,338	87,462,552	24,540,852	15,570,818	64,567,120	8,899,439	48	
49										49	
50										50	
51	Distribution Expenses	Primary Demand	Secondary Demand	Primary Customer	Secondary Customer	Street Lights	Area Lights	Meters	Load Management	51	
52	Operation, Supervision & Engineering	54,423	40,602	96,890	40,146	3,382	2,023	170,949	0	52	
53	Load Dispatching	22,817	19,567	48,377	19,347	1,889	1,119	82,382	0	53	
54	Station Expenses	292,870								54	
55	Line Expenses	77,351	96,867	26,289	45,823	5,910	3,389			55	
56	Underground Line Expenses	301,376	404,184	1,169,369	448,197	35,821	21,576			56	
57	Streetlighting & Signal System					0				57	
58	Meter Expenses:							2,109,573	0	58	
59	Other Distribution Expenses				1,401					59	
60	Miscellaneous Distribution Expenses	505,430	377,080	899,826	372,843	31,406	18,788	1,587,619	0	60	
61	Rents	139,818	75,614	186,469	55,673	11,629	6,482			61	
62	Maintenance, Supervision & Engineering	497,564	167,994			57,942	17,015			62	
63	Maintenance of Station Equipment	744,378								63	
64	Maintenance of Overhead Lines	2,251,497	760,874	765,195	106,537	172,026	98,635			64	
65	Maintenance of Underground Lines	102,002	136,797	395,776	151,693	12,124	7,303			65	
66	Maintenance of Line Transformers		148,276		88,393					66	
67	Maintenance of Streetlighting & Signal					176,602				67	
68	Maintenance of Meters:							597,884	0	68	
69	Maintenance of Property in A/C 371	85,057	28,718	31,876	9,517	9,905	2,909	16,416	0	69	
70	Rounding	309.00	(13.00)	(191.00)	(12.00)	(26.00)	(15.00)	(53.00)		70	
71	Total Distribution Expenses	5,074,892	2,380,947	3,695,490	1,339,557	518,608	179,224	4,564,770	0	71	
72										72	
73										73	
74										74	
75		Production	Transmission	Distribution	Customer Accounting	Customer Service				75	
76	Labor Ratios: 2024 (1)	34.08%	16.21%	25.10%	19.97%	4.64%	1.000000			76	
77										77	

(1) C-2, Page 1 of 2

Line #		Amount	2024	Functionalization	Page 6 of 6	Line #
1	Customer Accounting Expenses					1
2	Meter Reading	5,857,762				2
3	Other	10,170,737				3
4						4
5	Total Customer Accounts	16,028,499				5
6						6
7	Customer Service & Info Expense - MN	9,000,000				7
8	- ND	0				8
9	- SD	485,000				9
10	- Other	2,985,634				10
11						11
12	Total Customer Serv & Information Exp	12,470,634				12
13						13
14	Sales Expenses - MN	274,979				14
15	- ND	5,943				15
16	- SD	0				16
17	- Other	309,826				17
18						18
19	Total Sales Expenses	590,748				19
20						20
21	Administrative & General Expenses					21
22	Salaries, Supplies, Pensions & Benefits					22
23	Production	10,482,304				23
24	Transmission	4,986,321				24
25	Distribution	7,720,546				25
26	Customer Accounts	6,142,118				26
27	Customer Service & Info	1,427,007				27
28						28
29	Total A&G Salaries, Supplies, Pensions & Benefits	30,758,296				29
30						30
31	Administrative & General Expenses					31
32	Load Management	0				32
33	Outside Services (A/C 923)	1,083,910				33
34	Property Insurance (A/C 924)	4,230,959				34
35	Injuries & Damages (A/C 925)	4,536,918				35
36						36
37	General Advertising (A/C 930.1)	0				37
38	Misc. Rents, Maintenance	5,893,680				38

Line	(A) Total Company 2024 Unadjusted Year	(B)-(F) 2024 Regulatory Adjustments					(G) Changes in Allocations Due to Effect of Test Year Adjustments	(H) OTP Total Company 2024 Regulatory Year	(I) ND Allocation	(J) OTP ND 2024 Regulatory Year
		GIPs	Hoot Lake Solar	Transmission Recovery	Electric Vehicles	Total Adjustments				
1	Plant in Service									
2	A/C 101 & 106 - Direct MN	\$0				-	\$0	0.0%	\$0	
3	A/C 101 & 106 - Direct ND	\$0				-	\$0	100.0%	\$0	
4	A/C 101 & 106 - Direct SD	\$0				-	\$0	0.0%	\$0	
5	Subtotal A/C 101 & 106 - Direct Assign	\$0				-	\$0		\$0	
6	Production Plant									
7	A/C 101 & 106 - Base Demand (E1)	\$662,476,008		(46,949,461)		(46,949,461)	\$615,526,547	43.9%	\$270,065,397	
8	A/C 101 & 106 - Peak Demand (D1)	\$416,694,169		(14,850,540)		(14,850,540)	\$401,843,629	39.5%	\$158,667,664	
9	A/C 101 & 106 - Base Energy (E2)	\$450,671,354				-	\$450,671,354	45.0%	\$202,716,694	
10	Subtotal A/C 101 & 106	\$1,529,841,532		(61,800,001)		(61,800,001)	\$1,468,041,531		\$631,439,754	
11										
12	A/C 114 - Base Demand (E1)	\$1,206,597				-	\$1,206,597	43.9%	\$529,381	
13	A/C 114 - Peak Demand (D1)	\$381,658				-	\$381,658	39.5%	\$150,697	
14	A/C 114 - Base Energy (E1)	\$0				-	\$0	43.9%	\$0	
15	Subtotal A/C 114	\$1,588,255				-	\$1,588,255		\$680,078	
16										
17	Total Production Plant	\$1,531,429,786		(61,800,001)		-	\$1,469,629,785		\$632,119,833	
18										
19	Transmission Plant									
20	A/C 101 & 106 (D2)	\$824,652,331	(49,208,600)		(224,871,194)	(274,079,794)	\$550,572,537	39.2%	\$215,798,007	
21	A/C 101 & 106 (Direct FERC)	\$0	49,208,600		224,871,194	274,079,794	\$274,079,794	0.0%	\$0	
22	A/C 114 (D2)	\$58,287				-	\$58,287	39.2%	\$22,846	
23	Total Transmission Plant	\$824,710,618				-	\$824,710,618		\$215,820,853	
24										
25	Distribution Plant									
26	Primary Demand (D3)	\$254,804,754				-	\$254,804,754	46.5%	\$118,538,757	
27	Secondary Demand (D4)	\$144,462,009				(1,447,787)	\$143,014,222	48.7%	\$69,647,624	
28	Primary Customer (C2)	\$119,159,338				-	\$119,159,338	43.7%	\$52,084,671	
29	Secondary Customer (C3)	\$87,462,550			(323,563)	(323,563)	\$87,138,987	43.7%	\$38,091,926	
30	Streetlighting (C4)	\$24,540,852				-	\$24,540,852	41.7%	\$10,226,985	
31	Area Lighting (C5)	\$15,570,817				-	\$15,570,817	54.5%	\$8,488,723	
32	Meters (C6)	\$64,567,120				-	\$64,567,120	44.6%	\$28,784,055	
33	Load Management (C9)	\$8,899,439				-	\$8,899,439	43.7%	\$3,888,421	
34	Total Distribution Plant	\$719,466,879	\$0	\$0	\$0	(\$1,771,350)	\$717,695,529		\$329,751,163	
35										
36	General Plant									
37	Production (P10)	\$41,841,785				-	\$41,841,785	43.0%	\$17,997,064	
38	Transmission (D2)	\$19,903,693				-	\$19,903,693	39.2%	\$7,801,292	
39	Distribution (P60)	\$30,817,789				-	\$30,817,789	45.9%	\$14,159,489	
40	Customer Accounts (OXC)	\$24,517,242				-	\$24,517,242	43.9%	\$10,761,420	
41	Customer Service & Info (OXI)	\$5,696,124				-	\$5,696,124	44.0%	\$2,508,909	
42	Load Management (C9)	\$165,980				-	\$165,980	43.7%	\$72,521	
43	Total General Plant	\$122,942,613				-	\$122,942,613		\$53,300,695	
44										
45	Intangible Plant (P90)	\$42,134,377				-	\$42,134,377	43.4%	\$18,266,993	
46										
47	Total Plant in Service	\$3,240,684,274		(61,800,001)		(1,771,350)	\$3,177,112,923		\$1,249,259,536	
48										
49	Accumulated Depreciation									
50	Production Plant									
51	Base Demand (E1)	(\$277,632,671)		1,009,234		1,009,234	(\$276,623,437)	43.9%	(\$121,365,443)	
52	Peak Demand (D1)	(\$153,150,608)		319,230		319,230	(\$152,831,378)	39.5%	(\$60,345,358)	
53	Base Energy (E2)	(\$142,138,944)				-	(\$142,138,944)	45.0%	(\$63,935,585)	
54	Total Production Plant	(\$572,922,222)		1,328,464		1,328,464	(\$571,593,758)		(\$245,646,386)	
55										
56	Transmission Plant (D2)	(\$184,915,987)	3,093,402		22,087,142	25,180,544	(\$159,735,443)	39.2%	(\$62,608,627)	
57	Transmission Plant - Direct FERC		(3,093,402)		(22,087,142)	(25,180,544)	(\$25,180,544)	0.0%	\$0	
58	Total Transmission Plant	(\$184,915,987)				-	(\$184,915,987)		(\$62,608,627)	
59										
60	Distribution Plant (P60)	(\$268,634,254)				92,846	(\$268,541,408)	45.9%	(\$123,383,576)	
61										
62	General Plant (P90)	(\$50,534,998)				-	(\$50,534,998)	43.4%	(\$21,909,009)	
63										
64	Intangible Plant (P90)	(\$17,387,448)				-	(\$17,387,448)	43.4%	(\$7,538,177)	
65										
66	Total Accumulated Depreciation	(\$1,094,394,909)		1,328,464		92,846	(\$1,092,973,599)		(\$461,085,774)	
67										
68	Total Net Plant in Service	\$2,146,289,364		(60,471,537)		(1,678,504)	\$2,084,139,323		\$788,173,762	

Line	(A) Total Company 2024 Unadjusted Year	(B)-(F) 2024 Regulatory Adjustments					(G) Changes in Allocations Due to Effect of Test Year Adjustments	(H) OTP Total Company 2024 Regulatory Year	(I) ND Allocation	(J) OTP ND 2024 Regulatory Year
		GIPs	Hoot Lake Solar	Transmission Recovery	Electric Vehicles	Total Adjustments				
69										
70										
71										
72										
73										
74										
75										
76										
77										
78										
79										
80										
81										
82										
83										
84										
85										
86										
87										
88										
89										
90										
91										
92										
93										
94										
95										
96										
97										
98										
99										
100										
101										
102										
103										
104										
105										
106										
107										
108										
109										
110										
111										
112										
113										
114										
115										
116										
117										
118										
119										
120										
121										
122										
123										
124										
125										
126										
127										
128										
129										
130										
131										
132										
133										
134										

Line	(A) Total Company 2024 Unadjusted Year	(B)-(F) 2024 Regulatory Adjustments					(G) Changes in Allocations Due to Effect of Test Year Adjustments	(H) OTP Total Company 2024 Regulatory Year	(I) ND Allocation	(J) OTP ND 2024 Regulatory Year
		GIPs	Hoot Lake Solar	Transmission Recovery	Electric Vehicles	Total Adjustments				
135										
136										
137	Materials & Supplies									
137	Production (P10)	\$8,651,753						\$8,651,753	43.0%	\$3,721,307
138	Transmission (D2)	\$9,116,226						\$9,116,226	39.2%	\$3,573,123
139	Distribution (P60)	\$16,199,114						\$16,199,114	45.9%	\$7,442,817
140	Total Materials and Supplies	\$33,967,093						\$33,967,093		\$14,737,248
141										
142	Fuel Stocks									
143	Coal Stocks (E1)	\$8,165,846						\$8,165,846	43.9%	\$3,582,674
144	Fuel Oil Stocks (D1)	\$2,310,865						\$2,310,865	39.5%	\$912,443
145	Total Fuel Stocks	\$10,476,711						\$10,476,711		\$4,495,117
146										
147	Prepayments (NEPIS)	\$49,187,427						\$49,187,427	37.8%	\$18,601,559
148										
149	Customer Advances & Deposits									
150	Customer Advances & Deposits (NEPIS)	(\$1,876,522)						(\$1,876,522)	37.8%	(\$709,657)
151	Customer Deposits (Direct MN)							\$0	100.0%	\$0
152										
153	Cash Working Capital	\$3,093,533						\$3,093,533		\$1,304,936
154										
155	Accumulated Deferred Income Taxes									
156	<i>Items SD Flows Through</i>									
157	Federal (NPMNR)	(\$27,894)						(\$27,894)	41.5%	(\$11,564)
158	Minnesota (NPISM)	\$0						\$0	0.0%	\$0
159	North Dakota (NPISN)	\$0						\$0	98.7%	\$0
160	<i>Subtotal</i>	(\$27,894)						(\$27,894)		(\$11,564)
161	<i>All Other</i>									
162	Federal (NEPIS EXDA)	(\$321,552,409)	3,321,955	6,140,298	17,599,664	27,061,917		(\$294,490,492)	42.9%	(\$126,327,052)
163	Federal (Direct FERC)	\$0	(3,321,955)		(17,599,664)	(20,921,619)		(\$20,921,619)	0.0%	\$0
164	Minnesota (NPISM)	\$0						\$0	0.0%	\$0
165	North Dakota (NPISN)	(\$50,073,352)						(\$50,073,352)	98.7%	(\$49,404,006)
166	<i>Subtotal</i>	(\$371,625,761)	\$0	\$6,140,298	\$0	\$0	6,140,298	(\$365,485,463)		(\$175,731,058)
167										
168	Total Accumulated Deferred Income Taxes	(\$371,653,655)	\$0	\$6,140,298	\$0	\$0	6,140,298	(\$365,513,357)		(\$175,742,622)
169										
170	Unamortized Rate Case Expenses									
171	Minnesota	\$0						\$0	0.0%	\$0
172	North Dakota	\$0						\$0	100.0%	\$0
173	South Dakota	\$0						\$0	0.0%	\$0
174	FERC	\$0						\$0	0.0%	\$0
175	Total Unamortized Rate Case Expenses	\$0						\$0		\$0
176										
177	Total Average Rate Base	\$1,871,266,909		(54,331,239)		(1,678,504)	(56,009,743)	\$1,815,257,166		\$651,646,255

Line	(A)	(B) through (J)								
		Total Company 2024 Unadjusted Year	Advertising Expenses	Fuel Expense - Hoot Lake Solar	Non-Employee Director Restricted Stock	Economic Development Costs	Employee Recognition and Gifts	ESSRP	2024 Regulatory Adjustments		Hoot Lake Solar
								Electric Vehicles	GIPs	
1	Operating Revenues									
2	Sales of Electricity - Minnesota (Direct MN/R10)	\$237,847,135								
3	Sales of Electricity - North Dakota (Direct ND/R10)	\$203,210,040		1,313,314						
4	Sales of Electricity - South Dakota (Direct SD/R10)	\$44,029,611								
5	Sales of Electricity - FERC (Direct FERC/R10)	\$0								
6	Total Retail Sales	\$485,086,787	\$0	\$1,313,314	\$0	\$0	\$0	\$0	\$0	\$0
7										
8	Other Operating Revenues									
9	Other Sales for Resale									
10	Municipalities (Direct FERC)	\$0								
11	Non-Asset Wholesale Transactions (D2)	\$0								
12	All Other Transactions	\$0								
13	Base Demand (E1)	\$0								
14	Peak Demand (D1)	\$0								
15	Base Energy (E2)	\$6,947,794								
16	Peak Energy (D1)	\$0								
17										
18	Total Other Sales for Resale	\$6,947,794	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
19										
20	Other Electric Revenues									
21	Late Fees - Minnesota (Direct MN/C1)	\$395,253								
22	Late Fees - North Dakota (Direct ND/C1)	\$316,157								
23	Late Fees - South Dakota (Direct SD/C1)	\$98,441								
24	Subtotal Late Fees	\$809,851	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
25	Connection Fees - Minnesota (Direct MN/C1)	\$171,798								
26	Connection Fees - North Dakota (Direct ND/C1)	\$136,812								
27	Connection Fees - South Dakota (Direct SD/C1)	\$31,922								
28	Subtotal Connection Fees	\$340,532	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
29	Rent from Electric Property (NEPIS)	\$435,931								
30	Rent from Electric Property - Big Stone (NEPIS)	\$1,395,880								
31	Rent from Electric Property - Coyote (NEPIS)	\$0								
32	Other Miscellaneous Electric Revenue (NEPIS)	\$0								
33	Other Miscellaneous Electric Revenue (Direct MN/C1)	\$0								
34	Other Miscellaneous Electric Revenue (Direct ND/C1)	\$0								
35	Other Miscellaneous Electric Revenue (Direct SD/C1)	\$0								
36	Subtotal Other Miscellaneous Electric Revenue	\$1,831,811	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
37	Integrated Transmission Deficiency Payments (NEPIS)	\$848,757								
38	Miscellaneous Services (NEPIS)	\$0								
39	Wheeling - All Jurisdictions (NEPIS)	\$425,279								
40	Load Control & Dispatching, MAPP & MISO (NEPIS EXDA)	\$51,559,871							(3,935,218)	
41	Load Control & Dispatching, MAPP & MISO (Direct FERC)	\$0							3,935,218	
42	Subtotal Load Control & Dispatching, MAPP & MISO	\$52,833,907	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
43	Loan Pool Interest - Minnesota (Direct MN/C1)	\$0								
44	Loan Pool Interest - North Dakota (Direct ND/C1)	\$0								
45	Loan Pool Interest - South Dakota (Direct SD/C1)	\$0								
46	Subtotal Loan Pool Interest	\$0								
47	Total Other Electric Revenues	\$55,816,131	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
48										
49	Total Other Operating Revenues	\$62,763,925	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
50										
51	Total Operating Revenues	\$547,850,712	\$0	\$1,313,314	\$0	\$0	\$0	\$0	\$0	\$0
52										
53	Operating Expenses									
54	Production Expenses									
55	<i>Production Expenses Excl Purchased Power</i>									
56	Base Demand (E1)	\$15,513,031								
57	Peak Demand (D1)	\$8,562,412								
58	Base Energy (E2)	\$67,526,672								
59	Peak Energy (D1)	\$10,397,281								
60	Base Demand (Direct MN)	\$0								
61	Peak Demand (Direct MN)	\$377,143								
62	Total Excluding Purchased Power	\$102,376,539	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
63										
64	<i>Purchased Power</i>									
65	Base Demand (E1)	\$1,921,959								
66	Peak Demand (D1)	\$0								
67	Base Energy (E2)	\$88,740,168		2,818,864						
68	Peak Energy (D1)	\$0								
69	Total Purchased Power	\$90,662,127	\$0	\$2,818,864	\$0	\$0	\$0	\$0	\$0	\$0
70	Total Production Expenses	\$193,038,666	\$0	\$2,818,864	\$0	\$0	\$0	\$0	\$0	\$0
71										
72	Transmission Expenses (D2)	\$35,329,066								
73	Transmission Expenses (Direct MN)	\$0								

Line	(A) Total Company 2024 Unadjusted Year	(B) Advertising Expenses	(C) Fuel Expense - Hoot Lake Solar	(D) Non-Employee Director Restricted Stock	(E) Economic Development Costs	(F) Employee Recognition and Gifts	(G) ESSRP	(H) 2024 Regulatory Adjustments			(I) Electric Vehicles	(J) GIPs	Hoot Lake Solar
74	Transmission Expenses (Direct FERC)												
75	Total Transmission Expenses	\$35,329,066	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
76													
77	Distribution Expenses												
78	Primary Demand (D3)	\$5,074,895											
79	Secondary Demand (D4)	\$2,180,947											
80	Primary Customer (C2)	\$3,695,488											
81	Secondary Customer (C3)	\$1,339,557											
82	Streetlighting (C4)	\$518,608											
83	Area Lighting (C5)	\$179,224											
84	Meters (C6)	\$4,564,769											
85	Load Management (C9)	\$0											
86	Total Distribution	\$17,553,488	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
87													
88	Customer Accounting Expenses												
89	Meter Reading (C7)	\$5,857,762											
90	Other (C8)	\$10,170,737											
91	Total Customer Accounts	\$16,028,499	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
92													
93	Customer Service & Info Expenses												
94	Conservation & DSM Rebates - MN (Direct MN/E2)	\$9,000,000											
95	Conservation & DSM Rebates - ND (Direct ND/E2)	\$0											
96	Conservation & DSM Rebates - SD (Direct SD/E2)	\$495,000											
97	Other (C1)	\$2,985,633											
98	Total Customer Serv & Infomation Exp	\$12,470,633	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
99													
100	Sales Expenses												
101	Off-Peak Development - MN (Direct MN/C1)	\$274,979											
102	Off-Peak Development - ND (Direct ND/C1)	\$5,943				(5,943)							
103	Off-Peak Development - SD (Direct SD/C1)	\$0											
104	Other (C1)	\$309,826	(1,348)										
105	Total Sales Expenses	\$590,748	(\$1,348)	\$0	\$0	(\$5,943)	\$0	\$0	\$0	\$0	\$0	\$0	\$0
106													
107	Administrative & General Expenses												
108	Salaries, Supplies, Pensions & Benefits												
109	Production (OXPD)	\$10,482,304			-208,215		(76,811)		(48,555)				
110	Transmission (D2)	\$4,986,321			-99,046		(36,538)		(23,097)				
111	Distribution (OXD)	\$7,720,546			-153,357		(56,574)		(35,762)				
112	Customer Accounts (OXC)	\$6,142,118			-122,004		(45,007)		(28,451)				
113	Customer Service & Info (C1)	\$1,427,007			-28,345		(10,457)		(6,610)				
114	Total A&G Salaries, Supp, Pensions & Benefits	\$30,758,296	\$0	\$0	(\$610,968)	\$0	(\$225,387)		(\$142,474)	\$0	\$0	\$0	\$0
115													
116	Load Management (C9)	\$0											
117	Outside Services (A/C 923) (NEPIS)	\$1,083,910											
118	Property Insurance (A/C 924) (NEPIS)	\$4,230,959											
119	Injuries & Damages (A/C 925) (NEPIS)	\$4,536,918											
120	Regulatory Commission Exp (A/C 928) - MN (Direct MN/R10)	\$1,518,965											
121	Regulatory Commission Exp (A/C 928) - ND (Direct ND/R10)	\$502,550											
122	Regulatory Commission Exp (A/C 928) - SD (Direct SD/R10)	\$113,656											
123	Regulatory Commission Exp (A/C 928) - FERC (Direct FERC/R)	\$1,016,109											
124	Total Regulatory Commission Expense	\$3,151,280	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
125	General Advertising (A/C 930.1) (C1)	\$857,770	(857,770)										
126	Misc. Rents, Maintenance (P90)	\$5,035,910											
127	Total Administrative & General Expense	\$49,655,043	(\$857,770)	\$0	(\$610,968)	\$0	(\$225,387)		(\$142,474)	\$0	\$0	\$0	\$0
128													
129	Charitable Contributions (& Cust Dep Int)												
130	Minnesota Only (Direct MN/C1)	\$0											
131	North Dakota Only (Direct ND/C1)	\$0											
132	South Dakota Only (Direct SD/C1)	\$0											
133	Total Charitable Contributions (& Cust Dep Int)	\$0											
134													
135	Total O & M Expenses	\$324,666,143	(\$859,118)	\$2,818,864	(\$610,968)	(\$5,943)	(\$225,387)		(\$142,474)	\$0	\$0	\$0	\$0
136													
137	Depreciation Expense												
138	Production												
139	Base Demand (E1)	\$17,195,516											(1,215,381)
140	Peak Demand (D1)	\$11,114,496											(384,436)
141	Base Energy (E2)	\$12,347,461											
142	Total Production	\$40,657,474	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	(\$1,599,817)
143	Transmission (D2)	\$12,883,697											
144	Transmission (Direct FERC)	\$0											(795,654)
145	Total Transmission	\$12,883,697	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	795,654
146	Distribution (P60)	\$18,780,269											
													(169,846)

Line		(A) Total Company 2024 Unadjusted Year	(B) Advertising Expenses	(C) Fuel Expense - Hoot Lake Solar	(D) Non-Employee Director Restricted Stock	(E) Economic Development Costs	(F) Employee Recognition and Gifts	(G) ESSRP	(H)-(J) 2024 Regulatory Adjustments		
									(H) Electric Vehicles	(I) GIPs	(J) Hoot Lake Solar
147	General (P90)	\$4,236,745									
148	Intangible (P90)	\$4,617,449									
149	Total Depreciation Expense	\$81,175,634	\$0	\$0	\$0	\$0	\$0	\$0	(\$169,846)	\$0	(\$1,599,817)
150											
151	Big Stone Expense Offsets										
152	Minnesota (Direct MN)	\$0									
153	North Dakota (Direct ND)	\$0									
154	South Dakota (Direct SD)	\$0									
155	FERC (Direct FERC)	\$0									
156	Total Big Stone Expense Offsets	\$0									
157											
158	General Taxes (NEPIS EXDA)	\$18,693,896									
159	General Taxes (Direct FERC)	\$0									
160	Total General Taxes	\$18,693,896	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
161											
162	Total Operating Expense Before Tax	680,852,877	(\$860,466)	\$5,637,728	(\$610,968)	(\$11,886)	(\$225,387)	(\$142,474)	(\$169,846)	\$0	(\$1,599,817)
163											
164	Net Operating Income Before Tax	\$123,315,039	\$859,118	(\$1,505,550)	\$610,968	\$5,943	\$225,387	\$142,474	\$169,846	\$0	\$1,599,817
165											
166	Wind Investment Tax Credit & Production Tax Credit										
167	Amortization of Prior Year Credit (EPIS)	(\$741,779)									
168	Production Tax Credits (E2)	(\$17,026,882)									
169	Investment Tax Credits (EPIS)	(\$710,811)									710,811
170	Debits Utilized (EPIS)										
171	Total Wind Investment Tax Credit & Production Tax Credit	(\$18,479,472)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$710,811
172											
173	Deferred Income Taxes										
174	Items SD Flows Through	\$0									
175	Federal (NPMNR)	\$0									
176	Minnesota (NPISM)	\$0									
177	North Dakota (NPISN)	(\$31,934)									
178	Subtotal	(\$31,934)									
179	All Other										
180	Transfer of federal current income taxes due to NOL	\$0									
181	Federal (NEPIS)	\$12,091,374									
182	Federal (NEPIS)	\$12,091,374	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
183	Transfer of Minnesota current income taxes due to NOL	\$0									
184	Minnesota (NPISM)	\$3,663,420									
185	Minnesota (NPISM)	\$3,663,420	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
186	Transfer of North Dakota current income taxes due to NOL	\$0									
187	North Dakota (NPISN)	\$1,122,373									
188	North Dakota (NPISN)	\$1,122,373	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
189	Subtotal	\$16,877,167									
190	Total Deferred Income Taxes	\$16,845,233	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
191											
192	Current Income Taxes										
193	Federal Current Income Tax Transfer due to NOL	\$0									
194	Federal Current Income Tax	\$897,726									
195	Federal Income Taxes	\$897,726	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
196	Minnesota Income Tax Transfer due to NOL	\$0									
197	Minnesota Income Tax	\$198,272									
198	Minnesota Income Taxes (Direct MN)	\$198,272	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
199	North Dakota Income Tax Transfer due to NOL	\$0									
200	North Dakota Income Tax	(\$104,822)									
201	North Dakota Income Taxes (Direct ND)	(\$104,822)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
202	Subtotal State Income Taxes	\$93,450									
203	Total Current Income Taxes	\$991,176	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
204											
205	Total Income Taxes	(\$643,063)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$710,811
206											
207	Net Operating Income	\$123,958,102	\$859,118	(\$1,505,550)	\$610,968	\$5,943	\$225,387	\$142,474	\$169,846	\$0	\$889,006
208											
212	Total Allowance for Funds Used During Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
213											
214	Total Available for Return	\$123,958,102	\$859,118	(\$1,505,550)	\$610,968	\$5,943	\$225,387	\$142,474	\$169,846	\$0	\$889,006

	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)
Line	Incentive Compensation	Investor Relations	Long-Term Incentive	PTC GAAP Provision	Rider CWIP Projects	Transmission Recovery	Total Test Year Adjustments	OTP Total Company 2024 Regulatory Year	ND Allocation	OTP ND 2024 Regulatory Year
1	Operating Revenues									
2	Sales of Electricity - Minnesota (Direct MN/R10)							\$237,847,135	0.00%	\$0
3	Sales of Electricity - North Dakota (Direct ND/R10)	-	-	4,186,187	(2,720,332)		2,779,169	\$205,989,209	100.00%	\$205,989,209
4	Sales of Electricity - South Dakota (Direct SD/R10)	-	-	-	-		-	\$44,029,611	0.00%	\$0
5	Sales of Electricity - FERC (Direct FERC/R10)	-	-	-	-		-	\$0	0.00%	\$0
6	Total Retail Sales	\$0	\$0	\$0	\$4,186,187	(\$2,720,332)	\$0	\$2,779,169	\$487,865,956	\$205,989,209
7										
8	Other Operating Revenues									
9	Other Sales for Resale									
10	Municipalities (Direct FERC)	-	-	-	-	-	-	\$0	0.00%	\$0
11	Non-Asset Wholesale Transactions (D2)	-	-	-	-	-	-	\$0	39.20%	\$0
12	All Other Transactions	-	-	-	-	-	-	\$0		\$0
13	Base Demand (E1)	-	-	-	-	-	-	\$0	43.87%	\$0
14	Peak Demand (D1)	-	-	-	-	-	-	\$0	39.48%	\$0
15	Base Energy (E2)	-	-	-	-	-	-	\$6,947,794	44.98%	\$3,125,191
16	Peak Energy (D1)	-	-	-	-	-	-	\$0	39.20%	\$0
17										
18	Total Other Sales for Resale	\$0	\$0	\$0	\$0	\$0	\$0	\$6,947,794		\$3,125,191
19										
20	Other Electric Revenues									
21	Late Fees - Minnesota (Direct MN/C1)	-	-	-	-	-	-	\$395,253	0.00%	\$0
22	Late Fees - North Dakota (Direct ND/C1)	-	-	-	-	-	-	\$316,187	100.00%	\$316,187
23	Late Fees - South Dakota (Direct SD/C1)	-	-	-	-	-	-	\$98,441	0.00%	\$0
24	Subtotal Late Fees	\$0	\$0	\$0	\$0	\$0	\$0	\$809,881		\$316,187
25	Connection Fees - Minnesota (Direct MN/C1)	-	-	-	-	-	-	\$171,798	0.00%	\$0
26	Connection Fees - North Dakota (Direct ND/C1)	-	-	-	-	-	-	\$136,812	100.00%	\$136,812
27	Connection Fees - South Dakota (Direct SD/C1)	-	-	-	-	-	-	\$31,922	0.00%	\$0
28	Subtotal Connection Fees	\$0	\$0	\$0	\$0	\$0	\$0	\$340,532		\$136,812
29	Rent from Electric Property (NEPIS)	-	-	-	-	-	-	\$435,931	37.82%	\$164,859
30	Rent from Electric Property - Big Stone (NEPIS)	-	-	-	-	-	-	\$1,395,880	37.82%	\$527,890
31	Rent from Electric Property - Coyote (NEPIS)	-	-	-	-	-	-	\$0	37.82%	\$0
32	Other Miscellaneous Electric Revenue (NEPIS)	-	-	-	-	-	-	\$0	37.82%	\$0
33	Other Miscellaneous Electric Revenue (Direct MN/C1)	-	-	-	-	-	-	\$0	0.00%	\$0
34	Other Miscellaneous Electric Revenue (Direct ND/C1)	-	-	-	-	-	-	\$0	100.00%	\$0
35	Other Miscellaneous Electric Revenue (Direct SD/C1)	-	-	-	-	-	-	\$0	0.00%	\$0
36	Subtotal Other Miscellaneous Electric Revenue	\$0	\$0	\$0	\$0	\$0	\$0	\$1,831,811		\$692,749
37	Integrated Transmission Deficiency Payments (NEPIS)	-	-	-	-	-	-	\$848,757	37.82%	\$320,980
38	Miscellaneous Services (NEPIS)	-	-	-	-	-	-	\$0	0.00%	\$0
39	Wheeling - All Jurisdictions (NEPIS)	-	-	-	-	-	-	\$425,279	0.00%	\$0
40	Load Control & Dispatching, MAPP & MISO (NEPIS EXDA)	-	-	-	-	(28,077,778)	(32,012,996)	\$19,546,875	42.90%	\$8,384,988
41	Load Control & Dispatching, MAPP & MISO (Direct FERC)	-	-	-	-	28,077,778	32,012,996	\$32,012,996	0.00%	\$0
42	Subtotal Load Control & Dispatching, MAPP & MISO	\$0	\$0	\$0	\$0	\$0	\$0	\$52,833,907		\$8,705,968
43	Loan Pool Interest - Minnesota (Direct MN/C1)	-	-	-	-	-	-	\$0	0.00%	\$0
44	Loan Pool Interest - North Dakota (Direct ND/C1)	-	-	-	-	-	-	\$0	100.00%	\$0
45	Loan Pool Interest - South Dakota (Direct SD/C1)	-	-	-	-	-	-	\$0	0.00%	\$0
46	Subtotal Loan Pool Interest	-	-	-	-	-	-	\$0		\$0
47	Total Other Electric Revenues	\$0	\$0	\$0	\$0	\$0	\$0	\$55,816,131		\$9,851,716
48										
49	Total Other Operating Revenues	\$0	\$0	\$0	\$0	\$0	\$0	\$62,763,925		\$12,976,907
50										
51	Total Operating Revenues	\$0	\$0	\$0	\$4,186,187	(\$2,720,332)	\$0	\$2,779,169	\$550,629,881	\$218,966,116
52										
53	Operating Expenses									
54	Production Expenses									
55	<i>Production Expenses Excl Purchased Power</i>									
56	Base Demand (E1)	-	-	-	-	-	-	\$15,513,031	43.87%	\$6,806,169
57	Peak Demand (D1)	-	-	-	-	-	-	\$8,562,412	39.48%	\$3,380,862
58	Base Energy (E2)	-	-	-	-	-	-	\$67,526,672	44.98%	\$30,374,206
59	Peak Energy (D1)	-	-	-	-	-	-	\$10,397,281	39.48%	\$4,105,359
60	Base Demand (Direct MN)	-	-	-	-	-	-	\$0	0.00%	\$0
61	Peak Demand (Direct MN)	-	-	-	-	-	-	\$377,143	0.00%	\$0
62	Total Excluding Purchased Power	\$0	\$0	\$0	\$0	\$0	\$0	\$102,376,539		\$44,666,594
63										
64	<i>Purchased Power</i>									
65	Base Demand (E1)	-	-	-	-	-	-	\$1,921,959	43.87%	\$843,238
66	Peak Demand (D1)	-	-	-	-	-	-	\$0	39.48%	\$0
67	Base Energy (E2)	-	-	-	-	-	2,818,864	\$91,559,032	44.98%	\$41,184,214
68	Peak Energy (D1)	-	-	-	-	-	-	\$0	39.48%	\$0
69	Total Purchased Power	\$0	\$0	\$0	\$0	\$0	\$2,818,864	\$93,480,991		\$42,027,449
70	Total Production Expenses	\$0	\$0	\$0	\$0	\$0	\$0	\$2,818,864	\$195,857,530	\$86,694,043
71										
72	Transmission Expenses (D2)	-	-	-	-	-	-	\$35,329,066	39.20%	\$13,847,298
73	Transmission Expenses (Direct MN)	-	-	-	-	-	-	\$0	0.00%	\$0

	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)
Line	Incentive Compensation	Investor Relations	Long-Term Incentive	PTC GAAP Provision	Rider CWIP Projects	Transmission Recovery	Total Test Year Adjustments	OTP Total Company 2024 Regulatory Year	ND Allocation	OTP ND 2024 Regulatory Year
74	Transmission Expenses (Direct FERC)									
75	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$35,329,066	0.00%	\$13,847,298
76	Total Transmission Expenses									
77	Distribution Expenses									
78								\$5,074,895	46.52%	\$2,360,913
79								\$2,180,947	48.70%	\$1,062,117
80								\$3,695,488	43.71%	\$1,615,302
81								\$1,339,557	43.71%	\$585,574
82								\$518,608	41.67%	\$216,121
83								\$179,224	54.52%	\$97,707
84								\$4,564,769	44.58%	\$2,034,976
85								\$0	43.69%	\$0
86	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$17,553,488		\$7,972,703
87	Total Distribution									
88	Customer Accounting Expenses									
89								\$5,857,762	44.21%	\$2,589,979
90								\$10,170,737	43.71%	\$4,445,453
91	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$16,028,499		\$7,035,432
92	Total Customer Accounts									
93	Customer Service & Info Expenses									
94								\$9,000,000	0.00%	\$0
95								\$0	100.00%	\$0
96								\$485,000	0.00%	\$0
97								\$2,985,633	44.05%	\$1,315,049
98	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$12,470,633		\$1,315,049
99	Total Customer Serv & Info Exp									
100	Sales Expenses									
101								\$274,979	0.00%	\$0
102							(5,943)	\$0	100.00%	\$0
103								\$0	0.00%	\$0
104							(1,348)	\$308,478	44.05%	\$135,872
105	\$0	\$0	\$0	\$0	\$0	\$0	(\$7,291)	\$583,457		\$135,872
106	Total Sales Expenses									
107	Administrative & General Expenses									
108	<i>Salaries, Supplies, Pensions & Benefits</i>									
109	(289,483)		(967,481)				(1,590,545)	\$8,891,759	42.43%	\$3,772,627
110	(137,704)		(460,221)				(756,605)	\$4,229,715	39.20%	\$1,657,845
111	(213,213)		(712,580)				(1,171,486)	\$6,549,060	45.42%	\$2,974,549
112	(169,623)		(566,897)				(931,982)	\$5,210,136	43.89%	\$2,286,899
113	(39,409)		(131,708)				(216,529)	\$1,210,478	44.05%	\$533,166
114	(\$849,431)	\$0	(\$2,838,887)	\$0	\$0	\$0	(\$4,667,147)	\$26,091,148		\$11,225,086
115	Total A&G Salaries, Supp, Pensions & Benefits									
116								\$0	43.69%	\$0
117								\$1,083,910	37.82%	\$409,910
118								\$4,230,959	37.82%	\$1,600,052
119								\$4,536,918	37.82%	\$1,715,759
120								\$1,518,965	0.00%	\$0
121								\$502,550	100.00%	\$502,550
122								\$113,656	0.00%	\$0
123								\$1,016,109	0.00%	\$0
124	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,151,280		\$502,550
125	Total Regulatory Commission Expense									
126								\$0	44.05%	\$0
127								(857,770)		\$0
128		(236,267)						(236,267)	43.35%	\$2,080,843
129	(\$849,431)	(\$236,267)	(\$2,838,887)	\$0	\$0	\$0	(\$5,761,184)	\$43,893,859		\$17,534,200
130	Total Administrative & General Expense									
131	Charitable Contributions (& Cust Dep Int)									
132								\$0	0.00%	\$0
133								\$0	100.00%	\$0
134								\$0	0.00%	\$0
135	(\$849,431)	(\$236,267)	(\$2,838,887)	\$0	\$0	\$0	(\$2,949,611)	\$321,716,532		\$134,534,598
136	Total O & M Expenses									
137	Depreciation Expense									
138	<i>Production</i>									
139								(1,215,381)	43.87%	\$7,011,105
140								(384,436)	39.48%	\$4,236,757
141								\$12,347,461	44.98%	\$5,554,018
142	\$0	\$0	\$0	\$0	\$0	\$0	(1,599,817)	\$39,057,657	39.20%	\$16,801,880
143								\$8,706,848	39.20%	\$3,412,666
144							3,381,195	4,176,849	0.00%	\$0
145	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$12,883,697		\$3,412,666
146								\$18,610,423	45.95%	\$8,550,713
147							(169,846)			

	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)
Line	Incentive Compensation	Investor Relations	Long-Term Incentive	PTC GAAP Provision	Rider CWIP Projects	Transmission Recovery	Total Test Year Adjustments	OTP Total Company 2024 Regulatory Year	ND Allocation	OTP ND 2024 Regulatory Year
147	General (P90)	-	-	-	-	-	-	\$4,236,745	43.35%	\$1,836,804
148	Intangible (P90)	-	-	-	-	-	-	\$4,617,449	43.35%	\$2,001,855
149	Total Depreciation Expense	\$0	\$0	\$0	\$0	\$0	(1,769,663)	\$79,405,971		\$32,603,918
150										
151	Big Stone Expense Offsets									
152	Minnesota (Direct MN)	-	-	-	-	-	-	\$0	0.00%	\$0
153	North Dakota (Direct ND)	-	-	-	-	-	-	\$0	100.00%	\$0
154	South Dakota (Direct SD)	-	-	-	-	-	-	\$0	0.00%	\$0
155	FERC (Direct FERC)	-	-	-	-	-	-	\$0	0.00%	\$0
156	Total Big Stone Expense Offsets	-	-	-	-	-	-	\$0		\$0
157										
158	General Taxes (NEPIS EXDA)	-	-	-	-	(2,136,276)	(2,136,276)	\$16,557,620	42.90%	\$7,102,692
159	General Taxes (Direct FERC)	-	-	-	-	-	2,136,276	\$2,136,276	0.00%	\$0
160	Total General Taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$18,693,896		\$7,102,692
161										
162	Total Operating Expense Before Tax	(\$849,431)	(\$236,267)	(\$2,838,887)	\$0	\$0	(\$1,907,701)	678,945,175		251,534,996
163										
164	Net Operating Income Before Tax	\$849,431	\$236,267	\$2,838,887	\$4,186,187	(\$2,720,332)	\$0	\$7,498,443	\$130,813,482	\$44,724,907
165										
166	Wind Investment Tax Credit & Production Tax Credit									
167	Amortization of Prior Year Credit (EPIS)	-	-	-	-	-	-	(\$741,779)	39.32%	(\$291,672)
168	Production Tax Credits (E2)	-	-	-	11,140,189	-	11,140,189	(\$5,886,693)	44.98%	(\$2,647,896)
169	Investment Tax Credits (EPIS)	-	-	-	-	-	710,811	\$0	39.35%	\$0
170	Debits Utilized (EPIS)	-	-	-	-	-	-	\$0	39.35%	\$0
171	Total Wind Investment Tax Credit & Production Tax Credit	\$0	\$0	\$0	\$11,140,189	\$0	\$0	\$11,851,000	(\$6,628,472)	(\$2,939,568)
172										
173	Deferred Income Taxes									
174	Items SD Flows Through	-	-	-	-	-	-	-	-	-
175	Federal (NPMNR)	-	-	-	-	-	-	\$0	41.53%	\$0
176	Minnesota (NPISM)	-	-	-	-	-	-	\$0	98.66%	\$0
177	North Dakota (NPISN)	-	-	-	-	-	-	(\$31,934)	98.66%	(\$31,507)
178	Subtotal	-	-	-	-	-	-	(\$31,934)		(\$31,507)
179	All Other	-	-	-	-	-	-	-	-	-
180	Transfer of federal current income taxes due to NOL	-	-	-	-	-	897,726	\$897,726		(\$483,912)
181	Federal (NEPIS)	-	-	-	-	-	-	\$12,091,374	37.82%	\$4,572,681
182	Federal (NEPIS)	\$0	\$0	\$0	\$0	\$0	\$897,726	\$12,989,100		\$4,088,769
183	Transfer of Minnesota current income taxes due to NOL	-	-	-	-	-	-	198,272		\$0
184	Minnesota (NPISM)	-	-	-	-	-	-	\$3,863,420	0.00%	\$0
185	Minnesota (NPISM)	\$0	\$0	\$0	\$0	\$0	\$198,272	\$3,861,692		\$0
186	Transfer of North Dakota current income taxes due to NOL	-	-	-	-	-	(104,822)	(\$104,822)		(\$104,822)
187	North Dakota (NPISN)	-	-	-	-	-	-	\$1,122,373	98.6633%	\$1,107,370
188	North Dakota (NPISN)	\$0	\$0	\$0	\$0	\$0	(\$104,822)	\$1,017,551		\$1,002,548
189	Subtotal	-	-	-	-	-	-	\$17,868,343		\$5,091,317
190	Total Deferred Income Taxes	\$0	\$0	\$0	\$0	\$0	\$0	\$17,836,409		\$5,059,809
191										
192	Current Income Taxes									
193	Federal Current Income Tax Transfer due to NOL	-	-	-	-	-	(897,726)	(\$897,726)	0.00%	\$0
194	Federal Current Income Tax	-	-	-	-	-	-	\$897,726	0.00%	\$0
195	Federal Income Taxes	\$0	\$0	\$0	\$0	\$0	(\$897,726)	\$0		\$0
196	Minnesota Income Tax Transfer due to NOL	-	-	-	-	-	(198,272)	(\$198,272)		\$0
197	Minnesota Income Tax	-	-	-	-	-	-	\$198,272		\$0
198	Minnesota Income Taxes (Direct MN)	\$0	\$0	\$0	\$0	\$0	(\$198,272)	\$0		\$0
199	North Dakota Income Tax Transfer due to NOL	-	-	-	-	-	-	\$0	0.00%	\$0
200	North Dakota Income Tax	-	-	-	-	-	104,822	\$0	100.00%	\$0
201	North Dakota Income Taxes (Direct ND)	\$0	\$0	\$0	\$0	\$0	\$104,822	\$0		\$0
202	Subtotal State Income Taxes	-	-	-	-	-	-	\$0		\$0
203	Total Current Income Taxes	\$0	\$0	\$0	\$0	\$0	(\$897,726)	\$0		\$0
204										
205	Total Income Taxes	\$0	\$0	\$0	\$11,140,189	\$0	\$0	\$10,953,274	\$11,207,937	\$2,120,240
206										
207	Net Operating Income	\$849,431	\$236,267	\$2,838,887	(\$6,954,002)	(\$2,720,332)	\$0	(\$3,454,831)	\$119,605,545	\$42,604,667
208										
212	Total Allowance for Funds Used During Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
213										
214	Total Available for Return	\$849,431	\$236,267	\$2,838,887	(\$6,954,002)	(\$2,720,332)	\$0	(\$3,454,831)	\$119,605,545	\$42,604,666

Otter Tail Power Company
13MA Plant Balance
Unadjusted Projected Fiscal Year 2024

Line No.	FERC Acct #	Plant Acct #	Description	(D) December 2023	(E) January 2024	(F) February 2024	(G) March 2024	(H) April 2024	(I) May 2024	(J) June 2024	(D) July 2024	(E) August 2024	(F) September 2024	(G) October 2024	(H) November 2024	(I) December 2024	Simple Average	
1			INTANGIBLE PLANT															
2			TOTAL INTANGIBLE PLANT (Fercs 101 & 106, Accts 302-303)	40,068,309	40,068,309	40,068,309	40,338,756	40,338,756	40,338,756	40,338,756	41,988,662	41,988,662	41,988,662	41,988,662	41,988,662	41,988,662	44,200,445	
3			PRODUCTION PLANT															
4			STEAM GENERATION PLANT															
5			Total Steam Generation (Fercs 101, 105 & 106, Accts 310-317)	597,403,618	597,403,719	596,989,969	597,403,719	597,406,945	597,059,886	597,531,903	597,256,673	597,469,275	597,873,004	598,766,793	598,785,168	545,586,720	571,495,169	
6			Total Steam Big Stone AQCS (Accts 310-317)	-	-	-	-	-	-	-	-	-	-	-	-	-	0	
7			Total Steam Production Plant (Ferc 114, Accts 310-317)	1,588,255	1,588,255	1,588,255	1,588,255	1,588,255	1,588,255	1,588,255	1,588,255	1,588,255	1,588,255	1,588,255	1,588,255	1,588,255	1,588,255	
8	101		Total Steam Production Plant	\$598,991,872	\$598,991,973	\$598,579,223	\$598,991,973	\$598,995,200	\$598,648,141	\$599,120,158	\$598,844,927	\$599,057,530	\$599,461,258	\$600,355,047	\$600,373,423	\$547,174,974	573,083,423	
9			HYDRO GENERATION PLANT															
10			Total Hydro Generation Plant	12,804,282	12,804,282	12,804,282	12,804,282	12,839,282	12,849,164	12,849,164	12,879,164	13,107,029	13,284,895	13,284,895	13,613,087	13,767,085	13,285,684	
11			OTHER GENERATION															
12			Total Internal Combustion	195,793,943	195,793,943	196,207,693	196,207,693	196,207,693	196,621,443	196,666,684	197,001,708	197,415,458	197,771,531	197,771,531	198,236,701	253,646,414	224,720,179	
13			SOLAR GENERATION															
14			Total Solar Generation	62,497,146	62,497,146	62,497,146	62,509,646	62,509,646	62,509,646	62,522,146	62,522,146	62,522,146	62,534,646	62,534,646	62,534,646	62,547,146	62,522,146	
15			Total Wind Generation	271,095,372	271,095,372	271,509,122	271,521,622	271,556,622	271,980,253	272,030,994	272,403,018	273,044,634	273,591,072	273,591,072	274,384,435	329,960,646	274,384,435	
16			Total Wind Generation	629,041,095	629,041,095	629,041,095	629,299,197	629,299,197	629,299,197	629,299,197	629,557,299	629,557,299	629,815,401	629,815,401	629,815,401	683,942,511	686,595,613	657,818,354
17			WIND GENERATION															
18			Total Wind Generation	629,041,095	629,041,095	629,041,095	629,299,197	629,299,197	629,299,197	629,299,197	629,557,299	629,557,299	629,815,401	629,815,401	683,942,511	686,595,613	657,818,354	
19			WIND GENERATION															
20			Total Wind Generation	629,041,095	629,041,095	629,041,095	629,299,197	629,299,197	629,299,197	629,299,197	629,557,299	629,557,299	629,815,401	629,815,401	683,942,511	686,595,613	657,818,354	
21			WIND GENERATION															
22			Total Wind Generation	629,041,095	629,041,095	629,041,095	629,299,197	629,299,197	629,299,197	629,299,197	629,557,299	629,557,299	629,815,401	629,815,401	683,942,511	686,595,613	657,818,354	
23			WIND GENERATION															
24			Total Wind Generation	629,041,095	629,041,095	629,041,095	629,299,197	629,299,197	629,299,197	629,299,197	629,557,299	629,557,299	629,815,401	629,815,401	683,942,511	686,595,613	657,818,354	
25			WIND GENERATION															
26			Total Wind Generation	629,041,095	629,041,095	629,041,095	629,299,197	629,299,197	629,299,197	629,299,197	629,557,299	629,557,299	629,815,401	629,815,401	683,942,511	686,595,613	657,818,354	
27			WIND GENERATION															
28			Total Wind Generation	629,041,095	629,041,095	629,041,095	629,299,197	629,299,197	629,299,197	629,299,197	629,557,299	629,557,299	629,815,401	629,815,401	683,942,511	686,595,613	657,818,354	
29			WIND GENERATION															
30			Total Wind Generation	629,041,095	629,041,095	629,041,095	629,299,197	629,299,197	629,299,197	629,299,197	629,557,299	629,557,299	629,815,401	629,815,401	683,942,511	686,595,613	657,818,354	
31			WIND GENERATION															
32			Total Wind Generation	629,041,095	629,041,095	629,041,095	629,299,197	629,299,197	629,299,197	629,299,197	629,557,299	629,557,299	629,815,401	629,815,401	683,942,511	686,595,613	657,818,354	
33			WIND GENERATION															
34			Total Wind Generation	629,041,095	629,041,095	629,041,095	629,299,197	629,299,197	629,299,197	629,299,197	629,557,299	629,557,299	629,815,401	629,815,401	683,942,511	686,595,613	657,818,354	
35			WIND GENERATION															
36			Total Wind Generation	629,041,095	629,041,095	629,041,095	629,299,197	629,299,197	629,299,197	629,299,197	629,557,299	629,557,299	629,815,401	629,815,401	683,942,511	686,595,613	657,818,354	
37			WIND GENERATION															
38			Total Wind Generation	629,041,095	629,041,095	629,041,095	629,299,197	629,299,197	629,299,197	629,299,197	629,557,299	629,557,299	629,815,401	629,815,401	683,942,511	686,595,613	657,818,354	
39			WIND GENERATION															
40			Total Wind Generation	629,041,095	629,041,095	629,041,095	629,299,197	629,299,197	629,299,197	629,299,197	629,557,299	629,557,299	629,815,401	629,815,401	683,942,511	686,595,613	657,818,354	
41			WIND GENERATION															
42			Total Wind Generation	629,041,095	629,041,095	629,041,095	629,299,197	629,299,197	629,299,197	629,299,197	629,557,299	629,557,299	629,815,401	629,815,401	683,942,511	686,595,613	657,818,354	
43			WIND GENERATION															
44			Total Wind Generation	629,041,095	629,041,095	629,041,095	629,299,197	629,299,197	629,299,197	629,299,197	629,557,299	629,557,299	629,815,401	629,815,401	683,942,511	686,595,613	657,818,354	
45			WIND GENERATION															
46			Total Wind Generation	629,041,095	629,041,095	629,041,095	629,299,197	629,299,197	629,299,197	629,299,197	629,557,299	629,557,299	629,815,401	629,815,401	683,942,511	686,595,613	657,818,354	
47			WIND GENERATION															
48			Total Wind Generation	629,041,095	629,041,095	629,041,095	629,299,197	629,299,197	629,299,197	629,299,197	629,557,299	629,557,299	629,815,401	629,815,401	683,942,511	686,595,613	657,818,354	
49			WIND GENERATION															
50			Total Wind Generation	629,041,095	629,041,095	629,041,095	629,299,197	629,299,197	629,299,197	629,299,197	629,557,299	629,557,299	629,815,401	629,815,401	683,942,511	686,595,613	657,818,354	
51			WIND GENERATION															
52			Total Wind Generation	629,041,095	629,041,095	629,041,095	629,299,197	629,299,197	629,299,197	629,299,197	629,557,299	629,557,299	629,815,401	629,815,401	683,942,511	686,595,613	657,818,354	
53			WIND GENERATION															
54			Total Wind Generation	629,041,095	629,041,095	629,041,095	629,299,197	629,299,197	629,299,197	629,299,197	629,557,299	629,557,299	629,815,401	629,815,401	683,942,511	686,595,613	657,818,354	
55			WIND GENERATION															
56			Total Wind Generation	629,041,095	629,041,095	629,041,095	629,299,197	629,299,197	629,299,197	629,299,197	629,557,299	629,557,299	629,815,401	629,815,401	683,942,511	686,595,613	657,818,354	
57			WIND GENERATION															
58			Total Wind Generation	629,041,095	629,041,095	629,041,095	629,299,197	629,299,197	629,299,197	629,299,197	629,557,299	629,557,299	629,815,401	629,815,401	683,942,511	686,595,613	657,818,354	
59			WIND GENERATION															
60			Total Wind Generation	629,041,095	629,041,095	629,041,095	629,299,197	629,299,197	629,299,197	629,299,197	629,557,299	629,557,299	629,815,401	629,815,401	683,942,511	686,595,613	657,818,354	
61			WIND GENERATION															
62			Total Wind Generation	629,041,095	629,041,095	629,041,095	629,299,197	629,299,197	629,299,197	629,299,197	629,557,299	629,557,299	629,815,401	629,815,401	683,9			

**Otter Tail Power Company
Accumulated Depreciation - Production
Unadjusted Projected Fiscal Year 2024**

(A)

(B)

Line No.	Simple Average Reserve Balances	Total
1	Total Production FERC 108	572,922,222
2		
3	Plus: Hydro Licensing	0
4	Total Production-Related Accumulated Depr	572,922,222
5	Less: Wind	207,471,820
6		
8	Total Demand	365,450,402
9		
10		
11		(2)
12	Base Demand	277,632,671
13		
14	Peak Demand	153,150,608
15		
16	Base Energy	142,138,944
17		
18	Total Production	572,922,222

	Peak	Base
2024 Excluding Wind	24.03%	75.97%
2024 Wind	31.49%	68.51%

Otter Tail Power Company
Accumulated Depreciation
Unadjusted Projected Fiscal Year 2024

Line No.	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	Simple Average	
																					2023
1																					
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					
13																					
14																					
15																					
16																					
17																					
18																					
19																					
20																					
21																					
22																					
23																					
24																					
25																					
26																					
27																					

Otter Tail Power Company
13-MA CWIP
Unadjusted Projected Fiscal Year 2024

	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	
Line No.		2023 December	2024 January	February	March	April	May	June	July	August	September	October	November	December	13-Month Average	Simple Average
1	Short Term Projects:															
2	Production															
3	Balance	(1)	-	18,507	18,507	-	-	322	-	18,507	18,507	-	-	322	-	5,744
4	Transmission															
5	Balance	(1)	359,000	346,233	368,327	341,503	392,665	836,902	359,000	346,233	368,327	341,503	392,665	836,902	359,000	434,482
6	Distribution															
7	Balance	(1)	1,086,337	541,345	569,674	611,273	729,695	794,226	1,086,337	541,345	569,674	611,273	729,695	794,226	1,086,337	750,111
8	General															
9	Balance	(1)	325,581	237,946	237,946	237,946	237,946	277,033	325,581	237,946	237,946	237,946	237,946	277,033	325,581	264,183
10	Intangible															
11	Balance	(1)	-	-	-	-	7,773	771,589	-	-	-	-	7,773	771,589	-	119,902
12	Total Short Term Projects:															
13	Balance		1,770,919	1,144,032	1,194,455	1,190,722	1,368,079	2,680,073	1,770,919	1,144,032	1,194,455	1,190,722	1,368,079	2,680,073	1,770,919	1,574,421
14	Long Term Projects															
15	Production															
16	Balance	(1)	61,089,672	62,922,362	64,810,033	66,754,334	68,756,964	70,819,673	72,944,263	75,132,591	77,386,568	79,708,166	82,099,410	84,562,393	87,099,265	73,391,207
17	Transmission															
18	Balance	(1)	28,565,166	29,422,121	30,304,785	31,213,929	32,150,346	33,114,857	34,108,303	35,131,552	36,185,498	37,271,063	38,389,195	39,540,871	40,727,097	34,317,291
19	Distribution															
20	Balance	(1)	29,369,997	28,953,297	29,821,895	30,716,552	31,638,049	32,587,190	33,564,806	34,571,750	35,608,903	36,677,170	37,777,485	38,910,810	40,078,134	33,867,388
21	General															
22	Balance	(1)	10,342,797	9,436,225	9,530,587	9,625,893	9,722,152	9,819,374	9,917,567	10,016,743	10,116,910	10,218,079	10,320,260	10,423,463	10,527,698	10,001,365
23	Intangible															
24	Balance	(1)	6,646,321	6,712,784	6,779,912	6,847,711	6,916,188	6,985,350	7,055,204	7,125,756	7,197,013	7,268,983	7,341,673	7,415,090	7,489,241	7,060,094
25	Total Long Term Projects:															
26	Actual Balance		136,013,953	137,446,789	141,247,213	145,158,419	149,183,699	153,326,444	157,590,143	161,978,391	166,494,893	171,143,461	175,928,024	180,852,626	185,921,434	158,637,345
27	Total Adjusted CWIP Balance	(2),(3)	137,784,872	138,590,821	142,441,667	146,349,141	150,551,778	156,006,517	159,361,061	163,122,423	167,689,348	172,334,183	177,296,103	183,532,699	187,692,353	162,738,612

Otter Tail Power Company
Material & Supplies
Unadjusted Projected Fiscal Year 2024

	(A)	(B)	(C)	(D)	(E)	(F)	(H)
Line No.				(1) Production	(2) Transmission	(3) Distribution	Total
1	December	End	2023	8,678,324	8,337,165	16,199,114	33,214,603
2	January	End	2024	8,625,181	9,199,336	16,199,114	34,023,631
3	February	End	2024	8,625,181	9,591,696	16,199,114	34,415,992
4	March	End	2024	8,625,181	9,519,147	16,199,114	34,343,443
5	April	End	2024	8,625,181	9,530,843	16,199,114	34,355,138
6	May	End	2024	8,625,181	10,782,432	16,199,114	35,606,727
7	June	End	2024	8,625,181	5,628,127	16,199,114	30,452,422
8	July	End	2024	8,625,181	6,326,263	16,199,114	31,150,558
9	August	End	2024	8,625,181	7,299,622	16,199,114	32,123,917
10	September	End	2024	8,625,181	7,319,874	16,199,114	32,144,169
11	October	End	2024	8,625,181	7,109,476	16,199,114	31,933,771
12	November	End	2024	8,625,181	8,608,660	16,199,114	33,432,955
13	December	End	2024	8,625,181	9,895,287	16,199,114	34,719,582
14	Total			112,180,500	109,147,928	210,588,480	431,916,907
15	Simple Average			8,651,753	9,116,226	16,199,114	33,967,093

Otter Tail Power Company
Prepayments
Unadjusted Projected Fiscal Year 2024

(A)	(B)	(C)	(D)	(E)	
Line		Prepaid Insurance & Interest Total FERC 1650	Post Retirement Benefits other than Pension (FAS 106)	Post Employment Benefits	FAS 87 Pension Plan
		(1)	(1)	(1)	(1)
1	December 2023	3,575,802	(46,278,434)	(1,504,693)	91,904,839
2	January 2024	5,550,440	(45,650,955)	(1,520,495)	91,522,964
3	February 2024	5,016,802	(45,023,476)	(1,536,298)	91,141,089
4	March 2024	4,483,190	(44,395,997)	(1,552,101)	90,759,214
5	April 2024	8,594,130	(43,768,518)	(1,567,903)	90,377,339
6	May 2024	7,984,311	(43,141,039)	(1,583,706)	89,995,464
7	June 2024	7,375,084	(42,513,560)	(1,599,508)	89,613,589
8	July 2024	6,802,711	(41,886,081)	(1,615,309)	89,231,714
9	August 2024	6,194,067	(41,258,602)	(1,631,111)	88,849,839
10	September 2024	5,585,946	(40,631,123)	(1,646,913)	88,467,964
11	October 2024	5,014,494	(40,003,644)	(1,662,714)	88,086,089
12	November 2024	4,406,185	(39,376,165)	(1,678,516)	87,704,214
13	December 2024	3,798,007	(38,748,686)	(1,694,318)	87,322,339
14	Total	74,381,171	(552,676,285)	(20,793,585)	1,164,976,657
15	Simple Average	3,686,905	(42,513,560)	(1,599,505)	89,613,589
16					
17	Total Prepayments in Rate Base	\$49,187,428			

Otter Tail Power Company
Accumulated Deferred Income Tax
Unadjusted Projected Fiscal Year 2024

Line No.	(A)	(B)	(C)	(D)
1	Accumulated Deferred Income Taxes	12/31/2023	12/31/2024	Average
2	Items SD Flows Through			
3	Federal	(27,894)	(27,894)	(27,894)
4	Minnesota			0
5	North Dakota			0
6	Subtotal	(27,894)	(27,894)	(27,894)
7				
8	All Other			
9	Federal (above the line including Wind)	(314,145,933)	(328,958,878)	(321,552,406)
10	Minnesota (above the line)			0
11	North Dakota (above the line including Wind)	(51,064,996)	(49,081,707)	(50,073,352)
12	Subtotal	(365,210,929)	(378,040,585)	(371,625,757)
13	Total Accumulated Deferred Income Taxes	(365,238,823)	(378,068,479)	(371,653,651)

Otter Tail Power Company
Fuel Stocks
Budget 12 Months Ending December 31, 2024

	(A)	(B)	(C)	(D)	(E)	(F)
Line No.				Coal Stocks	Oil & Other** Stocks	Total
1	December	End	2023	8,165,846	2,323,365	10,489,211
2	January	End	2024	8,165,846	2,298,365	10,464,211
3	February	End	2024	8,165,846	2,298,365	10,464,211
4	March	End	2024	8,165,846	2,298,365	10,464,211
5	April	End	2024	8,165,846	2,298,365	10,464,211
6	May	End	2024	8,165,846	2,298,365	10,464,211
7	June	End	2024	8,165,846	2,298,365	10,464,211
8	July	End	2024	8,165,846	2,298,365	10,464,211
9	August	End	2024	8,165,846	2,298,365	10,464,211
10	September	End	2024	8,165,846	2,298,365	10,464,211
11	October	End	2024	8,165,846	2,298,365	10,464,211
12	November	End	2024	8,165,846	2,298,365	10,464,211
13	December	End	2024	8,165,846	2,298,365	10,464,211
14	Total			106,155,998	29,903,745	136,059,743
15	Simple Average			8,165,846	2,310,865	10,476,711

**Propane, Tire Derived Fuel, Renewable Resource Fuel and Natural Gas

Otter Tail Power Company
Cash Working Capital - Cost of Energy Adjustment Revenues
Unadjusted Projected Fiscal Year 2024

(A) (B) (C)

Line No.	Year	State	Sum of COE Adj	
1	2024	MN	(\$2,791,352)	(1) (3)
2	2024	ND	(\$6,094,976)	(1) (3)
3	2024	SD	(\$1,152,893)	(1) (3)
4			(\$10,039,221)	
5		FERC		(2) (3)
6		Total	(\$10,039,221)	

**Otter Tail Power Company
Coal & Oil Expense
Unadjusted Projected Fiscal Year 2024**

Line No.	(A)	(B)	(C)
1		Lignite/Subitumious Consumed	Oil/Nat Gas/TDF Consumed
2			
3	Total	50,694,925	1,107,743
4		(1) (5)	(2) (5)
5			
6	Total Oil, Natural Gas and Lignite		51,802,668
7			
8			
9	<u>Reconciliation:</u>		
10	A/C 5010.0002 Noncontractual Sales (3)		0
11	A/C 5010.1000 Lignite (3)		24,085,267
12	A/C 5010.2000 Subbituminous (3)		26,609,658
13	A/C 5010.3000 TDF (3)		0
14	A/C 5010.5000 Fuel Oil (3)		1,107,743
15	A/C 5010.6000 RRM (3)		0
16	A/C 5010.7000 Natural Gas (3)		0
17	Total		51,802,668
18			
19	FERC Financial Statement		
20	Production Fuel		(4)
21			
22			0
23	Difference from FERC F/S		51,802,668
24	Difference from above		0

**Otter Tail Power Company
Coal Conversion Tax
Unadjusted Projected Fiscal Year 2024**

(A) (B) (C)

Line No.	Amount	Percentage
1	\$18,701,744 (1)	100.0000%
2		
3	108,687 (2)	0.5812% (3)
4		
5	\$18,593,057	99.4188% (3)
6		

**Otter Tail Power Company
Cash Balances
Unadjusted Projected Fiscal Year 2024**

(A)

(B)

Line No.	Minimum Bank Balances:	Amount
1	Dec '23	0
2	Jan	0
3	Feb	0
4	Mar	0
5	Apr	0
6	May	0
7	Jun	0
8	Jul	0
9	Aug	0
10	Sep	0
11	Oct	0
12	Nov	0
13	Dec	0
14		
15	Total	0
16		
17	Average	0
18		
19		
20	<u>Compensating Balances:</u>	None
21		
22	<u>Minimum Average Daily Bank Balances:</u>	0
23		
24		
25	Total Cash Balances:	0
26		

**Otter Tail Power Company
Cash Balances
Unadjusted Projected Fiscal Year 2024**

(A) (B)

Line No.	Minimum Daily Bank Balances:	Amount
1	December 2023	0
2	January	0
3	February	0
4	March	0
5	April	0
6	May	0
7	June	0
8	July	0
9	August	0
10	September	0
11	October	0
12	November	0
13	December	0
14		
15	Total	0
16		
17	Average	0 (1)

(1) UI is set up so the line of credit automatically funds the account when needed, and sweeps to pay down the line of credit if OTP has excess dollars at the end of the day. If the line of credit swing line is paid in full, any excess funds will be swept to the short-term investment accounts.

**Otter Tail Power Company
Minimum Bank Balances
Unadjusted Projected Fiscal Year 2024**

(A) (B) (C) (D)

Minimum Bank Balances

Line No.	Customer Service Centers	Bank	Town	Minimum Balance
				(1)
1	Fergus Falls			
2	Devils Lake			
3	Morris	Riverwood Bank	Morris	
4	Oakes	Starion Financial	Oakes	
5		Sargent County Bank	Forman	
6		Bremer Bank	Lisbon	
7	Rugby	Merchants Bank	Rugby	
8		First Security Bank	Canby	
9	Bemidji	First National Bank	Bemidji	
10	Crookston	Bremer Bank	Crookston	
11	Garrison	Garrison State Bank	Garrison	
12	Milbank	First Bank & Trust	Milbank	
13				
14	Other Accounts:			
	US Bank Petty Cash	US Bank	Fergus Falls	
15	Manitoba Hydro Acct	US Bank	Manitoba	
16				
17	Total			\$ -

**Otter Tail Power Company
Working Funds
Unadjusted Projected Fiscal Year 2024**

(A) (B) (C) (D)

Line No.	Working Funds (Accounts 135.0, 135.1, 135.2, 135.3, 135.4/1075.0000)			Monthly Balances
1	December	End	2023	12,513
2	January	End	2024	12,513
3	February	End	2024	12,513
4	March	End	2024	12,513
5	April	End	2024	12,513
6	May	End	2024	12,513
7	June	End	2024	12,513
8	July	End	2024	12,513
9	August	End	2024	12,513
10	September	End	2024	12,513
11	October	End	2024	12,513
12	November	End	2024	12,513
13	December	End	2024	12,513
14	Total			162,669
15	Average			12,513

**Otter Tail Power Company
Special Deposits
Unadjusted Projected Fiscal Year 2024**

(A) (B) (C) (D)

Line No.	Special Deposits (Accounts 132.0, 134.0/1050.0000)			Monthly Balances
1	December	End	2023	2,158,433
2	January	End	2024	2,158,433
3	February	End	2024	2,158,433
4	March	End	2024	2,158,433
5	April	End	2024	2,158,433
6	May	End	2024	2,158,433
7	June	End	2024	2,158,433
8	July	End	2024	2,158,433
9	August	End	2024	2,158,433
10	September	End	2024	2,158,433
11	October	End	2024	2,158,433
12	November	End	2024	2,158,433
13	December	End	2024	2,158,433
14	Total			28,059,629
15	Average			2,158,433

**Otter Tail Power Company
Tax Collections Available
Unadjusted Projected Fiscal Year 2024**

Line No.	(A)	(B)
1	Employee FICA Withholding	5,759,442 (1)(3)
2		
3	Employee Federal Withholding	9,309,980 (1)(4)
4		
5	Employee State Withholding - Minnesota	2,203,698 (1)(4)
6		
7	Employee State Withholding - North Dakota	303,808 (1)(4)
8		
9		
10	<u>Customer Sales Tax:</u>	
11	Minnesota	11,519,413 (2)
12	North Dakota	72 (2)
13	South Dakota	2,399,944 (2)
14		
15	Total Sales Tax	13,919,429
16		
17		
18	Franchise Taxes	301,604 (2)

Otter Tail Power Company
Retail Revenue
Unadjusted Projected Fiscal Year 2024

(A)

(B)

Line No.		
1		North Dakota 203,210,040
2		
3		
4		
5	(2) 2024 Base revenue-ND	112,931,461
6	Plus: Fuel Revenue	71,477,189
7	Plus: COE Receivable	(6,094,976)
8	Plus: Generation Rider	3,595,685
9	Plus: Grid Modernization	3,982,851
10	Plus: Renewable Rider	9,269,062
11	Plus: Transmission Rider	8,048,768
12		
13	NORTH DAKOTA REVENUE FOR COSS	203,210,040

Otter Tail Power Company
Sales For Resale
Unadjusted Projected Fiscal Year 2024

(B) (C)

Line No.	Total Sales For Resale:	Detail	Totals
1	Requirements Service to Municipals	(1)	
2	Asset Based Wholesale Sales	(2)	6,947,794
3	Total Sales For Resale		6,947,794

Otter Tail Power Company
Other Electric Revenues
Unadjusted Projected Fiscal Year 2024

Line No.	(A)	(B)	(C)
	Late Charges (450)		
1	MN	395,253	
2	ND	316,187	
3	SD	98,441	
4	Total Late Charges		809,881
5			
6	Connection Fees (452.1)		
7	MN	171,798	
8	ND	136,812	
9	SD	31,922	
10	Total Connection Fees		340,532
11			
12	Rent From Electric Property (includes Hoot Lake)	435,931	
13	Rent From Electric Property - Big Stone		
14	Rent From Electric Property - Coyote		
15	Total Rent		435,931
16			
17	Other Misc. Electric Revenue	1,395,880	1,395,880
18			
19	Integrated Transmission Deficiency Payments (456.3)	848,757	848,757
20			
21	Wheeling (all FERC)	425,279	425,279
22			
23	MISO Tariff Revenue	51,559,869	
24	MAPP Transmission service charge (456.4)		
25	MISO Tariff Revenue Schedule 24		
26	Load Control & Dispatch (456.6)		
27	Total Load Control & Dispatch, MISO & MAPP		51,559,869
28			
29	Miscellaneous Services (452.0)		
30			
31	Sub-Total Other Electric Revenues		55,816,129
32			
33	Interest income from loan pools & economic development		
34	MN		
35	ND		
36	SD		
37	Total interest income		0
38			
39	Gain on sale of emission allowances (a/c 411.8)		
40			
41	Total Other Electric Revenues		55,816,129

Otter Tail Power Company
Purchased Power
Unadjusted Projected Fiscal Year 2024

(B) (C) (D) (E) (F)

Line No.	Type of Power:	Total Purchased Power	Demand Charges	Energy Charges	Base Demand	Base Energy
1	Participation Power:					
2	Shared Customers & NSE	6,791,996 (1)	1,949,333 (1)	4,842,663 (1)	1,949,333	4,842,663
3						
4	All Other	83,870,131	(27,374)	83,897,505	(27,374)	83,897,505
5						
6	Total Purchased Power	90,662,127 (3)	1,921,959.03 (2)	88,740,168 (2)	1,921,959 (4)	88,740,168 (4)
7						

Otter Tail Power Company
Regulatory Commission Expense
Unadjusted Projected Fiscal Year 2024

	(A)	(B)	(C)	(D)	(E)	(F)
Line No.		MN	ND	SD	FERC	Total
1						
2	Rate Case Amort					0
3						
4	All Other	1,518,965	502,550	113,656	1,016,109	3,151,280
5	In O&M Budget	0				
6						
7	Total	1,518,965	502,550	113,656	1,016,109	3,151,280

Otter Tail Power Company
GIPS Removal
Unadjusted Projected Fiscal Year 2024

	(A)	(B)
Line No.		
1	Plant Cost	\$ 49,208,600
2	Accumulated Depreciation	(3,093,402)
3	ADIT	\$ (3,321,955)
4	2021 FSA Revenues	3,935,218
5	Depreciation Expense (Yr 6)	795,654

**Otter Tail Power Company
Depreciation Expense-Production
Unadjusted Projected Fiscal Year 2024**

(A)

(B)

Line No.			Total
1	Production		40,657,474
2			
3	Plus: Hydro Licensing		-
4			
5	Total Production		40,657,474
6			
7	Less: Wind Production		18,022,860
8			
9	Total Production, Excluding Wind		22,634,614
10			
11	Base Demand	75.97% (6)	17,195,516
12			
13	Peak Demand - Non Wind	24.03% (6)	5,439,098
14	Peak Demand - Wind	31.49% (7)	5,675,399
15			11,114,496
16	Base Energy - Wind	68.51% (7)	12,347,461
17			
18			
19	Total Production		40,657,474

Otter Tail Power Company
Depreciation and Amortization Expense
Unadjusted Projected Fiscal Year 2024

(A)

(B)

Line No.	Depreciation Expense 12 Mo Ended 12/31/2024	Total
1	Steam (Excluding Un Tr & Ortonville)	14,873,571
2	Hydro	178,060
3	I.C. & Other	4,831,773
4	Wind	18,022,860
5	Solar	2,751,210
6	Total Production	40,657,474
7		
8	Transmission	12,883,697
9	Distribution	18,780,269
10		
11	General (Excluding Transp 392,390.2 & WHSE, 390.3, 393, 394.1 & CAP A&G)	4,035,417
12	Gain on Wahpeton Office	(5,576)
13	Airplane	206,904
14	(Gain) or Loss on Vehicles	
15	Total General	4,236,745
16		
17	Subtotal	76,558,185
18		
19	Intangible	
20	Computer Software	4,561,425
21	Hydro Licensing	56,024
22		4,617,449
23		
24	Total Depreciation	81,175,634

Otter Tail Power Company
Electric Vehicle Charger Direct assign to MN
Unadjusted Projected Fiscal Year 2024

	(A)	(B)
Line No.		
1	Plant Cost	\$ 1,771,350
2	Accumulated Depreciation	(92,846)
3	CWIP	-
4	ADIT	
5	Depreciation Expense	169,846
6	O&M Expense	-
7	Property Tax	0

Otter Tail Power Company
Hoot Lake Plant Solar
Unadjusted Projected Fiscal Year 2024

	(A)	(B)
Line No.		
1	Plant Cost	\$ 61,800,001
2	Accumulated Depreciation	(1,328,464)
3	CWIP	-
4	ADIT	(6,140,298)
5	Depreciation Expense	1,599,817
6	O&M Expense	Already Direct Assigned in the COSS
7	Property Tax	-
8	Investment Tax Credits	710,811

Otter Tail Power
Schedule M-1
(Separate Return Basis)
2024 YE Accrual

Line No.	Ref No.	(A) Item	(B) Federal	(C) MN	(D) ND
1	(11)	Net Income Per Books - OTP only	86,677,925	86,677,925	86,677,925
2	(12)	Income Tax - A/C (409.1) 5410.1001 - 1004	(1,089,960)	(1,089,960)	(1,089,960)
3	(12)	Income Tax - A/C (409.2) 5410.2001 - 2004	843,804	843,804	843,804
4	(12)	Income Tax - A/C (410.1 & 411.1) 5410.4101 & 5410.4111	1,185,925	1,185,925	1,185,925
5	(12)	Income Tax - A/C (410.2 & 411.2) 5410.4102 & 5410.4112	603,399	603,399	603,399
6	(12)	Income Tax - A/C (411.4) 5410.4114	(1,452,590)	(1,452,590)	(1,452,590)
7	(12)	Income Tax - A/C (411.5) 5410.4115	(6,418)	(6,418)	(6,418)
8		Net Income Before Tax (Consolidated)	86,762,085	86,762,085	86,762,085
9		Net Income Before Tax (OTP)	86,762,085	86,762,085	86,762,085
10	(2)	(Utility NIBT)	0	<== proofcheck	86,762,085
11					
12		Permanent:			
13	(2)	P-00100 AFUDC (Equity)	(3,753,209)	(3,753,209)	(3,753,209)
14	(2)	P-00110 Meal Allowances - 50% Disallowance	150,000	150,000	150,000
15	(2)	P-00120 ESOP Deduction	(1,240,148)	(1,240,148)	(1,240,148)
16	(1)(2)	P-00130 Penalties - Added back on Schedule M		0	0
17	(1)(2)	P-00140 Lobbying Expense (Non-Deductible)	300,000	300,000	300,000
18	(1)(2)	P-00150 Restricted Stock Incentive - (Tax Deduction for Dividends)	(7,596)	(7,596)	(7,596)
19		P-00160 None		0	0
20		P-00170 Non-Qual Retire Savings (Below the Line)	5,196	5,196	5,196
21	(1)(2)	P-00172 Employee Stock Purchase Plan	144,000	144,000	144,000
22	(12)	P-00240 Income from ACRS & MACRS Property	1,406,530	1,407,914	1,406,530
23	(1)(2)	P-00250 Parking Lot Expenses	77,203	77,203	77,203
24					
25		Property Related Temporary:			
26	(2)	M-00130 Highway Reimbursements - Reversing			
27	(2)(5)	M-00140 Removal Costs	2,567,426	2,567,426	2,567,426
28	(2)	M-00160 Interest Capitalized on Construction (Taxable)	2,709,598	2,709,598	2,709,598
29	(2)	M-00180 Capitalized Overheads Reversing	343,934	343,934	343,934
30	(2)	M-00150 AFUDC on Debt Originating	(544,806)	(544,806)	(544,806)
31	(5)(12)	M-00800 Tax Depreciation	(161,193,446)	(161,032,203)	(161,197,864)
32	(5)(2)	M-00800 Book Depreciation	79,314,630	79,315,318	79,314,630
33					
34		Other:			
35	(2)(5)	M-00220 Accrued Vacation Pay			
36	(1)(2)	M-00230 Amortization of Loss on Reacquired Debt (Below the Line)	24,648	24,648	24,648
37	(2)	M-00250 Pensions Provision (FAS 87 & 88)	(4,582,500)	(4,582,500)	(4,582,500)
38	(2)	M-00271 Conservation Improvement Program - MN & SD - Net (Below the Line)	(2,245,500)	(2,245,500)	(2,245,500)
39	(2)	M-00290 Supplemental Pension Reserve	(1,138,505)	(1,138,505)	(1,138,505)
40	(2)	M-00300 Post Retirement Benefit	(7,529,748)	(7,529,748)	(7,529,748)
41	(2)	M-00310 Post Employment Benefits (FAS 112)	189,625	189,625	189,625
42		M-00335 Rate Rider Mechanisms	5,688,688	5,688,688	5,688,688
43		M-00363 Deferred HLP Cost Recovery	(349,572)	(349,572)	(349,572)
44	(2)(3)	M-00410 MN rate case deferred expense (2021)	377,088	377,088	377,088
45	(1)(2)	M-00550 Non-Qual. Retire Savings (Below the Line)	(72,000)	(72,000)	(72,000)
46			(89,358,464)	(89,195,149)	(89,362,882)
47		Taxable Income Before Deduction for State Taxes	(2,596,379)	(2,433,064)	(2,600,797)
48		Less: MN Estimated & Extension Tax Paid for Current Year	0	N/A	N/A
49		ND Estimated & Extension Tax Paid for Current Year	0	N/A	N/A
50		Add'l State Taxes Paid/(Recv'd) for Prior Years	0	N/A	N/A
51	(14)	Taxable Income	(2,596,379)	(2,433,064)	(2,600,797)
52	(15)(16)	Apportionment Factors	100%	48.2980%	38.1042%
53		Apportioned Income	(2,596,379)	(1,175,121)	(991,013)
54		ND State Tax Formula Base Adj (-\$50,000 per statute-2010)			
55			(2,596,379)	(1,175,121)	(991,013)
56	(13)	Tax Rate	21.00%	9.80%	4.31%
57		Income Tax Liability Before Tax Credits	(545,240)	(115,162)	(42,713)
58					
59	(8)	Less: Federal and North Dakota Wind Energy Tax Credits	0	N/A	0
60	(1)(2)	M-00890 Research & Development Tax Credit (OTP only)			N/A
61	"(2)(6)(7)	M-00640 MN Minimum Fee (\$9,340 per statute)		10,810	
62	(2)	M-00760 ND State Tax Formula Base (\$1,302.50 per statute)			1,240
63	(2)	M-00750 Other Credits - Education Donations			
64		Otter Tail Power Tax Liability (Separate Return)	(545,240)	(104,352)	(41,473)
65		Adjustment to reflect zero tax liability due to NOL's	0	0	0
66	(2)	Total Current Tax Liability	(545,240)	(104,352)	(41,473)
67					
68		Grand Total Tax Liability (OTP only)		(691,064)	
69					

**Otter Tail Power Company
Advertising Expense
Unadjusted Projected Fiscal Year 2024**

	(A)	(B)
Line No.	Adjustment to remove advertising expense:	
1	Advertising expenses	
2	Account 913	1,348
3	(Sales Expense)	
4		
5	General advertising expenses	
6	Account 930.1	857,770
7	(Administrative & General Expense)	
8		
9	Total	859,118
10		
11	Amount excluded in 930.1 above that should be	
12	included with 930.2	0

**Otter Tail Power Company
Federal Production Tax Credits Generated
Unadjusted Projected Fiscal Year 2024**

Langdon Repower	454,674
Merricourt Wind Farm	16,017,913
	<hr/>
	16,472,587

Otter Tail Power Company
Wind Investment Tax Credit
Unadjusted Projected Fiscal Year 2024

	<u>Yearly</u> <u>Amortization</u>
Langdon	(12,588)
Ashtabula	395,340
Luverne	<u>359,028</u>
Total	<u><u>741,780</u></u>

Otter Tail Power Company
Base and Peak Demand Split Data
Unadjusted Projected Fiscal Year 2024

Line No.	(A)	(B)	(C)	(D)	(E)	(F)
		Plant Capacity - KW			Estimated Cost of New Capacity	
		Steam/Hydro	Other	Total	Base Load	Peaking
1						
2						
3	2022 Actual	408,700 (2)	343,700 (2)	752,400	\$4,200 (1)	\$604
4						
5	2023 Forecast	408,700	343,700	752,400	\$4,284 (1)	\$622
6						
7	2024 Forecast	408,700	343,700	752,400	\$4,370 (1)	\$641
8						
9						
10	Calculation of Base Demand and Peaking Demand Factors					
11					These values can be escalated at -	These values can be escalated at -
12	Total Current Cost (TCC) = (A X D) + (B X E)				2%	3%
13						
14	Peaking Demand Factor (PDF) = (C X E) / TCC					
15						
16	Base Demand Factor (BDF) = 1 - PDF					
17						
18	2022 Actual					
19		TCC =	\$1,924,134,800		Actual Average Investment for 2022	|
20		PDF =	23.62% (3)		Forecast January 2023 Expenses	
21		BDF =	76.38% (3)			
22	2023 Forecast					
23		TCC =	\$1,964,693,444		Forecasted Average Investment for 2023	|
24		PDF =	23.82% (3)		Forecast January 2025 Expenses	
25		BDF =	76.18% (3)			
26	2024 Forecast					
27		TCC =	\$2,006,125,539		Forecasted Average Investment for 2024	|
28		PDF =	24.03% (3)		Forecast January 2025 Expenses	
29		BDF =	75.97% (3)			

**Otter Tail Power Company
Base Energy and Peak Demand Split Data
Unadjusted Projected Fiscal Year 2024**

UCAP Values:	Summer	Fall	Winter	Spring	Percentage	MW	
Ashtabula	16.00%	31.50%	52.30%	20.00%	29.95%		48
Langdon	15.80%	28.90%	55.80%	24.90%	31.35%		40.5
Luverne	19.80%	31.70%	56.20%	21.20%	32.23%		49.5
Ash III	17.90%	26.10%	55.10%	19.70%	29.70%		62.4
Merricourt (OTP)	21.60%	24.80%	47.80%	35.90%	32.53%		150
					155.75%		350.4
Weighted Average:							
Ashtabula					29.95%	13.70%	4.10%
Langdon					31.35%	11.56%	3.62%
Luverne					32.23%	14.13%	4.55%
					29.70%	17.81%	5.29%
Merricourt (OTP)					32.53%	42.81%	13.92%
					155.75%	100.00%	31.49%
Wind							
Base Energy					68.51%		
Peak Demand					31.49%		

**Otter Tail Power Company
Labor Ratios
Unadjusted Projected Fiscal Year 2024**

(A)

(C)

Line No.	Function Labor	Portion of Total
1	Production (2)	34.08%
2		
3	Transmission	16.21%
4		
5	Distribution	25.10%
6		
7	Customer Accounts	19.97%
8		
9	Customer Service & Information, & Sales (1)	4.64%
10		
11		
12		
13	Subtotal	100.00%
14		

Allocation Factors
North Dakota Classes
Unadjusted Projected Fiscal Year 2016

(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	
Line No.	Allocators	Total	Minnesota	North Dakota	South Dakota	FERC	Class Total	Residential	Farms	General Service	Large General Service
1	D1	719,976	359,481	284,282	75,454	759	284,282	108,197	4,618	81,472	85,574
2	D2	725,298	359,481	284,282	75,454	6,081	284,282	108,197	4,618	81,472	85,574
3	D3	851,393	350,326	396,080	99,333	5,654	396,080	90,117	10,061	84,988	86,012
4	D4	1,119,241	449,500	545,068	124,673	0	545,068	123,926	18,447	120,927	67,581
5	E1	5,645,126	2,635,019	2,476,736	529,788	3,583	2,476,736	457,278	30,568	487,815	1,475,999
6	E2	6,171,457	2,827,178	2,775,986	564,780	3,513	2,775,986	557,429	31,568	438,740	1,442,993
7	C1	135,411	63,698	59,643	12,070	0	59,643	46,014	1,023	11,545	260
8	C2	136,449	64,616	59,642	12,191	0	59,642	46,018	1,023	11,548	261
9	C3	136,414	64,597	59,632	12,185	0	59,632	46,018	1,023	11,541	258
10	C4	13,235,267	6,555,122	5,515,574	1,164,571	0	5,515,574	0	0	0	0
11	C5	9,628,628	3,604,745	5,249,227	774,656	0	5,249,227	0	0	0	0
12	C6	57,578,353	26,612,168	25,668,459	5,297,726	0	25,668,459	7,855,936	520,335	9,292,360	561,276
13	C7	206,170	96,557	91,157	18,456	0	91,157	47,286	1,054	32,495	724
14	C8	136,457	64,623	59,643	12,191	0	59,643	46,018	1,023	11,548	262
15	C9	41,469	19,366	18,119	3,984	0	18,119	3,882	18	34	1

Line No.	Allocators	Irrigation	Outdoor Lighting	OPA	Controlled Service Deferred Load	Controlled Service Interrupt	Controlled Service Off Peak				
16	D1	0	1,299	3,122	0	0	0				
17	D2	0	1,299	3,122	0	0	0				
18	D3	1,626	4,726	3,245	35,597	79,708	0				
19	D4	2,654	4,403	5,138	80,740	121,252	0				
20	E1	0	1,982	22,242	542	0	310				
21	E2	1,384	12,691	19,950	33,559	222,168	15,504				
22	C1	30	126	590	14	40	1				
23	C2	30	122	590	14	35	1				
24	C3	30	122	590	14	35	1				
25	C4	0	5,515,574	0	0	0	0				
26	C5	0	5,249,227	0	0	0	0				
27	C6	43,040	73,114	260,568	2,574,614	4,048,696	438,520				
28	C7	104	452	1,785	3,105	3,959	193				
29	C8	30	122	590	14	35	1				
30	C9	21	1	0	6,130	7,902	130				

Otter Tail Power Company
Effective Tax Rates
Unadjusted Projected Fiscal Year 2024

(A) (B) (C) (D) (E) (F)

Line No.					
1	Tax Rates: (1)				SD Special Hearing Fund Assessment Rate: (2)
2	Federal	21.00%			0.0015
3	Minnesota	9.80%			
4	North Dakota	4.31%			
5					
6					
7	==> North Dakota				
8	Income		1,000		1,000
9	ND / Federal Income Tax		43.1		
10					
11			956.9		1,000
12	Federal Tax Rate		21.00%		4.31%
13					
14	Total Tax		200.9		43.1
15					
16	Effective Tax Rates - ND	24.405%	20.095%		4.31%
17					
18					
19	Gross Revenue Conversion Factor:		1 / (1 - Total ETR)		1.322837
20					
21					

Otter Tail Power Company
Embedded Cost of Debt Capital
Unadjusted Proposed Fiscal Year 2024

Line No.	Description	Rate of Interest	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)
			Principal Amounts Outstanding												Average Monthly Balances	Interest Cost Year 2024			
		(1)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)		
1	6.370% Debenture -Unsecured Series C 2027 Senior Notes - 6.37% - 09-01-27		42,000,000	42,000,000	42,000,000	42,000,000	42,000,000	42,000,000	42,000,000	42,000,000	42,000,000	42,000,000	42,000,000	42,000,000	42,000,000	42,000,000	42,000,000	42,000,000	2,675,400
2	6.470% Debenture -Unsecured Series D 2037 Senior Notes - 6.47% - 08-31-37		50,000,000	50,000,000	50,000,000	50,000,000	50,000,000	50,000,000	50,000,000	50,000,000	50,000,000	50,000,000	50,000,000	50,000,000	50,000,000	50,000,000	50,000,000	50,000,000	3,235,000
3	6.300% LTD #3 - FORECAST PURPOSES ONLY		0	0	120,000,000	120,000,000	120,000,000	120,000,000	120,000,000	120,000,000	120,000,000	120,000,000	120,000,000	120,000,000	120,000,000	120,000,000	120,000,000	120,000,000	6,930,000
4	4.680% Unsecured Series A 2029 4.68% - 2-27-29		60,000,000	60,000,000	60,000,000	60,000,000	60,000,000	60,000,000	60,000,000	60,000,000	60,000,000	60,000,000	60,000,000	60,000,000	60,000,000	60,000,000	60,000,000	60,000,000	2,808,000
5	3.070% Unsecured Series A 2029 Senior Note - 3.07% - 10-10-2029		10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	259,000
6	3.220% Unsecured Series A 2030 Senior Note - 3.22% - 02-25-2030		10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	322,000
7	2.740% Unsecured Series A 2031 Senior Note - 2.74% - 11-29-2031		40,000,000	40,000,000	40,000,000	40,000,000	40,000,000	40,000,000	40,000,000	40,000,000	40,000,000	40,000,000	40,000,000	40,000,000	40,000,000	40,000,000	40,000,000	40,000,000	1,096,000
8	4.070% Unsecured Series A 2048 4.07% - 02-07-48		100,000,000	100,000,000	100,000,000	100,000,000	100,000,000	100,000,000	100,000,000	100,000,000	100,000,000	100,000,000	100,000,000	100,000,000	100,000,000	100,000,000	100,000,000	100,000,000	4,070,000
9	3.220% Unsecured Series B 2030 Senior Note - 3.22% - 08-20-2030		40,000,000	40,000,000	40,000,000	40,000,000	40,000,000	40,000,000	40,000,000	40,000,000	40,000,000	40,000,000	40,000,000	40,000,000	40,000,000	40,000,000	40,000,000	40,000,000	1,096,000
10	3.520% Unsecured Series B 2039 Senior Note - 3.52% - 10-10-2039		26,000,000	26,000,000	26,000,000	26,000,000	26,000,000	26,000,000	26,000,000	26,000,000	26,000,000	26,000,000	26,000,000	26,000,000	26,000,000	26,000,000	26,000,000	26,000,000	915,200
11	5.470% Unsecured Series B 2044 5.47% - 2-27-44		90,000,000	90,000,000	90,000,000	90,000,000	90,000,000	90,000,000	90,000,000	90,000,000	90,000,000	90,000,000	90,000,000	90,000,000	90,000,000	90,000,000	90,000,000	90,000,000	4,923,000
12	3.690% Unsecured Series B 2051 Senior Note - 3.69% - 11-29-2051		100,000,000	100,000,000	100,000,000	100,000,000	100,000,000	100,000,000	100,000,000	100,000,000	100,000,000	100,000,000	100,000,000	100,000,000	100,000,000	100,000,000	100,000,000	100,000,000	3,690,000
13	3.620% Unsecured Series C 2040 Senior Note - 3.62% - 02-25-2040		10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	362,000
14	3.620% Unsecured Series C 2049 Senior Note - 3.62% - 10-10-2049		64,000,000	64,000,000	64,000,000	64,000,000	64,000,000	64,000,000	64,000,000	64,000,000	64,000,000	64,000,000	64,000,000	64,000,000	64,000,000	64,000,000	64,000,000	64,000,000	2,444,800
15	3.770% Unsecured Series C 2052 Senior Note - 3.77% - 05-20-2052		90,000,000	90,000,000	90,000,000	90,000,000	90,000,000	90,000,000	90,000,000	90,000,000	90,000,000	90,000,000	90,000,000	90,000,000	90,000,000	90,000,000	90,000,000	90,000,000	3,393,000
16	3.920% Unsecured Series D 2050 Senior Note - 3.92% - 02-25-2050		15,000,000	15,000,000	15,000,000	15,000,000	15,000,000	15,000,000	15,000,000	15,000,000	15,000,000	15,000,000	15,000,000	15,000,000	15,000,000	15,000,000	15,000,000	15,000,000	588,000
17																			
18																			
19	Total Series Bonds		\$747,000,000	\$747,000,000	\$867,000,000	\$867,000,000	\$867,000,000	\$867,000,000	\$867,000,000	\$867,000,000	\$867,000,000	\$867,000,000	\$867,000,000	\$867,000,000	\$867,000,000	\$867,000,000	\$867,000,000	\$848,538,462	\$38,807,400
20																			
21	Loss/Gain on Reacquired Debt	(4)																(4,261,882)	411,810
22																			
23	Total Long-Term Debt Capital		\$747,000,000	\$747,000,000	\$867,000,000	\$867,000,000	\$867,000,000	\$867,000,000	\$867,000,000	\$867,000,000	\$867,000,000	\$867,000,000	\$867,000,000	\$867,000,000	\$867,000,000	\$867,000,000	\$867,000,000	\$844,276,580	\$39,219,210
24																			
25																			
26																			
27																			
28																			
29																			
30																			
31																			
32																			
33																			
34																			
35																			
36																			
37																			
38																			
39																			
40																			
41																			
42																			
43																			
44																			
45																			
46																			
47																			
48																			
49																			
50																			
51																			
52																			
53																			
54																			
55																			
56																			
57																			
58																			

Weighted Long-Term Cost of Debt	4.65%
Total Short-Term Debt	\$ 57,841,876
Short-Term Debt	5.25%
Total Debt Capital	\$902,118,456
Weighted Cost of Debt	4.68%

NOTE: As new bond issuances are added in UI, this workpaper needs to be updated to pull that data related to the bond issuance.

COSS - WP - NOI - per Books
42,256,994
(3) CHECK

	FERC Accounts 181 & 189 (Unamortized Expense & Loss on Reacquired Debt)				FERC Account 257 (Unamortized Gain on Reacquired Debt)					
	Ending Account Balance	Acct 428 Amort Expense	Acct 428.1 Amort Expense	Other	Ending Account Balance	Acct 429.1 Amort Expense	Other	Account Balance Total	Total Amortization Expense	
Dec	0	29,747	0		0	0		0	0	
Jan	0	29,747	0	29,747	0	0		0	29,747	
Feb	0	34,733	0	34,733	0	0		0	34,733	
Mar	0	34,733	0	34,733	0	0		0	34,733	
Apr	0	34,733	0	34,733	0	0		0	34,733	
May	0	34,733	0	34,733	0	0		0	34,733	
Jun	0	34,733	0	34,733	0	0		0	34,733	
Jul	0	34,733	0	34,733	0	0		0	34,	

Otter Tail Power Company
Common Equity
Average Thirteen Monthly Balances
Unadjusted Proposed Fiscal Year Ending December 31, 2024

(A) (B) (C) (D) (E) (F) (G) (H) (I) (J) (K) (L) (M) (N) (O)

Principal Amounts Outstanding

Line No.	Title	December	January	February	March	April	May	June	July	August	September	October	November	December	Average 13 Month Balances
1	Contributed Capital	676,989,466	676,989,466	676,989,466	676,989,466	676,989,466	676,989,466	777,689,466	777,689,466	777,689,466	777,689,466	777,689,466	777,689,466	777,689,466	
2															
3	Retained Earnings	293,355,399	303,696,141	311,730,002	299,324,635	304,352,591	309,526,905	298,110,193	306,796,156	315,042,741	304,695,604	310,267,471	318,386,651	309,253,958	
4	Total Electric Common Equity	970,344,865	980,685,607	988,719,467	976,314,101	981,342,057	986,516,371	1,075,799,658	1,084,485,621	1,092,732,206	1,082,385,070	1,087,956,937	1,096,076,116	1,086,943,424	1,037,715,500

Otter Tail Power Company
Adjustment to Cap Management Performance Incentives and Corporate Bonuses at 50%
Unadjusted Projected Fiscal Year 2024

Line No.	(A)	(B) Labor Ratios	(C) Management Incentives	(D) Corporate Bonuses	(E) Total Adjustment
	Administrative & General Expenses				
	Salaries, Supplies, Pensions & Benefits	(1)			
1	Production	34.08%	(94,697)	(194,789)	(289,486)
2	Transmission	16.21%	(45,042)	(92,650)	(137,693)
3	Distribution	25.10%	(69,745)	(143,462)	(213,207)
4	Customer Accounts	19.97%	(55,490)	(114,141)	(169,631)
5	Customer Service & Info	4.64%	(12,893)	(26,521)	(39,414)
6		100.00%	(277,868)	(571,563)	(849,431)

	2024 Budget	25% Capallowed	
Management Incentives estimate in 2024 Budget	1,539,906	1,262,038	277,868
Corporate Bonus estimate in 2024 Budget	<u>1,211,609</u>	640,046	571,563
	2,751,515		

**Otter Tail Power Company
Adjustment for Economic Development Expenses
Unadjusted Projected Fiscal Year 2024**

Line No.	(A)	(B) (1) Amount	(C) ND 100.00%
1			
2	Economic Development - ND	5,943	(5,943)
3			

Otter Tail Power Company
ND Retail/Non-Retail Transmission Adjustment
Unadjusted Projected Fiscal Year 2024

	Dec 2024	13 MA	(10) Retail %	Retail Share 13 MA	Non-Retail Portion COSS Adjustment 13 MA	Simple Average	Retail Share Simple Average	Non-Retail Portion COSS Adjustment Simple Avg
RATE BASE:								
Plant In-Service:								
1	Fargo CAPX		75.74%	-	-	78,184,054	59,216,602	(18,967,452)
2	Bemidji CAPX		93.16%	-	-	16,331,255	15,214,687	(1,116,568)
3	Cass Lake		35.83%	-	-	7,039,948	2,522,484	(4,517,464)
4	Rugby		54.42%	-	-	394,399	214,648	(179,751)
5	Casselton-Buffalo		52.49%	-	-	13,784,657	7,235,842	(6,548,815)
6	Brookings CAPX		32.78%	-	-	26,291,942	8,619,287	(17,672,655)
7	BSAT-BSS-Brookings		2.95%	-	-	72,996,966	2,149,761	(70,847,205)
8	BSAT-BSS-Ellendale		2.88%	-	-	108,131,136	3,109,851	(105,021,285)
9	Total Plant In-Service - ADJUSTMENT	-	-	-	-	323,154,357	98,283,163	(224,871,194)
Accumulated Depreciation:								
12	Fargo CAPX		75.74%	-	-	(10,160,246)	(7,695,370)	2,464,876
13	Bemidji CAPX		93.16%	-	-	(3,605,027)	(3,358,551)	246,476
14	Cass Lake		35.83%	-	-	(1,342,105)	(480,890)	861,215
15	Rugby		54.42%	-	-	(80,121)	(43,605)	36,516
16	Casselton-Buffalo		52.49%	-	-	(1,989,714)	(1,044,441)	945,273
17	Brookings CAPX		32.78%	-	-	(4,089,962)	(1,340,812)	2,749,150
18	BSAT-BSS-Brookings		2.95%	-	-	(7,810,987)	(230,034)	7,580,953
19	BSAT-BSS-Ellendale		2.88%	-	-	(7,415,966)	(213,283)	7,202,683
20	Total Accumulated Depreciation - ADJUSTMENT	-	-	-	-	(36,494,128)	(14,406,986)	22,087,142
CWIP:								
23	Fargo CAPX		75.74%	(10)	-	-	(10)	-
24	Bemidji CAPX		93.16%	-	-	-	-	-
25	Cass Lake		35.83%	-	-	-	-	-
26	Rugby		54.42%	-	-	-	-	-
27	Casselton-Buffalo		52.49%	-	-	-	-	-
28	Brookings CAPX		32.78%	-	-	-	-	-
29	BSAT-BSS-Brookings		2.95%	-	-	-	-	-
30	BSAT-BSS-Ellendale		2.88%	-	-	-	-	-
31	BSAT-BSS-Alexandria		2.88%	-	-	1,548,361	44,531	(1,503,830)
32	BSAT-JETX		2.88%	-	-	4,289,540	123,367	(4,166,173)
33	Total CWIP - ADJUSTMENT	-	-	-	-	5,837,901	167,898	(5,670,003)
ADIT:								
36	Fargo CAPX		75.74%	-	-	(6,659,469)	(5,043,882)	1,615,587
37	Bemidji CAPX		93.16%	-	-	(1,219,735)	(1,136,341)	83,393
38	Cass Lake		35.83%	-	-	(982,354)	(209,663)	373,691
39	Rugby		54.42%	-	-	(32,781)	(17,340)	14,940
40	Casselton-Buffalo		52.49%	-	-	(1,135,674)	(596,138)	539,536
41	Brookings CAPX		32.78%	-	-	(2,192,677)	(718,825)	1,473,852
42	BSAT-BSS-Brookings		2.95%	-	-	(6,056,775)	(178,372)	5,878,403
43	BSAT-BSS-Ellendale		2.88%	-	-	(7,845,910)	(225,648)	7,620,262
44	Total ADIT - ADJUSTMENT	-	-	-	-	(25,725,374)	(8,125,710)	17,599,664

Otter Tail Power Company
ND Transmission Recovery Adjustment
Budget Year 2024

Prepared by:
Reviewed by:

	12 ME	(9) Retail %	Retail Share	Non-Retail Portion COSS Adjustment
NOI:				
Operating Costs:				
1 Fargo CAPX	-	75.74%	-	-
2 Bemidji CAPX	-	93.16%	-	-
3 Cass Lake	-	35.83%	-	-
4 Rugby	-	54.42%	-	-
5 Casselton-Buffalo	-	52.49%	-	-
6 Brookings CAPX	-	32.78%	-	-
7 BSAT-BSS-Brookings	-	2.95%	-	-
8 BSAT-BSS-Ellendale	-	2.88%	-	-
9 Total Operating Costs - ADJUSTMENT	-		-	-
10				
Book Depreciation				
11 Fargo CAPX	1,145,370	75.74%	867,503	(277,867)
12 Bemidji CAPX	294,488	93.16%	274,354	(20,134)
13 Cass Lake	109,610	35.83%	39,274	(70,336)
14 Rugby	6,063	54.42%	3,300	(2,763)
15 Casselton-Buffalo	217,645	52.49%	114,246	(103,399)
16 Brookings CAPX	392,312	32.78%	128,612	(263,700)
17 BSAT-BSS-Brookings	1,107,820	2.95%	32,625	(1,075,195)
18 BSAT-BSS-Ellendale	1,614,226	2.88%	46,425	(1,567,801)
19 Total Book Depreciation - ADJUSTMENT	4,887,534		1,506,339	(3,381,195)
20				
Property Tax:				
21 Fargo CAPX	742,749	75.74%	562,558	(180,191)
22 Bemidji CAPX	155,147	93.16%	144,540	(10,607)
23 Cass Lake	66,880	35.83%	23,964	(42,916)
24 Rugby	3,747	54.42%	2,039	(1,708)
25 Casselton-Buffalo	130,954	52.49%	68,741	(62,214)
26 Brookings CAPX	249,773	32.78%	81,883	(167,890)
27 BSAT-BSS-Brookings	693,471	2.95%	20,423	(673,048)
28 BSAT-BSS-Ellendale	1,027,246	2.88%	29,544	(997,702)
29 Total Property Tax - ADJUSTMENT	3,069,966		933,690	(2,136,276)
30				
Schedule 26 Revenue:				
31 Total Schedule 26 Revenue				
32 Fargo CAPX	9,415,415	75.74%	7,131,235	(2,284,180)
33 Bemidji CAPX	1,929,252	93.16%	1,797,349	(131,903)
34 Cass Lake	632,730	35.83%	228,375	(404,355)
35 Rugby	6,156	54.42%	3,350	(2,806)
36 Casselton-Buffalo	1,689,024	52.49%	886,602	(802,422)
37 Total Schedule 26 Revenue allocated - ADJUSTMENT	13,872,577		10,116,913	(3,755,664)
38				
Schedule 26 True-up:				
39 Total Schedule 26 True-up				
40 Fargo CAPX	-	75.74%	-	-
41 Bemidji CAPX	-	93.16%	-	-
42 Cass Lake	-	35.83%	-	-
43 Rugby	-	54.42%	-	-
44 Casselton-Buffalo	-	52.49%	-	-
45 Total Schedule 26 True-up allocated - ADJUSTMENT	-		-	-
46				
Schedule 26a Revenue:				
47 Total Schedule 26a Revenue				
48 Brookings CAPX	3,204,137	32.78%	1,050,412	(2,153,725)
49 BSAT-BSS-Brookings	8,845,581	2.95%	260,502	(8,585,079)
50 BSAT-BSS-Ellendale	13,308,704	2.88%	382,758	(12,925,946)
51 BSS-Alexandria	184,566	0.00%	-	(184,566)
52 JETX	472,799	0.00%	-	(472,799)
53 Total Schedule 26a Revenue - ADJUSTMENT	26,015,787		1,693,673	(24,322,114)
54				
Total Schedule 26 and 26a				(28,077,778)
55				
Schedule 26a True-up:				
56 Total Schedule 26a True-up Revenue				
57 Brookings CAPX	-	32.78%	-	-
58 BSAT-BSS-Brookings	-	2.95%	-	-
59 BSAT-BSS-Ellendale	-	2.88%	-	-
60 Total Schedule 26 True-up - ADJUSTMENT	-		-	-
61				

Otter Tail Power Company
Adjustment for Disallowed 100% of Non-Employee Director Restricted Stock Grants
Unadjusted Projected Fiscal Year 2024

Line No.			
1	Non-Employee Director Restricted Stock Grants allocated to OTP		\$ (610,968)
2			
3		Labor	
4	<u>Labor Ration Breakdown</u>	<u>Ratios (2)</u>	
5	Production	34.08%	\$ (208,218)
6	Transmission	16.21%	\$ (99,038)
7	Distribution	25.10%	\$ (153,353)
8	Customer Accounts	19.97%	\$ (122,010)
9	Customer Service & Information, & Sales	4.64%	\$ (28,349)
10			
11	Total Adjustment		<u>\$ (610,968)</u>
12			
13			

**Otter Tail Power Company
Rider CWIP Adjustment
Unadjusted Projected Fiscal Year 2024**

SUMMARY		ND Rider Revenue to Remove
Renewable CWIP:		
1	Ash III Repower	435,680
2	Ashtabula Repower	461,917
3	Luverne Repower	1,231,946
4		2,129,543
5		
6		
7	TCR CWIP:	
8	Cooperstown - Relocate 41.6kV	24,240
9	Donaldson CB-235 Life Extension	17,395
10	Fertile-Twin Valley Extenda-Life	12,883
11	Gackle Rural Loop	50,384
12	Michigan-Mapes Rebuild	28,489
13	Oslo 115kV 5-Breaker Bus and Lake A	146,147
14	Pickert - McVille Rebuild	7,604
15	Wabek-Parshall Rebuild	4,279
16		291,420
17		
18	Grid Mod AMI	132,868
19	DRMS	166,501
20		299,369
21		
22		
23	Total CWIP - ADJUSTMENT	2,720,332

Otter Tail Power Company
Avoided Purchase Power Costs Due to HL Solar
Unadjusted Projected Fiscal Year 2024

	(A)	(B)
	Amount	
1	Fuel Revenues to cover additional fuel below	1,313,314
2	Purchase Power Costs Avoided	2,818,864

Otter Tail Power Company
GAAP Provision due to PTC normalization
Unadjusted Projected Fiscal Year 2024

	ND Rider Revenues to Remove
Renewable Rider:	
GAAP Provision due to PTC normalization Revenue Addback	4,186,187
PTC Balance in ND Wind Rider	(4,877,724)
Merricourt PTC's generated in 2024	(16,017,913)
Adjustment for 2024 Test Year	11,140,189

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget INTERIM YEAR 2024 - Simple Average

LINE NO	ITEM	ALLOC	REFERENCE	TOTAL COMPANY	NORTH DAKOTA	ALL OTHER	LINE NO
1	RATE BASE		Page 2-1 Line 32	1,882,413,790	653,303,927	1,229,109,863	1
2							2
3	TOTAL AVAILABLE FOR RETURN		Page 7-1 Line 43	109,454,980	22,366,952	87,088,029	3
4							4
5	RATE OF RETURN EARNED			5.81%	3.42%	7.09%	5
6							6
7	RATE OF RETURN REQUESTED		Page 17-1 Line 11		7.41%		7
8							8
9	OPERATING INCOME REQUIRED				48,409,821		9
10							10
11	TOTAL AVAILABLE FOR RETURN				22,366,952		11
12							12
13	OPERATING INCOME DEFECIENCY				26,042,869		13
14							14
15	INCREMENTAL TAXES	GRCF =	1.322837		8,407,603		15
16							16
17	REVENUE INCREASE REQUIRED				34,450,473		17
18							18
19	PERCENTAGE INCREASE				18.83%		19
20							20
21							21
22							22
23							23
24							24
25	RETURN ON EQUITY				2.32%		25
26							26
27							27
28							28
29							29
30							30
31							31
32							32
33							33
34							34
35							35
36							36
37							37
38							38
39							39
40							40
41							41
42							42
43							43
44							44
45							45
46							46
47							47
48							48
49							49
50							50
51							51
52							52
53							53
54							54
55							55
56							56
57							57
58							58
59							59
60							60

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget INTERIM YEAR 2024 - Simple Average

LINE NO	ITEM	ALLOC	REFERENCE	TOTAL COMPANY	NORTH DAKOTA	ALL OTHER	LINE NO
1	ELECTRIC PLANT IN SERVICE		Page 3-1 Line 52	3,238,912,922	1,249,259,538	1,989,653,384	1
2							2
3	ACCUMULATED DEPRECIATION		Page 4-12 Line 22	(1,094,302,064)	(461,085,774)	(633,216,290)	3
4							4
5	NET PLANT EXCLUDING BIG STONE PLANT CAPITALIZED ITEMS			2,144,610,858	788,173,764	1,356,437,095	5
6							6
7	NET CAPITALIZED ITEMS - BIG STONE PLANT		Page 4-1 Line 28	0	0	0	7
8							8
9	NET ELECTRIC PLANT IN SERVICE			2,144,610,858	788,173,764	1,356,437,095	9
10							10
11	PLANT HELD FOR FUTURE USE		Page 4-1 Line 47	12,038	4,921	7,117	11
12							12
13	CONSTRUCTION WORK IN PROGRESS		Page 5-1 Line 31	1,770,919	780,990	989,928	13
14							14
15	MATERIALS AND SUPPLIES		Page 5-1 Line 39	33,967,093	14,737,248	19,229,845	15
16							16
17	FUEL STOCKS		Page 5-1 Line 46	10,476,711	4,495,117	5,981,594	17
18							18
19	PREPAYMENTS		Page 5-1 Line 49	49,187,428	18,601,559	30,585,869	19
20							20
21	CUSTOMER ADVANCES		Page 5-1 Line 51	(1,876,522)	(709,657)	(1,166,864)	21
22							22
23	CASH WORKING CAPITAL		Page 5-1 Line 53	6,169,802	1,414,534	4,755,268	23
24							24
25	ACCUMULATED DEFERRED INCOME TAXES		Page 6-1 Line 16	(361,904,537)	(174,194,548)	(187,709,989)	25
26							26
27	UNAMORTIZED BALANCE - SPIRITWOOD		Page 6-1 Line 19	0	0	0	27
28							28
29	UNAMORTIZED RATE CASE EXPENSE		Page 6-1 Line 22	0	0	0	29
30							30
31							31
32	TOTAL AVERAGE RATE BASE			1,882,413,790	653,303,927	1,229,109,863	32
33							33
34							34
35							35
36							36
37							37
38							38
39							39
40							40
41							41
42							42
43							43
44							44
45							45
46							46
47							47
48							48
49							49
50							50
51							51
52							52
53							53
54							54
55							55
56							56
57							57
58							58
59							59
60							60

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget INTERIM YEAR 2024 - Simple Average

LINE NO	ITEM	ALLOC	FERC ACCOUNTS	TOTAL COMPANY	NORTH DAKOTA	ALL OTHER	LINE NO
1	PLANT IN SERVICE						1
2	A/C 101 & 106 - Direct MN	Direct MN		61,800,001	0	61,800,001	2
3	A/C 101 & 106 - Direct ND	Direct ND		0	0	0	3
4	A/C 101 & 106 - Direct SD	Direct SD		0	0	0	4
5	Subtotal A/C 101 & 106 - Direct Assigned			61,800,001	0	61,800,001	5
6							6
7	PRODUCTION PLANT						7
8	A/C 101 & 106 - BASE DEMAND	E1		615,526,547	270,055,400	345,471,147	8
9	PEAK DEMAND	D1		401,843,629	158,667,665	243,175,964	9
10	BASE ENERGY	E2		450,671,354	202,716,696	247,954,659	10
11							11
12	SUBTOTAL A/C 101 & 106			1,529,841,532	631,439,760	898,401,772	12
13							13
14	A/C 114 - BASE DEMAND	E1		1,206,597	529,381	677,216	14
15	PEAK DEMAND	D1		381,658	150,697	230,960	15
16	BASE ENERGY	E1		0	0	0	16
17							17
18	SUBTOTAL A/C 114			1,588,255	680,078	908,176	18
19							19
20	TOTAL PRODUCTION PLANT	P10	310-317, 330-335, 340-347	1,531,429,786	632,119,838	899,309,948	20
21							21
22							22
23	TRANSMISSION PLANT						23
24	A/C 101 & 106	D2		550,572,537	215,798,006	334,774,531	24
25	A/C 101 & 106 (Direct FERC)	Direct FERC		274,079,794	0	274,079,794	25
26	A/C 114	D2		58,287	22,846	35,441	26
27							27
28	TOTAL TRANSMISSION PLANT		350-350.1, 353-356, 358	824,710,618	215,820,852	608,889,767	28
29							29
30							30
31	DISTRIBUTION PLANT						31
32	PRIMARY DEMAND	D3	360, 362, 364-365, 367	254,804,754	118,538,756	136,265,998	32
33	SECONDARY DEMAND	D4	365, 367-369.1	143,014,220	69,647,623	73,366,597	33
34	PRIMARY CUSTOMER	C2	364-365, 367	119,159,338	52,084,671	67,074,667	34
35	SECONDARY CUSTOMER	C3	365, 367-369.1, 370.2	87,138,987	38,091,927	49,047,061	35
36	STREETLIGHTING	C4	364-365, 367, 373	24,540,852	10,226,986	14,313,866	36
37	AREA LIGHTING	C5	364-365, 367, 371.2	15,570,818	8,488,723	7,082,095	37
38	METERS	C6	370	64,567,120	28,784,055	35,783,065	38
39	LOAD MANAGEMENT	C9	370.1	8,899,439	3,888,421	5,011,018	39
40							40
41	TOTAL DISTRIBUTION PLANT	P60		717,695,528	329,751,161	387,944,367	41
42							42
43							43
44	GENERAL PLANT						44
45	PRODUCTION	P10		41,841,785	17,997,065	23,844,720	45
46	TRANSMISSION	D2		19,903,693	7,801,292	12,102,401	46
47	DISTRIBUTION	P60		30,817,789	14,159,489	16,658,300	47
48	CUSTOMER ACCOUNTS	OXC		24,517,241	10,761,420	13,755,822	48
49	CUSTOMER SERVICE & INFO	OXI		5,696,124	2,508,909	3,187,215	49
50	LOAD MANAGEMENT	C9	397.3	165,980	72,521	93,459	50
51							51
52	TOTAL GENERAL PLANT	P90	389-398, 390.1-390.3, 391.1-391.6, 394.2, 397.1-397.2	122,942,613	53,300,696	69,641,917	52
53							53
54							54
55	INTANGIBLE PLANT	P90	302-303	42,134,377	18,266,991	23,867,386	55
56							56
57							57
58	TOTAL PLANT IN SERVICE	EPIS		3,238,912,922	1,249,259,538	1,989,653,384	58
59							59
60							60
61							61
62							62
63							63
64							64
65							65
66							66

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget INTERIM YEAR 2024 - Simple Average

LINE NO	ITEM	ALLOC	FERC ACCOUNTS		TOTAL COMPANY		NORTH DAKOTA		ALL OTHER		LINE NO
1	ACCUMULATED DEPRECIATION										1
2	PRODUCTION PLANT										2
3	BASE DEMAND	E1	108, 115		(276,623,436)		(121,365,444)		(155,257,992)		3
4	PEAK DEMAND	D1	108, 115		(152,831,378)		(60,345,358)		(92,486,019)		4
5	BASE ENERGY	E2	108		(142,138,944)		(63,935,586)		(78,203,358)		5
6	Direct MN										6
7	TOTAL PRODUCTION PLANT				(572,922,222)		(245,646,388)		(327,275,834)		7
8											8
9											9
10	TRANSMISSION PLANT		108, 115		(159,735,443)		(62,608,626)		(97,126,817)		10
11	TRANSMISSION PLANT (Direct FERC)	Direct FERC			(25,180,544)		0		(25,180,544)		11
12	TOTAL TRANSMISSION PLANT				(184,915,987)		(62,608,626)		(122,307,361)		12
13											13
14											14
15	DISTRIBUTION PLANT	P60	108, 115		(268,541,408)		(123,383,576)		(145,157,832)		15
16											16
17											17
18	GENERAL PLANT	P90	108		(50,534,999)		(21,909,007)		(28,625,991)		18
19											19
20											20
21	INTANGIBLE PLANT	P90	108		(17,387,448)		(7,538,176)		(9,849,272)		21
22											22
23											23
24	TOTAL ACCUMULATED DEPRECIATION				(1,094,302,064)		(461,085,774)		(633,216,290)		24
25											25
26											26
27	NET PLANT EXCLUDING BSP CAPITALIZED ITEMS				2,144,610,858		788,173,764		1,356,437,095		27
28											28
29											29
30	BSP CAPITALIZED ITEMS	P10		DIRECTLY ASSIGNED TO JURISDICTION	0		0		0		30
31											31
32											32
33	TOTAL NET PLANT IN SERVICE	NEPIS			2,144,610,858		788,173,764		1,356,437,095		33
34											34
35											35
36											36
37											37
38											38
39											39
40											40
41											41
42	PLANT HELD FOR FUTURE USE										42
43	PRODUCTION PLANT	P10			0		0		0		43
44	TRANSMISSION PLANT	D2			9,038		3,542		5,496		44
45	DISTRIBUTION PLANT	P60			3,000		1,378		1,622		45
46	GENERAL PLANT	P90			0		0		0		46
47	INTANGIBLE PLANT	P90			0		0		0		47
48											48
49	TOTAL PLANT HELD FOR FUTURE USE		105		12,038		4,921		7,117		49
50											50
51											51
52											52
53											53
54											54
55											55
56											56
57											57
58											58
59											59
60											60
61											61
62											62

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget INTERIM YEAR 2024 - Simple Average

LINE NO	ITEM	ALLOC	FERC ACCOUNTS	TOTAL COMPANY	NORTH DAKOTA	ALL OTHER	LINE NO
1	CONST WORK-IN-PROGRESS - Direct Assigned						1
2	PRODUCTION PLANT - Direct MN	P10	Directly Assigned to Jurisdiction	0	0	0	2
3	PRODUCTION PLANT - Direct ND	P10	Directly Assigned to Jurisdiction	0	0	0	3
4	PRODUCTION PLANT - Direct SD	P10	Directly Assigned to Jurisdiction	0	0	0	4
5	PRODUCTION PLANT - Direct FERC	Direct FERC	Directly Assigned to FERC	0	0	0	5
6	TRANSMISSION PLANT - Direct MN	D2	Directly Assigned to Jurisdiction	0	0	0	6
7	TRANSMISSION PLANT - Direct ND	D2	Directly Assigned to Jurisdiction	0	0	0	7
8	TRANSMISSION PLANT - Direct SD	D2	Directly Assigned to Jurisdiction	0	0	0	8
9	TRANSMISSION PLANT - Direct FERC	Direct FERC	Directly Assigned to FERC	0	0	0	9
10	DISTRIBUTION PLANT - Direct MN	P60	Directly Assigned to Jurisdiction	0	0	0	10
11	DISTRIBUTION PLANT - Direct ND	P60	Directly Assigned to Jurisdiction	0	0	0	11
12	DISTRIBUTION PLANT - Direct SD	P60	Directly Assigned to Jurisdiction	0	0	0	12
13	DISTRIBUTION PLANT - Direct FERC	Direct FERC	Directly Assigned to FERC	0	0	0	13
14	GENERAL PLANT - Direct MN	P90	Directly Assigned to Jurisdiction	0	0	0	14
15	GENERAL PLANT - Direct ND	P90	Directly Assigned to Jurisdiction	0	0	0	15
16	GENERAL PLANT - Direct SD	P90	Directly Assigned to Jurisdiction	0	0	0	16
17	GENERAL PLANT - Direct FERC	Direct FERC	Directly Assigned to FERC	0	0	0	17
18	INTANGIBLE PLANT - Direct MN	P90	Directly Assigned to Jurisdiction	0	0	0	18
19	INTANGIBLE PLANT - Direct ND	P90	Directly Assigned to Jurisdiction	0	0	0	19
20	INTANGIBLE PLANT - Direct SD	P90	Directly Assigned to Jurisdiction	0	0	0	20
21	INTANGIBLE PLANT - Direct FERC	Direct FERC	Directly Assigned to FERC	0	0	0	21
22	TOTAL CWIP - Direct Assigned		ALLOWED ONLY IN MN & FERC	0	0	0	22
23							23
24							24
25	CONST WORK-IN-PROGRESS - SHORT-TERM						25
26	PRODUCTION PLANT	P10		0	0	0	26
27	TRANSMISSION PLANT	D2		359,000	140,711	218,289	27
28	DISTRIBUTION PLANT	P60		1,086,337	499,127	587,211	28
29	GENERAL PLANT	P90		325,581	141,153	184,428	29
30	INTANGIBLE PLANT	P90		0	0	0	30
31							31
32	TOTAL CWIP - SHORT-TERM		ALLOWED ONLY IN MN, ND & FERC	1,770,919	780,990	989,928	32
33							33
34							34
35	CONST WORK-IN-PROGRESS - LONG TERM						35
36	PRODUCTION PLANT (AFUDC Projects)	P10		0	0	0	36
37	PRODUCTION PLANT (Rider Projects)	P10		0	0	0	37
38	TRANSMISSION PLANT (AFUDC Projects)	D2		0	0	0	38
39	TRANSMISSION PLANT (Rider Projects)	D2		0	0	0	39
40	DISTRIBUTION PLANT	P60		0	0	0	40
41	GENERAL PLANT	P90		0	0	0	41
42	INTANGIBLE PLANT	P90		0	0	0	42
43							43
44	TOTAL CWIP - LONG TERM - AFUDC Projects		ALLOWED ONLY IN MN & FERC	0	0	0	44
45	TOTAL CWIP - LONG TERM - Rider Projects			0	0	0	45
46							46
47							47
48	TOTAL CONSTRUCTION WORK-IN-PROGRESS		107	1,770,919	780,990	989,928	48
49							49
50							50
51	MATERIALS & SUPPLIES						51
52	PRODUCTION	P10		8,651,753	3,721,308	4,930,445	52
53	TRANSMISSION	D2		9,116,226	3,573,123	5,543,103	53
54	DISTRIBUTION	P60		16,199,114	7,442,817	8,756,297	54
55							55
56	TOTAL MATERIALS AND SUPPLIES		154, 158.1	33,967,093	14,737,248	19,229,845	56
57							57
58							58
59	FUEL STOCKS						59
60	COAL STOCKS	E1		8,165,846	3,582,674	4,583,172	60
61	FUEL OIL STOCKS	D1		2,310,865	912,443	1,398,422	61
62							62
63	TOTAL FUEL STOCKS		1510	10,476,711	4,495,117	5,981,594	63
64							64
65							65
66	PREPAYMENTS	NEPIS	128, 228.3	49,187,428	18,601,559	30,585,869	66
67							67
68	CUSTOMER ADVANCES	NEPIS	235, 253	(1,876,522)	(709,657)	(1,166,864)	68
69							69
70	CASH WORKING CAPITAL	OX		6,169,802	1,414,534	4,755,268	70
71							71
72							72
73							73
74							74
75							75
76							76
77							77

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget INTERIM YEAR 2024 - Simple Average

LINE NO	ITEM	ALLOC	FERC ACCOUNTS		TOTAL COMPANY		NORTH DAKOTA		ALL OTHER		LINE NO
1	ACCUMULATED DEFERRED INCOME TAXES										1
2	ITEMS SD FLOWS THROUGH										2
3	FEDERAL	NPMNR			(27,894)		(11,564)		(16,330)		3
4	MINNESOTA	NPISM			0		0		0		4
5	NORTH DAKOTA	NPISN			0		0		0		5
6											6
7	SUBTOTAL				(27,894)		(11,564)		(16,330)		7
8											8
9	ALL OTHER										9
10	FEDERAL	NEPIS EXDA			(290,881,672)		(124,778,978)		(166,102,694)		10
11	FEDERAL (Direct FERC)	Direct FERC			(20,921,619)		0		(20,921,619)		11
12	MINNESOTA	NPISM			0		0		0		12
13	NORTH DAKOTA	NPISN			(50,073,352)		(49,404,006)		(669,346)		13
14											14
15	SUBTOTAL				(361,876,643)		(174,182,984)		(187,693,659)		15
16											16
17	TOTAL ACCUMULATED DEFERRED INCOME TAXES		190,255,281-283		(361,904,537)		(174,194,548)		(187,709,989)		17
18											18
19											19
20	UNAMORTIZED BALANCE - SPIRITWOOD PLANT	P10		DIRECTLY ASSIGNED TO JURISDICTION	0		0		0		20
21											21
22											22
23	UNAMORTIZED RATE CASE EXPENSES	R10		DIRECTLY ASSIGNED TO JURISDICTION	0		0		0		23
24											24
25											25
26											26
27											27
28	TOTAL AVERAGE RATE BASE				1,882,413,790		653,303,927		1,229,109,863		28
29											29
30											30
31											31
32											32
33											33
34											34
35											35
36											36
37											37
38											38
39											39
40											40
41											41
42											42
43											43
44											44
45											45
46											46
47											47
48											48
49											49
50											50
51											51
52											52
53											53
54											54
55											55

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget INTERIM YEAR 2024 - Simple Average

LINE NO	ITEM	ALLOC	TOTAL COMPANY	NORTH DAKOTA	ALL OTHER	LINE NO
1	OPERATING REVENUES					1
2	SALES OF ELECTRICITY		464,851,197	182,974,451	281,876,746	2
3	OTHER OPERATING REVENUE		62,763,923	12,976,906	49,787,018	3
4	TOTAL OPERATING REVENUE		527,615,121	195,951,357	331,663,764	4
5						5
6						6
7						7
8	OPERATING EXPENSES					8
9	PRODUCTION EXPENSES		198,996,942	88,199,805	110,797,136	9
10	TRANSMISSION EXPENSES		35,939,490	14,086,555	21,852,935	10
11	DISTRIBUTION EXPENSES		18,488,356	8,393,231	10,095,125	11
12	CUSTOMER ACCOUNTING EXPENSES		16,621,213	7,295,595	9,325,619	12
13	CUSTOMER SERVICE AND INFORMATION EXPENSES		12,622,058	1,331,017	11,291,041	13
14	SALES EXPENSES		583,457	135,872	447,585	14
15	ADMINISTRATIVE AND GENERAL EXPENSES		46,494,180	18,860,630	27,633,549	15
16	CHARITABLE CONTRIBUTIONS		0	0	0	16
17	DEPRECIATION EXPENSE		79,405,970	32,603,918	46,802,053	17
18	AMORTIZATION OF BIG STONE PLANT CAPITALIZED COSTS		0	0	0	18
19	SPIRITWOOD AMORTIZATION		0	0	0	19
20	GENERAL TAXES		18,693,896	7,102,692	11,591,204	20
21	TOTAL OPERATING EXPENSES		427,845,562	178,009,315	249,836,247	21
22						22
23						23
24	NET OPERATING INCOME BEFORE INCOME TAXES		99,769,559	17,942,042	81,827,517	24
25						25
26						26
27						27
28	INCOME TAX EXPENSE					28
29	INVESTMENT TAX CREDIT		(6,628,472)	(2,939,568)	(3,688,904)	29
30	DEFERRED INCOME TAXES		2,209,233	(1,485,341)	3,694,575	30
31	INCOME TAXES		1,049,814	(0)	1,049,815	31
32	TOTAL INCOME TAX EXPENSE		(3,369,425)	(4,424,910)	1,055,485	32
33						33
34						34
35						35
36	NET OPERATING INCOME		103,138,983	22,366,952	80,772,032	36
37						37
38						38
39						39
40	Allowance for Funds Used During Construction		6,315,997	0	6,315,997	40
41	Allowance for Funds Used During Construction - MN Only		0	0	0	41
42	Allowance for Funds Used During Construction - SD Only		0	0	0	42
43	TOTAL ALLOWANCE FOR FUNDS USED DURING CONSTRUCTION		6,315,997	0	6,315,997	43
44						44
45						45
46	TOTAL AVAILABLE FOR RETURN		109,454,980	22,366,952	87,088,029	46
47						47
48						48
49						49
50						50
51	AVERAGE CENTS PER KWH					51
52						52
53						53
54						54
55						55
56						56
57						57
58						58
59						59
60						60
61						61
62						62
63						63

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget INTERIM YEAR 2024 - Simple Average

LINE NO	ITEM	ALLOC	FERC ACCOUNTS		TOTAL COMPANY		NORTH DAKOTA		ALL OTHER		LINE NO
1	OPERATING REVENUES										1
2											2
3	SALES OF ELECTRICITY	R10	440,442,444-445	108,115	464,851,197		182,974,451		281,876,746		3
4											4
5	OTHER OPERATING REVENUES										5
6	SALES FOR RESALE										6
7	MUNICIPALITIES & OFF SYSTEM SALES										7
8	NON-ASSOCIATED UTILITIES, CO-OPS & OPA										8
9	BUY SELL TRANSACTIONS	D2			0		0		0		9
10	ALL OTHER TRANSACTIONS										10
11	BASE DEMAND	E1			0		0		0		11
12	PEAK DEMAND	D1			0		0		0		12
13	BASE ENERGY	E2			6,947,794		3,125,191		3,822,604		13
14	PEAK ENERGY	D1			0		0		0		14
15											15
16											16
17	TOTAL ALL OTHER TRANSACTIONS				6,947,794		3,125,191		3,822,604		17
18											18
19	TOTAL SALES FOR RESALE				6,947,794		3,125,191		3,822,604		19
20											20
21	OTHER ELECTRIC REVENUES										21
22	LATE FEES	C1	450		809,880		316,187		493,694		22
23	CONNECTION FEES	C1	451		340,532		136,812		203,720		23
24	RENT FROM ELECTRIC PROPERTY	NEPIS	454		435,931		164,859		271,072		24
25	RENT FROM ELECTRIC PROPERTY - BIG STONE	NEPIS	454		0		0		0		25
26	RENT FROM ELECTRIC PROPERTY - COVOTE	NEPIS	454		0		0		0		26
27	OTHER MISC ELECTRIC REVENUE	NEPIS	456		1,395,880		527,990		867,990		27
28	OTHER MISC ELECTRIC REVENUE - MN	C1	456		0		0		0		28
29	OTHER MISC ELECTRIC REVENUE - ND	C1	456		0		0		0		29
30	OTHER MISC ELECTRIC REVENUE - SD	C1	456		0		0		0		30
31	ITA DEFICIENCY PAYMENTS	NEPIS	456		848,757		320,980		527,777		31
32		NEPIS			0		0		0		32
33	MISCELLANEOUS SERVICES	NEPIS			0		0		0		33
34	WHEELING		456		425,279		0		425,279		34
35	LOAD CONTROL AND DISPATCH	NEPIS EXDA	456		19,546,873		8,384,987		11,161,887		35
36	LOAD CONTROL AND DISPATCH (Direct FERC)	Direct FERC	456		32,012,996		0		32,012,996		36
37	RESIDENTIAL CONSERVATION SERVICES	C1	456		0		0		0		37
38											38
39	TOTAL OTHER ELECTRIC REVENUES				55,816,129		9,851,715		45,964,414		39
40											40
41	TOTAL OTHER OPERATING REVENUES				62,763,923		12,976,906		49,787,018		41
42											42
43											43
44	TOTAL OPERATING REVENUES				527,615,121		195,951,357		331,663,764		44
45											45
46											46
47											47
48											48
49											49
50											50
51											51
52											52
53											53
54											54
55											55
56											56
57											57
58											58
59											59
60											60
61											61
62											62
63											63
64											64

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget INTERIM YEAR 2024 - Simple Average

LINE NO	ITEM	ALLOC	FERC ACCOUNTS	TOTAL COMPANY	NORTH DAKOTA	ALL OTHER	LINE NO
1	OPERATING EXPENSES						1
2	PRODUCTION EXPENSES						2
3	PROD EXPENSES EXCLUDING PURCHASED POWER						3
4	BASE DEMAND	E1	500, 502, 505-507, 509-511, 535, 537-543, 546, 548-554, 556-557	18,184,557	7,978,271	10,206,286	4
5	PEAK DEMAND	D1	500, 502, 506-507, 509-511, 535, 537-543, 546, 548-554, 556-557	9,407,440	3,714,521	5,692,919	5
6	BASE ENERGY	E2	501, 512-514, 544-546, 548-554	67,526,672	30,374,204	37,152,468	6
7	PEAK ENERGY			10,397,281	4,105,359	6,291,922	7
8	BASE DEMAND (Direct MN)	D1	547	0	0	0	8
9	PEAK DEMAND (Direct MN)			0	0	0	9
10							10
11	TOTAL EXCLUDING PURCHASED POWER			105,515,951	46,172,356	59,343,595	11
12					0		12
13					0		13
14	PURCHASED POWER				0		14
15	BUY SELL TRANSACTIONS	D2		0	0	0	15
16	ALL OTHER TRANSACTIONS				0		16
17	BASE DEMAND	E1	555	1,921,959	843,238	1,078,721	17
18	PEAK DEMAND	D1		0	0	0	18
19	BASE ENERGY	E2	555	91,559,032	41,184,212	50,374,820	19
20	PEAK ENERGY	D1		0	0	0	20
21							21
22	TOTAL ALL OTHER TRANSACTIONS			93,480,991	42,027,450	51,453,541	22
23							23
24	TOTAL PURCHASED POWER			93,480,991	42,027,450	51,453,541	24
25							25
26	TOTAL PRODUCTION EXPENSES			199,996,942	88,199,805	110,797,136	26
27							27
28							28
29	TRANSMISSION EXPENSES	D2	560, 561.1-561.2, 561.4-561.6, 562-563, 565-568, 569.1-569.3, 570-573	35,939,490	14,086,555	21,852,935	29
30	TRANSMISSION EXPENSES (Direct MN)			0	0	0	30
31	TRANSMISSION EXPENSES (Direct FERC)	Direct FERC		0	0	0	31
32	TOTAL TRANSMISSION EXPENSES			35,939,490	14,086,555	21,852,935	32
33							33
34							34
35	DISTRIBUTION EXPENSES						35
36	PRIMARY DEMAND	D3	580-584, 588-590, 592-594, 598	5,199,469	2,418,866	2,780,603	36
37	SECONDARY DEMAND	D4	580-581, 583-584, 588, 590, 593-595, 598	2,273,887	1,107,378	1,166,509	37
38	PRIMARY CUSTOMER	C2	580-581, 583-584, 588-590, 593-594, 598	3,917,270	1,712,243	2,205,027	38
39	SECONDARY CUSTOMER	C3	580-581, 583-584, 587-588, 590, 593-595, 598	1,431,452	625,745	805,707	39
40	STREETLIGHTING	C4	580-581, 583-585, 588-590, 593-594, 596, 598	526,349	219,347	307,002	40
41	AREA LIGHTING	C5	580-581, 583-584, 588-590, 593-594, 598	183,855	100,232	83,623	41
42	METERS	C6	580-581, 586, 588, 597-598	4,956,073	2,209,420	2,746,653	42
43	LOAD MANAGEMENT	C9		0	0	0	43
44							44
45	TOTAL DISTRIBUTION	OXD		18,488,356	8,393,231	10,095,125	45
46							46
47							47
48	CUSTOMER ACCOUNTING EXPENSES						48
49	METER READING	C7	901-902	6,074,375	2,685,754	3,388,622	49
50	OTHER	C8	901, 903-905	10,546,838	4,609,841	5,936,997	50
51							51
52	TOTAL CUSTOMER ACCOUNTS	OXC		16,621,213	7,295,595	9,325,619	52
53							53
54							54
55							55
56							56
57							57
58							58
59							59
60							60
61							61
62							62
63							63
64							64
65							65

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget INTERIM YEAR 2024 - Simple Average

LINE NO	ITEM	ALLOC	FERC ACCOUNTS		TOTAL COMPANY		NORTH DAKOTA		ALL OTHER		LINE NO
1	CUSTOMER SERVICE & INFORMATION EXPENSE										1
2	CONSERVATION & PROMOTIONAL REBATES	C1	908	DIRECTLY ASSIGNED TO JURISDICTION	9,600,172		0		9,600,172		2
3	OTHER	C1	907-910		3,021,886		1,331,017		1,690,869		3
4											4
5	TOTAL CUSTOMER SERV & INFORMATION EXP	OXI			12,622,058		1,331,017		11,291,041		5
6											6
7											7
8	SALES EXPENSES										8
9	OFF-PEAK DEVELOPMENT	C1	912	DIRECTLY ASSIGNED TO JURISDICTION	274,978		(0)		274,979		9
10	OTHER	C1	912-913, 916		308,479		135,872		172,606		10
11											11
12	TOTAL SALES EXPENSES				583,457		135,872		447,585		12
13											13
14											14
15	ADMINISTRATIVE & GENERAL EXPENSES										15
16	SALARIES, SUPPLIES, PENSIONS & BENEFITS										16
17	PRODUCTION	OXPD			9,655,454		4,101,147		5,554,308		17
18	TRANSMISSION	D2			4,592,997		1,800,234		2,792,763		18
19	DISTRIBUTION	OXD			7,111,546		3,228,456		3,883,089		19
20	CUSTOMER ACCOUNTS	OXC			5,657,624		2,483,317		3,174,308		20
21	CUSTOMER SERVICE & INFO	C1			1,314,444		578,959		735,485		21
22											22
23	TOTAL SALARIES, SUPPLIES, PENSIONS, AND BENEFITS		920-922, 926		28,332,065		12,192,113		16,139,953		23
24											24
25	LOAD MANAGEMENT EXPENSES	C9			0		0		0		25
26											26
27	OUTSIDE SERVICES	NEPIS	923		1,083,910		409,910		674,000		27
28											28
29	PROPERTY INSURANCE	NEPIS	924		4,230,959		1,600,052		2,630,907		29
30											30
31	INJURIES & DAMAGES	NEPIS	925		4,536,918		1,715,759		2,821,160		31
32											32
33	REGULATORY COMMISSION EXPENSE	R10	928	DIRECTLY ASSIGNED TO JURISDICTION	3,510,684		861,954		2,648,730		33
34											34
35	GENERAL ADVERTISING	C1	930.1		0		0		0		35
36											36
37	MISCELLANEOUS, RENTS, MAINTENANCE	P90	930.2, 931, 935		4,799,643		2,080,843		2,718,800		37
38											38
39	TOTAL ADMINISTRATIVE & GENERAL EXP				46,494,180		18,860,630		27,633,549		39
40											40
41											41
42	CHARITABLE CONTRIBUTIONS	C1	426.1	DIRECTLY ASSIGNED TO JURISDICTION	0		0		0		42
43											43
44											44
45											45
46	TOTAL O & M EXPENSES				329,745,696		138,302,705		191,442,991		46
47											47
48											48
49											49
50											50
51											51
52											52
53											53
54											54
55											55
56											56
57											57
58											58
59											59
60											60

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget INTERIM YEAR 2024 - Simple Average

LINE NO	ITEM	ALLOC	FERC ACCOUNTS	TOTAL COMPANY	NORTH DAKOTA	ALL OTHER	LINE NO
1	DEPRECIATION EXPENSE						1
2	PRODUCTION						2
3	BASE DEMAND	E1		15,980,135	7,011,106	8,969,029	3
4	PEAK DEMAND	D1		10,730,060	4,236,756	6,493,304	4
5	BASE ENERGY	E2		12,347,461	5,554,017	6,793,444	5
6							6
7	TOTAL PRODUCTION			39,057,657	16,801,880	22,255,777	7
8							8
9							9
10	TRANSMISSION	D2		8,706,848	3,412,666	5,294,181	10
11	TRANSMISSION (Direct FERC)	Direct FERC		4,176,849	0	4,176,849	11
12	TOTAL TRANSMISSION			12,883,697	3,412,666	9,471,030	12
13							13
14							14
15	DISTRIBUTION	P60		18,610,423	8,550,713	10,059,710	15
16							16
17							17
18	GENERAL	P90		4,236,745	1,836,804	2,399,941	18
19							19
20							20
21	INTANGIBLE	P90		4,617,449	2,001,855	2,615,594	21
22							22
23	TOTAL DEPRECIATION EXPENSE		403	79,405,970	32,603,918	46,802,053	23
24							24
25							25
26							26
27							27
28							28
29							29
30							30
31	BIG STONE EXPENSE OFFSETS	P10		0	0	0	31
32							32
33							33
34	SPIRITWOOD AMORTIZATION	P10	406	0	0	0	34
35							35
36							36
37							37
38							38
39							39
40							40
41							41
42							42
43							43
44							44
45							45
46							46
47							47
48							48
49							49
50							50
51							51
52							52
53							53
54							54
55							55
56							56
57							57
58							58
59							59
60							60
61							61
62							62

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget INTERIM YEAR 2024 - Simple Average

LINE NO	ITEM	ALLOC	FERC ACCOUNTS	TOTAL COMPANY	NORTH DAKOTA	ALL OTHER	LINE NO
1	GENERAL TAXES	NEPIS EXD		16,557,620	7,102,692	9,454,928	1
2	GENERAL TAXES (Direct FERC)	Direct FERC		2,136,276	0	2,136,276	2
3	TOTAL GENERAL TAXES		408.1	18,693,896	7,102,692	11,591,204	3
4	NET OPERATING INCOME BEFORE TAX (NOIBT)			99,769,559	17,942,042	81,827,517	4
5							5
6							6
7	INVESTMENT TAX CREDIT						7
8	AMORTIZE PRIOR YEARS CREDIT	EPIS		(6,628,472)	(2,939,568)	(3,688,904)	8
9	DEBITS UTILIZED	EPIS		0	0	0	9
10							10
11	TOTAL INVESTMENT TAX CREDIT		411.4	(6,628,472)	(2,939,568)	(3,688,904)	11
12							12
13	DEFERRED INCOME TAXES						13
14	ITEMS SOUTH DAKOTA FLOWS THROUGH						14
15	FEDERAL	NPMNR		0	0	0	15
16	MINNESOTA	NPISM		0	0	0	16
17	NORTH DAKOTA	NPISN		(31,934)	(31,507)	(427)	17
18							18
19	SUBTOTAL			(31,934)	(31,507)	(427)	19
20							20
21	ALL OTHER						21
22							22
23	FEDERAL- transfer from Current Income Taxes - NOL	NEPIS		(6,814,513)	(5,873,164)	(941,349)	23
24	FEDERAL (NEPIS)			12,091,374	4,572,681	7,518,693	24
25	FEDERAL			1,125,275	(1,300,483)	2,425,758	25
26							26
27	MINNESOTA- transfer from Current Income Taxes - NOL	NPISM		(425,430)	0	(425,430)	27
28	MINNESOTA (NPISM)			3,008,510	0	3,008,510	28
29	MINNESOTA			2,353,601	0	2,353,601	29
30							30
31	NORTH DAKOTA- transfer from Current Income Taxes - NOL	NPISN		(1,260,721)	(1,260,721)	0	31
32	NORTH DAKOTA (NPISN)			1,122,373	1,107,370	15,003	32
33	NORTH DAKOTA			(1,237,709)	(153,351)	(1,084,358)	33
34							34
35	SUBTOTAL			2,241,167	(1,453,834)	3,695,002	35
36							36
37	TOTAL DEFERRED INCOME TAXES		410.1-410.2, 411.1-411.2	2,209,233	(1,485,341)	3,694,575	37
38							38
39							39
40	CURRENT INCOME TAXES						40
41	FEDERAL- transfer to Deferred Income Taxes - NOL			6,814,513	5,873,164	941,349	41
42	FEDERAL CURRENT INCOME TAX			(5,664,282)	(5,873,164)	208,882	42
43	FEDERAL INCOME TAXES			1,150,231	(0)	1,150,231	43
44							44
45	MINNESOTA- transfer to Deferred Income Taxes - NOL			0	0	0	45
46	MINNESOTA CURRENT INCOME TAX			(288,937)	0	(288,937)	46
47	MINNESOTA INCOME TAXES			(288,937)	0	(288,937)	47
48							48
49	NORTH DAKOTA - transfer to Deferred Income Taxes - NOL			1,260,721	1,260,721	0	49
50	NORTH DAKOTA CURRENT INCOME TAX			(1,072,200)	(1,260,721)	188,521	50
51	NORTH DAKOTA INCOME TAXES			188,521	(0)	188,521	51
52							52
53	TOTAL CURRENT INCOME TAXES		409.1	1,049,814	(0)	1,049,815	53
54							54
55	TOTAL INCOME TAXES			(3,369,425)	(4,424,910)	1,055,485	55
56							56
57							57
58	NET OPERATING INCOME			103,138,983	22,366,952	80,772,032	58
59							59
60	AFDC	CWIPLT		6,315,997	0	6,315,997	60
61	AFDC - MN Only	CWIPLT		0	0	0	61
62	AFDC - SD Only	CWIPLT		0	0	0	62
63	Total AFDC	CWIPLT	419.1	6,315,997	0	6,315,997	63
64							64
65	TOTAL AVAILABLE FOR RETURN			109,454,980	22,366,952	87,088,029	65
66							66
67							67
68	RATE OF RETURN ON RATE BASE			5.81%	3.42%	7.09%	68
69							69
70							70
71							71
72							72
73							73
74							74

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget INTERIM YEAR 2024 - Simple Average

LINE NO	ITEM	ALLOC	TOTAL COMPANY	NORTH DAKOTA	ALL OTHER	LINE NO
1	DEVELOPMENT OF FEDERAL INCOME TAX EXPENSE					1
2						2
3	NET OPERATING INCOME BEFORE TAX (NOIBT)		99,769,559	17,942,042	81,827,517	3
4	LESS: INTEREST COST	CALCULATED BY JURISDICTION	41,032,662	14,242,026	26,790,637	4
5						5
6	NET INCOME BEFORE TAX		58,736,897	3,700,016	55,036,881	6
7						7
8	<u>FEDERAL SCHEDULE M ADJUSTMENTS:</u>					8
9	ADDITIONAL TAX DEPRECIATION	NEPIS	75,740,068	28,643,159	47,096,909	9
10	OTHER SCHEDULE M ITEMS	NEPIS	11,330,739	4,285,026	7,045,713	10
11	DIRECTLY ASSIGNED SCHEDULE M ITEMS	NEPIS DIRECTLY ASSIGNED TO JURISDICTION	0	0	0	11
12	ACCRUED VACATION PAY	NEPIS	0	0	0	12
13	CHARGES - OPERATING RESERVES	NEPIS	0	0	0	13
14	PROVISIONS - OPERATING RESERVES	NEPIS	0	0	0	14
15	UNBILLED REVENUES	NEPIS	0	0	0	15
16	PREFERRED DIVIDENDS PAID CREDIT	NEPIS	0	0	0	16
17	OTHER SCHEDULE M ITEMS	NEPIS	0	0	0	17
18						18
19	SUBTOTAL FEDERAL SCHEDULE M ADJUSTMENTS		87,070,807	32,928,185	54,142,622	19
20						20
21	FEDERAL ADJUSTED INCOME BEFORE INCOME TAXES		(28,333,910)	(29,228,169)	894,259	21
22						22
23	<u>LESS:</u>					23
24	MINNESOTA STATE INCOME TAXES	PER MINNESOTA STATE TAX CALCULATION	(288,937)	0	(288,937)	24
25	NORTH DAKOTA STATE INCOME TAXES	PER NORTH DAKOTA STATE TAX CALCULATION	(1,072,200)	(1,260,721)	188,521	25
26						26
27	FEDERAL TAXABLE INCOME		(26,972,773)	(27,967,448)	994,675	27
28	FEDERAL TAX RATE		21.00%	21.00%	21.00%	28
29						29
30	FEDERAL INCOME TAX BEFORE CREDITS		(5,664,282)	(5,873,164)	208,882	30
31	INVESTMENT TAX CREDIT - DEBITS UTILIZED	EPIS	0	0	0	31
32	FEDERAL INCOME TAXES before transfer to Deferred due to NOL		(5,664,282)	(5,873,164)	208,882	32
33	Less Current Federal Income Taxes Transferred to Deferred Income Taxes due to NOL		6,814,513	5,873,164	941,349	33
34	FEDERAL INCOME TAXES		1,150,231	(0)	1,150,231	34
35						35
36						36
37						37
38						38
39						39
40						40
41						41
42						42
43						43
44						44
45						45
46						46
47						47
48						48
49						49
50						50
51						51
52						52
53						53
54						54
55						55
56						56
57						57
58						58
59						59
60						60
61						61

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget INTERIM YEAR 2024 - Simple Average

LINE NO	ITEM	ALLOC	TOTAL COMPANY	NORTH DAKOTA	ALL OTHER	LINE NO
1	DEVELOPMENT OF MINNESOTA STATE INCOME TAX EXPENSE					1
2						2
3	FEDERAL ADJUSTED INCOME BEFORE INCOME TAXES		(2,948,341)	0	(2,948,341)	3
4						4
5	<u>MINNESOTA ADJUSTMENTS TO FEDERAL SCHEDULE M:</u>					5
6	PAYSP ADJUSTMENT	NEPIS	0	0	0	6
7	CHANGE IN EXCESS TAX DEPRECIATION - MN	NEPIS	0	0	0	7
8	CHANGE IN ACRS - ORDINARY LOSS	NEPIS	0	0	0	8
9	PREFERRED DIVIDENDS PAID CREDIT	NEPIS	0	0	0	9
10	MISCELLANEOUS ADJUSTMENTS TO FED SCHEDULE M	NEPIS	0	0	0	10
11						11
12	TOTAL MINNESOTA ADJUSTMENTS TO FED SCHEDULE M		0	0	0	12
13						13
14	MINNESOTA TAXABLE INCOME		(2,948,341)	0	(2,948,341)	14
15	MINNESOTA TAX RATE		9.80%	0.00%	9.80%	15
16						16
17	MINNESOTA INCOME TAX prior to transfer to Deferred Income Tax due to NOL		(288,937)	0	(288,937)	17
18	Minnesota Current Income Tax transfer to Deferred Income Tax due to NOL		0	0	0	18
19	MINNESOTA INCOME TAX		(288,937)	0	(288,937)	19
20						20
21						21
22						22
23						23
24						24
25						25
26						26
27	DEVELOPMENT OF NORTH DAKOTA STATE INCOME TAX EXPENSE					27
28						28
29	FEDERAL ADJUSTED INCOME BEFORE INCOME TAXES		(21,474,293)	(29,228,169)	7,753,876	29
30						30
31	<u>NORTH DAKOTA ADJUSTMENTS TO FEDERAL SCHEDULE M:</u>					31
32	CHANGE IN EXCESS TAX DEPRECIATION - ND	NEPIS	(2,209)	(1,671)	(539)	32
33	CHANGE IN ACRS - ORDINARY LOSS - ND	NEPIS	0	0	0	33
34	CHANGE IN INCOME FROM ADR PROPERTY - ND	NEPIS	0	0	0	34
35	MISCELLANEOUS ADJUSTMENTS TO FED SCHEDULE M	NEPIS	0	0	0	35
36						36
37	TOTAL NORTH DAKOTA ADJUSTMENTS TO FED SCHEDULE M		(2,209)	(1,671)	(539)	37
38						38
39	SUBTOTAL		(21,476,502)	(29,229,840)	7,753,338	39
40	DEDUCTION OF FEDERAL INCOME TAXES		3,350,523	0	3,350,523	40
41						41
42	NORTH DAKOTA TAXABLE INCOME		(24,827,025)	(29,279,840)	4,452,814	42
43	NORTH DAKOTA TAX RATE		4.31%	4.31%	4.31%	43
44						44
45	NORTH DAKOTA INCOME TAX prior to transfer to Deferred Income Tax due to NOL		(1,072,200)	(1,260,721)	188,521	45
46	North Dakota Current Income Tax transfer to Deferred Income Tax due to NOL		1,260,721	1,260,721	-	46
47	NORTH DAKOTA INCOME TAX		188,521	(0)	188,521	47
48						48
49						49
50						50
51						51
52						52
53						53
54						54
55						55
56						56
57						57
58						58
59						59
60						60
61						61
62						62
63						63
64						64

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget INTERIM YEAR 2024 - Simple Average

ALLOCATION FACTORS

LINE NO	ITEM	FACTOR	TOTAL COMPANY		NORTH DAKOTA		ALL OTHER		LINE NO
1	MWH CONSUMPTION AT GENERATORS - PARTIAL	E1	5,645,126		2,476,736		3,168,390		1
2	PERCENTAGE		100.000000%		43.873883%		56.126117%		2
3									3
4	MWH CONSUMPTION AT GENERATORS - TOTAL	E2	6,171,457		2,775,986		3,395,471		4
5	PERCENTAGE		100.000000%		44.981047%		55.018953%		5
6									6
7	GENERATION DEMAND FACTOR	D1	719,976		284,282		435,694		7
8	PERCENTAGE		100.000000%		39.484927%		60.515073%		8
9									9
10	TRANSMISSION DEMAND FACTOR	D2	725,298		284,282		441,016		10
11	PERCENTAGE		100.000000%		39.195200%		60.804800%		11
12									12
13	DISTRIBUTION - PRIMARY DEMAND FACTOR	D3	851,393		396,080		455,313		13
14	PERCENTAGE		100.000000%		46.521407%		53.478593%		14
15									15
16	DISTRIBUTION - SECONDARY DEMAND FACTOR	D4	1,119,241		545,068		574,173		16
17	PERCENTAGE		100.000000%		48.699789%		51.300211%		17
18									18
19	CUSTOMER OR METER FACTORS								19
20	TOTAL RETAIL CUSTOMERS	C1	135,411		59,643		75,768		20
21	PERCENTAGE		100.000000%		44.045905%		55.954095%		21
22									22
23	RETAIL SERVICE LOCATIONS	C2	136,449		59,642		76,807		23
24	PERCENTAGE		100.000000%		43.710104%		56.289896%		24
25									25
26	SECONDARY SERVICE LOCATIONS	C3	136,414		59,632		76,782		26
27	PERCENTAGE		100.000000%		43.713988%		56.286012%		27
28									28
29	STREET LIGHTING FACTOR	C4	13,235,267		5,515,574		7,719,693		29
30	PERCENTAGE		100.000000%		41.673311%		58.326689%		30
31									31
32	AREA LIGHTING FACTOR	C5	9,628,628		5,249,227		4,379,401		32
33	PERCENTAGE		100.000000%		54.516874%		45.483126%		33
34									34
35	METER FACTOR	C6	57,578,353		25,668,459		31,909,894		35
36	PERCENTAGE		100.000000%		44.580051%		55.419949%		36
37									37
38	METER READING FACTOR	C7	206,170		91,157		115,013		38
39	PERCENTAGE		100.000000%		44.214483%		55.785517%		39
40									40
41	SYSTEM SERVICE LOCATIONS	C8	136,457		59,643		76,814		41
42	PERCENTAGE		100.000000%		43.708274%		56.291726%		42
43									43
44	LOAD MANAGEMENT FACTOR	C9	41,469		18,119		23,350		44
45	PERCENTAGE		100.000000%		43.692879%		56.307121%		45
46									46
47									47
48									48
49									49
50									50
51									51
52									52
53									53
54									54
55									55
56									56
57									57
58									58
59									59
60									60

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget INTERIM YEAR 2024 - Simple Average

LINE NO	ITEM	ALLOCATION FACTORS FACTOR	TOTAL COMPANY	NORTH DAKOTA	OTHER	LINE NO
1	GROSS PLANT IN SERVICE					1
7	PRODUCTION PLANT	P10	1,469,629,785	632,119,838	837,509,947	2
8	PERCENTAGE		100.000000%	43.012182%	56.987818%	3
9	DISTRIBUTION PLANT	P60	717,695,528	329,751,161	387,944,367	4
10	PERCENTAGE		100.000000%	45.945829%	54.054171%	5
11	GENERAL PLANT	P90	122,942,613	53,300,696	69,641,917	6
12	PERCENTAGE		100.000000%	43.354127%	56.645873%	7
13	ELECTRIC PLANT IN SERVICE	EPIS	3,177,112,921	1,249,259,538	1,927,853,383	8
14	PERCENTAGE		100.000000%	39.320590%	60.679410%	9
15	NET ELECTRIC PLANT IN SERVICE	NEPIS	2,084,139,321	788,173,764	1,295,965,558	10
16	PERCENTAGE		100.000000%	37.817710%	62.182290%	11
17	NET ELECTRIC PLANT IN SERVICE Excluding Direct Assignment	NEPIS EXD	1,837,371,213	788,173,764	1,049,197,450	12
18	PERCENTAGE		100.000000%	42.896817%	57.103183%	13
19	OPERATION AND MAINTENANCE EXPENSE					14
20	PRODUCTION EXPENSE (EXCL ENERGY)	OXPD	29,513,956	12,536,030	16,977,926	15
21	PERCENTAGE		100.000000%	42.474923%	57.525077%	16
22	DISTRIBUTION EXPENSE	OXD	18,488,356	8,393,231	10,095,125	17
23	PERCENTAGE		100.000000%	45.397391%	54.602609%	18
24	CUSTOMER ACCOUNTS EXPENSE	OXC	16,621,213	7,295,595	9,325,619	19
25	PERCENTAGE		100.000000%	43.893273%	56.106727%	20
26	CUSTOMER SERVICE & INFORMATION EXPENSE	OXI	3,021,886	1,331,017	1,690,869	21
27	PERCENTAGE		100.000000%	44.045905%	55.954095%	22
28	OTHER DEFERRED INCOME TAX FACTOR					23
29	MINNESOTA	NPISM	919,398,576	0	919,398,576	24
30	PERCENTAGE		100.000000%	0.000000%	100.000000%	25
31	NORTH DAKOTA	NPISN	1,042,277,136	788,173,764	254,103,372	26
32	PERCENTAGE		100.000000%	98.663270%	1.336730%	27
33	EXCLUDING SOUTH DAKOTA	NPMNR	1,901,204,175	788,173,764	1,113,030,411	28
34	PERCENTAGE		100.000000%	41.456555%	58.543445%	29
35	LONG-TERM CWIP RATIO (W/AFC)	CWIPLT	0	0	0	30
36	PERCENTAGE		100.000000%	0.000000%	100.000000%	31
37	REVENUE	R10	464,851,197	182,974,451	281,876,746	32
38	PERCENTAGE		100.000000%	39.361940%	60.638060%	33
39	LABOR AND RELATED EXPENSE	LRE	150,079,082	62,503,058	87,576,023	34
40	PERCENTAGE		100.000000%	41.646749%	58.353251%	35
41	TOTAL O & M EXPENSE	OX				36
42	PERCENTAGE					37
43						38
44						39
45						40
46						41
47						42
48						43
49						44
50						45
51						46
52						47
53						48
54						49
55						50
56						51
57						52
58						53
59						54
60						55
61						56
62						57
63						58
64						59
65						60
66						60

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget INTERIM YEAR 2024 - Simple Average

LINE NO	ITEM	AMOUNT	AMOUNT AS		COST OF CAPITAL	RATE OF RETURN		LINE NO
			A PERCENT OF TOTAL					
1	CAPITAL STRUCTURE - RATE OF RETURN							1
2								2
3								3
4	LONG-TERM DEBT	902,156,552	46.50%		4.68%	2.18%		4
5								5
6	PREFERRED STOCK	0	0.00%		0.00%	0.00%		6
7								7
8	COMMON EQUITY	1,037,781,192	53.50%		9.77%	5.23%		8
9								9
10	TOTAL	1,939,937,744	100.00%			7.41%		10
11								11
12								12
13								13
14								14
15								15
16								16
17								17
18								18
19								19
20								20
21								21
22								22
23								23
24								24
25								25
26								26
27								27
28								28
29								29
30								30
31								31
32								32
33								33
34								34
35								35
36								36
37								37
38								38
39								39
40								40
41								41
42								42
43								43
44								44
45								45
46								46
47								47
48								48
49								49
50								50
51								51
52								52
53								53
54								54
55								55
56								56
57								57
58								58
59								59
60								60

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget INTERIM YEAR 2024 - Simple Average

NORTH DAKOTA

PAGE 18 - 1

LINE NO	ITEM	ALLOCATION	TOTAL COMPANY	NORTH DAKOTA	ALL OTHER	LINE NO
1	CASH WORKING CAPITAL CALCULATION - REVENUE LEAD DAYS					1
2						2
3	REVENUES					3
4	COMPUTER MAINTAINED BILLINGS		400,158,508	160,642,998	239,515,509	4
5	MANUALLY MAINTAINED BILLINGS		71,938,078	28,879,427	43,058,650	5
6	COST OF ENERGY REVENUES		(6,094,976)	(6,094,976)	0	6
7	SALES FOR RESALE		6,947,794	3,125,191	3,822,604	7
8	RENT FROM ELECTRIC PROPERTY	R10	435,931	164,859	271,072	8
9	MISCELLANEOUS		1,395,880	527,890	867,990	9
10	ITA DEFICIENCY PAYMENTS		848,757	320,980	527,777	10
11	WHEELING		425,279	0	425,279	11
12	LOAD CONTROL AND DISPATCH		19,546,873	8,384,987	11,161,887	12
13	RENT FROM ELECTRIC PROPERTY - BIG STONE		0	0	0	13
14	RENT FROM ELECTRIC PROPERTY - COYOTE		0	0	0	14
15	PROFIT ON MATERIALS AND SUPPLIES		0	0	0	15
16	RUBBER GOODS TESTING		0	0	0	16
17	RESIDENTIAL CONSERVATION SERVICES		0	0	0	17
18						18
19	TOTAL REVENUES		495,602,125	195,951,357	299,650,768	19
20						20
21	REVENUE LEAD DAYS FROM SERVICE TO COLLECTION					21
22						22
23	COMPUTER MAINTAINED BILLINGS		N/A	39.8	N/A	23
24	MANUALLY MAINTAINED BILLINGS		N/A	26.7	N/A	24
25	COST OF ENERGY REVENUES		N/A	126.8	N/A	25
26	SALES FOR RESALE		N/A	19.9	N/A	26
27	RENT FROM ELECTRIC PROPERTY		N/A	-63.3	N/A	27
28	MISCELLANEOUS		N/A	40.4	N/A	28
29	ITA DEFICIENCY PAYMENTS		N/A	27.5	N/A	29
30	WHEELING		N/A	39.3	N/A	30
31	LOAD CONTROL AND DISPATCH		N/A	28.8	N/A	31
32	RENT FROM ELECTRIC PROPERTY - BIG STONE		N/A	34.3	N/A	32
33	RENT FROM ELECTRIC PROPERTY - COYOTE		N/A	34.3	N/A	33
34	PROFIT ON MATERIALS AND SUPPLIES		N/A	34.3	N/A	34
35	RUBBER GOODS TESTING		N/A	34.3	N/A	35
36	RESIDENTIAL CONSERVATION SERVICES		N/A	34.3	N/A	36
37						37
38						38
39	REVENUE DOLLAR DAYS (REVENUES X REVENUE LEAD DAYS)					39
40						40
41	COMPUTER MAINTAINED BILLINGS		15,926,308,607	6,393,591,340	9,532,717,267	41
42	MANUALLY MAINTAINED BILLINGS		1,920,746,674	771,080,707	1,149,665,967	42
43	COST OF ENERGY REVENUES		(772,842,957)	(772,842,957)	0	43
44	SALES FOR RESALE		137,913,720	62,035,036	75,878,684	44
45	RENT FROM ELECTRIC PROPERTY		(27,581,376)	(10,430,645)	(17,150,731)	45
46	MISCELLANEOUS		56,337,728	21,305,639	35,032,090	46
47	ITA DEFICIENCY PAYMENTS		23,340,818	8,826,963	14,513,855	47
48	WHEELING		16,700,704	0	16,700,704	48
49	LOAD CONTROL AND DISPATCH		562,949,957	241,487,612	321,462,345	49
50	RENT FROM ELECTRIC PROPERTY - BIG STONE		0	0	0	50
51	RENT FROM ELECTRIC PROPERTY - COYOTE		0	0	0	51
52	PROFIT ON MATERIALS AND SUPPLIES		0	0	0	52
53	RUBBER GOODS TESTING		0	0	0	53
54	RESIDENTIAL CONSERVATION SERVICES		0	0	0	54
55	TOTAL DOLLAR DAYS		17,843,873,875	6,715,053,694	11,128,820,181	55
56						56
57	AVG REVENUE LEAD DAYS (TOTAL REV DOLLAR DAYS / TOTAL REV)		36.0	34.3	37.1	57
58						58
59						59
60						60

NORTH DAKOTA

PAGE 19 - 1

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget INTERIM YEAR 2024 - Simple Average

LINE NO	ITEM	OPERATING EXPENSE	EXPENSE PER DAY 365 DAYS PER YEAR	EXPENSE LAG DAYS	EXCESS REVENUE LEAD DAYS OF 37.2 OVER EXPENSE LAG DAYS	NET REVENUE LAG DOLLARS	LINE NO
1	CASH WORKING CAPITAL CALCULATION BY THE APPLICATION OF						1
2	LEAD-LAG FACTORS-MINNESOTA JURISDICTION						2
3	FUEL - COAL	E2	23,731,084	65,017	19.1	18.1	3
4							4
5	FUEL - OIL	E1	4,853,219	13,296	8.9	28.3	5
6							6
7	PURCHASED POWER		42,840,818	117,372	32.8	4.4	7
8							8
9	LABOR AND ASSOCIATED PAYROLL EXPENSE	LRE	32,771,619	89,785	10.5	26.7	9
10							10
11	ALL OTHER O&M EXPENSE		53,909,514	147,697	12.5	24.7	11
12							12
13	PROPERTY TAXES (EXCL COAL CONVERSION TAXES)		7,695,304	21,083	297.2	-260.0	13
14							14
15	COAL CONVERSION TAXES		44,987	123	35.6	1.6	15
16							16
17	FEDERAL INCOME TAXES		(558,475)	(1,530)	0.0	37.2	17
18							18
19	STATE INCOME TAXES		(288,937)	(792)	0.0	37.2	19
20							20
21	INCREMENTAL FEDERAL INCOME TAXES		0	0	0.0	37.2	21
22							22
23	INCREMENTAL STATE INCOME TAXES		0	0	0.0	37.2	23
24							24
25	BANK BALANCES	NEPIS					25
26							26
27	SPECIAL DEPOSITS	NEPIS				889,545	27
28							28
29	WORKING FUNDS	NEPIS				5,157	29
30							30
31	TAX COLLECTIONS AVAIL - FICA WITHHOLDING	LRE	(2,705,801)	(7,413)	0.0	0	31
32							32
33	TAX COLLECTIONS AVAIL - FEDERAL WITHHOLDING	LRE	(4,373,852)	(11,983)	0.0	0	33
34							34
35	TAX COLLECTIONS AVAIL - STATE WITHHOLDING- MN	R10	0	0	0.0	0	35
36							36
37	TAX COLLECTIONS AVAIL - STATE WITHHOLDING- ND	R10	0	0	61.2	0	37
38							38
39	TAX COLLECTIONS AVAILABLE - STATE SALES TAX	R10	0	0	0.0	0	39
40							40
41	TAX COLLECTIONS AVAILABLE - FRANCHISE TAXES	R10	0	0	36.9	0	41
42							42
43							43
44	TOTAL CASH WORKING CAPITAL REQUIREMENT - MINNESOTA					3,535,300	44
45							45
46							46
47							47
48							48
49							49
50							50
51							51
52							52
53							53
54							54
55							55
56							56
57							57
58							58
59							59
60							60

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget INTERIM YEAR 2024 - Simple Average

NORTH DAKOTA

PAGE 20 - 1

LINE NO	ITEM		OPERATING EXPENSE	EXPENSE PER DAY 365 DAYS PER YEAR	EXPENSE LAG DAYS		EXCESS REVENUE LEAD DAYS OF 34.3 OVER EXPENSE LAG DAYS		NET REVENUE LAG DOLLARS		LINE NO
1	CASH WORKING CAPITAL CALCULATION BY THE APPLICATION OF										1
2	LEAD-LAG FACTORS-NORTH DAKOTA JURISDICTION										2
3	FUEL - COAL	E2	23,301,382	63,839	19.1		15.2	969,721			3
4											4
5	FUEL - OIL	E1	4,561,691	12,498	8.9		25.4	317,569			5
6											6
7	PURCHASED POWER		42,027,450	115,144	32.8		1.5	176,170			7
8											8
9	LABOR AND ASSOCIATED PAYROLL EXPENSE	LRE	29,051,169	79,592	10.5		23.8	1,895,887			9
10											10
11	ALL OTHER O&M EXPENSE		39,361,013	107,838	12.5		21.8	2,351,955			11
12											12
13	PROPERTY TAXES (EXCL COAL CONVERSION TAXES)		7,061,411	19,346	297.2		-261.9	(5,066,657)			13
14											14
15	COAL CONVERSION TAXES		41,281	113	35.6		-1.3	(146)			15
16											16
17	FEDERAL INCOME TAXES		(0)	(0)	0.0		34.3	0			17
18											18
19	STATE INCOME TAXES		(0)	(0)	0.0		34.3	0			19
20											20
21	INCREMENTAL FEDERAL INCOME TAXES		0	0	0.0		34.3	0			21
22											22
23	INCREMENTAL STATE INCOME TAXES		0	0	0.0		34.3	0			23
24											24
25	BANK BALANCES	NEPIS						0			25
26											26
27	SPECIAL DEPOSITS	NEPIS						816,270			27
28											28
29	WORKING FUNDS	NEPIS						4,732			29
30											30
31	TAX COLLECTIONS AVAIL - FICA WITHHOLDING	LRE	(2,398,620)	(6,572)	0.0			0			31
32											32
33	TAX COLLECTIONS AVAIL - FEDERAL WITHHOLDING	LRE	(3,877,304)	(10,623)	0.0			0			33
34											34
35	TAX COLLECTIONS AVAIL - STATE WITHHOLDING- MN	R10 ASSIGN TO JURIS	0	0	0.0			0			35
36											36
37	TAX COLLECTIONS AVAIL - STATE WITHHOLDING- ND	R10 ASSIGN TO JURIS	(303,808)	(832)	61.2			(50,965)			37
38											38
39	TAX COLLECTIONS AVAILABLE - STATE SALES TAX	R10	(72)	(0)	13.8			(3)			39
40											40
41	TAX COLLECTIONS AVAILABLE - FRANCHISE TAXES	R10	0	0	0.0			0			41
42											42
43											43
44	TOTAL CASH WORKING CAPITAL REQUIREMENT - NORTH DAKOTA							<u>1,414,534</u>			44
45											45
46											46
47											47
48											48
49											49
50											50
51											51
52											52
53											53
54											54
55											55
56											56
57											57
58											58
59											59
60											60

NORTH DAKOTA

PAGE 21 - 1

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget INTERIM YEAR 2024 - Simple Average

LINE NO	ITEM		OPERATING EXPENSE	EXPENSE PER DAY 365 DAYS PER YEAR	EXPENSE LAG DAYS	EXCESS REVENUE LEAD DAYS OF 37.1 OVER EXPENSE LAG DAYS	NET REVENUE LAG DOLLARS	LINE NO
1	CASH WORKING CAPITAL CALCULATION BY THE APPLICATION OF							1
2	LEAD-LAG FACTORS-SOUTH DAKOTA JURISDICTION							2
3	FUEL - COAL	E2	4,740,714	12,988	19.1	18.0	233,659	3
4								4
5	FUEL - OIL	E1	975,772	2,673	8.9	28.2	75,415	5
6								6
7	PURCHASED POWER		8,559,385	23,450	32.8	4.3	101,540	7
8								8
9	LABOR AND ASSOCIATED PAYROLL EXPENSE	LRE	6,703,725	18,366	10.5	26.6	488,913	9
10								10
11	ALL OTHER O&M EXPENSE		9,610,079	26,329	12.5	24.6	647,956	11
12								12
13	PROPERTY TAXES (EXCL COAL CONVERSION TAXES)		1,638,954	4,490	297.2	-260.1	(1,167,755)	13
14								14
15	COAL CONVERSION TAXES		9,581	26	35.6	1.5	40	15
16								16
17	FEDERAL INCOME TAXES		(1,642,078)	(4,499)	0.0	37.1	0	17
18								18
19	STATE INCOME TAXES		0	0	0.0	37.1	0	19
20								20
21	INCREMENTAL FEDERAL INCOME TAXES		0	0	0.0	37.1	0	21
22								22
23	INCREMENTAL STATE INCOME TAXES		0	0	0.0	37.1	0	23
24								24
25	BANK BALANCES	NEPIS					0	25
26								26
27	SPECIAL DEPOSITS	NEPIS					189,456	27
28								28
29	WORKING FUNDS	NEPIS					1,098	29
30								30
31	TAX COLLECTIONS AVAIL - FICA WITHHOLDING	LRE	(553,495)	(1,516)	0.0		0	31
32								32
33	TAX COLLECTIONS AVAIL - FEDERAL WITHHOLDING	LRE	(894,710)	(2,451)	0.0		0	33
34								34
35	TAX COLLECTIONS AVAIL - STATE WITHHOLDING- MN	R10 ASSIGN TO JURIS	0	0	0.0		0	35
36								36
37	TAX COLLECTIONS AVAIL - STATE WITHHOLDING- ND	R10 ASSIGN TO JURIS	0	0	61.2		0	37
38								38
39	TAX COLLECTIONS AVAILABLE - STATE SALES TAX	R10	0	0	0.0		0	39
40								40
41	TAX COLLECTIONS AVAILABLE - FRANCHISE TAXES	R10	0	0	0.0		0	41
42								42
43								43
44	TOTAL CASH WORKING CAPITAL REQUIREMENT - SOUTH DAKOTA						570,323	44
45								45
46								46
47								47
48								48
49								49
50								50
51								51
52								52
53								53
54								54
55								55
56								56
57								57
58								58
59								59
60								60

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget INTERIM YEAR 2024 - Simple Average

LINE NO	ITEM	OPERATING EXPENSE	EXPENSE PER DAY 365 DAYS PER YEAR	EXPENSE LAG DAYS	EXCESS REVENUE LEAD DAYS OF 30.4 OVER EXPENSE LAG DAYS	NET REVENUE LAG DOLLARS	LINE NO
1	CASH WORKING CAPITAL CALCULATION BY THE APPLICATION OF						1
2	LEAD-LAG FACTORS-FERC JURISDICTION						2
3	FUEL - COAL	E2	29,488	81	19.1	11.3	3
4							4
5	FUEL - OIL	E1	6,599	18	8.9	21.5	5
6							6
7	PURCHASED POWER		53,338	146	32.8	-2.4	7
8							8
9	LABOR AND ASSOCIATED PAYROLL EXPENSE	LRE	1,229,639	3,369	10.5	19.9	9
10							10
11	ALL OTHER O&M EXPENSE		1,427,999	3,912	12.5	17.9	11
12							12
13	PROPERTY TAXES (EXCL COAL CONVERSION TAXES)		65,718	180	297.2	-266.8	13
14							14
15	COAL CONVERSION TAXES		384	1	35.6	-5.2	15
16							16
17	FEDERAL INCOME TAXES		3,350,523	9,180	0.0	30.4	17
18							18
19	STATE INCOME TAXES		189,761	520	0.0	30.4	19
20							20
21	INCREMENTAL FEDERAL INCOME TAXES		0	0	0.0	30.4	21
22							22
23	INCREMENTAL STATE INCOME TAXES		0	0	0.0	30.4	23
24							24
25	BANK BALANCES	NEPIS					25
26							26
27	SPECIAL DEPOSITS	NEPIS				263,161	27
28							28
29	WORKING FUNDS	NEPIS				1,526	29
30							30
31	TAX COLLECTIONS AVAIL - FICA WITHHOLDING	LRE	(101,526)	(278)	0.0	0	31
32							32
33	TAX COLLECTIONS AVAIL - FEDERAL WITHHOLDING	LRE	(164,113)	(450)	0.0	0	33
34							34
35	TAX COLLECTIONS AVAIL - STATE WITHHOLDING- MN	R10	0	0	0.0	0	35
36							36
37	TAX COLLECTIONS AVAIL - STATE WITHHOLDING- ND	R10	0	0	61.2	0	37
38							38
39	TAX COLLECTIONS AVAILABLE - STATE SALES TAX	R10	0	0	0.0	0	39
40							40
41	TAX COLLECTIONS AVAILABLE - FRANCHISE TAXES	R10	0	0	0.0	0	41
42							42
43							43
44	TOTAL CASH WORKING CAPITAL REQUIREMENT - FERC					649,645	44
45							45
46							46
47							47
48							48
49							49
50							50
51							51
52							52
53							53
54							54
55							55
56							56
57							57
58							58
59							59
60							60

OTTER TAIL POWER COMPANY
CLASS COST OF SERVICE STUDY
North Dakota Budget INTERIM YEAR 2024 - Simple Average

LINE NO	ITEM	OPERATING EXPENSE	EXPENSE PER DAY 365 DAYS PER YEAR	EXPENSE LAG DAYS	EXCESS REVENUE LEAD DAYS OF 36.0 OVER EXPENSE LAG DAYS	NET REVENUE LAG DOLLARS	LINE NO
1	CASH WORKING CAPITAL CALCULATION BY THE APPLICATION OF						1
2	LEAD-LAG FACTORS - TOTAL CO.						2
3	FUEL - COAL	E2				2,380,444	3
4							4
5	FUEL - OIL	E1				769,797	5
6							6
7	PURCHASED POWER					797,322	7
8							8
9	LABOR AND ASSOCIATED PAYROLL EXPENSE	LRE				4,850,970	9
10							10
11	ALL OTHER O&M EXPENSE					6,719,582	11
12							12
13	PROPERTY TAXES (EXCL COAL CONVERSION TAXES)					(11,763,239)	13
14							14
15	COAL CONVERSION TAXES					87	15
16							16
17	FEDERAL INCOME TAXES					279,057	17
18							18
19	STATE INCOME TAXES					15,805	19
20							20
21	INCREMENTAL FEDERAL INCOME TAXES					0	21
22							22
23	INCREMENTAL STATE INCOME TAXES					0	23
24							24
25	BANK BALANCES	NEPIS				0	25
26							26
27	SPECIAL DEPOSITS	NEPIS				2,158,433	27
28							28
29	WORKING FUNDS	NEPIS				12,513	29
30							30
31	TAX COLLECTIONS AVAIL - FICA WITHHOLDING	LRE				0	31
32							32
33	TAX COLLECTIONS AVAIL - FEDERAL WITHHOLDING	LRE				0	33
34							34
35	TAX COLLECTIONS AVAIL - STATE WITHHOLDING- MN	R10	ASSIGN TO JURIS			0	35
36							36
37	TAX COLLECTIONS AVAIL - STATE WITHHOLDING- ND	R10	ASSIGN TO JURIS			(50,965)	37
38							38
39	TAX COLLECTIONS AVAILABLE - STATE SALES TAX	R10				(3)	39
40							40
41	TAX COLLECTIONS AVAILABLE - FRANCHISE TAXES	R10				0	41
42							42
43							43
44	TOTAL CASH WORKING CAPITAL REQUIREMENT - TOTAL COMPANY					6,169,802	44
45							45
46							46
47							47
48							48
49							49
50							50
51							51
52							52
53							53
54							54
55							55
56							56
57							57
58							58
59							59
60							60

OTTER TAIL POWER COMPANY
Interim Adjustment for Incentives Comp Settlement adjustment from ND Rate Case No. PU-17-398

INT-01
ND Share

	(A)	(B)	(C)	(D)	
Line No.	Description from JCOSS INPUT SUMMARY	Total Utility	Allocator	Allocator %	ND share
	Administrative and General Expense				
	<u>Salaries, Supplies, Pensions & Benefits</u>				
1	Production	(132,288)	OXPD	42.442380%	(56,146)
2	Transmission	(62,928)	D2	39.195200%	(24,665)
3	Distribution	(97,435)	OXD	45.397390%	(44,233)
4	Customer Accounts	(77,515)	OXC	43.893270%	(34,024)
5	Customer Service & Information	(18,009)	C1	44.045910%	(7,932)
	Total A&G Salaries, Supplies, Pensions & Benefits	<u>(388,175)</u>			<u>(167,000)</u>
6	Total	<u>(388,175)</u>			<u>(167,000)</u>
7	Operating Income Impact	388,175			167,000
8	Income Tax Impact: SD Tax Rate is 24.40%				<u>40,756</u>
9	Net Operating Income Impact				<u><u>126,244</u></u>

OTTER TAIL POWER COMPANY
ADJUSTMENT FOR ADDING BACK LANGDON REPOWER FOR INTERIMS

INT-02
ND Share

	(A)	(B)	(C)	(D)
Line No. Description	Total Utility	Allocator	Allocator %	ND
1 Add Back in Langdon Renewable Rider Revenues	1,273,884	N/A	Directly Assigned	1,273,884
2 Total				<u>1,273,884</u>
3 Operating Income Impact				(1,273,884)
4 Income Tax Impact: ND Tax Rate is	24.40%			<u>(310,890)</u>
5 Net Operating Income Impact				<u><u>(962,994)</u></u>

Otter Tail Power Company
Proration of Accumulated Deferred Income Tax for Interim Year
Unadjusted Projected Fiscal Year 2024

	(A)	(B)	(C)	(D)
Line No.		12/31/23	12/31/24	Simple Average
1	Accumulated Deferred Income Taxes			
2	Non-Prorated:			
3	Federal (above the line including Wind)	(314,143,869)	(328,958,993)	(321,551,431)
4				
5	Prorated:			
6	Federal (above the line including Wind)	(314,143,869)	(321,741,362)	(317,942,615)
7				
8	Adjustment to ADIT			3,608,816

ALLETE NYSE-ALE				RECENT PRICE	60.26	P/E RATIO	16.3 (Trailing: 18.9)	RELATIVE P/E RATIO	0.99	DIV'D YLD	4.5%	VALUE LINE											
TIMELINESS 3	Raised 5/26/23	High: 42.7	54.1	58.0	59.7	66.9	81.2	82.8	88.6	84.7	73.1	68.6	66.7	Target Price Range	2026	2027	2028						
SAFETY 2	New 10/1/04	Low: 37.7	41.4	44.2	45.3	48.3	61.6	66.6	72.5	48.2	56.8	47.8	57.9										
TECHNICAL 2	Lowered 6/9/23	LEGENDS — 27.00 x Dividends p sh divided by Interest Rate Relative Price Strength Options: Yes Shaded area indicates recession																					
BETA .90	(1.00 = Market)	18-Month Target Price Range Low-High Midpoint (% to Mid) \$53-\$89 \$71 (20%)																					
2026-28 PROJECTIONS Price Gain Ann'l Total High Low 100 70 (+65%) 17% 70 (+15%) 8%													Institutional Decisions 202022 3Q2022 4Q2022 to Buy 172 134 153 to Sell 103 130 131 Hld's(000) 44326 44590 43870					% TOT. RETURN 4/23 THIS STOCK VL ARITH. INDEX 1 yr. 9.7 0.8 3 yr. 22.7 65.7 5 yr. -2.7 47.7					
2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 © VALUE LINE PUB. LLC 26-28																							
27.33	24.57	21.57	25.34	24.75	24.40	24.60	24.77	30.27	27.01	27.78	29.10	23.99	22.44	26.68	28.04	29.30	29.65	Revenues per sh	31.15				
4.42	4.23	3.57	4.35	4.91	5.01	5.35	5.68	6.79	7.08	6.59	7.37	7.24	7.52	7.54	7.70	8.45	8.75	"Cash Flow" per sh	9.50				
3.08	2.82	1.89	2.19	2.65	2.58	2.63	2.90	3.38	3.14	3.13	3.38	3.33	3.35	3.23	3.38	3.70	4.05	Earnings per sh ^A	5.00				
1.64	1.72	1.76	1.76	1.78	1.84	1.90	1.96	2.02	2.08	2.14	2.24	2.35	2.47	2.52	2.60	2.71	2.79	Div'd Decl'd per sh ^B +	3.00				
6.82	9.24	9.05	6.95	6.38	10.30	7.93	12.48	5.84	5.35	4.08	6.07	11.55	13.78	8.90	3.64	5.95	5.95	Cap'l Spending per sh	7.25				
24.11	25.37	26.41	27.26	28.78	30.48	32.44	35.06	37.07	38.17	40.47	41.86	43.17	44.04	45.36	47.06	49.10	51.25	Book Value per sh ^C	54.00				
30.80	32.60	35.20	35.80	37.50	39.40	41.40	45.90	49.10	49.60	51.10	51.50	51.70	52.10	53.20	56.01	58.00	59.00	Common Shs Outst'g ^D	61.00				
14.8	13.9	16.1	16.0	14.7	15.9	18.6	17.2	15.1	18.6	23.0	22.2	24.7	18.3	20.6	18.1	Bold figures are Value Line estimates		Avg Ann'l P/E Ratio	17.0				
.79	.84	1.07	1.02	.92	1.01	1.05	.91	.76	.98	1.16	1.20	1.32	.94	1.11	1.05			Relative P/E Ratio	.95				
3.6%	4.4%	5.8%	5.0%	4.6%	4.5%	3.9%	3.9%	4.0%	3.6%	3.0%	3.0%	2.9%	4.0%	3.8%	4.4%			Avg Ann'l Div'd Yield	3.7%				
CAPITAL STRUCTURE as of 3/31/23						1018.4	1136.8	1486.4	1339.7	1419.3	1498.6	1240.5	1169.1	1419.2	1570.7	1700	1750	Revenues (\$mill)	1900				
Total Debt \$1933.3 mill. Due in 5 Yrs \$390.7 mill.						104.7	124.8	163.4	155.3	159.2	174.1	172.4	174.2	169.2	189.3	215	240	Net Profit (\$mill)	305				
LT Debt \$1755.5 mill. LT Interest \$65.9 mill.						21.5%	22.6%	19.4%	11.3%	14.8%	--	--	--	NMF	NMF	NMF	NMF	Income Tax Rate	NMF				
(LT interest earned: 2.7x)						4.4%	6.3%	2.0%	1.4%	8.7%	1.3%	1.1%	1.1%	1.5%	1.4%	2.0%	2.0%	AFUDC % to Net Profit	1.0%				
Leases, Uncapitalized Annual rentals \$5.1 mill.						44.6%	44.2%	46.3%	42.0%	41.0%	39.9%	38.6%	41.0%	42.2%	40.8%	39.5%	39.5%	Long-Term Debt Ratio	40.5%				
Pension Assets-12/22 \$745.7 mill.						55.4%	55.8%	53.7%	58.0%	59.0%	60.1%	61.4%	59.0%	57.8%	59.6%	60.5%	60.5%	Common Equity Ratio	59.5%				
Pfd Stock None						2425.9	2882.2	3388.9	3263.4	3507.4	3584.3	3632.8	3887.8	4176.3	4457.5	4700	4900	Total Capital (\$mill)	5550				
Common Stock 57,316,155 shs.						2576.5	3286.4	3669.1	3741.2	3822.4	3904.4	4377.0	4840.8	5100.2	5004.0	5300	5450	Net Plant (\$mill)	5675				
MARKET CAP: \$3.5 billion (Mid Cap)						5.3%	5.2%	5.8%	5.8%	5.5%	5.8%	5.6%	5.3%	4.8%	5.6%	5.5%	5.5%	Return on Total Cap'l	6.0%				
ELECTRIC OPERATING STATISTICS						7.8%	7.8%	9.0%	8.2%	7.7%	8.1%	7.7%	7.6%	7.0%	7.5%	8.0%	8.0%	Return on Shr. Equity	9.0%				
2020 2021 2022						7.8%	7.8%	9.0%	8.2%	7.7%	8.1%	7.7%	7.6%	7.0%	7.5%	8.0%	8.0%	Return on Com Equity ^E	9.0%				
% Change Retail Sales (KWH)						2.2%	2.5%	3.6%	2.8%	2.4%	2.7%	2.3%	2.0%	1.5%	2.5%	2.5%	2.5%	Retained to Com Eq	3.5%				
Avg. Indust. Use (MWH)						72%	67%	60%	66%	68%	66%	70%	74%	78%	76%	70%	69%	All Div'ds to Net Prof	60%				
Avg. Indust. Revs. per KWH (c)						BUSINESS: ALLETE, Inc. is the parent of Minnesota Power, which supplies electricity to 146,000 customers in northeastern MN, & Superior Water, Light & Power in northwestern WI. Electric rev. breakdown: taconite mining/processing, 26%; paper/wood products, 9%; other industrial, 8%; residential, 13%; commercial, 13%; wholesale, 14%; other, 16%. ALLETE Clean Energy (ACE) owns renewable energy projects. Acq'd U.S. Water Services 2/15; sold it 3/19. Generating sources: coal, 28%; wind, 10%; other, 4%; purchased, 58%. Fuel costs: 40% of revs. '22 deprec. rate: 3.2%. Has 1,400 employees. Chairman, President & CEO: Bethany M. Owen. Inc.: Minnesota. Address: 30 West Superior St., Duluth, MN 55802-2093. Tel.: 218-279-5000. Internet: www.allete.com.																	
Capacity at Peak (Mw)						ALLETE remains focused on the development of clean and renewable energy projects, including the company's carbon-reduction goals. As a result, Allete Clean Energy recently completed the sale of its 92-megawatt Red Barn wind facility in Wisconsin to WEC Energy Group utility Wisconsin Public Service corp. and Madison Gas and Electric Co. Still, ALLETE Clean Energy recorded first quarter net income of \$8.5 million compared to \$16.5 million last year. Higher operating and maintenance expenses, along with lower wind resources and availability led to the decline. On a positive note, investments in renewable energy facilities, New Energy, and BNI Energy posted income of \$9.1 million, versus a net loss of \$1.7 million in 2022. We continue to expect solid earnings growth this year. Interim rates at Minnesota Power and the sale of the Red Barn Project should act as the main drivers towards performance in 2023, despite the continued challenging operating environment. Our bottom-line projection remains at the midpoint of management's full-year updated earnings per share range of \$3.55 to \$3.85. The utility also expects New Energy to provide full year earnings of \$16 million-\$17 million. We look for earnings of \$4.05 a share in 2024, in line with the company's annual profit growth rate goal of 5%-7%. The utility should continue to benefit from rate relief and tax credits that provide investment options, as well as the sale of transfer projects and strong performances from the regulated operations segment moving forward. Too, the macroeconomic environment, including higher operating and maintenance costs, and lower wind resources will likely improve over that interim. These shares may appeal to income-oriented investors. The utility carries a dividend yield of 4.5%, which is above the industry average. The stock also holds high scores for Price Stability and Earnings Predictability, and are ranked 2 (Above Average) for Safety. While 18-month and 3-to 5-year capital appreciation potential does not stand out, total return prospects are superior to that of most utility issues.																	
Peak Load, Winter (Mw) ^F						Zachary J. Hodgkinson June 9, 2023																	
Annual Load Factor (%)																							
% Change Customers (avg.)																							
Fixed Charge Cov. (%)						230	219	220															
ANNUAL RATES						Past 10 Yrs.	Past 5 Yrs.	Est'd '20-'22 to '26-'28															
Revenues						--	-3.0%	3.0%															
"Cash Flow"						4.5%	2.0%	4.5%															
Earnings						3.0%	5.0%	6.0%															
Dividends						3.5%	3.5%	3.5%															
Book Value						4.5%	3.0%	3.5%															
Cal-endar	QUARTERLY REVENUES (\$ mill.)				Full Year																		
	Mar.31	Jun.30	Sep.30	Dec.31																			
2020	311.6	243.2	293.9	320.4	1169.1																		
2021	339.2	335.6	345.4	399.0	1419.2																		
2022	383.5	373.1	388.3	425.8	1570.7																		
2023	564.9	395	400	340.1	1700																		
2024	425	420	445	460	1750																		
Cal-endar	EARNINGS PER SHARE ^A				Full Year																		
	Mar.31	Jun.30	Sep.30	Dec.31																			
2020	1.28	.39	.78	.90	3.35																		
2021	.99	.53	.53	1.18	3.23																		
2022	1.24	.67	.59	9.0	3.38																		
2023	1.02	.83	.80	1.05	3.70																		
2024	1.35	.65	.90	1.15	4.05																		
Cal-endar	QUARTERLY DIVIDENDS PAID ^B +				Full Year																		
	Mar.31	Jun.30	Sep.30	Dec.31																			
2019	.5875	.5875	.5875	.5875	2.35																		
2020	.6175	.6175	.6175	.6175	2.47																		
2021	.63	.63	.63	.63	2.52																		
2022	.65	.65	.65	.65	2.60																		
2023	.6775	.6775																					

(A) Diluted EPS, Excl. nonrec. gains (loss): '15, (46c); '17, 25c; '19, 26c; '19 EPS don't sum due to rounding. Next earnings report due early Aug. (B) Div'ds historically paid in early Mar., June, Sept. and Dec. (C) Div'd reinvest. plan avail. (D) Shareholder invest. plan avail. (E) Incl. deferred charges. In '22: \$9.60/sh. (F) In mill. (G) Rate base: Orig. cost depr. Rate all'd in MN on com. eq. in '18: 9.25%; earned on avg. com. eq., '21: 7.2%. Regul. Climate: Avg. (F) Summer peak in '21. Company's Financial Strength A Stock's Price Stability 90 Price Growth Persistence 35 Earnings Predictability 90

© 2023 Value Line, Inc. All rights reserved. Factual material is obtained from sources believed to be reliable and is provided without warranties of any kind. THE PUBLISHER IS NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS HEREIN. This publication is strictly for subscriber's own, non-commercial, internal use. No part of it may be reproduced, resold, stored or transmitted in any printed, electronic or other form, or used for generating or marketing any printed or electronic publication, service or product.

To subscribe call 1-800-VALUELINE

ALLIANT ENERGY NDQ-LNT				RECENT PRICE	50.97	P/E RATIO	17.9 (Trailing: 19.5)	RELATIVE P/E RATIO	1.09	DIV'D YLD	3.6%	VALUE LINE							
TIMELINESS	4	Lowered 3/24/23	High: 23.8	27.1	34.9	35.4	41.0	45.6	46.6	55.4	60.3	62.3	65.4	56.3	Target Price	Range			
SAFETY	2	Raised 9/28/07	Low: 20.9	21.9	25.0	27.1	30.4	36.6	36.8	40.8	37.7	46.0	47.2	49.7	2026	2027	2028		
TECHNICAL	3	Raised 6/2/23	LEGENDS — 28.00 x Dividends p sh divided by Interest Rate Relative Price Strength - - - - 2-for-1 split 5/16 Options: Yes Shaded area indicates recession										128						
BETA	.85	(1.00 = Market)	2-for-1										96						
18-Month Target Price Range			2-for-1										80						
Low-High Midpoint (% to Mid)			2-for-1										64						
\$46-\$77 \$62 (20%)			2-for-1										48						
2026-28 PROJECTIONS			2-for-1										40						
High	Price	Gain	Ann'l Total	2-for-1										32					
Low	80	(+55%)	Return	2-for-1										24					
	60	(+20%)	8%	2-for-1										16					
Institutional Decisions			2-for-1										12						
to Buy	202022	302022	402022	2-for-1															
to Sell	232	263	252	2-for-1															
Hld's(000)	188290	192005	192231	2-for-1															
2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	© VALUE LINE PUB. LLC	26-28
15.57	16.67	15.51	15.40	16.51	13.94	14.77	15.10	14.34	14.58	14.62	14.97	14.89	13.67	14.65	16.74	16.50	16.55	Revenues per sh	16.95
2.56	2.28	2.10	2.60	2.75	2.95	3.34	3.49	3.45	3.43	3.97	4.32	4.59	4.92	5.25	5.40	5.50	5.75	"Cash Flow" per sh	6.45
1.35	1.27	.95	1.38	1.53	1.65	1.65	1.74	1.69	1.65	1.99	2.19	2.33	2.47	2.63	2.73	2.85	3.10	Earnings per sh ^A	3.80
.64	.70	.75	.79	.85	.90	.94	1.02	1.10	1.18	1.26	1.34	1.42	1.52	1.61	1.71	1.81	1.92	Div'd Decl'd per sh ^B = †	2.29
2.46	3.98	5.43	3.91	3.03	5.22	3.32	3.78	4.25	5.26	6.34	6.92	6.69	5.47	4.67	5.91	5.80	5.80	Cap'l Spending per sh	5.40
12.15	12.78	12.54	13.05	13.57	14.12	14.79	15.54	16.41	16.96	18.08	19.43	21.24	22.76	23.91	24.99	26.55	27.80	Book Value per sh ^C	31.90
220.72	220.90	221.31	221.79	222.04	221.97	221.89	221.87	226.92	227.67	231.35	236.06	245.02	249.87	250.47	251.14	255.80	256.00	Common Shs Outst'g ^D	257.00
15.1	13.4	13.9	12.5	14.5	14.5	15.3	16.6	18.1	22.3	20.6	19.1	21.2	21.2	21.4	21.4	21.4	21.4	Avg Ann'l P/E Ratio	18.0
.80	.81	.93	.80	.91	.92	.86	.87	.91	1.17	1.04	1.03	1.13	1.09	1.15	1.24	1.24	1.24	Relative P/E Ratio	1.00
3.1%	4.1%	5.7%	4.6%	4.3%	4.1%	3.7%	3.5%	3.6%	3.2%	3.1%	3.2%	2.9%	2.9%	2.9%	2.9%	2.9%	2.9%	Avg Ann'l Div'd Yield	3.7%
CAPITAL STRUCTURE as of 12/31/22				2-for-1										Bold figures are Value Line estimates					
Total Debt \$9050 mill. Due in 5 Yrs \$2117 mill.				2-for-1															
LT Debt \$8132 mill. LT Interest \$285 mill.				2-for-1															
(LT interest earned: 3.5x)				2-for-1															
Leases, Uncapitalized Annual rentals \$3 mill.				2-for-1															
Pension Assets-12/22 \$706 mill.				2-for-1															
Pfd Stock None				2-for-1															
Common Stock 251,387,788 shs.				2-for-1															
MARKET CAP: \$12.8 billion (Large Cap)				2-for-1															
ELECTRIC OPERATING STATISTICS				2-for-1															
2020 2021 2022				2-for-1															
% Change Retail Sales (KWH)				2-for-1															
-2.3 +3.7 -7				2-for-1															
Avg. Indust. Use (MWH)				2-for-1															
11134 11696 11494				2-for-1															
Avg. Indust. Revs. per KWH (¢)				2-for-1															
7.55 7.64 8.39				2-for-1															
Capacity at Peak (Mw)				2-for-1															
NA NA NA				2-for-1															
Peak Load, Summer (Mw)				2-for-1															
5496 5486 5629				2-for-1															
Annual Load Factor (%)				2-for-1															
NA NA NA				2-for-1															
% Change Customers (yr-end)				2-for-1															
+6 +8 +7				2-for-1															
Fixed Charge Cov. (%)				2-for-1															
+51 259 NA				2-for-1															
ANNUAL RATES				2-for-1															
Past Past Est'd '20-'22				2-for-1															
10 Yrs. 5 Yrs. to '26-'28				2-for-1															
Revenues				2-for-1															
- - .5%				2-for-1															
"Cash Flow"				2-for-1															
6.5% 7.5% 3.5%				2-for-1															
Earnings				2-for-1															
6.0% 8.0% 6.5%				2-for-1															
Dividends				2-for-1															
6.5% 6.5% 6.0%				2-for-1															
Book Value				2-for-1															
6.0% 7.0% 5.0%				2-for-1															
Cal-endar				2-for-1															
QUARTERLY REVENUES (\$ mill.)				2-for-1															
Mar.31 Jun.30 Sep.30 Dec.31 Full Year				2-for-1															
2020 916 763 920 817 3416				2-for-1															
2021 901 817 1024 927 3669				2-for-1															
2022 1068 943 1135 1059 4205				2-for-1															
2023 1077 945 1140 1058 4220				2-for-1															
2024 1080 950 1145 1065 4240				2-for-1															
Cal-endar				2-for-1															
EARNINGS PER SHARE ^A				2-for-1															
Mar.31 Jun.30 Sep.30 Dec.31 Full Year				2-for-1															
2020 .72 .54 .94 .26 2.47				2-for-1															
2021 .68 .57 1.02 .35 2.63				2-for-1															
2022 .77 .63 .90 .43 2.73				2-for-1															
2023 .65 .63 1.05 .52 2.85				2-for-1															
2024 .88 .72 1.02 .48 3.10				2-for-1															
Cal-endar				2-for-1															
QUARTERLY DIVIDENDS PAID ^B = †				2-for-1															
Mar.31 Jun.30 Sep.30 Dec.31 Full Year				2-for-1															
2019 .355 .355 .355 .355 1.42				2-for-1															
2020 .38 .38 .38 .38 1.52				2-for-1															
2021 .4025 .4025 .4025 .4025 1.61				2-for-1															
2022 .4275 .4275 .4275 .4275 1.71				2-for-1															
2023 .4525 .4525				2-for-1															

(A) Diluted EPS. Excl. nonrecurring losses: '11, 1¢; '12, 8¢; '20 & '21 EPS don't sum due to rounding. Next earnings report due early Aug. **(B)** Dividends historically paid in mid-Feb. **(C)** Incl. deferred charges. In '21: \$1,980 mill., \$7.91/sh. **(D)** In millions, adj. for split. **(E)** Rate base. Orig. cost. Rates all'd on com. eq. in IA in '20: various; in WI in '22: 10%; earned on avg. com. eq., '21: 11.3%. Regulatory Climate: Wisconsin, Above Average; Iowa, Average.

29%; wholesale, 8%; other, 2%. Generating sources: coal, 32%; gas, 32%; wind, 16%; other, 1%; purchased, 19%. Fuel costs: 25% of revs. '21 reported deprec. rates: 2.9%-6.1%. Has 3,300 employees. Chairman, President & CEO: John O. Larsen. Inc.: Wisconsin. Address: 4902 N. Biltmore Lane, Madison, Wisconsin 53718-2148. Tel.: 608-458-3311. Internet: www.alliantenergy.com.

We have lowered our 2023 share-earnings estimate for Alliant Energy by a nickel. At \$2.85, our new call represents an increase of 4.4% over the \$2.73 that the Wisconsin-based electric and gas utility tallied last year. Key assumptions include revenues of \$4.22 billion (up less than 1%, year over year) and modest expansion in the net profit margin. **Our less-positive near-term stance partly reflects increased concern about residential power use, amid fairly mild weather across Alliant's service area.** To that point, as measured by heating degree days, the weather in the key Madison, Wisconsin metro area has been 10% milder than normal through the first few months of 2023. Meantime, Cedar Rapids, Iowa has also enjoyed unseasonably balmy temperatures, which has likely continued to limit power-consuming heating and cooling demand. **We look for earnings to reach \$3.80 a share by 2026-2028.** Our target implies average annual profit growth of 6%-9% over the next 4 to 6 years. Underpinning our positive stance is an expanded rate base, as well as generally favorable demographics across Alliant's three-state service area. Operating and maintenance costs should also trend lower, as the utility, for example, transitions to fewer overhead distribution lines in favor of underground assets that are less susceptible to weather damage. **The utility's investment roadmap includes a notable amount of energy storage.** Late last year, Alliant filed a plan with the Public Service Commission of Wisconsin, calling for the addition of 175 megawatts of battery storage in the state. Specifically, the facilities would be located in Grant and Wood counties, alongside two previously-approved solar arrays. Importantly, they'd provide bridge power for more than 180,000 homes at times when sun- and wind-power generation is inadequate. **Shares of Alliant Energy are ranked 4 (Below Average) for relative year-ahead price performance.** Still, over the next several years, we think LNT shares may outperform many of its peers', compensating investors for a dividend yield slightly below the industry average.

Nils C. Van Liew June 9, 2023

Company's Financial Strength	A
Stock's Price Stability	95
Price Growth Persistence	70
Earnings Predictability	95

To subscribe call 1-800-VALUELINE

AMERICAN ELEC. PWR. NDQ-AEP										RECENT PRICE	P/E RATIO		RELATIVE P/E RATIO		DIV'D YLD	VALUE LINE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
										82.25	15.9 (Trailing: 21.3; Median: 17.0)		0.97		4.0%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
TIMELINESS 3	Raised 4/28/23	High: 45.4	51.6	63.2	65.4	71.3	78.1	81.1	96.2	105.0	91.5	105.6	98.3																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
SAFETY 1	Raised 3/17/17	Low: 37.0	41.8	45.8	52.3	56.8	61.8	62.7	72.3	65.1	74.8	80.3	81.3																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
TECHNICAL 3	Raised 5/26/23	LEGENDS — 29.40 x Dividends p sh divided by Interest Rate Relative Price Strength Options: Yes Shaded area indicates recession																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
BETA .75	(1.00 = Market)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
18-Month Target Price Range																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
Low-High Midpoint (% to Mid)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
\$75-\$123 \$99 (20%)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
2026-28 PROJECTIONS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
<table border="1"> <thead> <tr> <th>Price</th> <th>Gain</th> <th>Ann'l Total Return</th> </tr> </thead> <tbody> <tr> <td>High 135</td> <td>(+65%)</td> <td>16%</td> </tr> <tr> <td>Low 110</td> <td>(+35%)</td> <td>11%</td> </tr> </tbody> </table>																	Price	Gain	Ann'l Total Return	High 135	(+65%)	16%	Low 110	(+35%)	11%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
Price	Gain	Ann'l Total Return																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
High 135	(+65%)	16%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Low 110	(+35%)	11%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Institutional Decisions																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
<table border="1"> <thead> <tr> <th>202022</th> <th>3Q2022</th> <th>4Q2022</th> </tr> </thead> <tbody> <tr> <td>to Buy 634</td> <td>624</td> <td>707</td> </tr> <tr> <td>to Sell 521</td> <td>499</td> <td>496</td> </tr> <tr> <td>Hi/Low(000) 385400</td> <td>384675</td> <td>390225</td> </tr> </tbody> </table>																	202022	3Q2022	4Q2022	to Buy 634	624	707	to Sell 521	499	496	Hi/Low(000) 385400	384675	390225																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
202022	3Q2022	4Q2022																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
to Buy 634	624	707																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
to Sell 521	499	496																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Hi/Low(000) 385400	384675	390225																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
<table border="1"> <thead> <tr> <th>2007</th> <th>2008</th> <th>2009</th> <th>2010</th> <th>2011</th> <th>2012</th> <th>2013</th> <th>2014</th> <th>2015</th> <th>2016</th> <th>2017</th> <th>2018</th> <th>2019</th> <th>2020</th> <th>2021</th> <th>2022</th> <th>2023</th> <th>2024</th> <th>© VALUE LINE PUB. LLC</th> <th>26-28</th> </tr> </thead> <tbody> <tr> <td>33.41</td> <td>35.56</td> <td>28.22</td> <td>30.01</td> <td>31.27</td> <td>30.77</td> <td>31.48</td> <td>34.78</td> <td>33.51</td> <td>33.31</td> <td>31.35</td> <td>32.84</td> <td>31.49</td> <td>30.04</td> <td>33.30</td> <td>38.20</td> <td>36.70</td> <td>37.15</td> <td>Revenues per sh</td> <td>40.00</td> </tr> <tr> <td>6.80</td> <td>6.84</td> <td>6.32</td> <td>6.29</td> <td>6.83</td> <td>6.92</td> <td>7.02</td> <td>7.57</td> <td>7.98</td> <td>8.47</td> <td>7.95</td> <td>8.77</td> <td>9.35</td> <td>10.28</td> <td>10.98</td> <td>10.72</td> <td>11.00</td> <td>11.65</td> <td>"Cash Flow" per sh</td> <td>14.75</td> </tr> <tr> <td>2.86</td> <td>2.99</td> <td>2.97</td> <td>2.60</td> <td>3.13</td> <td>2.98</td> <td>3.18</td> <td>3.34</td> <td>3.59</td> <td>4.23</td> <td>3.62</td> <td>3.90</td> <td>4.08</td> <td>4.42</td> <td>4.96</td> <td>5.09</td> <td>5.35</td> <td>5.60</td> <td>Earnings per sh ^A</td> <td>6.80</td> </tr> <tr> <td>1.58</td> <td>1.64</td> <td>1.64</td> <td>1.71</td> <td>1.85</td> <td>1.88</td> <td>1.95</td> <td>2.03</td> <td>2.15</td> <td>2.27</td> <td>2.39</td> <td>2.53</td> <td>2.71</td> <td>2.84</td> <td>3.00</td> <td>3.17</td> <td>3.35</td> <td>3.52</td> <td>Div'd Decl'd per sh ^B + †</td> <td>4.16</td> </tr> <tr> <td>8.88</td> <td>9.83</td> <td>6.19</td> <td>5.07</td> <td>5.74</td> <td>6.45</td> <td>7.75</td> <td>8.68</td> <td>9.37</td> <td>9.98</td> <td>11.79</td> <td>12.89</td> <td>12.43</td> <td>12.72</td> <td>11.43</td> <td>13.18</td> <td>15.35</td> <td>14.15</td> <td>Cap'l Spending per sh</td> <td>14.00</td> </tr> <tr> <td>25.17</td> <td>26.33</td> <td>27.49</td> <td>28.33</td> <td>30.33</td> <td>31.37</td> <td>32.98</td> <td>34.37</td> <td>36.44</td> <td>35.38</td> <td>37.17</td> <td>38.58</td> <td>39.73</td> <td>41.38</td> <td>44.49</td> <td>46.60</td> <td>52.60</td> <td>55.05</td> <td>Book Value per sh ^C</td> <td>62.55</td> </tr> <tr> <td>400.43</td> <td>406.07</td> <td>478.05</td> <td>480.81</td> <td>483.42</td> <td>485.67</td> <td>487.78</td> <td>489.40</td> <td>491.05</td> <td>491.71</td> <td>492.01</td> <td>493.25</td> <td>494.17</td> <td>496.60</td> <td>504.21</td> <td>513.87</td> <td>523.00</td> <td>530.00</td> <td>Common Shs Outst'g ^D</td> <td>550.00</td> </tr> <tr> <td>16.3</td> <td>13.1</td> <td>10.0</td> <td>13.4</td> <td>11.9</td> <td>13.8</td> <td>14.5</td> <td>15.9</td> <td>15.8</td> <td>15.2</td> <td>19.3</td> <td>18.0</td> <td>21.4</td> <td>19.6</td> <td>17.1</td> <td>21.1</td> <td>21.0</td> <td>21.0</td> <td>Avg Ann'l P/E Ratio</td> <td>18.0</td> </tr> <tr> <td>.87</td> <td>.79</td> <td>.67</td> <td>.85</td> <td>.75</td> <td>.88</td> <td>.81</td> <td>.84</td> <td>.80</td> <td>.80</td> <td>.97</td> <td>.97</td> <td>1.14</td> <td>1.01</td> <td>.92</td> <td>1.23</td> <td>1.23</td> <td>1.23</td> <td>Relative P/E Ratio</td> <td>1.00</td> </tr> <tr> <td>3.4%</td> <td>4.2%</td> <td>5.5%</td> <td>4.9%</td> <td>5.0%</td> <td>4.6%</td> <td>4.2%</td> <td>3.8%</td> <td>3.8%</td> <td>3.5%</td> <td>3.4%</td> <td>3.6%</td> <td>3.1%</td> <td>3.3%</td> <td>3.3%</td> <td>3.3%</td> <td>3.3%</td> <td>3.3%</td> <td>Avg Ann'l Div'd Yield</td> <td>3.3%</td> </tr> <tr> <td colspan="17">CAPITAL STRUCTURE as of 3/31/23</td> </tr> <tr> <td colspan="17">Total Debt \$42766 mill. Due in 5 Yrs \$12886 mill.</td> </tr> <tr> <td colspan="17">LT Debt \$39144 mill. LT Interest \$1400 mill.</td> </tr> <tr> <td colspan="17">Leases, Uncapitalized Annual rentals \$119.6 mill.</td> </tr> <tr> <td colspan="17">Pfd Stock None</td> </tr> <tr> <td colspan="17">Common Stock 513,866,081 shs.</td> </tr> <tr> <td colspan="17">MARKET CAP: \$42.3 billion (Large Cap)</td> </tr> <tr> <td colspan="17">ELECTRIC OPERATING STATISTICS</td> </tr> <tr> <td colspan="17"> <table border="1"> <thead> <tr> <th></th> <th>2019</th> <th>2020</th> <th>2021</th> </tr> </thead> <tbody> <tr> <td>% Change Retail Sales (KWH)</td> <td>-2.2</td> <td>--</td> <td>+3.0</td> </tr> <tr> <td>Avg. Indust. Use (MWH)</td> <td>NA</td> <td>NA</td> <td>NA</td> </tr> <tr> <td>Avg. Indust. Revs. per KWH (c)</td> <td>NA</td> <td>NA</td> <td>NA</td> </tr> <tr> <td>Capacity at Peak (Mw)</td> <td>NA</td> <td>NA</td> <td>NA</td> </tr> <tr> <td>Peak Load (Mw)</td> <td>NA</td> <td>NA</td> <td>NA</td> </tr> <tr> <td>Annual Load Factor (%)</td> <td>NA</td> <td>NA</td> <td>NA</td> </tr> <tr> <td>% Change Customers (yr-end)</td> <td>+3</td> <td>+1.0</td> <td>NA</td> </tr> </tbody> </table> </td> </tr> <tr> <td colspan="17">Fixed Charge Cov. (%) 234 243 272</td> </tr> <tr> <td colspan="17">ANNUAL RATES</td> </tr> <tr> <td colspan="17"> <table border="1"> <thead> <tr> <th>of change (per sh)</th> <th>Past 10 Yrs.</th> <th>Past 5 Yrs.</th> <th>Est'd '20-'22 to '26-'28</th> </tr> </thead> <tbody> <tr> <td>Revenues</td> <td>.5%</td> <td>-5%</td> <td>3.5%</td> </tr> <tr> <td>"Cash Flow"</td> <td>5.0%</td> <td>5.5%</td> <td>5.5%</td> </tr> <tr> <td>Earnings</td> <td>5.0%</td> <td>4.0%</td> <td>6.0%</td> </tr> <tr> <td>Dividends</td> <td>5.0%</td> <td>5.0%</td> <td>5.5%</td> </tr> <tr> <td>Book Value</td> <td>3.5%</td> <td>3.0%</td> <td>6.0%</td> </tr> </tbody> </table> </td> </tr> <tr> <td colspan="17"> <table border="1"> <thead> <tr> <th>Cal-endar</th> <th colspan="4">QUARTERLY REVENUES (\$ mill.)</th> <th>Full Year</th> </tr> <tr> <th></th> <th>Mar.31</th> <th>Jun.30</th> <th>Sep.30</th> <th>Dec.31</th> <th></th> </tr> </thead> <tbody> <tr> <td>2020</td> <td>3747</td> <td>3494</td> <td>4066</td> <td>3610</td> <td>14918</td> </tr> <tr> <td>2021</td> <td>4281</td> <td>3826</td> <td>4623</td> <td>4061</td> <td>16792</td> </tr> <tr> <td>2022</td> <td>4593</td> <td>4640</td> <td>5526</td> <td>4881</td> <td>19640</td> </tr> <tr> <td>2023</td> <td>4690</td> <td>4700</td> <td>5350</td> <td>4460</td> <td>19200</td> </tr> <tr> <td>2024</td> <td>4820</td> <td>4750</td> <td>5375</td> <td>4755</td> <td>19700</td> </tr> </tbody> </table> </td> </tr> <tr> <td colspan="17"> <table border="1"> <thead> <tr> <th>Cal-endar</th> <th colspan="4">EARNINGS PER SHARE ^A</th> <th>Full Year</th> </tr> <tr> <th></th> <th>Mar.31</th> <th>Jun.30</th> <th>Sep.30</th> <th>Dec.31</th> <th></th> </tr> </thead> <tbody> <tr> <td>2020</td> <td>1.00</td> <td>1.05</td> <td>1.50</td> <td>.87</td> <td>4.42</td> </tr> <tr> <td>2021</td> <td>1.15</td> <td>1.15</td> <td>1.59</td> <td>1.07</td> <td>4.96</td> </tr> <tr> <td>2022</td> <td>1.22</td> <td>1.20</td> <td>1.62</td> <td>1.05</td> <td>5.09</td> </tr> <tr> <td>2023</td> <td>1.11</td> <td>1.25</td> <td>1.75</td> <td>1.24</td> <td>5.35</td> </tr> <tr> <td>2024</td> <td>1.45</td> <td>1.30</td> <td>1.80</td> <td>1.05</td> <td>5.60</td> </tr> </tbody> </table> </td> </tr> <tr> <td colspan="17"> <table border="1"> <thead> <tr> <th>Cal-endar</th> <th colspan="4">QUARTERLY DIVIDENDS PAID ^B + †</th> <th>Full Year</th> </tr> <tr> <th></th> <th>Mar.31</th> <th>Jun.30</th> <th>Sep.30</th> <th>Dec.31</th> <th></th> </tr> </thead> <tbody> <tr> <td>2019</td> <td>.67</td> <td>.67</td> <td>.67</td> <td>.70</td> <td>2.71</td> </tr> <tr> <td>2020</td> <td>.70</td> <td>.70</td> <td>.70</td> <td>.74</td> <td>2.84</td> </tr> <tr> <td>2021</td> <td>.74</td> <td>.74</td> <td>.74</td> <td>.78</td> <td>3.00</td> </tr> <tr> <td>2022</td> <td>.78</td> <td>.78</td> <td>.78</td> <td>.83</td> <td>3.17</td> </tr> <tr> <td>2023</td> <td>.83</td> <td>.83</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> </td> </tr> <tr> <td colspan="17"> <p>BUSINESS: American Electric Power Company Inc. (AEP), through 10 operating utilities, serves 5.5 million customers in Arkansas, Kentucky, Indiana, Louisiana, Michigan, Ohio, Oklahoma, Tennessee, Texas, Virginia, & West Virginia. Has a transmission subsidiary. Electric revenue breakdown: residential, 43%; commercial, 23%; industrial, 18%; wholesale, 10%; other, 6%. Sold commercial</p> <p>American Electric Power is meeting expectations. First-quarter earnings per share came in at \$1.11, on par with Wall Street's expectations but lower than last year's tally due to historically mild weather that restricted results. This, along with an increase in operations and maintenance costs and higher taxes, offset the benefits derived from rate increases, load growth, and more transmission revenue. Despite these challenges, effective cost management enabled management to maintain its 2023 bottom-line outlook of \$5.19 to \$5.39 and a long-term annual earnings growth target of 6-7%.</p> <p>The company is aggressively managing its asset portfolio. It scrapped the potential sale of its Kentucky operations citing unattractive deal economics and an adverse regulatory environment as main causes. The unit, which recorded an underwhelming 2.9% return on equity over the past year, will be revamped with a focus on reliability and cost control. Also, new base rates will be effective from January 2024 onward. A recently announced sale of certain solar assets are expected to close by the end of 2023. Furthermore,</p> <p>AEP intends to divest its retail and distributed resources businesses, with the sale process to start this summer and completion expected in the first half of 2024. These assets collectively contribute around \$650 million to annual revenue.</p> <p>The company is trying to get greener. Approximately 43% of AEP's 24,600 total megawatt capacity is currently fueled by coal, which is relatively bad for the environment compared to other natural resources, and a focal point of regulators and ESG investors. AEP's four-year, \$40 billion capital expenditure plan will be used to add around 17 gigawatts of cleaner power generation capacity over the next nine years. The ultimate goal is to reach "net zero" emissions by 2045, meaning balance between the amount of greenhouse gases produced and the amount removed from the atmosphere or offset elsewhere. Continued focus on debt reduction should also help the stock's valuation ahead, allowing American to become more in-line with premium-priced peers.</p> <p>Risk-averse investors may want to take a closer look here.</p> <p>Kevin Downing June 9, 2023</p> </td> </tr> </tbody> </table>																	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	© VALUE LINE PUB. LLC	26-28	33.41	35.56	28.22	30.01	31.27	30.77	31.48	34.78	33.51	33.31	31.35	32.84	31.49	30.04	33.30	38.20	36.70	37.15	Revenues per sh	40.00	6.80	6.84	6.32	6.29	6.83	6.92	7.02	7.57	7.98	8.47	7.95	8.77	9.35	10.28	10.98	10.72	11.00	11.65	"Cash Flow" per sh	14.75	2.86	2.99	2.97	2.60	3.13	2.98	3.18	3.34	3.59	4.23	3.62	3.90	4.08	4.42	4.96	5.09	5.35	5.60	Earnings per sh ^A	6.80	1.58	1.64	1.64	1.71	1.85	1.88	1.95	2.03	2.15	2.27	2.39	2.53	2.71	2.84	3.00	3.17	3.35	3.52	Div'd Decl'd per sh ^B + †	4.16	8.88	9.83	6.19	5.07	5.74	6.45	7.75	8.68	9.37	9.98	11.79	12.89	12.43	12.72	11.43	13.18	15.35	14.15	Cap'l Spending per sh	14.00	25.17	26.33	27.49	28.33	30.33	31.37	32.98	34.37	36.44	35.38	37.17	38.58	39.73	41.38	44.49	46.60	52.60	55.05	Book Value per sh ^C	62.55	400.43	406.07	478.05	480.81	483.42	485.67	487.78	489.40	491.05	491.71	492.01	493.25	494.17	496.60	504.21	513.87	523.00	530.00	Common Shs Outst'g ^D	550.00	16.3	13.1	10.0	13.4	11.9	13.8	14.5	15.9	15.8	15.2	19.3	18.0	21.4	19.6	17.1	21.1	21.0	21.0	Avg Ann'l P/E Ratio	18.0	.87	.79	.67	.85	.75	.88	.81	.84	.80	.80	.97	.97	1.14	1.01	.92	1.23	1.23	1.23	Relative P/E Ratio	1.00	3.4%	4.2%	5.5%	4.9%	5.0%	4.6%	4.2%	3.8%	3.8%	3.5%	3.4%	3.6%	3.1%	3.3%	3.3%	3.3%	3.3%	3.3%	Avg Ann'l Div'd Yield	3.3%	CAPITAL STRUCTURE as of 3/31/23																	Total Debt \$42766 mill. Due in 5 Yrs \$12886 mill.																	LT Debt \$39144 mill. LT Interest \$1400 mill.																	Leases, Uncapitalized Annual rentals \$119.6 mill.																	Pfd Stock None																	Common Stock 513,866,081 shs.																	MARKET CAP: \$42.3 billion (Large Cap)																	ELECTRIC OPERATING STATISTICS																	<table border="1"> <thead> <tr> <th></th> <th>2019</th> <th>2020</th> <th>2021</th> </tr> </thead> <tbody> <tr> <td>% Change Retail Sales (KWH)</td> <td>-2.2</td> <td>--</td> <td>+3.0</td> </tr> <tr> <td>Avg. Indust. Use (MWH)</td> <td>NA</td> <td>NA</td> <td>NA</td> </tr> <tr> <td>Avg. Indust. Revs. per KWH (c)</td> <td>NA</td> <td>NA</td> <td>NA</td> </tr> <tr> <td>Capacity at Peak (Mw)</td> <td>NA</td> <td>NA</td> <td>NA</td> </tr> <tr> <td>Peak Load (Mw)</td> <td>NA</td> <td>NA</td> <td>NA</td> </tr> <tr> <td>Annual Load Factor (%)</td> <td>NA</td> <td>NA</td> <td>NA</td> </tr> <tr> <td>% Change Customers (yr-end)</td> <td>+3</td> <td>+1.0</td> <td>NA</td> </tr> </tbody> </table>																		2019	2020	2021	% Change Retail Sales (KWH)	-2.2	--	+3.0	Avg. Indust. Use (MWH)	NA	NA	NA	Avg. Indust. Revs. per KWH (c)	NA	NA	NA	Capacity at Peak (Mw)	NA	NA	NA	Peak Load (Mw)	NA	NA	NA	Annual Load Factor (%)	NA	NA	NA	% Change Customers (yr-end)	+3	+1.0	NA	Fixed Charge Cov. (%) 234 243 272																	ANNUAL RATES																	<table border="1"> <thead> <tr> <th>of change (per sh)</th> <th>Past 10 Yrs.</th> <th>Past 5 Yrs.</th> <th>Est'd '20-'22 to '26-'28</th> </tr> </thead> <tbody> <tr> <td>Revenues</td> <td>.5%</td> <td>-5%</td> <td>3.5%</td> </tr> <tr> <td>"Cash Flow"</td> <td>5.0%</td> <td>5.5%</td> <td>5.5%</td> </tr> <tr> <td>Earnings</td> <td>5.0%</td> <td>4.0%</td> <td>6.0%</td> </tr> <tr> <td>Dividends</td> <td>5.0%</td> <td>5.0%</td> <td>5.5%</td> </tr> <tr> <td>Book Value</td> <td>3.5%</td> <td>3.0%</td> <td>6.0%</td> </tr> </tbody> </table>																	of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '20-'22 to '26-'28	Revenues	.5%	-5%	3.5%	"Cash Flow"	5.0%	5.5%	5.5%	Earnings	5.0%	4.0%	6.0%	Dividends	5.0%	5.0%	5.5%	Book Value	3.5%	3.0%	6.0%	<table border="1"> <thead> <tr> <th>Cal-endar</th> <th colspan="4">QUARTERLY REVENUES (\$ mill.)</th> <th>Full Year</th> </tr> <tr> <th></th> <th>Mar.31</th> <th>Jun.30</th> <th>Sep.30</th> <th>Dec.31</th> <th></th> </tr> </thead> <tbody> <tr> <td>2020</td> <td>3747</td> <td>3494</td> <td>4066</td> <td>3610</td> <td>14918</td> </tr> <tr> <td>2021</td> <td>4281</td> <td>3826</td> <td>4623</td> <td>4061</td> <td>16792</td> </tr> <tr> <td>2022</td> <td>4593</td> <td>4640</td> <td>5526</td> <td>4881</td> <td>19640</td> </tr> <tr> <td>2023</td> <td>4690</td> <td>4700</td> <td>5350</td> <td>4460</td> <td>19200</td> </tr> <tr> <td>2024</td> <td>4820</td> <td>4750</td> <td>5375</td> <td>4755</td> <td>19700</td> </tr> </tbody> </table>																	Cal-endar	QUARTERLY REVENUES (\$ mill.)				Full Year		Mar.31	Jun.30	Sep.30	Dec.31		2020	3747	3494	4066	3610	14918	2021	4281	3826	4623	4061	16792	2022	4593	4640	5526	4881	19640	2023	4690	4700	5350	4460	19200	2024	4820	4750	5375	4755	19700	<table border="1"> <thead> <tr> <th>Cal-endar</th> <th colspan="4">EARNINGS PER SHARE ^A</th> <th>Full Year</th> </tr> <tr> <th></th> <th>Mar.31</th> <th>Jun.30</th> <th>Sep.30</th> <th>Dec.31</th> <th></th> </tr> </thead> <tbody> <tr> <td>2020</td> <td>1.00</td> <td>1.05</td> <td>1.50</td> <td>.87</td> <td>4.42</td> </tr> <tr> <td>2021</td> <td>1.15</td> <td>1.15</td> <td>1.59</td> <td>1.07</td> <td>4.96</td> </tr> <tr> <td>2022</td> <td>1.22</td> <td>1.20</td> <td>1.62</td> <td>1.05</td> <td>5.09</td> </tr> <tr> <td>2023</td> <td>1.11</td> <td>1.25</td> <td>1.75</td> <td>1.24</td> <td>5.35</td> </tr> <tr> <td>2024</td> <td>1.45</td> <td>1.30</td> <td>1.80</td> <td>1.05</td> <td>5.60</td> </tr> </tbody> </table>																	Cal-endar	EARNINGS PER SHARE ^A				Full Year		Mar.31	Jun.30	Sep.30	Dec.31		2020	1.00	1.05	1.50	.87	4.42	2021	1.15	1.15	1.59	1.07	4.96	2022	1.22	1.20	1.62	1.05	5.09	2023	1.11	1.25	1.75	1.24	5.35	2024	1.45	1.30	1.80	1.05	5.60	<table border="1"> <thead> <tr> <th>Cal-endar</th> <th colspan="4">QUARTERLY DIVIDENDS PAID ^B + †</th> <th>Full Year</th> </tr> <tr> <th></th> <th>Mar.31</th> <th>Jun.30</th> <th>Sep.30</th> <th>Dec.31</th> <th></th> </tr> </thead> <tbody> <tr> <td>2019</td> <td>.67</td> <td>.67</td> <td>.67</td> <td>.70</td> <td>2.71</td> </tr> <tr> <td>2020</td> <td>.70</td> <td>.70</td> <td>.70</td> <td>.74</td> <td>2.84</td> </tr> <tr> <td>2021</td> <td>.74</td> <td>.74</td> <td>.74</td> <td>.78</td> <td>3.00</td> </tr> <tr> <td>2022</td> <td>.78</td> <td>.78</td> <td>.78</td> <td>.83</td> <td>3.17</td> </tr> <tr> <td>2023</td> <td>.83</td> <td>.83</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>																	Cal-endar	QUARTERLY DIVIDENDS PAID ^B + †				Full Year		Mar.31	Jun.30	Sep.30	Dec.31		2019	.67	.67	.67	.70	2.71	2020	.70	.70	.70	.74	2.84	2021	.74	.74	.74	.78	3.00	2022	.78	.78	.78	.83	3.17	2023	.83	.83				<p>BUSINESS: American Electric Power Company Inc. (AEP), through 10 operating utilities, serves 5.5 million customers in Arkansas, Kentucky, Indiana, Louisiana, Michigan, Ohio, Oklahoma, Tennessee, Texas, Virginia, & West Virginia. Has a transmission subsidiary. Electric revenue breakdown: residential, 43%; commercial, 23%; industrial, 18%; wholesale, 10%; other, 6%. Sold commercial</p> <p>American Electric Power is meeting expectations. First-quarter earnings per share came in at \$1.11, on par with Wall Street's expectations but lower than last year's tally due to historically mild weather that restricted results. This, along with an increase in operations and maintenance costs and higher taxes, offset the benefits derived from rate increases, load growth, and more transmission revenue. Despite these challenges, effective cost management enabled management to maintain its 2023 bottom-line outlook of \$5.19 to \$5.39 and a long-term annual earnings growth target of 6-7%.</p> <p>The company is aggressively managing its asset portfolio. It scrapped the potential sale of its Kentucky operations citing unattractive deal economics and an adverse regulatory environment as main causes. The unit, which recorded an underwhelming 2.9% return on equity over the past year, will be revamped with a focus on reliability and cost control. Also, new base rates will be effective from January 2024 onward. A recently announced sale of certain solar assets are expected to close by the end of 2023. Furthermore,</p> <p>AEP intends to divest its retail and distributed resources businesses, with the sale process to start this summer and completion expected in the first half of 2024. These assets collectively contribute around \$650 million to annual revenue.</p> <p>The company is trying to get greener. Approximately 43% of AEP's 24,600 total megawatt capacity is currently fueled by coal, which is relatively bad for the environment compared to other natural resources, and a focal point of regulators and ESG investors. AEP's four-year, \$40 billion capital expenditure plan will be used to add around 17 gigawatts of cleaner power generation capacity over the next nine years. The ultimate goal is to reach "net zero" emissions by 2045, meaning balance between the amount of greenhouse gases produced and the amount removed from the atmosphere or offset elsewhere. Continued focus on debt reduction should also help the stock's valuation ahead, allowing American to become more in-line with premium-priced peers.</p> <p>Risk-averse investors may want to take a closer look here.</p> <p>Kevin Downing June 9, 2023</p>																
2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	© VALUE LINE PUB. LLC	26-28																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
33.41	35.56	28.22	30.01	31.27	30.77	31.48	34.78	33.51	33.31	31.35	32.84	31.49	30.04	33.30	38.20	36.70	37.15	Revenues per sh	40.00																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
6.80	6.84	6.32	6.29	6.83	6.92	7.02	7.57	7.98	8.47	7.95	8.77	9.35	10.28	10.98	10.72	11.00	11.65	"Cash Flow" per sh	14.75																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
2.86	2.99	2.97	2.60	3.13	2.98	3.18	3.34	3.59	4.23	3.62	3.90	4.08	4.42	4.96	5.09	5.35	5.60	Earnings per sh ^A	6.80																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
1.58	1.64	1.64	1.71	1.85	1.88	1.95	2.03	2.15	2.27	2.39	2.53	2.71	2.84	3.00	3.17	3.35	3.52	Div'd Decl'd per sh ^B + †	4.16																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
8.88	9.83	6.19	5.07	5.74	6.45	7.75	8.68	9.37	9.98	11.79	12.89	12.43	12.72	11.43	13.18	15.35	14.15	Cap'l Spending per sh	14.00																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
25.17	26.33	27.49	28.33	30.33	31.37	32.98	34.37	36.44	35.38	37.17	38.58	39.73	41.38	44.49	46.60	52.60	55.05	Book Value per sh ^C	62.55																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
400.43	406.07	478.05	480.81	483.42	485.67	487.78	489.40	491.05	491.71	492.01	493.25	494.17	496.60	504.21	513.87	523.00	530.00	Common Shs Outst'g ^D	550.00																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
16.3	13.1	10.0	13.4	11.9	13.8	14.5	15.9	15.8	15.2	19.3	18.0	21.4	19.6	17.1	21.1	21.0	21.0	Avg Ann'l P/E Ratio	18.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
.87	.79	.67	.85	.75	.88	.81	.84	.80	.80	.97	.97	1.14	1.01	.92	1.23	1.23	1.23	Relative P/E Ratio	1.00																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
3.4%	4.2%	5.5%	4.9%	5.0%	4.6%	4.2%	3.8%	3.8%	3.5%	3.4%	3.6%	3.1%	3.3%	3.3%	3.3%	3.3%	3.3%	Avg Ann'l Div'd Yield	3.3%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
CAPITAL STRUCTURE as of 3/31/23																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
Total Debt \$42766 mill. Due in 5 Yrs \$12886 mill.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
LT Debt \$39144 mill. LT Interest \$1400 mill.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
Leases, Uncapitalized Annual rentals \$119.6 mill.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
Pfd Stock None																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
Common Stock 513,866,081 shs.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
MARKET CAP: \$42.3 billion (Large Cap)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
ELECTRIC OPERATING STATISTICS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
<table border="1"> <thead> <tr> <th></th> <th>2019</th> <th>2020</th> <th>2021</th> </tr> </thead> <tbody> <tr> <td>% Change Retail Sales (KWH)</td> <td>-2.2</td> <td>--</td> <td>+3.0</td> </tr> <tr> <td>Avg. Indust. Use (MWH)</td> <td>NA</td> <td>NA</td> <td>NA</td> </tr> <tr> <td>Avg. Indust. Revs. per KWH (c)</td> <td>NA</td> <td>NA</td> <td>NA</td> </tr> <tr> <td>Capacity at Peak (Mw)</td> <td>NA</td> <td>NA</td> <td>NA</td> </tr> <tr> <td>Peak Load (Mw)</td> <td>NA</td> <td>NA</td> <td>NA</td> </tr> <tr> <td>Annual Load Factor (%)</td> <td>NA</td> <td>NA</td> <td>NA</td> </tr> <tr> <td>% Change Customers (yr-end)</td> <td>+3</td> <td>+1.0</td> <td>NA</td> </tr> </tbody> </table>																		2019	2020	2021	% Change Retail Sales (KWH)	-2.2	--	+3.0	Avg. Indust. Use (MWH)	NA	NA	NA	Avg. Indust. Revs. per KWH (c)	NA	NA	NA	Capacity at Peak (Mw)	NA	NA	NA	Peak Load (Mw)	NA	NA	NA	Annual Load Factor (%)	NA	NA	NA	% Change Customers (yr-end)	+3	+1.0	NA																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
	2019	2020	2021																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
% Change Retail Sales (KWH)	-2.2	--	+3.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
Avg. Indust. Use (MWH)	NA	NA	NA																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
Avg. Indust. Revs. per KWH (c)	NA	NA	NA																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
Capacity at Peak (Mw)	NA	NA	NA																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
Peak Load (Mw)	NA	NA	NA																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
Annual Load Factor (%)	NA	NA	NA																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
% Change Customers (yr-end)	+3	+1.0	NA																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
Fixed Charge Cov. (%) 234 243 272																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
ANNUAL RATES																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
<table border="1"> <thead> <tr> <th>of change (per sh)</th> <th>Past 10 Yrs.</th> <th>Past 5 Yrs.</th> <th>Est'd '20-'22 to '26-'28</th> </tr> </thead> <tbody> <tr> <td>Revenues</td> <td>.5%</td> <td>-5%</td> <td>3.5%</td> </tr> <tr> <td>"Cash Flow"</td> <td>5.0%</td> <td>5.5%</td> <td>5.5%</td> </tr> <tr> <td>Earnings</td> <td>5.0%</td> <td>4.0%</td> <td>6.0%</td> </tr> <tr> <td>Dividends</td> <td>5.0%</td> <td>5.0%</td> <td>5.5%</td> </tr> <tr> <td>Book Value</td> <td>3.5%</td> <td>3.0%</td> <td>6.0%</td> </tr> </tbody> </table>																	of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '20-'22 to '26-'28	Revenues	.5%	-5%	3.5%	"Cash Flow"	5.0%	5.5%	5.5%	Earnings	5.0%	4.0%	6.0%	Dividends	5.0%	5.0%	5.5%	Book Value	3.5%	3.0%	6.0%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
of change (per sh)	Past 10 Yrs.	Past 5 Yrs.	Est'd '20-'22 to '26-'28																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
Revenues	.5%	-5%	3.5%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
"Cash Flow"	5.0%	5.5%	5.5%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
Earnings	5.0%	4.0%	6.0%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
Dividends	5.0%	5.0%	5.5%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
Book Value	3.5%	3.0%	6.0%																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
<table border="1"> <thead> <tr> <th>Cal-endar</th> <th colspan="4">QUARTERLY REVENUES (\$ mill.)</th> <th>Full Year</th> </tr> <tr> <th></th> <th>Mar.31</th> <th>Jun.30</th> <th>Sep.30</th> <th>Dec.31</th> <th></th> </tr> </thead> <tbody> <tr> <td>2020</td> <td>3747</td> <td>3494</td> <td>4066</td> <td>3610</td> <td>14918</td> </tr> <tr> <td>2021</td> <td>4281</td> <td>3826</td> <td>4623</td> <td>4061</td> <td>16792</td> </tr> <tr> <td>2022</td> <td>4593</td> <td>4640</td> <td>5526</td> <td>4881</td> <td>19640</td> </tr> <tr> <td>2023</td> <td>4690</td> <td>4700</td> <td>5350</td> <td>4460</td> <td>19200</td> </tr> <tr> <td>2024</td> <td>4820</td> <td>4750</td> <td>5375</td> <td>4755</td> <td>19700</td> </tr> </tbody> </table>																	Cal-endar	QUARTERLY REVENUES (\$ mill.)				Full Year		Mar.31	Jun.30	Sep.30	Dec.31		2020	3747	3494	4066	3610	14918	2021	4281	3826	4623	4061	16792	2022	4593	4640	5526	4881	19640	2023	4690	4700	5350	4460	19200	2024	4820	4750	5375	4755	19700																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
Cal-endar	QUARTERLY REVENUES (\$ mill.)				Full Year																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
	Mar.31	Jun.30	Sep.30	Dec.31																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
2020	3747	3494	4066	3610	14918																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
2021	4281	3826	4623	4061	16792																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
2022	4593	4640	5526	4881	19640																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
2023	4690	4700	5350	4460	19200																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
2024	4820	4750	5375	4755	19700																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
<table border="1"> <thead> <tr> <th>Cal-endar</th> <th colspan="4">EARNINGS PER SHARE ^A</th> <th>Full Year</th> </tr> <tr> <th></th> <th>Mar.31</th> <th>Jun.30</th> <th>Sep.30</th> <th>Dec.31</th> <th></th> </tr> </thead> <tbody> <tr> <td>2020</td> <td>1.00</td> <td>1.05</td> <td>1.50</td> <td>.87</td> <td>4.42</td> </tr> <tr> <td>2021</td> <td>1.15</td> <td>1.15</td> <td>1.59</td> <td>1.07</td> <td>4.96</td> </tr> <tr> <td>2022</td> <td>1.22</td> <td>1.20</td> <td>1.62</td> <td>1.05</td> <td>5.09</td> </tr> <tr> <td>2023</td> <td>1.11</td> <td>1.25</td> <td>1.75</td> <td>1.24</td> <td>5.35</td> </tr> <tr> <td>2024</td> <td>1.45</td> <td>1.30</td> <td>1.80</td> <td>1.05</td> <td>5.60</td> </tr> </tbody> </table>																	Cal-endar	EARNINGS PER SHARE ^A				Full Year		Mar.31	Jun.30	Sep.30	Dec.31		2020	1.00	1.05	1.50	.87	4.42	2021	1.15	1.15	1.59	1.07	4.96	2022	1.22	1.20	1.62	1.05	5.09	2023	1.11	1.25	1.75	1.24	5.35	2024	1.45	1.30	1.80	1.05	5.60																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
Cal-endar	EARNINGS PER SHARE ^A				Full Year																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
	Mar.31	Jun.30	Sep.30	Dec.31																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
2020	1.00	1.05	1.50	.87	4.42																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
2021	1.15	1.15	1.59	1.07	4.96																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
2022	1.22	1.20	1.62	1.05	5.09																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
2023	1.11	1.25	1.75	1.24	5.35																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
2024	1.45	1.30	1.80	1.05	5.60																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
<table border="1"> <thead> <tr> <th>Cal-endar</th> <th colspan="4">QUARTERLY DIVIDENDS PAID ^B + †</th> <th>Full Year</th> </tr> <tr> <th></th> <th>Mar.31</th> <th>Jun.30</th> <th>Sep.30</th> <th>Dec.31</th> <th></th> </tr> </thead> <tbody> <tr> <td>2019</td> <td>.67</td> <td>.67</td> <td>.67</td> <td>.70</td> <td>2.71</td> </tr> <tr> <td>2020</td> <td>.70</td> <td>.70</td> <td>.70</td> <td>.74</td> <td>2.84</td> </tr> <tr> <td>2021</td> <td>.74</td> <td>.74</td> <td>.74</td> <td>.78</td> <td>3.00</td> </tr> <tr> <td>2022</td> <td>.78</td> <td>.78</td> <td>.78</td> <td>.83</td> <td>3.17</td> </tr> <tr> <td>2023</td> <td>.83</td> <td>.83</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>																	Cal-endar	QUARTERLY DIVIDENDS PAID ^B + †				Full Year		Mar.31	Jun.30	Sep.30	Dec.31		2019	.67	.67	.67	.70	2.71	2020	.70	.70	.70	.74	2.84	2021	.74	.74	.74	.78	3.00	2022	.78	.78	.78	.83	3.17	2023	.83	.83																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
Cal-endar	QUARTERLY DIVIDENDS PAID ^B + †				Full Year																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
	Mar.31	Jun.30	Sep.30	Dec.31																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
2019	.67	.67	.67	.70	2.71																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
2020	.70	.70	.70	.74	2.84																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
2021	.74	.74	.74	.78	3.00																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
2022	.78	.78	.78	.83	3.17																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
2023	.83	.83																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
<p>BUSINESS: American Electric Power Company Inc. (AEP), through 10 operating utilities, serves 5.5 million customers in Arkansas, Kentucky, Indiana, Louisiana, Michigan, Ohio, Oklahoma, Tennessee, Texas, Virginia, & West Virginia. Has a transmission subsidiary. Electric revenue breakdown: residential, 43%; commercial, 23%; industrial, 18%; wholesale, 10%; other, 6%. Sold commercial</p> <p>American Electric Power is meeting expectations. First-quarter earnings per share came in at \$1.11, on par with Wall Street's expectations but lower than last year's tally due to historically mild weather that restricted results. This, along with an increase in operations and maintenance costs and higher taxes, offset the benefits derived from rate increases, load growth, and more transmission revenue. Despite these challenges, effective cost management enabled management to maintain its 2023 bottom-line outlook of \$5.19 to \$5.39 and a long-term annual earnings growth target of 6-7%.</p> <p>The company is aggressively managing its asset portfolio. It scrapped the potential sale of its Kentucky operations citing unattractive deal economics and an adverse regulatory environment as main causes. The unit, which recorded an underwhelming 2.9% return on equity over the past year, will be revamped with a focus on reliability and cost control. Also, new base rates will be effective from January 2024 onward. A recently announced sale of certain solar assets are expected to close by the end of 2023. Furthermore,</p> <p>AEP intends to divest its retail and distributed resources businesses, with the sale process to start this summer and completion expected in the first half of 2024. These assets collectively contribute around \$650 million to annual revenue.</p> <p>The company is trying to get greener. Approximately 43% of AEP's 24,600 total megawatt capacity is currently fueled by coal, which is relatively bad for the environment compared to other natural resources, and a focal point of regulators and ESG investors. AEP's four-year, \$40 billion capital expenditure plan will be used to add around 17 gigawatts of cleaner power generation capacity over the next nine years. The ultimate goal is to reach "net zero" emissions by 2045, meaning balance between the amount of greenhouse gases produced and the amount removed from the atmosphere or offset elsewhere. Continued focus on debt reduction should also help the stock's valuation ahead, allowing American to become more in-line with premium-priced peers.</p> <p>Risk-averse investors may want to take a closer look here.</p> <p>Kevin Downing June 9, 2023</p>																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		

(A) Diluted EPS. Excl. nonrec. gains (losses): '07, (20c); '08, 40c; '10, (7c); '11, 89c; '12, (38c); '13, (14c); '16, (\$2.99); '17, 26c; '19, (20c); gains (loss) from disc. ops.: '06, 2c; '08, 3c; '15, 58c; '16, (1c); '22, (58c); '23, (34c). Next earnings report due late July. (B) Div'ds paid early Mar., June, Sept., & Dec. ■ Div'd reinvestment plan avail. † Shareholder invest. plan avail. (C) Incl. intang. in '22: \$52.5 million (D) In mill.

Company's Financial Strength		A+
Stock's Price Stability		100
Price Growth Persistence		65
Earnings Predictability		95

© 2023 Value Line, Inc. All rights reserved. Factual material is obtained from sources believed to be reliable and is provided without warranties of any kind. THE PUBLISHER IS NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS HEREIN. This publication is strictly for subscriber's own, non-commercial, internal use. No part of it may be reproduced, resold, stored or transmitted in any printed, electronic or other form, or used for generating or marketing any printed or electronic publication, service or product.

To subscribe call 1-800-VALUELINE

DUKE ENERGY NYSE-DUK				RECENT PRICE	99.09	P/E RATIO	17.5 (Trailing: 18.6)	RELATIVE P/E RATIO	1.04	DIV'D YLD	4.1%	VALUE LINE												
TIMELINESS	3	Raised 2/24/23	High: 71.1	75.5	87.3	90.0	87.8	91.8	91.4	97.4	103.8	108.4	116.3	106.4	91.4	Target Price	Range	2026	2027	2028				
SAFETY	2	New 6/1/07	Low: 59.6	64.2	67.1	65.5	70.2	76.1	72.0	82.5	62.1	85.6	83.8	91.4										
TECHNICAL	3	Raised 4/28/23	LEGENDS — 25.60 x Dividends p sh Relative Price Strength 1-for-3 Rev split 7/12 Options: Yes Shaded area indicates recession																					
BETA	.85	(1.00 = Market)																						
18-Month Target Price Range																								
Low-High Midpoint (% to Mid)																								
\$82-\$136 \$109 (10%)																								
2026-28 PROJECTIONS																								
High	Price	Gain	Ann'l Total																					
Low	135	(+35%)	Return																					
	100	(Nil)	11%																					
			4%																					
Institutional Decisions																								
202022 3Q2022 4Q2022																								
to Buy	877	868	947																					
to Sell	688	675	673																					
Mid's(000)	491735	491683	499614																					
Percent shares traded																								
15																								
10																								
5																								
% TOT. RETURN 4/23																								
THIS STOCK INDEX																								
VL ARITH. INDEX																								
1 yr. -6.7																								
3 yr. 31.8																								
5 yr. 50.2																								
2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	© VALUE LINE PUB. LLC 26-28						
30.24	31.15	29.18	32.22	32.63	27.88	34.84	33.84	34.10	32.49	33.66	33.73	34.21	31.04	32.64	37.36	37.35	37.65	Revenues per sh	39.60					
8.11	7.34	7.58	8.49	8.68	6.80	8.56	9.11	9.40	9.20	10.01	11.05	12.12	12.04	12.60	12.91	13.30	13.55	"Cash Flow" per sh	14.60					
3.60	3.03	3.39	4.02	4.14	3.71	3.98	4.13	4.10	3.71	4.22	4.72	5.06	5.12	5.24	5.27	5.65	6.00	Earnings per sh ^A	7.00					
2.58	2.70	2.82	2.91	2.97	3.03	3.09	3.15	3.24	3.36	3.49	3.64	3.75	3.82	3.90	3.98	4.06	4.14	Div'd Decl'd per sh ^B	4.30					
7.43	10.35	9.85	10.84	9.80	7.81	7.83	7.62	9.83	11.29	11.50	12.91	15.17	12.88	12.63	14.76	16.75	17.60	Cap'l Spending per sh	16.75					
50.40	49.51	49.85	50.84	51.14	58.04	58.54	57.81	57.74	58.62	59.63	60.27	61.20	59.82	61.55	61.51	64.50	66.25	Book Value per sh ^C	70.00					
420.62	423.96	436.29	442.96	445.29	704.00	706.00	707.00	688.00	700.00	700.00	727.00	733.00	769.00	769.00	770.00	770.00	770.00	Common Shs Outst'g ^D	770.00					
16.1	17.3	13.3	12.7	13.8	17.5	17.4	17.9	18.2	21.3	19.9	17.0	17.7	17.1	18.9	19.6	19.6	19.6	Avg Ann'l P/E Ratio	17.0					
.85	1.04	.89	.81	.87	1.11	.98	.94	.92	1.12	1.00	.92	.94	.88	1.02	1.14	1.14	1.14	Relative P/E Ratio	.95					
4.4%	5.2%	6.2%	5.7%	5.2%	4.7%	4.4%	4.3%	4.3%	4.2%	4.2%	4.5%	4.2%	4.4%	3.9%	3.9%	3.9%	3.9%	Avg Ann'l Div'd Yield	3.9%					
CAPITAL STRUCTURE as of 12/31/22																								
Total Debt \$75170 mill. Due in 5 Yrs \$19536 mill.																								
LT Debt \$67061 mill. LT Interest \$2206 mill.																								
Incl. \$915 mill. finance leases.																								
(LT interest earned: 2.7x)																								
Leases, Uncapitalized Annual rentals \$225 mill.																								
Pension Assets-12/21 \$9235 mill.																								
Pfd Stock \$1962 mill. Pfd Div'd \$107 mill.																								
40 mill. shs. 5.75% cum., \$25 liq. value,																								
redeemable at \$25.50 prior to 6/15/24; 1 mill. shs.																								
4.875% cum., \$1000 liq. value.																								
Common Stock 770,080,285 shs. as of 10/31/22																								
MARKET CAP: \$76.2 billion (Large Cap)																								
ELECTRIC OPERATING STATISTICS																								
2020 2021 2022																								
% Change Retail Sales (KWH)																								
Avg. Indust. Use (MWH)																								
Avg. Indust. Revs. per KWH (¢)																								
Capacity at Peak (Mw)																								
Peak Load, Summer (Mw)																								
Annual Load Factor (%)																								
% Change Customers (avg.)																								
Fixed Charge Cov. (%)																								
183 209 285																								
ANNUAL RATES Past Past Est'd '19-'21																								
of change (per sh) 10 Yrs. 5 Yrs. to '25-'27																								
Revenues .5% -5% 2.5%																								
"Cash Flow" 4.0% 5.0% 5.0%																								
Earnings 3.0% 4.5% 5.0%																								
Dividends 3.0% 3.5% 2.0%																								
Book Value 2.0% 1.0% 2.5%																								
Cal-endar	QUARTERLY REVENUES (\$ mill.)				Full Year																			
	Mar.31	Jun.30	Sep.30	Dec.31																				
2020	5949	5421	6721	5777	23868																			
2021	6150	5758	6951	6238	25097																			
2022	7132	6685	7968	6983	28768																			
2023	7050	6750	7875	7075	28750																			
2024	7450	6850	7950	7250	29500																			
Cal-endar	EARNINGS PER SHARE ^A				Full Year																			
	Mar.31	Jun.30	Sep.30	Dec.31																				
2020	1.14	1.08	1.87	1.03	5.12																			
2021	1.26	1.15	1.88	.94	5.24																			
2022	1.30	1.14	1.78	1.11	5.27																			
2023	1.30	1.15	2.00	1.20	5.65																			
2024	1.35	1.30	2.05	1.30	6.00																			
Cal-endar	QUARTERLY DIVIDENDS PAID ^B				Full Year																			
	Mar.31	Jun.30	Sep.30	Dec.31																				
2019	.9275	.9275	.945	.945	3.75																			
2020	.945	.945	.965	.965	3.82																			
2021	.965	.965	.985	.985	3.90																			
2022	.985	.985	1.005	1.005	3.98																			
2023	1.005																							

(A) Dil. EPS. Excl. net nonrec. losses: '12, 64¢; '13, 22¢; '14, 59¢; '15, 5¢; '16, 60¢; '18, 96¢; '20, \$3.40; '21, 30¢; '1Q22, 22¢; net nonrec gain: '17, 14¢. 2021 EPS don't sum to annual due to rounding. Next egs. due early Aug. (B) Div'ds paid mid-Mar., June, Sept., & Dec. Div'd reinv. plan avail. (C) Incl. intang. In '22: \$41.34/sh. (D) In mill., adj. for rev. split. (E) Rate base: Net orig. cost. Rate all'd on com. eq. in '21 in NC: 9.6%; in '19 in SC: 9.5%; in '20 in FL: 9.5%-11.5%; in '20 in IN: 9.7%. Reg. Clim.: NC, SC Avg., OH, IN Above Avg.

Company's Financial Strength A
 Stock's Price Stability 95
 Price Growth Persistence 45
 Earnings Predictability 100

To subscribe call 1-800-VALUELINE

EVERGY, INC. NYSE-EVRG		RECENT PRICE	57.46	P/E RATIO	15.7 (Trailing: 17.2; Median: NMF)	RELATIVE P/E RATIO	0.96	DIV'D YLD	4.4%	VALUE LINE			
TIMELINESS 3	Raised 2/3/23	High:	61.1	67.8	76.6	69.4	73.1	65.4		Target Price	2026	2027	2028
SAFETY 2	New 9/14/18	Low:	50.9	54.6	42.0	51.9	54.1	56.7					
TECHNICAL 3	Raised 5/26/23												
BETA .90	(1.00 = Market)												
18-Month Target Price Range													
2026-28 PROJECTIONS													
Institutional Decisions													
CAPITAL STRUCTURE as of 3/31/23													
Leases, Uncapitalized													
Pension Assets-12/22													
Pfd Stock None													
Common Stock 229,680,947 shs.													
MARKET CAP: \$13.2 billion (Large Cap)													
ELECTRIC OPERATING STATISTICS													
ANNUAL RATES													
QUARTERLY REVENUES (\$ mil.)													
EARNINGS PER SHARE													
QUARTERLY DIVIDENDS PAID													

(A) Diluted earnings. Next earnings report due early Aug. (B) Dividends paid in mid-March, June, September, and December. (C) In-... tangibles. (D) In millions. (E) Rate base: Original cost depreciated. Rate allowed on common equity in Missouri in '18: none specified; in Kansas in '18: 9.3%; earned on average com- mon equity, '22: 9.8%. Regulatory Climate: Average.

Company's Financial Strength B++
Stock's Price Stability 90
Price Growth Persistence 35
Earnings Predictability 85

To subscribe call 1-800-VALUELINE

NORTHWESTERN NDQ-NWE										RECENT PRICE	P/E RATIO		RELATIVE P/E RATIO	DIV'D YLD	VALUE LINE				
										56.16	16.3 (Trailing: 17.2) Median: 17.0		0.94	4.6%					
TIMELINESS 3 Lowered 7/7/23	High: 38.0	47.2	58.7	59.7	63.8	64.5	65.7	76.7	80.5	70.8	63.1	61.2	Target Price Range						
SAFETY 2 Raised 7/27/18	Low: 33.0	35.1	42.6	48.4	52.2	55.7	50.0	57.3	45.1	53.2	48.7	53.4	2026	2027	2028				
TECHNICAL 1 Raised 7/21/23	LEGENDS — 25.0 x Dividends p sh ... Relative Price Strength Options: Yes Shaded area indicates recession																		
BETA .95 (1.00 = Market)																			
18-Month Target Price Range																			
Low-High Midpoint (% to Mid)																			
\$50-\$76 \$63 (10%)																			
2026-28 PROJECTIONS																			
High Price	80	Gain	+40%	Ann'l Total Return	13%														
Low Price	60	Gain	+5%	Ann'l Total Return	6%														
Institutional Decisions																			
3Q2022	4Q2022	1Q2023																	
to Buy	176	169	135																
to Sell	97	115	123																
Hi's(000)	56117	57154	58097																
										Percent shares traded	30 20								
													% TOT. RETURN 6/23						
													THIS STOCK INDEX	0.7 16.5					
													1 yr.	18.5 58.6					
													3 yr.	21.1 48.6					
													5 yr.						
													© VALUE LINE PUB. LLC 26-28						
2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Revenues per sh	28.25
30.79	35.09	31.72	30.66	30.80	28.76	29.80	25.68	25.21	26.01	26.45	23.81	24.93	23.70	25.38	24.74	25.80	26.15	"Cash Flow" per sh	8.35
3.70	4.40	4.62	4.76	5.42	5.18	5.45	5.39	5.92	6.74	6.76	6.96	7.07	6.86	6.92	6.46	6.80	7.20	Earnings per sh ^A	4.15
1.44	1.77	2.02	2.14	2.53	2.26	2.46	2.99	2.90	3.39	3.34	3.40	3.53	3.21	3.50	3.29	3.45	3.60	Div'd Decl'd per sh ^B = †	2.76
1.28	1.32	1.34	1.36	1.44	1.48	1.52	1.60	1.92	2.00	2.10	2.20	2.30	2.40	2.48	2.52	2.56	2.60	Cap'l Spending per sh	7.00
3.00	3.47	5.26	6.30	5.20	5.89	5.95	5.76	5.89	5.96	5.60	5.64	6.26	8.02	8.03	8.62	8.50	7.75	Book Value per sh ^C	52.30
21.12	21.25	21.86	22.64	23.68	25.09	26.60	31.50	33.22	34.68	36.44	38.60	40.42	41.10	43.28	44.61	47.50	48.50	Common Shs Outst'g ^D	62.00
38.97	35.93	36.00	36.23	36.28	37.22	38.75	46.91	48.17	48.33	49.37	50.32	50.45	50.59	54.06	59.74	62.00	62.00	Avg Ann'l P/E Ratio	16.5
21.7	13.9	11.5	12.9	12.6	15.7	16.9	16.2	18.4	17.2	17.8	16.8	19.9	18.6	17.4	17.3	Bold figures are Value Line estimates		Relative P/E Ratio	.90
1.15	.84	.77	.82	.79	1.00	.95	.85	.93	.90	.90	.91	1.06	.96	.94	.99			Avg Ann'l Div'd Yield	4.0%
4.1%	5.4%	5.7%	4.9%	4.5%	4.2%	3.7%	3.3%	3.6%	3.4%	3.5%	3.9%	3.3%	4.0%	4.1%	4.4%				
CAPITAL STRUCTURE as of 3/31/23						1154.5	1204.9	1214.3	1257.2	1305.7	1198.1	1257.9	1198.7	1372.3	1477.8	1600	1620	Revenues (\$mill)	1750
Total Debt \$2596.1 mill. Due in 5 Yrs \$1111.4 mill.						94.0	120.7	138.4	164.2	162.7	171.1	179.3	162.6	181.6	185.5	210	225	Net Profit (\$mill)	255
LT Debt \$2348.6 mill. LT Interest \$95.0 mill.						13.2%	--	13.7%	--	7.6%	--	1.6%	--	.9%	--	3.0%	6.0%	Income Tax Rate	12.0%
Incl. \$8.0 mill. finance leases.						8.7%	8.9%	9.8%	4.3%	5.2%	3.4%	4.6%	6.0%	14.9%	18.5%	14.0%	13.0%	AFUDC % to Net Profit	12.0%
(Total Interest Coverage: 2.5x)						53.5%	53.4%	53.1%	52.0%	50.2%	52.2%	52.5%	52.8%	52.2%	48.2%	47.5%	46.5%	Long-Term Debt Ratio	48.0%
Pension Assets-12/22 \$441.5 mill.						46.5%	46.6%	46.9%	48.0%	49.8%	47.8%	47.5%	47.2%	47.8%	51.8%	52.5%	53.5%	Common Equity Ratio	52.0%
Oblig \$521.8 mill.						2215.7	3168.0	3408.6	3493.9	3614.5	4064.6	4289.8	4409.1	4893.1	5148.3	5625	5625	Total Capital (\$mill)	6200
Pfd Stock None						2690.1	3758.0	4059.5	4214.9	4358.3	4521.3	4700.9	4952.9	5247.2	5657.5	6000	6250	Net Plant (\$mill)	6725
Common Stock 59,794,897 shs. as of 4/21/23						5.5%	4.8%	5.2%	5.9%	5.6%	5.2%	5.2%	4.6%	4.6%	4.5%	4.5%	5.0%	Return on Total Cap'l	5.0%
MARKET CAP: \$3.4 billion (Mid Cap)						9.1%	8.2%	8.6%	9.8%	9.0%	8.8%	8.8%	7.8%	7.8%	7.0%	7.0%	7.5%	Return on Shr. Equity	8.0%
ELECTRIC OPERATING STATISTICS						9.1%	8.2%	8.6%	9.8%	9.0%	8.8%	8.8%	7.8%	7.8%	7.0%	7.5%	Return on Com Equity ^E	8.0%	
2020 2021 2022						3.5%	3.8%	3.0%	4.1%	3.4%	3.2%	3.1%	2.0%	2.3%	1.7%	2.0%	2.0%	Retained to Com Eq	2.5%
% Change Retail Sales (KWH)						61%	54%	65%	58%	62%	64%	64%	74%	71%	76%	74%	72%	All Div'ds to Net Prof	67%
-4.4 +7 +3.7																			
Avg. Indust. Use (MWH)																			
33526 31792 34079																			
Avg. Indust. Revs. per KWH (c)																			
NA NA NA																			
Capacity at Peak (Mw)																			
NA NA NA																			
Peak Load, Winter (Mw)																			
NA NA 2073																			
Annual Load Factor (%)																			
NA NA NA																			
% Change Customers (yr-end)																			
+1.2 +1.6 +1.5																			
Fixed Charge Cov. (%)																			
247 245 219																			
ANNUAL RATES																			
Past Past Est'd '20-'22																			
10 Yrs. 5 Yrs. to '26-'22																			
Revenues																			
-2.0% -1.0% 2.5%																			
"Cash Flow"																			
3.0% 1.0% 3.5%																			
Earnings																			
3.5% 1.0% 3.5%																			
Dividends																			
5.5% 4.0% 2.0%																			
Book Value																			
6.0% 4.5% 3.5%																			
QUARTERLY REVENUES (\$ mill.)																			
Cal-endar Mar.31 Jun.30 Sep.30 Dec.31 Full Year																			
2020 2021 2022 2023 2024																			
335.3 269.4 280.6 313.4 1198.7																			
400.8 298.2 326.0 347.3 1372.3																			
394.5 323.0 335.1 425.2 1477.8																			
454.5 350 360 435.5 1600																			
460 355 365 440 1620																			
EARNINGS PER SHARE^A																			
Cal-endar Mar.31 Jun.30 Sep.30 Dec.31 Full Year																			
2020 2021 2022 2023 2024																			
1.00 .43 .58 1.21 3.21																			
1.24 .59 .70 .97 3.50																			
1.08 .58 .47 1.16 3.29																			
1.10 .59 .60 1.16 3.45																			
1.15 .62 .63 1.20 3.60																			
QUARTERLY DIVIDENDS PAID^B = †																			
Cal-endar Mar.31 Jun.30 Sep.30 Dec.31 Full Year																			
2019 2020 2021 2022 2023																			
.575 .575 .575 .575 2.30																			
.60 .60 .60 .60 2.40																			
.62 .62 .62 .62 2.48																			
.63 .63 .63 .63 2.52																			
.64 .64																			
BUSINESS: NorthWestern Corporation (doing business as NorthWestern Energy) supplies electricity & gas in the Upper Midwest and Northwest, serving 463,000 electric customers in Montana and South Dakota and 301,000 gas customers in Montana, South Dakota, and Nebraska. Electric revenue breakdown: residential, 45%; commercial, 46%; industrial, 5%; other, 4%. Generating sources: coal, 28%; hydro, 26%; wind, 6%; natural gas, 6%; purchased power, 34%. Fuel costs: 33% of revenues. 2022 reported depreciation rate: 2.8%. Has approximately 1,500 employees. Board Chair: Dana J. Dykhouse. President and CEO: Brian B. Bird. Incorporated: DE. Address: 3010 West 69th Street, Sioux Falls, SD 57108. Telephone: 605-978-2900. Internet: www.northwesternenergy.com.																			
NorthWestern is still awaiting final approval on a settlement agreement for new electric and natural gas rates in Montana. To recap: in early April, the utility worked out an acceptable consensus with the Montana Consumer Counsel, the Montana Large Customer Group, and Walmart, Inc. The settlement has been submitted to the Montana Public Service Commission (MPSC) for the regulatory body's consideration. The MPSC has already granted interim rate hikes, starting from last October, to allow the company to begin the recoupment of some elevated spending. The agreed-to base rates would increase annual electric and natural gas revenues by \$67.4 million and \$14.1 million, respectively. Those levels are predicated on the same authorized returns on equity, namely 9.65% for electric and 9.55% for gas, that were last agreed upon in 2015 and 2017. Assuming the MPSC signs off on the agreement, the utility will have gotten about two-thirds of what it originally filed for in its general rate case. Importantly, NorthWestern would also receive pricing mechanisms geared towards reducing regulatory lag.																			
Adding generating capacity to the rate base is key to the utility's future growth. (The rate base is the dollar value of assets for which a utility is allowed to earn an economic return.) In June, NorthWestern completed an \$83 million, 58-megawatt gas-fired power plant in South Dakota, with the potential for added capacity in the state down the road. A \$275 million, 175-mw facility in Montana was due to be operational later this year before a state judge revoked the company's air quality permit as part of a lawsuit filed by an environmental group. In June, the bench reversed that decision, citing a new state law that eliminated the need to consider climate impacts from greenhouse gas emissions. The 175-mw gas-fired plant is now expected to come on line in 2024. This issue does not stand out relative to industry peers in regards to annual total return potential. We think the likelihood of a constructive conclusion to the company's general rate case is already largely reflected in the recent share price. There are utilities with a comparable dividend yield and better growth prospects. <i>Anthony J. Glennon July 21, 2023</i>																			
(A) Diluted eqs. Excl. nonrec. gains/(losses): '12, 40c; '15, 27c; '18, 52c; '19, 45c; '20, (15c); '21, 10c; '22, (4c); 1Q '23, (5c). '20 EPS don't sum due to rounding. Next eqs. report due July 26th. (B) Div'ds paid in late Mar., June, Sept. & Dec. ■ Div'd reinvest. plan avail. † Shareholder invest. plan avail. (C) Incl. def'd charges. In '22: \$17.98/sh. (D) In mill. (E) Rate base: Net orig. cost. Rate allowed on com. eq. in MT in '19 (elec.): 9.65%; in '17 (gas): 9.55%; in SD in '15: none specified; in NE in '07: 10.4%. Regulatory Climate: Below Average.																			
Company's Financial Strength B++																			
Stock's Price Stability 90																			
Price Growth Persistence 40																			
Earnings Predictability 90																			
To subscribe call 1-800-VALUELINE																			

OGE ENERGY CORP. NYSE-OGE										RECENT PRICE	P/E RATIO					RELATIVE P/E RATIO	DIV'D YLD	VALUE LINE	
										34.96	17.5 (Trailing: 16.6; Median: 18.0)					1.07	4.7%		
TIMELINESS 4 Lowered 5/12/23	High: 30.1	40.0	39.3	36.5	34.2	37.4	41.8	45.8	46.4	38.6	42.9	40.4							
SAFETY 2 Lowered 12/18/15	Low: 25.1	27.7	32.8	24.2	23.4	32.6	29.6	38.0	23.0	29.2	33.3	34.2							
TECHNICAL 3 Raised 5/19/23	LEGENDS — 25.00 x Dividends p sh divided by Interest Rate Relative Price Strength 2-for-1 split 7/13 Options: Yes Shaded area indicates recession												Target Price	Range					
BETA 1.00 (1.00 = Market)													2026	2027	2028				
18-Month Target Price Range																			
Low-High																			
Midpoint (% to Mid)																			
\$30-\$50																			
\$40 (15%)																			
2026-28 PROJECTIONS																			
Price	Ann'l Total																		
High 50	Gain (+45%)																		
Low 35	Return 13%																		
	(Nil)																		
	5%																		
Institutional Decisions																			
202022	3Q2022	4Q2022																	
to Buy 218	185	262																	
to Sell 182	192	155																	
Hld's(000) 136256	136256	139192																	
Percent	18																		
shares	12																		
traded	6																		
													% TOT. RETURN 4/23						
													THIS STOCK						
													VL ARITH. INDEX						
													1 yr. 1.4						
													3 yr. 36.9						
													5 yr. 40.3						
													47.7						
2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	© VALUE LINE PUB. LLC	26-28
20.68	21.77	14.79	19.04	19.96	18.58	14.45	12.30	11.00	11.31	11.32	11.37	11.15	10.61	18.26	16.86	17.25	18.00	Revenues per sh	19.00
2.39	2.40	2.69	3.01	3.31	3.69	3.46	3.40	3.23	3.31	3.34	3.74	4.02	4.03	4.44	4.56	4.60	4.65	"Cash Flow" per sh	6.25
1.32	1.25	1.33	1.50	1.73	1.79	1.94	1.98	1.69	1.69	1.92	2.12	2.24	2.08	2.36	2.25	2.00	2.15	Earnings per sh ^A	3.15
.68	.70	.71	.73	.76	.80	.85	.95	1.05	1.16	1.27	1.40	1.51	1.58	1.63	1.64	1.66	1.78	Div'd Decl'd per sh ^B	1.85
3.04	4.01	4.37	4.36	6.48	5.85	4.99	2.86	2.74	3.31	4.13	2.87	3.18	3.25	3.89	5.25	4.75	4.75	Cap'l Spending per sh	4.75
9.16	10.14	10.52	11.73	13.06	14.00	15.30	16.27	16.66	17.24	19.28	20.06	20.69	18.15	20.27	21.95	22.25	23.10	Book Value per sh ^C	26.00
183.60	187.00	194.00	195.20	196.20	197.60	198.50	199.40	199.70	199.70	199.70	199.70	200.10	200.10	200.10	200.20	200.20	200.20	Common Shs Outst'g ^D	200.20
13.8	12.4	10.8	13.3	14.4	15.2	17.7	18.3	17.7	17.7	18.3	16.5	19.0	16.2	14.3	17.2	Bold figures are Value Line estimates		Avg Ann'l P/E Ratio	14.0
.73	.75	.72	.85	.90	.97	.99	.96	.89	.93	.92	.89	1.01	.83	.77	1.00			Relative P/E Ratio	.80
3.8%	4.5%	5.0%	3.7%	3.1%	2.9%	2.5%	2.6%	3.5%	3.9%	3.6%	4.0%	3.5%	4.7%	4.8%	4.5%			Avg Ann'l Div'd Yield	4.4%
CAPITAL STRUCTURE as of 3/31/23						2867.7	2453.1	2196.9	2259.2	2261.1	2270.3	2231.6	2122.3	3653.7	3375.7	3450	3600	Revenues (\$mill)	3800
Total Debt \$4994.1 mill. Due in 5 Yrs \$1731.5 mill.						387.6	395.8	337.6	338.2	384.3	425.5	449.6	415.9	472.5	452.5	410	430	Net Profit (\$mill)	630
LT Debt \$3994.1 mill. LT Interest \$158.7 mill.						24.9%	30.4%	29.2%	30.5%	32.5%	14.5%	7.4%	13.2%	11.5%	12.0%	12.0%	12.0%	Income Tax Rate	12.0%
(LT interest earned: 4.3x)						2.6%	1.7%	3.7%	6.4%	15.0%	8.3%	1.6%	1.6%	2.2%	2.0%	2.0%	AFUDC % to Net Profit	2.0%	
Leases, Uncapitalized Annual rentals \$5.7 mill.						43.1%	45.9%	44.3%	41.1%	41.7%	42.0%	43.6%	49.0%	52.6%	49.8%	52.0%	52.0%	Long-Term Debt Ratio	50.0%
Pension Assets-12/22 \$486.0 mill.						56.9%	54.1%	55.7%	58.9%	58.3%	58.0%	56.4%	51.0%	47.4%	52.4%	48.0%	48.0%	Common Equity Ratio	50.0%
Pfd Stock None						5337.2	5999.7	5971.6	5849.6	6600.7	6902.0	7334.7	7126.2	8552.7	8962.0	9400	9750	Total Capital (\$mill)	10400
Common Stock 200,287,364 shs.						6672.8	6979.9	7322.4	7696.2	8339.9	8643.8	9044.6	9374.6	9832.9	10546.8	10830	11000	Net Plant (\$mill)	12075
MARKET CAP: \$7.0 billion (Mid Cap)						8.6%	7.8%	6.9%	7.0%	7.0%	7.3%	7.1%	6.9%	6.4%	5.9%	6.5%	6.5%	Return on Total Cap'l	7.5%
ELECTRIC OPERATING STATISTICS						12.8%	12.2%	10.2%	9.8%	10.0%	10.6%	10.9%	11.5%	11.6%	11.0%	12.0%	12.0%	Return on Shr. Equity	13.0%
2020 2021 2022						12.8%	12.2%	10.2%	9.8%	10.0%	10.6%	10.9%	11.5%	11.6%	11.0%	12.0%	12.0%	Return on Com Equity ^E	13.0%
% Change Retail Sales (KWH)						7.3%	6.5%	4.0%	3.3%	3.5%	3.8%	3.6%	2.8%	3.6%	3.0%	4.5%	4.5%	Retained to Com Eq	5.5%
-4.9 +2.6 +8.3						43%	47%	61%	67%	64%	64%	67%	76%	69%	73%	81%	81%	All Div'ds to Net Prof	57%
Avg. Indust. Use (MWH)						BUSINESS: OGE Energy Corp. is a holding company for Oklahoma Gas and Electric Company (OG&E), which supplies electricity to 879,000 customers in Oklahoma (84% of electric revenues) and western Arkansas (8%); wholesale is (8%). Owns 3% of Energy Transfer's limited partnership units. Electric revenue breakdown: residential, 44%; commercial, 25%; industrial, 11%; oilfield, 10%; other, 10%. Generating sources: gas, 25%; coal, 21%; wind, 6%; purchased, 48%. Fuel costs: 58% of revenues. '22 reported depreciation rate (utility): 2.6%. Has 2,200 employees. Chairman, President and Chief Executive Officer: Sean Trauschke. Incorporated: Oklahoma. Address: 321 North Harvey, P.O. Box 321, Oklahoma City, OK 73101-0321. Tel.: 405-553-3000. Internet: www.oge.com.													
Avg. Indust. Revs. per KWH (c)																			
4.40 7.68 NA																			
Capacity at Peak (Mw)																			
NA NA NA																			
Peak Load, Summer (Mw)																			
6437 NA NA																			
Annual Load Factor (%)																			
NA NA NA																			
% Fixed Customers (yr-end)																			
+1.1 +1.4 NA																			
Fixed Charge Cov. (%)																			
326 336 335																			
ANNUAL RATES																			
Past Past Est'd '20-'22																			
10 Yrs. 5 Yrs. to '26-'22																			
of change (per sh)																			
-3.0% 5.0% 5.5%																			
Revenues																			
2.5% 5.0% 7.0%																			
"Cash Flow"																			
3.0% 4.5% 6.5%																			
Earnings																			
7.5% 6.5% 3.0%																			
Dividends																			
4.0% 1.5% 5.5%																			
Book Value																			
Cal-endar	QUARTERLY REVENUES (\$mill.)				Full Year														
	Mar.31	Jun.30	Sep.30	Dec.31															
2020	431.3	503.5	702.1	485.4	2122.3														
2021	1630	577.4	864.4	581.3	3653.7														
2022	589.3	803.7	1270	711.9	3375.7														
2023	557.2	785	1280	827.8	3450														
2024	650	850	1300	800	3600														
Cal-endar	EARNINGS PER SHARE ^A				Full Year														
	Mar.31	Jun.30	Sep.30	Dec.31															
2020	.23	.51	1.04	.30	2.08														
2021	.26	.56	1.26	.28	2.36														
2022	.33	.36	1.31	.25	2.25														
2023	.19	.44	1.16	.21	2.00														
2024	.35	.30	1.25	.25	2.15														
Cal-endar	QUARTERLY DIVIDENDS PAID ^B				Full Year														
	Mar.31	Jun.30	Sep.30	Dec.31															
2019	.365	.365	.365	.388	1.48														
2020	.3875	.3875	.3875	.4025	1.57														
2021	.4025	.4025	.4025	.41	1.62														
2022	.41	.41	.41	.4141	1.64														
2023	.41	.41																	

(A) Diluted EPS. Excl. nonrecurring gains (losses): '15, (33¢); '17, \$1.18; '19, (8¢); '20, (\$2.95); '21, \$1.32; '22, \$1.06; gain on discount ops.: '19 & '21 EPS don't sum due to rounding.

Next earnings report due early Aug. (B) Div'ds historically paid in late Jan., Apr., July, & Oct. Div'd reinvestment plan avail. (C) Incl. deferred charges. In '22: \$6.15/sh. (D) In mill., adj. for split. (E) Rate base: Net original cost. Rate allowed on com. eq. in OK in '19: 9.5%; in AR in '18: 9.5%; earned on avg. com. eq.: '21: 12.7%. Regulatory Climate: Average.

Company's Financial Strength A
Stock's Price Stability 85
Price Growth Persistence 30
Earnings Predictability 95

To subscribe call 1-800-VALUELINE

PINNACLE WEST NYSE-PNW				RECENT PRICE	81.38	P/E RATIO	19.6 (Trailing: 19.9 Median: 17.0)	RELATIVE P/E RATIO	1.13	DIV'D YLD	4.3%	VALUE LINE								
TIMELINESS 4 Lowered 5/19/23	High: 54.7	61.9	71.1	73.3	82.8	92.5	92.6	99.8	105.5	88.5	80.6	84.6								
SAFETY 2 Lowered 10/22/21	Low: 45.9	51.5	51.2	56.0	62.5	75.8	73.4	81.6	60.1	62.8	59.0	71.7								
TECHNICAL 2 Raised 7/14/23	LEGENDS — 26.3 x Dividends p sh ... Relative Price Strength Options: Yes Shaded area indicates recession																			
BETA .90 (1.00 = Market)	18-Month Target Price Range Low-High Midpoint (% to Mid) \$65-\$105 \$85 (5%)																			
2026-28 PROJECTIONS High Price Gain Ann'l Total Low 85 115 (+40%) 12% Return 6%																				
Institutional Decisions 3Q2022 4Q2022 1Q2023 to Buy 227 299 243 to Sell 208 175 222 Hi'd (\$000) 97447 97877 98017 Percent shares traded 30 20 10																				
% TOT. RETURN 6/23 THIS STOCK 16.7 1 yr. 27.0 3 yr. 22.8 5 yr. 48.6 VL ARITH. INDEX 16.5 58.6 48.6																				
© VALUE LINE PUB. LLC 26-28																				
2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Revenues per sh	41.65	
35.07	33.37	32.50	30.01	29.67	30.09	31.35	31.58	31.50	31.42	31.90	32.93	30.87	31.81	33.66	38.21	40.75	40.05	"Cash Flow" per sh	15.00	
9.29	8.13	8.08	6.85	7.52	7.92	8.15	8.09	9.09	9.39	9.79	11.41	11.13	10.86	12.23	13.44	13.25	13.30	Earnings per sh ^A	5.70	
2.96	2.12	2.26	3.08	2.99	3.50	3.66	3.58	3.92	3.95	4.43	4.54	4.77	4.87	5.47	4.26	4.15	4.50	Div'd Decl'd per sh ^B	3.75	
2.10	2.10	2.10	2.10	2.10	2.67	2.23	2.33	2.44	2.56	2.70	2.87	3.04	3.23	3.36	3.42	3.48	3.54	Cap'l Spending per sh	15.00	
9.37	9.46	7.64	7.03	8.26	8.24	9.36	8.38	9.84	11.64	12.80	10.73	10.76	11.93	13.04	15.09	14.50	15.00	Book Value per sh ^C	62.00	
35.15	34.16	32.69	33.86	34.98	36.20	38.07	39.50	41.30	43.15	44.80	46.59	48.30	49.96	52.26	53.45	54.10	56.75	Common Shs Outst'g ^D	120.00	
100.49	100.89	101.43	108.77	109.25	109.74	110.18	110.57	110.98	111.34	111.75	112.10	112.44	112.76	113.01	113.17	113.50	118.00	Avg Ann'l P/E Ratio	17.5	
14.9	16.1	13.7	12.6	14.6	14.3	15.3	15.9	16.0	18.7	19.3	17.8	19.4	16.7	14.1	17.1	17.1	17.1	Relative P/E Ratio	.95	
.79	.97	.91	.80	.92	.91	.86	.84	.81	.98	.97	.96	1.03	.86	.76	.99	.99	.99	Avg Ann'l Div'd Yield	3.8%	
4.8%	6.2%	6.8%	5.4%	4.8%	5.3%	4.0%	4.1%	3.9%	3.5%	3.2%	3.5%	3.3%	4.0%	4.3%	4.7%	4.7%	4.7%	Bold figures are Value Line estimates		
CAPITAL STRUCTURE as of 3/31/23 Total Debt \$8474.9 mill. Due in 5 Yrs \$2100.7 mill. LT Debt \$7916.6 mill. LT Interest \$350.0 mill. (Total Interest Coverage: 2.9x)				3454.6	3491.6	3495.4	3498.7	3565.3	3691.2	3471.2	3587.0	3803.8	4324.4	4625	4725	4725	4725	4725	Revenues (\$mill)	5000
Leases, Uncapitalized Annual rentals \$18.1 mill.				406.1	397.6	437.3	442.0	497.8	511.0	538.3	550.6	618.7	483.6	470	525	525	525	525	Net Profit (\$mill)	685
Pension Assets-12/22 \$2829.5 mill.				34.4%	34.2%	34.3%	33.9%	32.5%	20.2%	--	12.1%	14.8%	13.0%	11.0%	12.0%	12.0%	12.0%	12.0%	Income Tax Rate	14.0%
Pfd Stock None				10.0%	11.6%	11.8%	14.1%	13.9%	15.2%	9.3%	9.5%	10.1%	15.2%	14.0%	13.0%	14.0%	13.0%	13.0%	AFUDC % to Net Profit	12.0%
Common Stock 113,255,998 shs. as of 4/27/23				40.0%	41.0%	43.0%	45.6%	48.9%	47.0%	47.1%	52.8%	53.9%	56.1%	56.0%	52.5%	53.9%	56.1%	56.0%	Long-Term Debt Ratio	56.0%
MARKET CAP: \$9.2 billion (Mid Cap)				60.0%	59.0%	57.0%	54.4%	51.1%	53.0%	52.9%	47.2%	46.1%	43.9%	44.0%	47.5%	44.0%	47.5%	47.5%	Common Equity Ratio	44.0%
ELECTRIC OPERATING STATISTICS				6990.9	7398.7	8046.3	8825.4	9796.4	9861.1	10263	11948	12820	13790	13950	14100	14100	14100	14100	Total Capital (\$mill)	16900
Fixed Charge Cov. (%) 318 317 226				10889	11194	11809	12714	13445	14030	14523	15159	15987	16854	17475	18200	18200	18200	18200	Net Plant (\$mill)	20200
% Change Retail Sales (KWH) +5.0 -1 +4.4				7.1%	6.4%	6.4%	6.0%	6.1%	6.2%	6.3%	5.5%	5.8%	4.5%	4.5%	5.0%	4.5%	5.0%	5.0%	Return on Total Cap'l	5.0%
Avg. Indust. Use (MWH) 766 808 849				9.7%	9.1%	9.5%	9.2%	9.9%	9.8%	9.9%	9.8%	10.5%	8.0%	7.5%	8.0%	7.5%	8.0%	8.0%	Return on Shr. Equity	9.5%
Avg. Indust. Revs. per KWH (¢) 7.62 8.11 9.20				9.7%	9.1%	9.5%	9.2%	9.9%	9.8%	9.9%	9.8%	10.5%	8.0%	7.5%	8.0%	7.5%	8.0%	8.0%	Return on Com Equity ^E	9.5%
Capacity at Peak (Mw) 9094 8726 8612				4.1%	3.5%	3.9%	3.5%	4.2%	3.9%	3.8%	3.5%	4.2%	1.7%	1.5%	1.5%	1.5%	1.5%	1.5%	Retained to Com Eq	3.0%
Peak Load, Summer (Mw) 7660 7580 7587				58%	62%	59%	62%	58%	60%	61%	64%	60%	78%	84%	78%	78%	78%	78%	All Div'ds to Net Prof	66%
Annual Load Factor (%) 45.5 45.9 48.1				BUSINESS: Pinnacle West Capital Corporation is a holding company for Arizona Public Service Company (APS), which supplies electricity to 1.3 million customers in most of Arizona, except about half of the Phoenix metro area, the Tucson metro area, and Mohave County in northwestern Arizona. Discontinued SunCor real estate subsidiary in '10. Electric revenue breakdown: residential, 47%; commercial/industrial, 41%; other, 12%. Generating sources: gas, 25%; nuclear, 24%; coal, 20%; renewables, 12%; purchased, 19%. Fuel costs: 38% of revenues. '22 reported deprec. rate: 3.03%. Has 5,861 employees. Chairman, President & CEO: Jeffrey B. Guldner, Inc.: AZ. Address: 400 North Fifth St., P.O. Box 53999, Phoenix, AZ 85072-3999. Tel.: 602-250-1000. Internet: www.pinnaclewest.com.																
% Change Customers (yr-end) +2.3 +2.2 +2.1				Pinnacle West will likely see its earnings fall this year, then bounce back in 2024. After a weak first quarter, due to significantly higher operating and maintenance expense versus a year ago, management affirmed its full-year earnings outlook of \$3.95 to \$4.15 per share. Last year's bottom line benefited from weather extremes that helped drive electric usage up 4.4%. Growth on that front is likely to be more subdued in 2023. Higher retirement contributions, following last year's decline in equity and bond markets, and higher interest expense are expected to pressure this year's bottom line. Profits should be heading up next year, given the likelihood of higher electric rates.																
ANNUAL RATES Past Past Est'd '20-'22 of change (per sh) 10 Yrs. 5 Yrs. to '26-'22				Pinnacle's pending general rate case (GRC) may help to restore some of the earnings power lost last year. A measure of rate relief is due at the start of 2024, the question is how much. From early 2022, the company has been operating under revised regulatory parameters that cut its allowed return on equity (ROE) from 10% to a nationwide low of 8.7%. The change effectively reduced the utility's annual earning power by about \$1.00 per share. Pinnacle West is requesting its ROE be restored near the former level. The company is also seeking an expansion in the use of automatic pricing mechanisms to cut regulatory lag in the recoupment of investments it's planning to make in support of Arizona's clean-energy objectives. A decision from a revamped state regulatory commission, which has a few new members and a different chairperson because of term limits, is due by year's end. A March appeals court decision has set a precedent for at least some progress towards higher allowable returns. A trio of Arizona appellate judges gave an opinion stating that the regulatory commission overstepped its bounds by penalizing the utility for "poor customer service," and has ruled the company can lift electric rates based on an 8.9% ROE.																
Revenues 1.5% 2.0% 3.0%				This untimely issue has been one of the better year-to-date performers amongst utilities. The stock has likely outperformed in anticipation of a favorable GRC outcome. At the recent valuation, PNW compares unfavorably to the median total return potential of its industry.																
"Cash Flow" 5.0% 5.5% 3.5%				<i>Anthony J. Glennon July 21, 2023</i>																
Earnings 4.5% 3.5% 2.5%				Company's Financial Strength A																
Dividends 4.0% 5.5% 2.0%				Stock's Price Stability 90																
Book Value 4.0% 4.0% 3.0%				Price Growth Persistence 45																
QUARTERLY REVENUES (\$mill.) Full Year				Earnings Predictability 95																
Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31														Full Year		
2020	661.9	929.6	1254.5	741.0														3587.0		
2021	696.5	1000.2	1308.2	798.9														3803.8		
2022	783.5	1061.7	1469.9	1009.3														4324.4		
2023	945.0	1110	1510	1060														4625		
2024	965	1135	1540	1085														4725		
Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31														Full Year		
2020	.27	1.71	3.07	d.17														4.87		
2021	.32	1.91	3.00	.24														5.47		
2022	.15	1.45	2.88	d.21														4.26		
2023	d.03	1.30	2.93	d.05														4.15		
2024	.05	1.40	3.10	d.05														4.50		
Cal-endar	Mar.31	Jun.30	Sep.30	Dec.31														Full Year		
2019	.737	.738	.738	.782														3.00		
2020	.783	.783	.783	.83														3.18		
2021	.83	.83	.83	.85														3.34		
2022	.85	.85	.85	.85														3.40		
2023	.865	.865																		

(A) Diluted EPS. Excl. nonrec. gain/(loss): '09, (\$1.45); '17, 8¢; gains/(losses) from discont. ops: '06, 10¢; '08, 28¢; '09, (13¢); '10, 18¢; '11, 10¢; '12, (5¢); '20 and '22 qtrly. EPS don't

sum due to rounding. Next eggs. report due early August. (B) Div'ds historically paid in early Mar., June, Sept., & Dec. There were 5 declarations in '12. ■ Div'd reinvestment plan avail.

(C) Incl. deferred charges/other intangibles. In '22: \$17.54/sh. (D) In mill. (E) Rate base: Fair value. Rate allowed on common equity in '23: 8.9%. Regulatory Climate: Below Average.

Company's Financial Strength	A
Stock's Price Stability	90
Price Growth Persistence	45
Earnings Predictability	95

PORTLAND GENERAL NYSE-POR				RECENT PRICE	P/E RATIO		RELATIVE P/E RATIO		DIV/D YLD		VALUE LINE								
				46.25	17.1 (Trailing: 16.1)		0.99		4.2%										
TIMELINESS 3 Lowered 7/21/23	High: 28.1	33.3	40.3	41.0	45.2	50.1	50.4	58.4	63.1	53.1	57.0	51.6	Target Price Range 2026 2027 2028						
SAFETY 2 Raised 10/22/21	Low: 24.3	27.4	29.0	33.0	35.3	42.4	39.0	44.0	32.0	40.8	41.6	44.7		128					
TECHNICAL 2 Lowered 7/21/23	LEGENDS — 28.6 x Dividends p sh ... Relative Price Strength Options: Yes Shaded area indicates recession																		
BETA .90 (1.00 = Market)	18-Month Target Price Range Low-High Midpoint (% to Mid) \$41-\$67 \$54 (15%)																		
2026-28 PROJECTIONS High Price Gain Ann'l Total Low 80 55 (+75%) 18% 55 55 (+20%) 9%																			
Institutional Decisions 3Q2022 4Q2022 1Q2023 to Buy 193 207 184 to Sell 150 157 173 Hi's(000) 87350 98285 101190																			
Percent shares traded 21 14 7																			
% TOT. RETURN 6/23 THIS STOCK VL ARITH. INDEX 1 yr. 0.7 16.5 3 yr. 25.3 58.6 5 yr. 30.3 48.6																			
2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 © VALUE LINE PUB. LLC 26-28																			
27.87	27.89	23.99	23.67	24.06	23.89	23.18	24.29	21.38	21.62	22.54	22.30	23.75	23.96	26.80	29.65	28.85	30.15	Revenues per sh	33.00
5.21	4.71	4.07	4.82	4.96	5.15	4.93	6.08	5.37	5.78	6.16	6.65	6.97	7.83	7.25	7.41	7.30	7.85	"Cash Flow" per sh	9.40
2.33	1.39	1.31	1.66	1.95	1.87	1.77	2.18	2.04	2.16	2.29	2.37	2.39	2.75	2.72	2.74	2.70	3.00	Earnings per sh ^A	3.65
.93	.97	1.01	1.04	1.06	1.08	1.10	1.12	1.18	1.26	1.34	1.43	1.52	1.59	1.70	1.79	1.88	1.98	Div'd Decl'd per sh ^B + †	2.36
7.28	6.12	9.25	5.97	3.98	4.01	8.40	12.87	6.73	6.57	5.77	6.67	6.78	8.76	7.11	8.58	13.65	10.00	Cap'l Spending per sh	10.00
21.05	21.64	20.50	21.14	22.07	22.87	23.30	24.43	25.43	26.35	27.11	28.07	28.99	29.18	30.28	31.13	33.25	34.80	Book Value per sh ^C	38.70
62.53	62.58	75.21	75.32	75.36	75.56	78.09	78.23	88.79	88.95	89.11	89.27	89.39	89.54	89.41	89.28	97.00	99.50	Common Shs Outst'g ^D	100.00
11.9	16.3	14.4	12.0	12.4	14.0	16.9	15.3	17.7	19.1	20.0	18.4	22.3	16.6	17.7	18.2	17.7	18.2	Avg Ann'l P/E Ratio	18.5
.63	.98	.96	.76	.78	.89	.95	.81	.89	1.00	1.01	.99	1.19	.85	.96	1.06	1.06	1.06	Relative P/E Ratio	1.05
3.3%	4.3%	5.4%	5.2%	4.4%	4.1%	3.7%	3.3%	3.3%	3.1%	2.9%	3.3%	2.8%	3.5%	3.5%	3.6%	3.6%	3.6%	Avg Ann'l Div'd Yield	3.5%
CAPITAL STRUCTURE as of 3/31/23				Total Debt \$3866 mill. Due in 5 Yrs \$520 mill. LT Debt \$3778 mill. LT Interest \$146 mill. Incl. \$293 mill. finance leases. (Total Interest Coverage: 2.8x) Leases, Uncapitalized Annual rentals \$4 mill. Pension Assets-12/22 \$547 mill. Oblig \$695 mill.															
Pfd Stock None				1810.0 1900.0 1898.0 1923.0 2009.0 1991.0 2123.0 2145.0 2396.0 2647.0 2800 3000 Revenues (\$mill) 3300 137.0 175.0 172.0 193.0 204.0 212.0 214.0 247.0 244.0 245.0 250 295 Net Profit (\$mill) 365 23.2% 26.0% 20.7% 20.6% 25.3% 7.4% 11.2% 12.4% 8.6% 15.2% 17.5% 17.5% Income Tax Rate 17.5% 14.6% 33.7% 19.8% 16.6% 8.8% 8.0% 7.0% 9.7% 10.2% 8.6% 10.0% 9.0% AFUDC % to Net Profit 8.5% 51.3% 52.7% 47.8% 48.4% 50.1% 46.5% 51.3% 53.6% 56.8% 57.0% 56.0% 54.5% Long-Term Debt Ratio 55.0% 48.7% 47.3% 52.2% 51.6% 49.9% 53.5% 48.7% 46.4% 43.2% 43.0% 44.0% 45.5% Common Equity Ratio 45.0% 3735.0 4037.0 4329.0 4544.0 4842.0 4684.0 5323.0 5628.0 6265.0 6459.0 7330 7600 Total Capital (\$mill) 8550 4880.0 5679.0 6012.0 6434.0 6741.0 6887.0 7161.0 7539.0 8005.0 8465.0 9330 9850 Net Plant (\$mill) 10850 5.1% 5.8% 5.4% 5.6% 5.5% 5.8% 5.1% 5.6% 4.9% 4.9% 4.3% 5.0% Return on Total Cap'l 5.5% 7.5% 9.2% 7.6% 8.2% 8.4% 8.5% 8.3% 9.5% 9.0% 8.8% 8.0% 8.5% Return on Shr. Equity 9.5% 7.5% 9.2% 7.6% 8.2% 8.4% 8.5% 8.3% 9.5% 9.0% 8.8% 8.0% 8.5% Return on Com Equity ^E 9.5% 2.9% 4.6% 3.3% 3.5% 3.6% 3.5% 3.1% 4.1% 3.5% 3.1% 2.5% 3.0% Retained to Com Eq 3.5% 61% 50% 56% 57% 58% 59% 63% 57% 61% 64% 69% 66% All Div'ds to Net Prof 65%															
Common Stock 96,621,298 shs. as of 4/20/23				MARKET CAP: \$4.5 billion (Mid Cap)															
ELECTRIC OPERATING STATISTICS				BUSINESS: Portland General Electric Company (PGE) provides electricity to 926,000 customers in 51 cities in a 4,000-square-mile area of Oregon, including Portland and Salem (population: 1.9 million). The company is in the process of decommissioning the Trojan nuclear plant, which it closed in 1993. Electric revenue breakdown: residential, 52%; commercial, 33%; industrial, 14%; other, 1%.															
2020 2021 2022 % Change Retail Sales (KWH) +4 +5.1 +3.4 Avg. Indust. Use (MWH) 18472 20002 22097 Avg. Indust. Revs. per KWH (c) 4.99 5.22 5.23 Capacity at Peak (Mw) NA NA NA Peak Load, Summer (Mw) 3771 4447 4255 Annual Load Factor (%) NA NA NA % Change Customers (yr-end) +1.5 +6 +1.1				Generating sources: gas, 32%; wind, 15%; coal, 4%; hydro, 7%; purchased, 41%. Fuel costs: 37% of revenues. '22 reported depreciation rate: 3.4%. Has 2,873 full-time employees. Chairman: Jack E. Davis. President and CEO: Maria M. Pope. Incorporated: Oregon. Address: 121 S.W. Salmon Street, Portland, OR 97204. Tel.: 503-464-8000. Internet: www.portlandgeneral.com.															
Fixed Charge Cov. (%) 275 261 254				Portland General Electric will likely post flat-to-down earnings this year, followed by a healthy gain in 2024. For full-year 2023, management reaffirmed its \$2.60 to \$2.75 per share bottom-line outlook. Weather extremes helped push 2022's electric usage up 3.4% in the company's territory, making for a difficult comparison this year. The level to which PGE is expanding its capital budget in regards to major investments in generating capacity and battery storage, however, is the more significant factor for this year's profits. Capital expenditures are expected to rise more than 70%, to \$1.33 billion. Financing costs will be a drag on the bottom line. Earnings ought to be on the mend in 2024, though. In February, PGE filed a general rate case with its Oregon regulatory body. The utility is seeking a 14% price hike, in part to recoup higher purchased power costs. Most of the request is to address reliability and resiliency work, capital investments, and rising operating and financing costs. We expect a constructive outcome, with new rates to take effect in January of 2024. Investments in "clean" energy should drive growth. Oregon is targeting zero emissions from electric generation by 2040. As such, PGE is looking to add at least 375 to 500 megawatts of nonemitting annual power generation in the intermediate term, with significant battery storage capacity as well. Thus far, the company has agreed to partner with NextEra Energy (NEE) to construct a 311-mw wind energy facility. PGE will own two-thirds of the venture, and will have a 30-year contract with NEE to purchase the remaining generation. Project completion is targeted for December. The green light from regulators to pursue these types of investments should result in mid- to high-single-digit growth in the rate base (the dollar value of assets a utility is allowed to earn an economic return on) for many years. This, plus rising demand from a healthy tech-based local economy, should allow the company to achieve its long-term 5%-7% earnings and dividend growth targets. This issue's annual total return potential looks appealing relative to the electric utility industry's median of 10.4% for this measure.															
ANNUAL RATES Past Past Est'd '20-'22 of change (per sh) 10 Yrs. 5 Yrs. to '26-'22 Revenues 1.0% 4.0% 3.5% "Cash Flow" 4.0% 5.5% 4.5% Earnings 4.0% 5.0% 5.0% Dividends 5.0% 6.0% 5.5% Book Value 3.0% 3.0% 4.0%				Quarterly Revenue (\$mill.) Cal-endar Mar.31 Jun.30 Sep.30 Dec.31 Full Year 2020 573 469 547 556 2145 2021 609 537 642 608 2396 2022 626 591 743 687 2647 2023 687 610 775 728 2800 2024 740 660 825 775 3000															
EARNINGS PER SHARE ^A Cal-endar Mar.31 Jun.30 Sep.30 Dec.31 Full Year 2020 .91 .43 .84 .57 2.75 2021 1.07 .36 .56 .73 2.72 2022 .67 .72 .65 .70 2.74 2023 .80 .65 .60 .65 2.70 2024 .85 .70 .70 .75 3.00				Quarterly Dividends Paid ^B + † Cal-endar Mar.31 Jun.30 Sep.30 Dec.31 Full Year 2019 .3625 .3625 .385 .385 1.50 2020 .385 .385 .385 .4075 1.56 2021 .4075 .4075 .43 .43 1.68 2022 .43 .43 .4525 .4525 1.77 2023 .4525 .4525 .475															
QUARTERLY DIVIDENDS PAID ^B + † Cal-endar Mar.31 Jun.30 Sep.30 Dec.31 Full Year 2019 .3625 .3625 .385 .385 1.50 2020 .385 .385 .385 .4075 1.56 2021 .4075 .4075 .43 .43 1.68 2022 .43 .43 .4525 .4525 1.77 2023 .4525 .4525 .475				Investments in "clean" energy should drive growth. Oregon is targeting zero emissions from electric generation by 2040. As such, PGE is looking to add at least 375 to 500 megawatts of nonemitting annual power generation in the intermediate term, with significant battery storage capacity as well. Thus far, the company has agreed to partner with NextEra Energy (NEE) to construct a 311-mw wind energy facility. PGE will own two-thirds of the venture, and will have a 30-year contract with NEE to purchase the remaining generation. Project completion is targeted for December. The green light from regulators to pursue these types of investments should result in mid- to high-single-digit growth in the rate base (the dollar value of assets a utility is allowed to earn an economic return on) for many years. This, plus rising demand from a healthy tech-based local economy, should allow the company to achieve its long-term 5%-7% earnings and dividend growth targets. This issue's annual total return potential looks appealing relative to the electric utility industry's median of 10.4% for this measure.															

(A) Diluted earnings. Excl. nonrecurring gains/(losses): '13, (42c); '17, (19c); '20, (\$1.03); '22, (14c). Next earnings report due July 28th.

(B) Dividends paid mid-Jan., Apr., July, and Oct. ■ Dividend reinvestment plan available. † Shareholder investment plan available.

(C) Incl. deferred charges. In '21: \$473 mill., \$5.30/sh. (D) In mill. (E) Rate base: Net original cost. Rate allowed on common equity in '22: 9.5%. Regulatory Climate: Average.

Company's Financial Strength	B++
Stock's Price Stability	95
Price Growth Persistence	45
Earnings Predictability	95

© 2023 Value Line, Inc. All rights reserved. Factual material is obtained from sources believed to be reliable and is provided without warranties of any kind. THE PUBLISHER IS NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS HEREIN. This publication is strictly for subscriber's own, non-commercial, internal use. No part of it may be reproduced, resold, stored or transmitted in any printed, electronic or other form, or used for generating or marketing any printed or electronic publication, service or product.

To subscribe call 1-800-VALUELINE

SOUTHERN COMPANY NYSE-SO				RECENT PRICE	P/E RATIO							RELATIVE P/E RATIO			DIV'D YLD			VALUE LINE						
				74.09	20.3 (Trailing: 21.6; Median: 17.0)							1.21			3.8%									
TIMELINESS 4 Raised 5/12/23 SAFETY 2 Lowered 2/21/14 TECHNICAL 4 Raised 5/12/23 BETA .90 (1.00 = Market)				High: 48.6 Low: 41.8	48.7 40.0	51.3 40.3	53.2 41.4	54.6 46.0	53.5 46.7	49.4 42.4	64.3 43.3	71.1 42.0	68.9 56.7	80.6 60.7	74.6 58.8	Target Price Range 2026 2027 2028								
18-Month Target Price Range Low-High Midpoint (% to Mid) \$62-\$102 \$82 (10%)															160 120 100 80 60 50 40 30 20 15									
2026-28 PROJECTIONS Price Gain Ann'l Total Return High 100 (+35%) 11% Low 70 (-5%) 3%															% TOT. RETURN 4/23 THIS STOCK 4.1 3 yr. 46.7 5 yr. 96.3									
Institutional Decisions 202022 3Q2022 4Q2022 to Buy 774 781 911 to Sell 650 634 594 Hld's(000) 662355 675410 693302															Percent shares traded 18 12 6									
				2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	© VALUE LINE PUB. LLC 26-28		
				20.12	22.04	19.21	20.70	20.41	19.06	19.26	20.34	19.18	20.09	22.86	22.73	20.34	19.29	21.80	26.89	24.85	25.25	Revenues per sh		28.90
				4.22	4.43	4.43	4.51	4.91	5.18	5.27	5.28	5.47	5.69	6.64	6.41	6.33	6.98	7.20	7.34	7.65	8.00	"Cash Flow" per sh		9.25
				2.28	2.25	2.32	2.36	2.55	2.67	2.70	2.77	2.84	2.83	3.21	3.00	3.17	3.25	3.42	3.61	3.65	4.00	Earnings per sh A		5.15
				1.60	1.66	1.73	1.80	1.87	1.94	2.01	2.08	2.15	2.22	2.30	2.38	2.46	2.54	2.62	2.70	2.78	2.86	Div'd Decl'd per sh B		3.10
				4.65	5.10	5.70	4.85	5.23	5.54	6.16	6.58	6.22	7.38	7.37	7.74	7.17	7.04	6.83	7.55	7.85	7.85	Cap'l Spending per sh		7.50
				16.23	17.08	18.15	19.21	20.32	21.09	21.43	21.98	22.59	25.00	23.98	23.92	26.11	26.48	26.30	27.93	28.00	29.90	Book Value per sh C		32.25
				763.10	777.19	819.65	843.34	865.13	867.77	887.09	907.78	911.72	990.39	1007.6	1033.8	1053.3	1056.5	1060.0	1089.0	1070.0	1070.0	Common Shs Outst'g D		1070.0
				16.0	16.1	13.5	14.9	15.8	17.0	16.2	16.0	15.8	17.8	15.5	15.1	17.6	17.9	18.4	19.6	Bold figures are Value Line estimates		Avg Ann'l P/E Ratio		16.5
				.85	.97	.90	.95	.99	1.08	.91	.84	.80	.93	.78	.82	.94	.92	1.00	1.14	1.14	Relative P/E Ratio		.90	
				4.4%	4.6%	5.5%	5.1%	4.6%	4.3%	4.6%	4.7%	4.8%	4.4%	4.6%	5.3%	4.4%	4.2%	4.1%	4.1%	4.1%	Avg Ann'l Div'd Yield		3.6%	
CAPITAL STRUCTURE as of 3/31/23 Total Debt \$55066 mill. Due in 5 Yrs \$15427 mill. LT Debt \$50427 mill. LT Interest \$1754 mill. Incl. \$215 mill. finance leases. (LT interest earned: 3.3x) Leases, Uncapitalized Annual rentals \$307 mill. Pension Assets-12/22 \$17225 mill. Oblig \$16382 mill. Pfd Stock \$242 mill. Pfd Div'd \$15 mill. Incl. 10 mill. shs. 5.83% cum. pfd. (\$25 stated value); 475,115 shs. 4.2%-5.44% cum. pfd. (\$100 par). Common Stock 1,090,402,540 shs. MARKET CAP: \$80.8 billion (Large Cap)				17087	18467	17489	19896	23031	23495	21419	20375	23113	29279	26600	27500	Revenues (\$mill)		30900						
				2439.0	2567.0	2647.0	2757.0	3269.0	3096.0	3354.0	3481.0	3670.0	3931.3	3960	4280	Net Profit (\$mill)		5510						
				34.8%	33.8%	33.4%	28.5%	25.2%	21.3%	15.9%	14.3%	16.3%	18.8%	15.0%	15.0%	Income Tax Rate		15.0%						
				11.6%	13.9%	13.2%	11.9%	7.6%	6.8%	6.0%	6.6%	7.7%	8.0%	8.0%	8.0%	AFUDC % to Net Profit		6.0%						
				51.5%	49.5%	52.8%	61.5%	64.5%	62.0%	60.1%	61.5%	64.0%	63.5%	64.0%	64.0%	Long-Term Debt Ratio		63.0%						
				45.8%	47.3%	44.0%	35.7%	35.0%	37.6%	39.5%	38.1%	35.6%	36.0%	36.0%	36.0%	Common Equity Ratio		37.0%						
				41483	42142	46788	69359	68953	65750	69594	73336	78285	80550	83500	85000	Total Capital (\$mill)		93500						
				51208	54868	61114	78446	79872	80797	83080	87634	91108	94570	99350	100000	Net Plant (\$mill)		110000						
				6.8%	7.1%	6.6%	4.9%	5.9%	6.0%	5.9%	5.9%	5.8%	5.5%	5.5%	5.5%	Return on Total Cap'l		6.5%						
				12.1%	12.1%	12.0%	10.3%	13.3%	12.4%	12.1%	12.3%	13.0%	12.5%	13.0%	13.0%	Return on Shr. Equity		14.5%						
				12.5%	12.5%	12.6%	11.0%	13.4%	12.5%	12.1%	12.4%	13.1%	13.0%	13.0%	13.0%	Return on Com Equity E		14.5%						
				3.2%	3.2%	3.1%	2.5%	3.9%	2.6%	2.8%	2.8%	3.1%	3.0%	3.5%	3.5%	Retained to Com Eq		5.0%						
				75%	75%	76%	78%	72%	79%	77%	78%	76%	78%	77%	77%	All Div'ds to Net Prof		67%						
ELECTRIC OPERATING STATISTICS 2020 2021 2022 % Change Retail Sales (KWH) -8.5 -5.3 +2.0 Avg. Indust. Use (MWH) 2947 NA NA Avg. Indust. Revs. per KWH (c) 6.03 NA NA Capacity at Yearend (Mw) 41940 NA NA Peak Load, Summer (Mw) 34209 NA NA Annual Load Factor (%) 60.3 NA NA % Change Customers (yr-end) -8.9 +1.3 +1.5				BUSINESS: The Southern Company, through its subsidiaries, supplies electricity to 4.4 mill. customers in GA, AL, and MS. Also has a competitive generation business. Acq'd AGL Resources (renamed Southern Company Gas, 4.4 mill. customers in GA, NJ, IL, VA, & TN) 7/16. Sold Gulf Power 1/19. Electric revenue breakdown: residential, 37%; commercial, 30%; industrial, 19%; other, 14%.											Generating sources: gas, 44%; coal, 20%; nuclear, 16%; other, 11%; purchased, 9%. Fuel costs: 29% of revenues. '21 reported deprec. rates (utility): 2.7%-3.6%. Has 27,300 employees. Chairman, President and CEO: Thomas A. Fanning, Inc.: Delaware. Address: 30 Ivan Allen Jr. Blvd., N.W., Atlanta, Georgia 30308. Tel: 404-506-0747. Internet: www.southerncompany.com.									
Fixed Charge Cov. (%) 281 270 275				Southern Company's Georgia Power subsidiary is making progress and expects to complete unit 3 of the Vogtle nuclear station in May or June. In March, Unit 3 achieved initial criticality and successfully synced to the grid, which is a key step towards completion. Meanwhile, the utility anticipates that unit 4 of the Vogtle Station will be in-service by the end of the year or in the first quarter of 2024. The project will benefit the company's transition towards cleaner energy and being carbon-free as well as provide long-term dividend and profit growth. The utilities should also continue to benefit from rate relief and volume growth, and we look for earnings to advance slightly in the next few years.											usage of electricity and rate relief should also boost the bottom line over that interim. Too, management remains committed to its long-term earnings-per-share growth target of 5%-7%.									
ANNUAL RATES Past Past Est'd '20-'22 of change (per sh) 10 Yrs. 5 Yrs. to '26-'28 Revenues -- 5% 6.0% "Cash Flow" 4.0% 4.5% 5.0% Earnings 3.0% 3.0% 6.5% Dividends 3.5% 3.5% 3.5% Book Value 3.0% 2.5% 3.5%				Our 2023 estimate, is at the high-end of management's guidance range of \$3.55-\$3.65. The company started the year by posting first quarter profits of \$0.79 per share, which slightly exceeded our expectations. We believe earnings growth will likely accelerate even more once the nuclear units are completed. Accordingly, we look for full-year 2024 profits of \$4.00 per share. Higher retail pricing, increased											The board of directors recently raised the dividend. The increase was \$0.02 a share, making the quarterly dividend \$0.70 per share. The dividend has been raised in 22 consecutive years.									
QUARTERLY REVENUES (mill.) Cal-endar Mar.31 Jun.30 Sep.30 Dec.31 Full Year 2020 5018 4620 5620 5117 20375 2021 5910 5198 6238 5767 23113 2022 6648 7206 8378 7047 29279 2023 6480 6800 7120 6200 26600 2024 6800 7000 7200 6500 27500				The stock's dividend yield of 3.8%, which sits above the utility average of approximately 3.7%, remains its most notable feature. Investors in this company should also be reassured that the utility's operations are able to weather a veritable plethora of adverse conditions. As a result, the company holds high marks for Earnings Predictability and Price Stability. The stock has increased nearly 10% in value since our last report three months ago. After the strong price run, this equity now trades within our 3-to-5-year Target Price Range. Indeed, capital appreciation potential over the next 18 months and 3 to 5 years does not stand out compared to the Value Line median.											Zachary J. Hodgkinson May 12, 2023									
EARNINGS PER SHARE A Cal-endar Mar.31 Jun.30 Sep.30 Dec.31 Full Year 2020 .81 .75 1.18 .51 3.25 2021 1.09 .67 1.22 .44 3.42 2022 .97 1.07 1.31 .26 3.61 2023 .79 .95 1.36 .55 3.65 2024 1.20 1.00 1.30 .50 4.00				(A) Diluted EPS. Excl. nonrec. gain (losses): '09, (25c); '13, (83c); '14, (59c); '15, (25c); '16, (28c); '17, (\$2.37); '18, (78c); '19, \$1.30; '20, (17c); '21, (54c). Next earnings report due in late July. (B) Div's paid in early Mar., June, Sept., and Dec. (C) Div'd reinvestment plan avail. (D) Incl. def'd charges. In '22: \$19.85/sh. (E) In mill. (F) Rate base: AL, MS, fair value; FL, GA, orig. cost. Allowed return on common eq. (blended): 12.5%; earned on avg. com. eq., '21: 12.8%. Regulatory Climate: GA, AL Above Average; MS, FL Average.											Company's Financial Strength A Stock's Price Stability 95 Price Growth Persistence 50 Earnings Predictability 95									
QUARTERLY DIVIDENDS PAID B Cal-endar Mar.31 Jun.30 Sep.30 Dec.31 Full Year 2019 .60 .62 .62 .62 2.46 2020 .62 .64 .64 .64 2.54 2021 .64 .66 .66 .66 2.62 2022 .66 .68 .68 .68 2.70 2023 .68 .70				To subscribe call 1-800-VALUELINE																				



Sign in

Mail

Finance Home Watchlists My Portfolio Markets News Videos Yahoo Finance Plus Screeners

\n Advertisement\n

S&P 500 4,588.96 +6.73 (+0.15%)	Dow 30 35,559.53 +100.24 (+0.28%)	Nasdaq 14,346.02 +29.37 (+0.21%)	Russell 2000 2,003.18 +21.64 (+1.09%)	Crude Oil 81.74 -0.06 (-0.07%)	U.S. markets closed Gold 2,003.6 -5.60 (-0.28%)
---------------------------------------	---	--	---	--------------------------------------	--

ALLETE, Inc. (ALE)

NYSE - Nasdaq Real Time Price. Currency in USD

2W 10W 9M

57.43 +0.22 (+0.38%) **57.43** 0.00 (0.00%)

At close: 04:00PM EDT

After hours: 04:15PM EDT

Summary Company Insights Chart Conversations Statistics Historical Data Profile Financials Analysis Options Holders Sustainability

Currency in USD

\n Advertisement\n

Earnings Estimate

	Current Qtr. (Jun 2023)	Next Qtr. (Sep 2023)	Current Year (2023)	Next Year (2024)
No. of Analysts	6	6	7	7
Avg. Estimate	0.8	0.69	3.68	4.05
Low Estimate	0.74	0.59	3.61	3.87
High Estimate	0.92	0.79	3.76	4.18
Year Ago EPS	0.67	0.59	3.38	3.68

\n Advertisement\n

Revenue Estimate

	Current Qtr. (Jun 2023)	Next Qtr. (Sep 2023)	Current Year (2023)	Next Year (2024)
No. of Analysts	3	3	5	5
Avg. Estimate	446.57M	453.47M	1.7B	1.71B
Low Estimate	379M	395M	1.53B	1.57B
High Estimate	564.9M	564.9M	1.82B	1.84B
Year Ago Sales	373.1M	353.18M	1.57B	1.7B
Sales Growth (year/est)	19.70%	28.40%	7.90%	1.00%

Data Disclaimer Help Suggestions
Terms and Privacy Policy
Privacy Dashboard
About Our Ads Sitemap

Earnings History	6/29/2022	9/29/2022	12/30/2022	3/30/2023
EPS Est.	0.63	0.74	1.15	1.18
EPS Actual	0.67	0.59	0.88	1.02
Difference	0.04	-0.15	-0.27	-0.16
Surprise %	6.30%	-20.30%	-23.50%	-13.60%

EPS Trend	Current Qtr. (Jun 2023)	Next Qtr. (Sep 2023)	Current Year (2023)	Next Year (2024)
Current Estimate	0.8	0.69	3.68	4.05
7 Days Ago	0.8	0.69	3.68	4.05
30 Days Ago	0.8	0.7	3.72	4.08
60 Days Ago	0.85	0.78	3.73	4.08
90 Days Ago	0.74	0.65	3.74	4.08

EPS Revisions	Current Qtr. (Jun 2023)	Next Qtr. (Sep 2023)	Current Year (2023)	Next Year (2024)
Up Last 7 Days	N/A	N/A	N/A	N/A
Up Last 30 Days	N/A	N/A	N/A	N/A
Down Last 7 Days	N/A	N/A	N/A	N/A
Down Last 30 Days	N/A	N/A	1	1

Growth Estimates	ALE	Industry	Sector(s)	S&P 500
Current Qtr.	19.40%	N/A	N/A	N/A
Next Qtr.	16.90%	N/A	N/A	N/A
Current Year	8.90%	N/A	N/A	N/A
Next Year	10.10%	N/A	N/A	N/A
Next 5 Years (per annum)	8.10%	N/A	N/A	N/A
Past 5 Years (per annum)	0.33%	N/A	N/A	N/A



Sign in

Mail

Finance Home Watchlists My Portfolio Markets News Videos Yahoo Finance Plus Screeners

\n Advertisement\n

S&P 500 4,588.96 +6.73 (+0.15%)	Dow 30 35,559.53 +100.24 (+0.28%)	Nasdaq 14,346.02 +29.37 (+0.21%)	Russell 2000 2,003.18 +21.64 (+1.09%)	Crude Oil 81.74 -0.06 (-0.07%)	U.S. markets closed Gold 2,003.6 -5.60 (-0.28%)
---------------------------------------	---	--	---	--------------------------------------	--

Alliant Energy Corporation (LNT)

NasdaqGS - NasdaqGS Real Time Price. Currency in USD

2W 10W 9M

53.74 -0.15 (-0.28%) **53.74** 0.00 (0.00%)

At close: 04:00PM EDT

After hours: 04:12PM EDT

Summary Company Insights Chart Conversations Statistics Historical Data Profile Financials **Analysis** Options Holders Sustainability

Currency in USD

\n Advertisement\n

Earnings Estimate

	Current Qtr. (Jun 2023)	Next Qtr. (Sep 2023)	Current Year (2023)	Next Year (2024)
No. of Analysts	7	6	10	9
Avg. Estimate	0.58	0.97	2.89	3.09
Low Estimate	0.55	0.56	2.85	3.06
High Estimate	0.64	1.12	2.9	3.15
Year Ago EPS	0.63	0.93	2.8	2.89

\n Advertisement\n

Revenue Estimate

	Current Qtr. (Jun 2023)	Next Qtr. (Sep 2023)	Current Year (2023)	Next Year (2024)
No. of Analysts	2	2	5	5
Avg. Estimate	956.42M	1.05B	4.25B	4.5B
Low Estimate	865.95M	870.68M	3.77B	3.66B
High Estimate	1.05B	1.24B	4.61B	5.41B
Year Ago Sales	943M	1.13B	4.21B	4.25B
Sales Growth (year/est)	1.40%	-6.70%	1.20%	5.80%

Data Disclaimer Help Suggestions
Terms and Privacy Policy
Privacy Dashboard
About Our Ads Sitemap

\xc2\xa9 2023 Yahoo. All rights reserved.

Earnings History	6/29/2022	9/29/2022	12/30/2022	3/30/2023
EPS Est.	0.58	1.01	0.47	0.73
EPS Actual	0.63	0.93	0.47	0.65
Difference	0.05	-0.08	0	-0.08
Surprise %	8.60%	-7.90%	0.00%	-11.00%

EPS Trend	Current Qtr. (Jun 2023)	Next Qtr. (Sep 2023)	Current Year (2023)	Next Year (2024)
Current Estimate	0.58	0.97	2.89	3.09
7 Days Ago	0.59	0.97	2.89	3.09
30 Days Ago	0.55	0.96	2.89	3.09
60 Days Ago	0.52	0.94	2.9	3.08
90 Days Ago	0.56	0.95	2.89	3.19

EPS Revisions	Current Qtr. (Jun 2023)	Next Qtr. (Sep 2023)	Current Year (2023)	Next Year (2024)
Up Last 7 Days	1	N/A	N/A	N/A
Up Last 30 Days	1	1	N/A	N/A
Down Last 7 Days	N/A	N/A	N/A	N/A
Down Last 30 Days	N/A	N/A	N/A	N/A

Growth Estimates	LNT	Industry	Sector(s)	S&P 500
Current Qtr.	-7.90%	N/A	N/A	N/A
Next Qtr.	4.30%	N/A	N/A	N/A
Current Year	3.20%	N/A	N/A	N/A
Next Year	6.90%	N/A	N/A	N/A
Next 5 Years (per annum)	7.00%	N/A	N/A	N/A
Past 5 Years (per annum)	7.13%	N/A	N/A	N/A



Sign in

Mail

Finance Home Watchlists My Portfolio Markets News Videos Yahoo Finance Plus Screeners

\n Advertisement\n

S&P 500 4,588.96 +6.73 (+0.15%)	Dow 30 35,559.53 +100.24 (+0.28%)	Nasdaq 14,346.02 +29.37 (+0.21%)	Russell 2000 2,003.18 +21.64 (+1.09%)	Crude Oil 81.74 -0.06 (-0.07%)	U.S. markets closed Gold 2,003.7 -5.50 (-0.28%)
---------------------------------------	---	--	---	--------------------------------------	--

Ameren Corporation (AEE)

NYSE - Nasdaq Real Time Price. Currency in USD

2W 10W 9M

85.67 -0.16 (-0.19%) **85.67** 0.00 (0.00%)

At close: 04:00PM EDT

After hours: 05:43PM EDT

Summary Company Insights Chart Conversations Statistics Historical Data Profile Financials Analysis Options Holders Sustainability

Currency in USD

\n Advertisement\n

Earnings Estimate

	Current Qtr. (Jun 2023)	Next Qtr. (Sep 2023)	Current Year (2023)	Next Year (2024)
No. of Analysts	8	7	12	11
Avg. Estimate	0.81	1.87	4.37	4.68
Low Estimate	0.72	1.83	4.35	4.61
High Estimate	0.88	1.91	4.39	4.74
Year Ago EPS	0.8	1.74	4.14	4.37

\n Advertisement\n

Revenue Estimate

	Current Qtr. (Jun 2023)	Next Qtr. (Sep 2023)	Current Year (2023)	Next Year (2024)
No. of Analysts	3	3	7	7
Avg. Estimate	1.68B	2.29B	7.92B	8.23B
Low Estimate	1.5B	2.08B	6.71B	6.96B
High Estimate	1.81B	2.5B	8.5B	8.89B
Year Ago Sales	1.73B	1.89B	7.96B	7.92B
Sales Growth (year/est)	-2.60%	21.00%	-0.50%	4.00%

Data Disclaimer Help Suggestions
Terms and Privacy Policy
Privacy Dashboard
About Our Ads Sitemap

\xc2\xa9 2023 Yahoo. All rights reserved.

Earnings History	6/29/2022	9/29/2022	12/30/2022	3/30/2023
EPS Est.	0.83	1.74	0.56	0.94
EPS Actual	0.8	1.74	0.63	1
Difference	-0.03	0	0.07	0.06
Surprise %	-3.60%	0.00%	12.50%	6.40%

EPS Trend	Current Qtr. (Jun 2023)	Next Qtr. (Sep 2023)	Current Year (2023)	Next Year (2024)
Current Estimate	0.81	1.87	4.37	4.68
7 Days Ago	0.81	1.87	4.37	4.68
30 Days Ago	0.77	1.87	4.37	4.68
60 Days Ago	0.76	1.88	4.37	4.69
90 Days Ago	0.81	1.89	4.36	4.69

EPS Revisions	Current Qtr. (Jun 2023)	Next Qtr. (Sep 2023)	Current Year (2023)	Next Year (2024)
Up Last 7 Days	2	N/A	1	1
Up Last 30 Days	3	1	1	1
Down Last 7 Days	N/A	N/A	N/A	N/A
Down Last 30 Days	N/A	N/A	1	N/A

Growth Estimates	AEE	Industry	Sector(s)	S&P 500
Current Qtr.	1.30%	N/A	N/A	N/A
Next Qtr.	7.50%	N/A	N/A	N/A
Current Year	5.60%	N/A	N/A	N/A
Next Year	7.10%	N/A	N/A	N/A
Next 5 Years (per annum)	5.90%	N/A	N/A	N/A
Past 5 Years (per annum)	6.17%	N/A	N/A	N/A



Sign in

Mail

Finance Home Watchlists My Portfolio Markets News Videos Yahoo Finance Plus Screeners

\n Advertisement\n

S&P 500 4,588.96 +6.73 (+0.15%)	Dow 30 35,559.53 +100.24 (+0.28%)	Nasdaq 14,346.02 +29.37 (+0.21%)	Russell 2000 2,003.18 +21.64 (+1.09%)	Crude Oil 81.74 -0.06 (-0.07%)	Gold 2,003.6 -5.60 (-0.28%)
--	--	---	--	---	--

U.S. markets closed

American Electric Power Company, Inc. (AEP)

NasdaqGS - NasdaqGS Real Time Price. Currency in USD

2W 10W 9M

84.74 -0.68 (-0.80%) **84.06** -0.68 (-0.80%)

At close: 04:00PM EDT

After hours: 05:22PM EDT

Dividend

AEP announced a cash dividend of 0.83 with an ex-date of Aug. 9, 2023

Summary Company Insights Chart Conversations Statistics Historical Data Profile Financials Analysis Options Holders Sustainability

Currency in USD

\n Advertisement\n

Earnings Estimate


	Current Qtr. (Sep 2023)	Next Qtr. (Dec 2023)	Current Year (2023)	Next Year (2024)
No. of Analysts	11	11	19	19
Avg. Estimate	1.78	1.24	5.27	5.6
Low Estimate	1.63	1.11	5.19	5.41
High Estimate	1.89	1.38	5.36	5.66
Year Ago EPS	1.62	1.05	5.09	5.27

\n Advertisement\n

Revenue Estimate

	Current Qtr. (Sep 2023)	Next Qtr. (Dec 2023)	Current Year (2023)	Next Year (2024)
No. of Analysts	5	5	13	13
Avg. Estimate	5.51B	5.12B	19.78B	20.42B
Low Estimate	4.74B	4.8B	18.14B	18.78B
High Estimate	6.21B	5.66B	21.73B	22.72B
Year Ago Sales	4.75B	4.88B	19.64B	19.78B

Data Disclaimer Help Suggestions Terms and Privacy Policy

[Privacy Dashboard](#) 
[About Our Ads](#) [Sitemap](#)

Sales Growth (year/est)	15.90%	4.80%	0.70%	3.20%
-------------------------	--------	-------	-------	-------

© 2023 Yahoo. All rights reserved.

Earnings History	9/29/2022	12/30/2022	3/30/2023	6/29/2023
EPS Est.	1.56	0.99	1.11	1.12
EPS Actual	1.62	1.05	1.11	1.13
Difference	0.06	0.06	0	0.01
Surprise %	3.80%	6.10%	0.00%	0.90%

EPS Trend	Current Qtr. (Sep 2023)	Next Qtr. (Dec 2023)	Current Year (2023)	Next Year (2024)
Current Estimate	1.78	1.24	5.27	5.6
7 Days Ago	1.79	1.21	5.27	5.61
30 Days Ago	1.71	1.18	5.27	5.62
60 Days Ago	1.73	1.18	5.28	5.62
90 Days Ago	1.73	1.18	5.28	5.62

EPS Revisions	Current Qtr. (Sep 2023)	Next Qtr. (Dec 2023)	Current Year (2023)	Next Year (2024)
Up Last 7 Days	N/A	N/A	N/A	N/A
Up Last 30 Days	8	10	1	2
Down Last 7 Days	N/A	N/A	N/A	N/A
Down Last 30 Days	2	1	1	1

Growth Estimates	AEP	Industry	Sector(s)	S&P 500
Current Qtr.	9.90%	N/A	N/A	N/A
Next Qtr.	18.10%	N/A	N/A	N/A
Current Year	3.50%	N/A	N/A	N/A
Next Year	6.30%	N/A	N/A	N/A
Next 5 Years (per annum)	5.20%	N/A	N/A	N/A
Past 5 Years (per annum)	5.01%	N/A	N/A	N/A



Sign in

Mail

Finance Home Watchlists My Portfolio Markets News Videos Yahoo Finance Plus Screeners

\n Advertisement\n

S&P 500 4,588.96 +6.73 (+0.15%)	Dow 30 35,559.53 +100.24 (+0.28%)	Nasdaq 14,346.02 +29.37 (+0.21%)	Russell 2000 2,003.18 +21.64 (+1.09%)	Crude Oil 81.74 -0.06 (-0.07%)	U.S. markets closed Gold 2,003.6 -5.60 (-0.28%)
---------------------------------------	---	--	---	--------------------------------------	--

Avista Corporation (AVA)

NYSE - Nasdaq Real Time Price. Currency in USD

2W 10W 9M

38.64 -0.32 (-0.82%) **38.67** +0.03 (+0.08%)

At close: 04:00PM EDT

After hours: 04:18PM EDT

Summary Company Insights Chart Conversations Statistics Historical Data Profile Financials **Analysis** Options Holders Sustainability

Currency in USD

\n Advertisement\n

Earnings Estimate

	Current Qtr. (Jun 2023)	Next Qtr. (Sep 2023)	Current Year (2023)	Next Year (2024)
No. of Analysts	5	5	6	6
Avg. Estimate	0.17	0.2	2.32	2.46
Low Estimate	0.14	-0.02	2.25	2.38
High Estimate	0.25	0.29	2.39	2.62
Year Ago EPS	0.16	-0.08	2.12	2.32

\n Advertisement\n

Revenue Estimate

	Current Qtr. (Jun 2023)	Next Qtr. (Sep 2023)	Current Year (2023)	Next Year (2024)
No. of Analysts	3	3	4	4
Avg. Estimate	370.08M	355.15M	1.73B	1.78B
Low Estimate	333.2M	336.13M	1.54B	1.59B
High Estimate	398.19M	376.64M	1.97B	2.07B
Year Ago Sales	378.57M	359.45M	1.71B	1.73B
Sales Growth (year/est)	-2.20%	-1.20%	1.00%	2.80%

[Data Disclaimer](#) [Help](#) [Suggestions](#)
[Terms and Privacy Policy](#)
[Privacy Dashboard](#)

[About Our Ads](#) [Sitemap](#)

Earnings History	6/29/2022	9/29/2022	12/30/2022	3/30/2023
EPS Est.	0.17	0.13	0.78	1.16
EPS Actual	0.16	-0.08	1.05	0.73
Difference	-0.01	-0.21	0.27	-0.43
Surprise %	-5.90%	-161.50%	34.60%	-37.10%

EPS Trend	Current Qtr. (Jun 2023)	Next Qtr. (Sep 2023)	Current Year (2023)	Next Year (2024)
Current Estimate	0.17	0.2	2.32	2.46
7 Days Ago	0.17	0.2	2.32	2.46
30 Days Ago	0.18	0.21	2.32	2.46
60 Days Ago	0.19	0.26	2.33	2.46
90 Days Ago	0.23	0.05	2.32	2.46

EPS Revisions	Current Qtr. (Jun 2023)	Next Qtr. (Sep 2023)	Current Year (2023)	Next Year (2024)
Up Last 7 Days	N/A	N/A	N/A	N/A
Up Last 30 Days	N/A	N/A	N/A	N/A
Down Last 7 Days	N/A	N/A	N/A	N/A
Down Last 30 Days	N/A	N/A	N/A	N/A

Growth Estimates	AVA	Industry	Sector(s)	S&P 500
Current Qtr.	6.30%	N/A	N/A	N/A
Next Qtr.	350.00%	N/A	N/A	N/A
Current Year	9.40%	N/A	N/A	N/A
Next Year	6.00%	N/A	N/A	N/A
Next 5 Years (per annum)	6.30%	N/A	N/A	N/A
Past 5 Years (per annum)	6.87%	N/A	N/A	N/A



Sign in

Mail

Finance Home Watchlists My Portfolio Markets News Videos Yahoo Finance Plus Screeners

\n Advertisement\n

S&P 500
4,588.96
+6.73 (+0.15%)

Dow 30
35,559.53
+100.24 (+0.28%)

Nasdaq
14,346.02
+29.37 (+0.21%)

Russell 2000
2,003.18
+21.64 (+1.09%)

Crude Oil
81.74
-0.06 (-0.07%)

U.S. markets closed

\n Advertisement\n

CMS Energy Corporation (CMS)

NYSE - Nasdaq Real Time Price. Currency in USD

2W 10W 9M

61.07 +0.05 (+0.08%) **59.70** -1.37 (-2.24%)

At close: 04:01PM EDT

After hours: 05:59PM EDT

Dividend

CMS announced a cash dividend of 0.488 with an ex-date of Aug. 3, 2023

Summary Company Insights Chart Conversations Statistics Historical Data Profile Financials Analysis Options Holders Sustainability

Currency in USD

\n Advertisement\n

Earnings Estimate

	Current Qtr. (Sep 2023)	Next Qtr. (Dec 2023)	Current Year (2023)	Next Year (2024)
No. of Analysts	10	10	17	16
Avg. Estimate	0.77	0.93	3.11	3.35
Low Estimate	0.57	0.76	3.09	3.32
High Estimate	0.93	1.15	3.12	3.41
Year Ago EPS	0.56	0.6	2.89	3.11

\n Advertisement\n

Revenue Estimate

	Current Qtr. (Sep 2023)	Next Qtr. (Dec 2023)	Current Year (2023)	Next Year (2024)
No. of Analysts	4	4	11	11
Avg. Estimate	2.15B	2.51B	8.77B	9.06B
Low Estimate	2.08B	2.25B	8.55B	8.77B
High Estimate	2.22B	2.91B	8.93B	9.36B
Year Ago Sales	1.75B	2.28B	8.6B	8.77B

Data Disclaimer Help Suggestions
Terms and Privacy Policy
Privacy Dashboard

Sales Growth (year/est)	22.80%	10.20%	2.00%	3.30%
-------------------------	--------	--------	-------	-------

[About Our Ads](#) [Sitemap](#)

© 2023 Yahoo. All rights reserved.

Earnings History	9/29/2022	12/30/2022	3/30/2023	6/29/2023
EPS Est.	0.55	0.39	0.76	0.7
EPS Actual	0.56	0.6	0.7	0.75
Difference	0.01	0.21	-0.06	0.05
Surprise %	1.80%	53.80%	-7.90%	7.10%

EPS Trend	Current Qtr. (Sep 2023)	Next Qtr. (Dec 2023)	Current Year (2023)	Next Year (2024)
Current Estimate	0.77	0.93	3.11	3.35
7 Days Ago	0.76	0.95	3.1	3.35
30 Days Ago	0.77	0.97	3.1	3.35
60 Days Ago	0.8	0.98	3.1	3.35
90 Days Ago	0.77	0.88	3.1	3.34

EPS Revisions	Current Qtr. (Sep 2023)	Next Qtr. (Dec 2023)	Current Year (2023)	Next Year (2024)
Up Last 7 Days	N/A	1	1	N/A
Up Last 30 Days	3	6	1	2
Down Last 7 Days	N/A	N/A	N/A	N/A
Down Last 30 Days	1	N/A	1	N/A

Growth Estimates	CMS	Industry	Sector(s)	S&P 500
Current Qtr.	37.50%	N/A	N/A	N/A
Next Qtr.	55.00%	N/A	N/A	N/A
Current Year	7.60%	N/A	N/A	N/A
Next Year	7.70%	N/A	N/A	N/A
Next 5 Years (per annum)	7.80%	N/A	N/A	N/A
Past 5 Years (per annum)	2.86%	N/A	N/A	N/A



Sign in

Mail

Finance Home Watchlists My Portfolio Markets News Videos Yahoo Finance Plus Screeners

\n Advertisement\n

S&P 500 4,588.96 +6.73 (+0.15%)	Dow 30 35,559.53 +100.24 (+0.28%)	Nasdaq 14,346.02 +29.37 (+0.21%)	Russell 2000 2,003.18 +21.64 (+1.09%)	Crude Oil 81.74 -0.06 (-0.07%)	U.S. markets closed Gold 2,003.6 -5.60 (-0.28%)
---------------------------------------	---	--	---	--------------------------------------	--

Duke Energy Corporation (DUK)

NYSE - Nasdaq Real Time Price. Currency in USD

2W 10W 9M

93.62 +0.28 (+0.30%) **93.63** +0.01 (+0.01%)

At close: 04:05PM EDT

After hours: 06:41PM EDT

Dividend
DUK announced a cash dividend of 1.025 with an ex-date of Aug. 17, 2023

Summary Company Insights Chart Conversations Statistics Historical Data Profile Financials Analysis Options Holders Sustainability

Currency in USD

\n Advertisement\n

Earnings Estimate	Current Qtr. (Jun 2023)	Next Qtr. (Sep 2023)	Current Year (2023)	Next Year (2024)
No. of Analysts	15	9	18	17
Avg. Estimate	0.98	1.98	5.63	5.98
Low Estimate	0.9	1.8	5.56	5.92
High Estimate	1.39	2.1	5.68	6.07
Year Ago EPS	1.14	1.78	5.27	5.63

\n Advertisement\n

Revenue Estimate	Current Qtr. (Jun 2023)	Next Qtr. (Sep 2023)	Current Year (2023)	Next Year (2024)
No. of Analysts	6	6	10	11
Avg. Estimate	6.16B	8.12B	29.52B	30.17B
Low Estimate	4.6B	7.04B	26.93B	27.94B
High Estimate	6.8B	8.72B	30.82B	31.95B
Year Ago Sales	6.68B	7.39B	28.77B	29.52B

Sales Growth

Data Disclaimer Help Suggestions
Terms and Privacy Policy
Privacy Dashboard

(year/est)	-7.90%	9.90%	2.60%	2.20%
------------	--------	-------	-------	-------

[About Our Ads](#) [Sitemap](#)

© 2023 Yahoo. All rights reserved.

Earnings History	6/29/2022	9/29/2022	12/30/2022	3/30/2023
EPS Est.	1.07	1.84	1.07	1.26
EPS Actual	1.14	1.78	1.11	1.2
Difference	0.07	-0.06	0.04	-0.06
Surprise %	6.50%	-3.30%	3.70%	-4.80%

EPS Trend	Current Qtr. (Jun 2023)	Next Qtr. (Sep 2023)	Current Year (2023)	Next Year (2024)
Current Estimate	0.98	1.98	5.63	5.98
7 Days Ago	1.02	1.98	5.63	5.98
30 Days Ago	1.17	1.93	5.63	5.98
60 Days Ago	1.19	1.94	5.64	5.99
90 Days Ago	1.19	1.91	5.63	5.99

EPS Revisions	Current Qtr. (Jun 2023)	Next Qtr. (Sep 2023)	Current Year (2023)	Next Year (2024)
Up Last 7 Days	N/A	1	N/A	N/A
Up Last 30 Days	N/A	5	1	1
Down Last 7 Days	N/A	N/A	N/A	N/A
Down Last 30 Days	4	N/A	1	1

Growth Estimates	DUK	Industry	Sector(s)	S&P 500
Current Qtr.	-14.00%	N/A	N/A	N/A
Next Qtr.	11.20%	N/A	N/A	N/A
Current Year	6.80%	N/A	N/A	N/A
Next Year	6.20%	N/A	N/A	N/A
Next 5 Years (per annum)	5.74%	N/A	N/A	N/A
Past 5 Years (per annum)	3.21%	N/A	N/A	N/A



Sign in

Mail

Finance Home Watchlists My Portfolio Markets News Videos Yahoo Finance Plus Screeners

\n Advertisement\n

S&P 500 4,588.96 +6.73 (+0.15%)	Dow 30 35,559.53 +100.24 (+0.28%)	Nasdaq 14,346.02 +29.37 (+0.21%)	Russell 2000 2,003.18 +21.64 (+1.09%)	Crude Oil 81.74 -0.06 (-0.07%)	U.S. markets closed Gold 2,003.7 -5.50 (-0.28%)
--	--	---	--	---	--

Entergy Corporation (ETR)

NYSE - Nasdaq Real Time Price. Currency in USD

2W 10W 9M

102.70 -0.57 (-0.55%) **102.70** 0.00 (0.00%)

At close: 04:00PM EDT

After hours: 04:04PM EDT

Dividend

ETR announced a cash dividend of 1.07 with an ex-date of Aug. 10, 2023

Summary Company Insights Chart Conversations Statistics Historical Data Profile Financials Analysis Options Holders Sustainability

Currency in USD

\n Advertisement\n

Earnings Estimate

	Current Qtr. (Jun 2023)	Next Qtr. (Sep 2023)	Current Year (2023)	Next Year (2024)
No. of Analysts	14	10	17	18
Avg. Estimate	1.66	2.92	6.7	7.19
Low Estimate	1.28	2.45	6.59	7.12
High Estimate	1.99	3.25	6.77	7.23
Year Ago EPS	1.78	2.84	6.42	6.7

\n Advertisement\n

Revenue Estimate

	Current Qtr. (Jun 2023)	Next Qtr. (Sep 2023)	Current Year (2023)	Next Year (2024)
No. of Analysts	4	4	10	10
Avg. Estimate	3.41B	4.21B	14B	14.46B
Low Estimate	3.28B	3.94B	12.41B	13.03B
High Estimate	3.54B	4.45B	15.53B	16.19B
Year Ago Sales	3.4B	4.22B	13.76B	14B

Sales Growth

Data Disclaimer Help Suggestions
Terms and Privacy Policy
Privacy Dashboard

(year/est)	0.30%	-0.30%	1.70%	3.30%
------------	-------	--------	-------	-------

[About Our Ads](#) [Sitemap](#)

© 2023 Yahoo. All rights reserved.

Earnings History	6/29/2022	9/29/2022	12/30/2022	3/30/2023
EPS Est.	1.4	2.66	0.51	1.42
EPS Actual	1.78	2.84	0.51	1.14
Difference	0.38	0.18	0	-0.28
Surprise %	27.10%	6.80%	0.00%	-19.70%

EPS Trend	Current Qtr. (Jun 2023)	Next Qtr. (Sep 2023)	Current Year (2023)	Next Year (2024)
Current Estimate	1.66	2.92	6.7	7.19
7 Days Ago	1.67	2.91	6.7	7.19
30 Days Ago	1.71	2.87	6.69	7.19
60 Days Ago	1.71	2.85	6.7	7.18
90 Days Ago	1.7	2.86	6.69	7.19

EPS Revisions	Current Qtr. (Jun 2023)	Next Qtr. (Sep 2023)	Current Year (2023)	Next Year (2024)
Up Last 7 Days	1	1	N/A	N/A
Up Last 30 Days	2	5	2	1
Down Last 7 Days	N/A	N/A	N/A	N/A
Down Last 30 Days	2	N/A	N/A	N/A

Growth Estimates	ETR	Industry	Sector(s)	S&P 500
Current Qtr.	-6.70%	N/A	N/A	N/A
Next Qtr.	2.80%	N/A	N/A	N/A
Current Year	4.40%	N/A	N/A	N/A
Next Year	7.30%	N/A	N/A	N/A
Next 5 Years (per annum)	6.60%	N/A	N/A	N/A
Past 5 Years (per annum)	-2.24%	N/A	N/A	N/A



Sign in

Mail

Finance Home Watchlists My Portfolio Markets News Videos Yahoo Finance Plus Screeners

\n Advertisement\n

S&P 500 4,588.96 +6.73 (+0.15%)	Dow 30 35,559.53 +100.24 (+0.28%)	Nasdaq 14,346.02 +29.37 (+0.21%)	Russell 2000 2,003.18 +21.64 (+1.09%)	Crude Oil 81.74 -0.06 (-0.07%)	Gold 2,003.7 -5.50 (-0.28%)
--	--	---	--	---	--

U.S. markets closed

Energy, Inc. (EVRG)

NasdaqGS - NasdaqGS Real Time Price. Currency in USD

2W 10W 9M

59.97 -0.18 (-0.30%) **59.97** 0.00 (0.00%)

At close: 04:00PM EDT

After hours: 05:00PM EDT

Summary Company Insights Chart Conversations Statistics Historical Data Profile Financials **Analysis** Options Holders Sustainability

Currency in USD

\n Advertisement\n

Earnings Estimate

	Current Qtr. (Jun 2023)	Next Qtr. (Sep 2023)	Current Year (2023)	Next Year (2024)
No. of Analysts	6	3	7	7
Avg. Estimate	0.77	1.92	3.63	3.96
Low Estimate	0.76	1.85	3.58	3.89
High Estimate	0.8	1.98	3.68	4.01
Year Ago EPS	0.86	2.01	3.71	3.63

\n Advertisement\n

Revenue Estimate

	Current Qtr. (Jun 2023)	Next Qtr. (Sep 2023)	Current Year (2023)	Next Year (2024)
No. of Analysts	1	1	5	5
Avg. Estimate	1.45B	1.92B	5.61B	5.81B
Low Estimate	1.45B	1.92B	5.16B	5.3B
High Estimate	1.45B	1.92B	5.97B	6.18B
Year Ago Sales	1.45B	1.91B	5.86B	5.61B
Sales Growth (year/est)	0.40%	0.60%	-4.20%	3.40%

Data Disclaimer Help Suggestions
Terms and Privacy Policy
Privacy Dashboard
About Our Ads Sitemap

\xc2\xa9 2023 Yahoo. All rights reserved.

Earnings History	6/29/2022	9/29/2022	12/30/2022	3/30/2023
EPS Est.	0.83	1.88	0.26	0.58
EPS Actual	0.86	2.01	0.3	0.59
Difference	0.03	0.13	0.04	0.01
Surprise %	3.60%	6.90%	15.40%	1.70%

EPS Trend	Current Qtr. (Jun 2023)	Next Qtr. (Sep 2023)	Current Year (2023)	Next Year (2024)
Current Estimate	0.77	1.92	3.63	3.96
7 Days Ago	0.78	1.92	3.64	3.96
30 Days Ago	0.83	1.97	3.64	3.96
60 Days Ago	0.85	1.97	3.65	3.98
90 Days Ago	0.83	1.96	3.64	3.96

EPS Revisions	Current Qtr. (Jun 2023)	Next Qtr. (Sep 2023)	Current Year (2023)	Next Year (2024)
Up Last 7 Days	N/A	N/A	N/A	N/A
Up Last 30 Days	N/A	N/A	N/A	N/A
Down Last 7 Days	N/A	N/A	N/A	N/A
Down Last 30 Days	N/A	N/A	N/A	N/A

Growth Estimates	EVRG	Industry	Sector(s)	S&P 500
Current Qtr.	-10.50%	N/A	N/A	N/A
Next Qtr.	-4.50%	N/A	N/A	N/A
Current Year	-2.20%	N/A	N/A	N/A
Next Year	9.10%	N/A	N/A	N/A
Next 5 Years (per annum)	2.67%	N/A	N/A	N/A
Past 5 Years (per annum)	11.63%	N/A	N/A	N/A



Sign in

Mail

Finance Home Watchlists My Portfolio Markets News Videos Yahoo Finance Plus Screeners

\n Advertisement\n

S&P 500 4,588.96 +6.73 (+0.15%)	Dow 30 35,559.53 +100.24 (+0.28%)	Nasdaq 14,346.02 +29.37 (+0.21%)	Russell 2000 2,003.18 +21.64 (+1.09%)	Crude Oil 81.74 -0.06 (-0.07%)
--	--	---	--	---

U.S. markets closed

\n Advertisement\n

IDACORP, Inc. (IDA)

NYSE - NYSE Delayed Price. Currency in USD

2W 10W 9M

102.82 +0.36 (+0.35%) **102.82** 0.00 (0.00%)

At close: 04:00PM EDT

After hours: 04:15PM EDT

Dividend

IDA announced a cash dividend of 0.79 with an ex-date of Aug. 1, 2023

Summary Company Insights Chart Conversations Statistics Historical Data Profile Financials Analysis Options Holders Sustainability

Currency in USD

\n Advertisement\n

Earnings Estimate

	Current Qtr. (Jun 2023)	Next Qtr. (Sep 2023)	Current Year (2023)	Next Year (2024)
No. of Analysts	3	3	5	5
Avg. Estimate	1.33	1.94	5.09	5.4
Low Estimate	1.18	1.84	5.05	5.33
High Estimate	1.51	2.03	5.17	5.5
Year Ago EPS	1.27	2.1	5.11	5.09

\n Advertisement\n

Revenue Estimate

	Current Qtr. (Jun 2023)	Next Qtr. (Sep 2023)	Current Year (2023)	Next Year (2024)
No. of Analysts	2	2	3	3
Avg. Estimate	353.51M	461.21M	1.54B	1.59B
Low Estimate	334.9M	415.5M	1.49B	1.43B
High Estimate	372.12M	506.92M	1.62B	1.73B
Year Ago Sales	358.72M	518.01M	1.65B	1.54B

Data Disclaimer Help Suggestions
Terms and Privacy Policy
Privacy Dashboard

Sales Growth (year/est)	-1.50%	-11.00%	-6.50%	3.30%
-------------------------	--------	---------	--------	-------

[About Our Ads](#) [Sitemap](#)

© 2023 Yahoo. All rights reserved.

Earnings History	6/29/2022	9/29/2022	12/30/2022	3/30/2023
EPS Est.	1.31	2.02	0.82	0.92
EPS Actual	1.27	2.1	0.83	1.11
Difference	-0.04	0.08	0.01	0.19
Surprise %	-3.10%	4.00%	1.20%	20.70%

EPS Trend	Current Qtr. (Jun 2023)	Next Qtr. (Sep 2023)	Current Year (2023)	Next Year (2024)
Current Estimate	1.33	1.94	5.09	5.4
7 Days Ago	1.33	1.94	5.09	5.4
30 Days Ago	1.33	1.94	5.09	5.4
60 Days Ago	1.24	1.99	5.08	5.4
90 Days Ago	1.38	1.99	5.08	5.39

EPS Revisions	Current Qtr. (Jun 2023)	Next Qtr. (Sep 2023)	Current Year (2023)	Next Year (2024)
Up Last 7 Days	N/A	N/A	N/A	N/A
Up Last 30 Days	N/A	N/A	N/A	N/A
Down Last 7 Days	N/A	N/A	N/A	N/A
Down Last 30 Days	N/A	N/A	N/A	N/A

Growth Estimates	IDA	Industry	Sector(s)	S&P 500
Current Qtr.	4.70%	N/A	N/A	N/A
Next Qtr.	-7.60%	N/A	N/A	N/A
Current Year	-0.40%	N/A	N/A	N/A
Next Year	6.10%	N/A	N/A	N/A
Next 5 Years (per annum)	3.70%	N/A	N/A	N/A
Past 5 Years (per annum)	4.85%	N/A	N/A	N/A



Sign in

Mail

Finance Home Watchlists My Portfolio Markets News Videos Yahoo Finance Plus Screeners

\n Advertisement\n

S&P 500 4,588.96 +6.73 (+0.15%)	Dow 30 35,559.53 +100.24 (+0.28%)	Nasdaq 14,346.02 +29.37 (+0.21%)	Russell 2000 2,003.18 +21.64 (+1.09%)	Crude Oil 81.74 -0.06 (-0.07%)	U.S. markets closed Gold 2,003.6 -5.60 (-0.28%)
---------------------------------------	---	--	---	--------------------------------------	--

NextEra Energy, Inc. (NEE)

NYSE - NYSE Delayed Price. Currency in USD

2W 10W 9M

73.30 +0.45 (+0.62%) 73.23 -0.07 (-0.10%)

At close: 04:00PM EDT

After hours: 06:42PM EDT

Dividend

NEE announced a cash dividend of 0.468 with an ex-date of Aug. 29, 2023

Summary Company Insights Chart Conversations Statistics Historical Data Profile Financials Analysis Options Holders Sustainability

Currency in USD

\n Advertisement\n

Earnings Estimate

	Current Qtr. (Sep 2023)	Next Qtr. (Dec 2023)	Current Year (2023)	Next Year (2024)
No. of Analysts	10	9	18	18
Avg. Estimate	0.88	0.55	3.12	3.4
Low Estimate	0.8	0.48	3.09	3.35
High Estimate	0.95	0.65	3.17	3.45
Year Ago EPS	0.85	0.51	2.9	3.12

\n Advertisement\n

Revenue Estimate

	Current Qtr. (Sep 2023)	Next Qtr. (Dec 2023)	Current Year (2023)	Next Year (2024)
No. of Analysts	7	6	13	12
Avg. Estimate	7.12B	5.79B	25.29B	26.96B
Low Estimate	6.59B	3.43B	18.46B	19.2B
High Estimate	7.52B	6.41B	27.61B	30.11B
Year Ago Sales	5.76B	6.16B	20.96B	25.29B

Sales Growth

Data Disclaimer Help Suggestions Terms and Privacy Policy Privacy Dashboard

(year/est)	23.60%	-6.10%	20.70%	6.60%
------------	--------	--------	--------	-------

[About Our Ads](#) [Sitemap](#)

© 2023 Yahoo. All rights reserved.

Earnings History	9/29/2022	12/30/2022	3/30/2023	6/29/2023
EPS Est.	0.8	0.49	0.72	0.82
EPS Actual	0.85	0.51	0.84	0.88
Difference	0.05	0.02	0.12	0.06
Surprise %	6.20%	4.10%	16.70%	7.30%

EPS Trend	Current Qtr. (Sep 2023)	Next Qtr. (Dec 2023)	Current Year (2023)	Next Year (2024)
Current Estimate	0.88	0.55	3.12	3.4
7 Days Ago	0.89	0.57	3.11	3.41
30 Days Ago	0.9	0.58	3.11	3.41
60 Days Ago	0.92	0.57	3.11	3.4
90 Days Ago	0.97	0.58	3.1	3.39

EPS Revisions	Current Qtr. (Sep 2023)	Next Qtr. (Dec 2023)	Current Year (2023)	Next Year (2024)
Up Last 7 Days	1	2	4	1
Up Last 30 Days	1	3	5	2
Down Last 7 Days	N/A	N/A	N/A	N/A
Down Last 30 Days	5	5	3	2

Growth Estimates	NEE	Industry	Sector(s)	S&P 500
Current Qtr.	3.50%	N/A	N/A	N/A
Next Qtr.	7.80%	N/A	N/A	N/A
Current Year	7.60%	N/A	N/A	N/A
Next Year	9.00%	N/A	N/A	N/A
Next 5 Years (per annum)	8.80%	N/A	N/A	N/A
Past 5 Years (per annum)	10.33%	N/A	N/A	N/A



Sign in

Mail

Finance Home Watchlists My Portfolio Markets News Videos Yahoo Finance Plus Screeners

\n Advertisement\n

S&P 500 4,588.96 +6.73 (+0.15%)	Dow 30 35,559.53 +100.24 (+0.28%)	Nasdaq 14,346.02 +29.37 (+0.21%)	Russell 2000 2,003.18 +21.64 (+1.09%)	Crude Oil 81.74 -0.06 (-0.07%)	U.S. markets closed Gold 2,003.6 -5.60 (-0.28%)
---------------------------------------	---	--	---	--------------------------------------	--

NorthWestern Corporation (NWE)

NasdaqGS - NasdaqGS Real Time Price. Currency in USD

2W 10W 9M

56.47 -0.35 (-0.62%) **56.11** -0.36 (-0.64%)

At close: 04:00PM EDT

After hours: 04:24PM EDT

Summary Company Insights Chart Conversations Statistics Historical Data Profile Financials **Analysis** Options Holders Sustainability

Currency in USD

\n Advertisement\n

Earnings Estimate

	Current Qtr. (Sep 2023)	Next Qtr. (Dec 2023)	Current Year (2023)	Next Year (2024)
No. of Analysts	6	6	8	8
Avg. Estimate	0.82	1.15	3.41	3.59
Low Estimate	0.59	0.95	3.29	3.42
High Estimate	1.01	1.33	3.48	3.75
Year Ago EPS	0.42	1.13	3.18	3.41

\n Advertisement\n

Revenue Estimate

	Current Qtr. (Sep 2023)	Next Qtr. (Dec 2023)	Current Year (2023)	Next Year (2024)
No. of Analysts	4	4	6	6
Avg. Estimate	386.19M	443M	1.59B	1.65B
Low Estimate	361.45M	434M	1.54B	1.58B
High Estimate	414M	461M	1.7B	1.8B
Year Ago Sales	335.1M	425.25M	1.48B	1.59B
Sales Growth (year/est)	15.20%	4.20%	7.90%	3.50%

Data Disclaimer Help Suggestions Terms and Privacy Policy Privacy Dashboard About Our Ads Sitemap

Earnings History	9/29/2022	12/30/2022	3/30/2023	6/29/2023
EPS Est.	0.59	1.16	1.11	0.52
EPS Actual	0.42	1.13	1.05	0.35
Difference	-0.17	-0.03	-0.06	-0.17
Surprise %	-28.80%	-2.60%	-5.40%	-32.70%

EPS Trend	Current Qtr. (Sep 2023)	Next Qtr. (Dec 2023)	Current Year (2023)	Next Year (2024)
Current Estimate	0.82	1.15	3.41	3.59
7 Days Ago	0.75	1.11	3.43	3.58
30 Days Ago	0.75	1.11	3.46	3.59
60 Days Ago	0.72	1.12	3.44	3.6
90 Days Ago	0.69	1.11	3.47	3.61

EPS Revisions	Current Qtr. (Sep 2023)	Next Qtr. (Dec 2023)	Current Year (2023)	Next Year (2024)
Up Last 7 Days	3	2	1	1
Up Last 30 Days	4	3	1	1
Down Last 7 Days	N/A	N/A	N/A	N/A
Down Last 30 Days	1	1	2	1

Growth Estimates	NWE	Industry	Sector(s)	S&P 500
Current Qtr.	95.20%	N/A	N/A	N/A
Next Qtr.	1.80%	N/A	N/A	N/A
Current Year	7.20%	N/A	N/A	N/A
Next Year	5.30%	N/A	N/A	N/A
Next 5 Years (per annum)	4.50%	N/A	N/A	N/A
Past 5 Years (per annum)	-3.33%	N/A	N/A	N/A



Sign in

Mail

Finance Home Watchlists My Portfolio Markets News Videos Yahoo Finance Plus Screeners

\n Advertisement\n

S&P 500 4,588.96 +6.73 (+0.15%)	Dow 30 35,559.53 +100.24 (+0.28%)	Nasdaq 14,346.02 +29.37 (+0.21%)	Russell 2000 2,003.18 +21.64 (+1.09%)	Crude Oil 81.74 -0.06 (-0.07%)	U.S. markets closed Gold 2,003.6 -5.60 (-0.28%)
---------------------------------------	---	--	---	--------------------------------------	--

OGE Energy Corp. (OGE)

NYSE - NYSE Delayed Price. Currency in USD

2W 10W 9M

36.15 +0.19 (+0.53%) **36.15** 0.00 (0.00%)

At close: 04:00PM EDT

After hours: 04:15PM EDT

Summary Company Insights Chart Conversations Statistics Historical Data Profile Financials **Analysis** Options Holders Sustainability

Currency in USD

\n Advertisement\n

Earnings Estimate

	Current Qtr. (Jun 2023)	Next Qtr. (Sep 2023)	Current Year (2023)	Next Year (2024)
No. of Analysts	5	3	9	9
Avg. Estimate	0.45	1.15	2	2.12
Low Estimate	0.44	1.13	1.95	2.05
High Estimate	0.45	1.17	2.03	2.2
Year Ago EPS	0.36	1.31	3.32	2

\n Advertisement\n

Revenue Estimate

	Current Qtr. (Jun 2023)	Next Qtr. (Sep 2023)	Current Year (2023)	Next Year (2024)
No. of Analysts	1	1	5	5
Avg. Estimate	784.27M	1.27B	3.47B	3.53B
Low Estimate	784.27M	1.27B	3.31B	3.33B
High Estimate	784.27M	1.27B	3.81B	3.8B
Year Ago Sales	803.7M	734.7M	3.38B	3.47B
Sales Growth (year/est)	-2.40%	72.50%	2.80%	1.70%

Data Disclaimer Help Suggestions
Terms and Privacy Policy
Privacy Dashboard
About Our Ads Sitemap

Earnings History	6/29/2022	9/29/2022	12/30/2022	3/30/2023
EPS Est.	0.41	1.18	-0.03	0.16
EPS Actual	0.36	1.31	0.25	0.19
Difference	-0.05	0.13	0.28	0.03
Surprise %	-12.20%	11.00%	933.30%	18.80%

EPS Trend	Current Qtr. (Jun 2023)	Next Qtr. (Sep 2023)	Current Year (2023)	Next Year (2024)
Current Estimate	0.45	1.15	2	2.12
7 Days Ago	0.45	1.15	2	2.12
30 Days Ago	0.44	1.16	2	2.12
60 Days Ago	0.44	1.16	2.01	2.12
90 Days Ago	0.46	1.14	2.01	2.12

EPS Revisions	Current Qtr. (Jun 2023)	Next Qtr. (Sep 2023)	Current Year (2023)	Next Year (2024)
Up Last 7 Days	N/A	N/A	N/A	N/A
Up Last 30 Days	1	N/A	N/A	N/A
Down Last 7 Days	N/A	N/A	N/A	N/A
Down Last 30 Days	N/A	N/A	N/A	N/A

Growth Estimates	OGE	Industry	Sector(s)	S&P 500
Current Qtr.	25.00%	N/A	N/A	N/A
Next Qtr.	-12.20%	N/A	N/A	N/A
Current Year	-39.80%	N/A	N/A	N/A
Next Year	6.00%	N/A	N/A	N/A
Next 5 Years (per annum)	-12.34%	N/A	N/A	N/A
Past 5 Years (per annum)	4.03%	N/A	N/A	N/A



Sign in

Mail

Finance Home Watchlists My Portfolio Markets News Videos Yahoo Finance Plus Screeners

\n Advertisement\n

S&P 500 4,588.96 +6.73 (+0.15%)	Dow 30 35,559.53 +100.24 (+0.28%)	Nasdaq 14,346.02 +29.37 (+0.21%)	Russell 2000 2,003.18 +21.64 (+1.09%)	Crude Oil 81.74 -0.06 (-0.07%)	U.S. markets closed Gold 2,003.6 -5.60 (-0.28%)
---------------------------------------	---	--	---	--------------------------------------	--

Pinnacle West Capital Corporation (PNW)

NYSE - NYSE Delayed Price. Currency in USD

2W 10W 9M

82.82 -0.11 (-0.14%) **82.82** 0.00 (0.00%)

At close: 04:03PM EDT

After hours: 05:22PM EDT

Dividend

PNW announced a cash dividend of 0.865 with an ex-date of Jul. 31, 2023

Summary Company Insights Chart Conversations Statistics Historical Data Profile Financials Analysis Options Holders Sustainability

Currency in USD

\n Advertisement\n

Earnings Estimate

	Current Qtr. (Jun 2023)	Next Qtr. (Sep 2023)	Current Year (2023)	Next Year (2024)
No. of Analysts	10	7	12	12
Avg. Estimate	1.19	3.03	4.19	4.89
Low Estimate	1.07	2.65	4	4.29
High Estimate	1.44	3.26	4.33	5.26
Year Ago EPS	1.45	2.88	4.26	4.19

\n Advertisement\n

Revenue Estimate

	Current Qtr. (Jun 2023)	Next Qtr. (Sep 2023)	Current Year (2023)	Next Year (2024)
No. of Analysts	4	4	8	8
Avg. Estimate	1.07B	1.81B	4.48B	4.67B
Low Estimate	1.03B	1.37B	3.98B	4.2B
High Estimate	1.1B	2.87B	4.95B	4.94B
Year Ago Sales	1.06B	1.31B	4.32B	4.48B

Sales Growth

Data Disclaimer Help Suggestions Terms and Privacy Policy Privacy Dashboard

(year/est)	1.10%	37.90%	3.70%	4.00%
------------	-------	--------	-------	-------

[About Our Ads](#) [Sitemap](#)

© 2023 Yahoo. All rights reserved.

Earnings History	6/29/2022	9/29/2022	12/30/2022	3/30/2023
EPS Est.	1.32	2.6	-0.18	0.04
EPS Actual	1.45	2.88	-0.21	-0.03
Difference	0.13	0.28	-0.03	-0.07
Surprise %	9.80%	10.80%	-16.70%	-175.00%

EPS Trend	Current Qtr. (Jun 2023)	Next Qtr. (Sep 2023)	Current Year (2023)	Next Year (2024)
Current Estimate	1.19	3.03	4.19	4.89
7 Days Ago	1.23	3.03	4.18	4.85
30 Days Ago	1.34	2.9	4.15	4.82
60 Days Ago	1.33	2.83	4.06	4.7
90 Days Ago	1.26	2.75	4.06	4.74

EPS Revisions	Current Qtr. (Jun 2023)	Next Qtr. (Sep 2023)	Current Year (2023)	Next Year (2024)
Up Last 7 Days	N/A	1	2	2
Up Last 30 Days	N/A	4	4	4
Down Last 7 Days	N/A	N/A	N/A	N/A
Down Last 30 Days	1	N/A	N/A	N/A

Growth Estimates	PNW	Industry	Sector(s)	S&P 500
Current Qtr.	-17.90%	N/A	N/A	N/A
Next Qtr.	5.20%	N/A	N/A	N/A
Current Year	-1.60%	N/A	N/A	N/A
Next Year	16.70%	N/A	N/A	N/A
Next 5 Years (per annum)	6.10%	N/A	N/A	N/A
Past 5 Years (per annum)	32.26%	N/A	N/A	N/A



Sign in

Mail

Finance Home Watchlists My Portfolio Markets News Videos Yahoo Finance Plus Screeners

\n Advertisement\n

S&P 500 4,588.96 +6.73 (+0.15%)	Dow 30 35,559.53 +100.24 (+0.28%)	Nasdaq 14,346.02 +29.37 (+0.21%)	Russell 2000 2,003.18 +21.64 (+1.09%)	Crude Oil 81.74 -0.06 (-0.07%)	Gold 2,003.6 -5.60 (-0.28%)
--	--	---	--	---	--

U.S. markets closed

Portland General Electric Company (POR)

NYSE - NYSE Delayed Price. Currency in USD

2W 10W 9M

47.67 +0.13 (+0.27%) **47.67** 0.00 (0.00%)

At close: 04:00PM EDT

After hours: 04:15PM EDT

Summary Company Insights Chart Conversations Statistics Historical Data Profile Financials **Analysis** Options Holders Sustainability

Currency in USD

\n Advertisement\n

Earnings Estimate

	Current Qtr. (Sep 2023)	Next Qtr. (Dec 2023)	Current Year (2023)	Next Year (2024)
No. of Analysts	5	5	8	9
Avg. Estimate	0.75	0.66	2.67	3.05
Low Estimate	0.64	0.53	2.65	2.88
High Estimate	0.87	0.76	2.68	3.18
Year Ago EPS	0.65	0.69	2.74	2.67

\n Advertisement\n

Revenue Estimate

	Current Qtr. (Sep 2023)	Next Qtr. (Dec 2023)	Current Year (2023)	Next Year (2024)
No. of Analysts	3	3	5	5
Avg. Estimate	769.5M	637.92M	2.72B	2.9B
Low Estimate	719.19M	448.57M	2.42B	2.61B
High Estimate	800.32M	737.18M	2.91B	3.14B
Year Ago Sales	636.6M	687M	2.65B	2.72B
Sales Growth (year/est)	20.90%	-7.10%	2.60%	6.80%

[Data Disclaimer](#) [Help](#) [Suggestions](#)
[Terms and Privacy Policy](#)
[Privacy Dashboard](#)

[About Our Ads](#) [Sitemap](#)

Earnings History	9/29/2022	12/30/2022	3/30/2023	6/29/2023
EPS Est.	0.62	0.63	0.78	0.48
EPS Actual	0.65	0.69	0.8	0.39
Difference	0.03	0.06	0.02	-0.09
Surprise %	4.80%	9.50%	2.60%	-18.70%

EPS Trend	Current Qtr. (Sep 2023)	Next Qtr. (Dec 2023)	Current Year (2023)	Next Year (2024)
Current Estimate	0.75	0.66	2.67	3.05
7 Days Ago	0.76	0.66	2.68	3.05
30 Days Ago	0.73	0.62	2.67	3.05
60 Days Ago	0.7	0.62	2.67	3.03
90 Days Ago	0.73	0.62	2.68	3.03

EPS Revisions	Current Qtr. (Sep 2023)	Next Qtr. (Dec 2023)	Current Year (2023)	Next Year (2024)
Up Last 7 Days	N/A	N/A	1	1
Up Last 30 Days	1	2	2	2
Down Last 7 Days	N/A	N/A	N/A	N/A
Down Last 30 Days	N/A	N/A	N/A	N/A

Growth Estimates	POR	Industry	Sector(s)	S&P 500
Current Qtr.	15.40%	N/A	N/A	N/A
Next Qtr.	-4.30%	N/A	N/A	N/A
Current Year	-2.60%	N/A	N/A	N/A
Next Year	14.20%	N/A	N/A	N/A
Next 5 Years (per annum)	5.90%	N/A	N/A	N/A
Past 5 Years (per annum)	4.46%	N/A	N/A	N/A



Sign in

Mail

Finance Home Watchlists My Portfolio Markets News Videos Yahoo Finance Plus Screeners

\n Advertisement\n

S&P 500 4,588.96 +6.73 (+0.15%)	Dow 30 35,559.53 +100.24 (+0.28%)	Nasdaq 14,346.02 +29.37 (+0.21%)	Russell 2000 2,003.18 +21.64 (+1.09%)	Crude Oil 81.75 -0.05 (-0.06%)	U.S. markets closed Gold 2,003.7 -5.50 (-0.28%)
--	--	---	--	---	--

The Southern Company (SO)

NYSE - NYSE Delayed Price. Currency in USD

2W 10W 9M

72.34 -0.01 (-0.01%) **72.40** +0.06 (+0.08%)

At close: 04:04PM EDT

After hours: 05:40PM EDT

Dividend

SO announced a cash dividend of 0.70 with an ex-date of Aug. 18, 2023

Summary Company Insights Chart Conversations Statistics Historical Data Profile Financials Analysis Options Holders Sustainability

Currency in USD

\n Advertisement\n

Earnings Estimate

	Current Qtr. (Jun 2023)	Next Qtr. (Sep 2023)	Current Year (2023)	Next Year (2024)
No. of Analysts	14	10	17	17
Avg. Estimate	0.75	1.43	3.6	4.02
Low Estimate	0.7	1.29	3.53	3.96
High Estimate	0.77	1.67	3.65	4.05
Year Ago EPS	1.07	1.31	3.6	3.6

\n Advertisement\n

Revenue Estimate

	Current Qtr. (Jun 2023)	Next Qtr. (Sep 2023)	Current Year (2023)	Next Year (2024)
No. of Analysts	6	6	12	11
Avg. Estimate	6.47B	8.41B	27.49B	28.83B
Low Estimate	4.78B	7.42B	22.74B	23.89B
High Estimate	7.39B	9.38B	31.19B	32.63B
Year Ago Sales	7.21B	8.38B	29.28B	27.49B

Sales Growth

Data Disclaimer Help Suggestions
Terms and Privacy Policy
Privacy Dashboard

(year/est)	-10.20%	0.40%	-6.10%	4.90%
------------	---------	-------	--------	-------

[About Our Ads](#) [Sitemap](#)

© 2023 Yahoo. All rights reserved.

Earnings History	6/29/2022	9/29/2022	12/30/2022	3/30/2023
EPS Est.	0.84	1.33	0.24	0.71
EPS Actual	1.07	1.31	0.26	0.79
Difference	0.23	-0.02	0.02	0.08
Surprise %	27.40%	-1.50%	8.30%	11.30%

EPS Trend	Current Qtr. (Jun 2023)	Next Qtr. (Sep 2023)	Current Year (2023)	Next Year (2024)
Current Estimate	0.75	1.43	3.6	4.02
7 Days Ago	0.76	1.44	3.6	4.02
30 Days Ago	0.78	1.46	3.6	4.03
60 Days Ago	0.87	1.44	3.61	4.02
90 Days Ago	0.89	1.4	3.61	4.02

EPS Revisions	Current Qtr. (Jun 2023)	Next Qtr. (Sep 2023)	Current Year (2023)	Next Year (2024)
Up Last 7 Days	N/A	N/A	N/A	N/A
Up Last 30 Days	1	2	N/A	N/A
Down Last 7 Days	N/A	N/A	N/A	N/A
Down Last 30 Days	3	2	N/A	1

Growth Estimates	SO	Industry	Sector(s)	S&P 500
Current Qtr.	-29.90%	N/A	N/A	N/A
Next Qtr.	9.20%	N/A	N/A	N/A
Current Year	N/A	N/A	N/A	N/A
Next Year	11.70%	N/A	N/A	N/A
Next 5 Years (per annum)	7.30%	N/A	N/A	N/A
Past 5 Years (per annum)	2.22%	N/A	N/A	N/A



Sign in

Mail

Finance Home Watchlists My Portfolio Markets News Videos Yahoo Finance Plus Screeners

\n Advertisement\n

S&P 500
4,588.96
+6.73 (+0.15%)

Dow 30
35,559.53
+100.24 (+0.28%)

Nasdaq
14,346.02
+29.37 (+0.21%)

Russell 2000
2,003.18
+21.64 (+1.09%)

Crude Oil
81.75
-0.05 (-0.06%)

U.S. markets closed

Gold
2,003.7
-5.50 (-0.28%)

Xcel Energy Inc. (XEL)

NasdaqGS - NasdaqGS Real Time Price. Currency in USD

2W 10W 9M

62.73 -0.16 (-0.25%) **62.96** +0.23 (+0.37%)

At close: 04:00PM EDT

After hours: 06:28PM EDT

Summary Company Insights Chart Conversations Statistics Historical Data Profile Financials Analysis Options Holders Sustainability

Currency in USD

\n Advertisement\n

Earnings Estimate

	Current Qtr. (Sep 2023)	Next Qtr. (Dec 2023)	Current Year (2023)	Next Year (2024)
No. of Analysts	9	9	13	14
Avg. Estimate	1.3	0.73	3.35	3.59
Low Estimate	1.24	0.62	3.26	3.45
High Estimate	1.39	0.83	3.4	3.69
Year Ago EPS	1.18	0.69	3.17	3.35

\n Advertisement\n

Revenue Estimate

	Current Qtr. (Sep 2023)	Next Qtr. (Dec 2023)	Current Year (2023)	Next Year (2024)
No. of Analysts	4	4	10	11
Avg. Estimate	4.03B	3.92B	15.26B	15.69B
Low Estimate	3.76B	3.55B	13.87B	14.27B
High Estimate	4.25B	4.25B	16.49B	17.05B
Year Ago Sales	4.08B	4.05B	15.31B	15.26B
Sales Growth (year/est)	-1.40%	-3.30%	-0.30%	2.80%

Data Disclaimer Help Suggestions
Terms and Privacy Policy
Privacy Dashboard
About Our Ads Sitemap

Earnings History	9/29/2022	12/30/2022	3/30/2023	6/29/2023
EPS Est.	1.22	0.68	0.74	0.56
EPS Actual	1.18	0.69	0.76	0.52
Difference	-0.04	0.01	0.02	-0.04
Surprise %	-3.30%	1.50%	2.70%	-7.10%

EPS Trend	Current Qtr. (Sep 2023)	Next Qtr. (Dec 2023)	Current Year (2023)	Next Year (2024)
Current Estimate	1.3	0.73	3.35	3.59
7 Days Ago	1.31	0.74	3.36	3.6
30 Days Ago	1.3	0.72	3.37	3.6
60 Days Ago	1.29	0.74	3.38	3.61
90 Days Ago	1.3	0.72	3.38	3.61

EPS Revisions	Current Qtr. (Sep 2023)	Next Qtr. (Dec 2023)	Current Year (2023)	Next Year (2024)
Up Last 7 Days	N/A	1	N/A	1
Up Last 30 Days	5	8	N/A	1
Down Last 7 Days	N/A	N/A	N/A	N/A
Down Last 30 Days	1	N/A	1	1

Growth Estimates	XEL	Industry	Sector(s)	S&P 500
Current Qtr.	10.20%	N/A	N/A	N/A
Next Qtr.	5.80%	N/A	N/A	N/A
Current Year	5.70%	N/A	N/A	N/A
Next Year	7.20%	N/A	N/A	N/A
Next 5 Years (per annum)	6.15%	N/A	N/A	N/A
Past 5 Years (per annum)	6.69%	N/A	N/A	N/A

»

[Allele \(ALE\) Quote Overview](#) » [Estimates](#) » [Allele \(ALE\) Detailed Earnings Estimates](#)

»

»

»

Detailed Estimates

»

Enter Symbol



»

»

Estimates

»

Earnings Date



»

*BMO 8/8/23

Current Quarter

0.78

EPS Last Quarter

1.02

Last EPS Surprise

-14.29%

ABR

3.60

»

»

»

Earnings ESP

»

»

2.56%

Current Year

3.63

Next Year

4.03

EPS (TTM)

3.18

P/E (F1)

15.76

»

*BMO = Before Market Open *AMC = After Market Close

»

»

Growth Estimates	ALE	IND	S&P
Current Qtr (06/2023)	16.42	-1.70	17.35
Next Qtr (09/2023)	8.47	10.64	15.19
Current Year (12/2023)	7.40	2.50	8.78
Next Year (12/2024)	11.02	5.60	16.69
Past 5 Years	0.80	3.50	9.00
Next 5 Years	8.10	6.00	NA
PE	15.76	11.10	21.39
PEG Ratio	1.95	1.85	NA

Learn More About Estimate Research

See Brokerage Recommendations

See Earnings Report Transcript

Horizontal line

Horizontal line

Better trading starts here

Horizontal line

Horizontal line

Research for ALE

Snapshot

Price and EPS Surprise Chart

1 Month 3 Months YTD

Interactive Chart | Fundamental Chart

Horizontal line

Horizontal line



Placeholder text for the table header.

	Quarter Ending (3/2023)	Quarter Ending (12/2022)	Quarter Ending (9/2022)	Quarter Ending (6/2022)	Average Surprise
Reported	1.02	0.90	0.59	0.67	NA
Estimate	1.19	1.11	0.70	0.63	NA
Difference	-0.17	-0.21	-0.11	0.04	-0.11
Surprise	-14.29%	-18.92%	-15.71%	6.35%	-10.64%

Placeholder text.

Annual Estimates By Analyst

Placeholder text. Zacks Premium Subscription Required [Learn more](#)

Placeholder text.

Placeholder text.

Placeholder text.

Placeholder text.

Quick Links



Placeholder text.

Placeholder text.

Placeholder text.

Zacks Research is Reported On:

Placeholder text.

Placeholder text.



Placeholder text.



Placeholder text.

BBB Rating: A+

As of 10/8/2023

[Click for Profile](#)

Placeholder text.

Placeholder text.

Placeholder text.

This page has not been authorized, sponsored, or otherwise approved or endorsed by the companies represented herein. Each of the company logos represented herein are trademarks of Microsoft Corporation; Dow Jones & Company; Nasdaq, Inc.; Forbes Media, LLC; Investor's Business Daily, Inc.; and Morningstar, Inc.

Placeholder text.

»

[Alliant Energy \(LNT\) Quote Overview](#) » [Estimates](#) » [Alliant Energy \(LNT\) Detailed Earnings Estimates](#)

»

»

»

Detailed Estimates

»

Enter Symbol



»

»

Estimates

»

Earnings Date



»

*AMC 8/3/23

Current Quarter

0.59

EPS Last Quarter

0.65

Last EPS Surprise

-10.96%

ABR

2.11

»

»

»

Earnings ESP

»

»

0.00%

Current Year

2.87

Next Year

3.09

EPS (TTM)

2.67

P/E (F1)

18.80

»

*BMO = Before Market Open *AMC = After Market Close

»

»

Growth Estimates	LNT	IND	S&P
Current Qtr (06/2023)	-6.35	-1.70	17.35
Next Qtr (09/2023)	-5.38	10.64	15.19
Current Year (12/2023)	2.50	2.50	8.78
Next Year (12/2024)	7.67	5.60	16.69
Past 5 Years	7.00	3.50	9.00
Next 5 Years	6.50	6.00	NA
PE	18.80	11.10	21.39
PEG Ratio	2.90	1.85	NA

Learn More About Estimate Research

See Brokerage Recommendations

See Earnings Report Transcript

Horizontal separator line

Vertical separator line

Vertical separator line

Better trading starts here

Vertical separator line

Research for LNT

Analyst Snapshot

Price and EPS Surprise Chart

1 Month 3 Months YTD

Interactive Chart | Fundamental Chart

Input field

Input field

Vertical separator line

Horizontal separator line



Placeholder text for the table header area.

	Quarter Ending (3/2023)	Quarter Ending (12/2022)	Quarter Ending (9/2022)	Quarter Ending (6/2022)	Average Surprise
Reported	0.65	0.46	0.93	0.63	NA
Estimate	0.73	0.48	1.04	0.58	NA
Difference	-0.08	-0.02	-0.11	0.05	-0.04
Surprise	-10.96%	-4.17%	-10.58%	8.62%	-4.27%

Quarterly Estimates By Analyst

Annual Estimates By Analyst

Zacks Premium Subscription Required [Learn more](#)

Zacks Premium Subscription Required [Learn more](#)

Quick Links



Zacks Research is Reported On:



BBB Rating: A+
As of 10/8/2023
[Click for Profile](#)

This page has not been authorized, sponsored, or otherwise approved or endorsed by the companies represented herein. Each of the company logos represented herein are trademarks of Microsoft Corporation; Dow Jones & Company; Nasdaq, Inc.; Forbes Media, LLC; Investor's Business Daily, Inc.; and Morningstar, Inc.

~~~~~

At the center of everything we do is a strong commitment to independent research and sharing its profitable discoveries with investors. This dedication to giving investors a trading advantage led to the creation of our proven Zacks Rank stock-rating system. Since 1988 it has more than doubled the S&P 500 with an average gain of +24.26% per year. These returns cover a period from January 1, 1988 through July 3, 2023. Zacks Rank stock-rating system returns are computed monthly based on the beginning of the month and end of the month Zacks Rank stock prices plus any dividends received during that particular month. A simple, equally-weighted average return of all Zacks Rank stocks is calculated to determine the monthly return. The monthly returns are then compounded to arrive at the annual return. Only Zacks Rank stocks included in Zacks hypothetical portfolios at the beginning of each month are included in the return calculations. Zacks Ranks stocks can, and often do, change throughout the month. Certain Zacks Rank stocks for which no month-end price was available, pricing information was not collected, or for certain other reasons have been excluded from these return calculations.

~~~~~

Visit [Performance Disclosure](#) for information about the performance numbers displayed above.

~~~~~

Visit [www.zacksdata.com](http://www.zacksdata.com) to get our data and content for your mobile app or website.

~~~~~

Real time prices by BATS. Delayed quotes by FIS.

~~~~~

NYSE and AMEX data is at least 20 minutes delayed. NASDAQ data is at least 15 minutes delayed.

~~~~~

This site is protected by reCAPTCHA and the Google [Privacy Policy](#) and [Terms of Service](#) apply.

~n

~n

~~~~~  
~~~~~ to ~~~~~'


»

[Ameren \(AEE\) Quote Overview](#) » [Estimates](#) » [Ameren \(AEE\) Detailed Earnings Estimates](#)

»

»

»

Detailed Estimates

»

Enter Symbol



»

»

Estimates

»

Earnings Date



»

*AMC 8/2/23

Current Quarter

0.78

EPS Last Quarter

1.00

Last EPS Surprise

6.38%

ABR

1.67

»

»

»

Earnings ESP

»

»

0.00%

Current Year

4.36

Next Year

4.66

EPS (TTM)

4.17

P/E (F1)

19.69

»

*BMO = Before Market Open *AMC = After Market Close

»



Placeholder text for the top of the table.

| | Quarter Ending
(3/2023) | Quarter Ending
(12/2022) | Quarter Ending
(9/2022) | Quarter Ending
(6/2022) | Average Surprise |
|------------|----------------------------|-----------------------------|----------------------------|----------------------------|------------------|
| Reported | 1.00 | 0.63 | 1.74 | 0.80 | NA |
| Estimate | 0.94 | 0.56 | 1.72 | 0.81 | NA |
| Difference | 0.06 | 0.07 | 0.02 | -0.01 | 0.04 |
| Surprise | 6.38% | 12.50% | 1.16% | -1.23% | 4.70% |

Quarterly Estimates By Analyst

Zacks Premium Subscription Required [Learn more](#)

Annual Estimates By Analyst

Zacks Premium Subscription Required [Learn more](#)

Quick Links



Zacks Research is Reported On:



BBB Rating: A+
As of 10/8/2023
[Click for Profile](#)

This page has not been authorized, sponsored, or otherwise approved or endorsed by the companies represented herein. Each of the company logos represented herein are trademarks of Microsoft Corporation; Dow Jones & Company; Nasdaq, Inc.; Forbes Media, LLC; Investor's Business Daily, Inc.; and Morningstar, Inc.

↵

At the center of everything we do is a strong commitment to independent research and sharing its profitable discoveries with investors. This dedication to giving investors a trading advantage led to the creation of our proven Zacks Rank stock-rating system. Since 1988 it has more than doubled the S&P 500 with an average gain of +24.26% per year. These returns cover a period from January 1, 1988 through July 3, 2023. Zacks Rank stock-rating system returns are computed monthly based on the beginning of the month and end of the month Zacks Rank stock prices plus any dividends received during that particular month. A simple, equally-weighted average return of all Zacks Rank stocks is calculated to determine the monthly return. The monthly returns are then compounded to arrive at the annual return. Only Zacks Rank stocks included in Zacks hypothetical portfolios at the beginning of each month are included in the return calculations. Zacks Ranks stocks can, and often do, change throughout the month. Certain Zacks Rank stocks for which no month-end price was available, pricing information was not collected, or for certain other reasons have been excluded from these return calculations.

↵

Visit [Performance Disclosure](#) for information about the performance numbers displayed above.

↵

Visit www.zacksdata.com to get our data and content for your mobile app or website.

↵

Real time prices by BATS. Delayed quotes by FIS.

↵

NYSE and AMEX data is at least 20 minutes delayed. NASDAQ data is at least 15 minutes delayed.

↵

This site is protected by reCAPTCHA and the Google [Privacy Policy](#) and [Terms of Service](#) apply.

↵

↵

↵
↵

Placeholder text for the top header area.



Join Now | Sign In

Placeholder text for the top navigation area.

Placeholder text for the top navigation area.

Placeholder text for the top navigation area.

Placeholder text for the top navigation area.

WZack Research

Detailed Estimates

American Electric Power (AEP)

(Delayed Data from NSDQ)

\$84.74 USD

-0.68 (-0.80%)

Updated Jul 31, 2023 04:10 PM ET

[Add To Portfolio](#)

After-Market: **\$84.94** **+0.20 (0.24%)** 6:48 PM ET

Zacks Rank: ?

4 **4-Sell**

Style Scores: ?

C Value | **D** Growth | **A** Momentum | **D** VGM

Industry Rank: ?

Top 41% (105 out of 251)

Industry: Utility - Electric Power

[American Electric Power \(AEP\) Quote Overview](#) » [Estimates](#) » [American Electric Power \(AEP\) Detailed Earnings Estimates](#)

Detailed Estimates

Enter Symbol



Estimates

Exp Earnings Date

10/26/23

Current Quarter

1.85

EPS Last Quarter

1.13

Last EPS Surprise

-0.88%

[ABR](#)

2.12

Earnings ESP

0.00%

Current Year

5.26

Next Year

5.58

[EPS \(TTM\)](#)

4.91

[P/E \(F1\)](#)

16.25



Placeholder text for the table header area.

| | Quarter Ending
(6/2023) | Quarter Ending
(3/2023) | Quarter Ending
(12/2022) | Quarter Ending
(9/2022) | Average Surprise |
|------------|----------------------------|----------------------------|-----------------------------|----------------------------|------------------|
| Reported | 1.13 | 1.11 | 1.05 | 1.62 | NA |
| Estimate | 1.14 | 1.14 | 0.99 | 1.57 | NA |
| Difference | -0.01 | -0.03 | 0.06 | 0.05 | 0.02 |
| Surprise | -0.88% | -2.63% | 6.06% | 3.18% | 1.43% |

Quarterly Estimates By Analyst

Annual Estimates By Analyst

Zacks Premium Subscription Required [Learn more](#)

Zacks Premium Subscription Required [Learn more](#)

Quick Links



Zacks Research is Reported On:




BBB Rating: A+
As of 10/8/2023
[Click for Profile](#)

This page has not been authorized, sponsored, or otherwise approved or endorsed by the companies represented herein. Each of the company logos represented herein are trademarks of Microsoft Corporation; Dow Jones & Company; Nasdaq, Inc.; Forbes Media, LLC; Investor's Business Daily, Inc.; and Morningstar, Inc.

↵

At the center of everything we do is a strong commitment to independent research and sharing its profitable discoveries with investors. This dedication to giving investors a trading advantage led to the creation of our proven Zacks Rank stock-rating system. Since 1988 it has more than doubled the S&P 500 with an average gain of +24.26% per year. These returns cover a period from January 1, 1988 through July 3, 2023. Zacks Rank stock-rating system returns are computed monthly based on the beginning of the month and end of the month Zacks Rank stock prices plus any dividends received during that particular month. A simple, equally-weighted average return of all Zacks Rank stocks is calculated to determine the monthly return. The monthly returns are then compounded to arrive at the annual return. Only Zacks Rank stocks included in Zacks hypothetical portfolios at the beginning of each month are included in the return calculations. Zacks Ranks stocks can, and often do, change throughout the month. Certain Zacks Rank stocks for which no month-end price was available, pricing information was not collected, or for certain other reasons have been excluded from these return calculations.

↵

Visit [Performance Disclosure](#) for information about the performance numbers displayed above.

↵

Visit www.zacksdata.com to get our data and content for your mobile app or website.

↵

Real time prices by BATS. Delayed quotes by FIS.

↵

NYSE and AMEX data is at least 20 minutes delayed. NASDAQ data is at least 15 minutes delayed.

↵

This site is protected by reCAPTCHA and the Google [Privacy Policy](#) and [Terms of Service](#) apply.

↵

↵

↵

»

[Avista \(AVA\) Quote Overview](#) » [Estimates](#) » [Avista \(AVA\) Detailed Earnings Estimates](#)

»

»

»

Detailed Estimates

»

Enter Symbol



»

»

Estimates

»

Earnings Date



»

*BMO 8/2/23

Current Quarter

0.15

EPS Last Quarter

0.73

Last EPS Surprise

-37.07%

ABR

4.75

»

»

»

Earnings ESP

»

»

0.00%

Current Year

2.32

Next Year

2.43

EPS (TTM)

1.86

P/E (F1)

16.83

»

*BMO = Before Market Open *AMC = After Market Close

»

»

»

| Growth Estimates | AVA | IND | S&P |
|------------------------|--------|-------|-------|
| Current Qtr (06/2023) | -6.25 | -1.70 | 17.35 |
| Next Qtr (09/2023) | 387.50 | 10.64 | 15.19 |
| Current Year (12/2023) | 9.43 | 2.50 | 8.78 |
| Next Year (12/2024) | 4.74 | 5.60 | 16.69 |
| Past 5 Years | 0.50 | 3.50 | 9.00 |
| Next 5 Years | 6.30 | 6.00 | NA |
| PE | 16.83 | 11.10 | 21.39 |
| PEG Ratio | 2.65 | 1.85 | NA |

Learn More About Estimate Research

See Brokerage Recommendations

See Earnings Report Transcript

Navigation icons

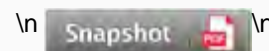
Navigation icons

Navigation icons

Better trading starts here

Navigation icons

Research for AVA



Price and EPS Surprise Chart

1 Month 3 Months YTD

Interactive Chart | Fundamental Chart

Navigation icons

Navigation icons



Placeholder text for the table header.

| | Quarter Ending
(3/2023) | Quarter Ending
(12/2022) | Quarter Ending
(9/2022) | Quarter Ending
(6/2022) | Average Surprise |
|------------|----------------------------|-----------------------------|----------------------------|----------------------------|------------------|
| Reported | 0.73 | 1.05 | -0.08 | 0.16 | NA |
| Estimate | 1.16 | 0.72 | 0.16 | 0.18 | NA |
| Difference | -0.43 | 0.33 | -0.24 | -0.02 | -0.09 |
| Surprise | -37.07% | 45.83% | -150.00% | -11.11% | -38.09% |

Quarterly Estimates By Analyst

Annual Estimates By Analyst

Zacks Premium Subscription Required [Learn more](#)

Zacks Premium Subscription Required [Learn more](#)

Quick Links



Zacks Research is Reported On:



BBB Rating: A+
As of 10/8/2023
[Click for Profile](#)

This page has not been authorized, sponsored, or otherwise approved or endorsed by the companies represented herein. Each of the company logos represented herein are trademarks of Microsoft Corporation; Dow Jones & Company; Nasdaq, Inc.; Forbes Media, LLC; Investor's Business Daily, Inc.; and Morningstar, Inc.

Placeholder text for the top header area.



Join Now | Sign In

Placeholder text for the top navigation area.

Placeholder text for the top navigation area.

Placeholder text for the top navigation area.

Placeholder text for the top navigation area.

Placeholder text for the top navigation area.

Detailed Estimates

CMS Energy (CMS)

(Delayed Data from NYSE)

\$61.07 USD

+0.05 (0.08%)

Updated Jul 31, 2023 04:11 PM ET

[Add To Portfolio](#)

After-Market: **\$61.07** 0.00 (0.00%) 6:50 PM ET

Zacks Rank: ⓘ

3 3-Hold

Style Scores: ⓘ

B Value | B Growth | C Momentum | B VGM

Industry Rank: ⓘ

Top 41% (105 out of 251)

Industry: Utility - Electric Power

»

» [CMS Energy \(CMS\) Quote Overview](#) » [Estimates](#) » [CMS Energy \(CMS\) Detailed Earnings Estimates](#) »

»

»

»

Detailed Estimates

»

Enter Symbol



»

»

Estimates

»

Exp Earnings Date

10/26/23



»

Current Quarter

0.80

EPS Last Quarter

0.75

Last EPS Surprise

8.70%

[ABR](#)

1.55

»

»

»

Earnings ESP

-3.15%

»

»

Current Year

3.10

Next Year

3.35

[EPS \(TTM\)](#)

2.61

P/E (F1)

19.66

»

»

»

»

Growth Estimates

CMS

IND

S&P

| | | | |
|------------------------|-------|-------|-------|
| Current Qtr (09/2023) | 42.86 | -1.70 | 17.35 |
| Next Qtr (12/2023) | 51.67 | 10.64 | 15.19 |
| Current Year (12/2023) | 7.27 | 2.50 | 8.78 |
| Next Year (12/2024) | 8.06 | 5.60 | 16.69 |
| Past 5 Years | 5.80 | 3.50 | 9.00 |
| Next 5 Years | 7.80 | 6.00 | NA |
| PE | 19.66 | 11.10 | 21.39 |
| PEG Ratio | 2.52 | 1.85 | NA |

[Learn More About Estimate Research](#)

[See Brokerage Recommendations](#)

[See Earnings Report Transcript](#)

Analyst

Snapshot

Price and EPS Surprise Chart



Interactive Chart | Fundamental Chart

IN

Placeholder text for the table header area.

| | Quarter Ending
(6/2023) | Quarter Ending
(3/2023) | Quarter Ending
(12/2022) | Quarter Ending
(9/2022) | Average Surprise |
|------------|----------------------------|----------------------------|-----------------------------|----------------------------|------------------|
| Reported | 0.75 | 0.70 | 0.60 | 0.56 | NA |
| Estimate | 0.69 | 0.66 | 0.60 | 0.56 | NA |
| Difference | 0.06 | 0.04 | 0.00 | 0.00 | 0.03 |
| Surprise | 8.70% | 6.06% | 0.00% | 0.00% | 3.69% |

Quarterly Estimates By Analyst

Annual Estimates By Analyst

Zacks Premium Subscription Required [Learn more](#)

Zacks Premium Subscription Required [Learn more](#)

Quick Links



Zacks Research is Reported On:

BBB Rating: A+
As of 10/8/2023
[Click for Profile](#)

This page has not been authorized, sponsored, or otherwise approved or endorsed by the companies represented herein. Each of the company logos represented herein are trademarks of Microsoft Corporation; Dow Jones & Company; Nasdaq, Inc.; Forbes Media, LLC; Investor's Business Daily, Inc.; and Morningstar, Inc.

»

[Duke Energy \(DUK\) Quote Overview](#) » [Estimates](#) » [Duke Energy \(DUK\) Detailed Earnings Estimates](#)

»

»

»

Detailed Estimates

»

Enter Symbol



»

»

Estimates

»

Earnings Date



»

*BMO 8/8/23

Current Quarter

0.98

EPS Last Quarter

1.20

Last EPS Surprise

-6.98%

ABR

2.23

»

»

»

Earnings ESP

»

»

-4.02%

Current Year

5.61

Next Year

5.96

EPS (TTM)

5.23

P/E (F1)

16.64

»

*BMO = Before Market Open *AMC = After Market Close

»

»



Placeholder text for the top of the table.

| | Quarter Ending
(3/2023) | Quarter Ending
(12/2022) | Quarter Ending
(9/2022) | Quarter Ending
(6/2022) | Average Surprise |
|------------|----------------------------|-----------------------------|----------------------------|----------------------------|------------------|
| Reported | 1.20 | 1.11 | 1.78 | 1.14 | NA |
| Estimate | 1.29 | 1.06 | 1.83 | 1.10 | NA |
| Difference | -0.09 | 0.05 | -0.05 | 0.04 | -0.01 |
| Surprise | -6.98% | 4.72% | -2.73% | 3.64% | -0.34% |

Quarterly Estimates By Analyst

Zacks Premium Subscription Required [Learn more](#)

Annual Estimates By Analyst

Zacks Premium Subscription Required [Learn more](#)

Quick Links



Zacks Research is Reported On:



BBB Rating: A+
As of 10/8/2023
[Click for Profile](#)

This page has not been authorized, sponsored, or otherwise approved or endorsed by the companies represented herein. Each of the company logos represented herein are trademarks of Microsoft Corporation; Dow Jones & Company; Nasdaq, Inc.; Forbes Media, LLC; Investor's Business Daily, Inc.; and Morningstar, Inc.

»

[Energy \(ETR\) Quote Overview](#) » [Estimates](#) » [Energy \(ETR\) Detailed Earnings Estimates](#)

»

»

»

Detailed Estimates

»

Enter Symbol



»

»

Estimates

»

Earnings Date



»

*BMO 8/2/23

Current Quarter

1.69

EPS Last Quarter

1.14

Last EPS Surprise

-14.93%

ABR

2.09

»

»

»

Earnings ESP

»

»

-0.18%

Current Year

6.69

Next Year

7.18

EPS (TTM)

6.27

P/E (F1)

15.43

»

*BMO = Before Market Open *AMC = After Market Close

»

»



Placeholder text for the top of the table.

| | Quarter Ending
(3/2023) | Quarter Ending
(12/2022) | Quarter Ending
(9/2022) | Quarter Ending
(6/2022) | Average Surprise |
|------------|----------------------------|-----------------------------|----------------------------|----------------------------|------------------|
| Reported | 1.14 | 0.51 | 2.84 | 1.78 | NA |
| Estimate | 1.34 | 0.45 | 2.67 | 1.42 | NA |
| Difference | -0.20 | 0.06 | 0.17 | 0.36 | 0.10 |
| Surprise | -14.93% | 13.33% | 6.37% | 25.35% | 7.53% |

Quarterly Estimates By Analyst

Annual Estimates By Analyst

Zacks Premium Subscription Required [Learn more](#)

Zacks Premium Subscription Required [Learn more](#)

Quick Links



Zacks Research is Reported On:



BBB Rating: A+
As of 10/8/2023
[Click for Profile](#)

This page has not been authorized, sponsored, or otherwise approved or endorsed by the companies represented herein. Each of the company logos represented herein are trademarks of Microsoft Corporation; Dow Jones & Company; Nasdaq, Inc.; Forbes Media, LLC; Investor's Business Daily, Inc.; and Morningstar, Inc.

Placeholder text for the top header area.



Join Now | Sign In

Placeholder text for the top navigation area.

Placeholder text for the top navigation area.

Placeholder text for the top navigation area.

Placeholder text for the top navigation area.

W Zacks Research

Detailed Estimates

Energy (EVRG)

(Delayed Data from NSDQ)

\$59.97 USD

-0.18 (-0.30%)

Updated Jul 31, 2023 04:10 PM ET

[Add To Portfolio](#)

After-Market: **\$59.94** **-0.03 (-0.05%)** 6:50 PM ET

Zacks Rank: ?

3 **3-Hold**

Style Scores: ?

Value | Growth | Momentum | VGM

Industry Rank: ?

Top 42% (107 out of 251)

Industry: Oil and Gas - Production and Pipelines

»

[Energy \(EVRG\) Quote Overview](#) » [Estimates](#) » [Energy \(EVRG\) Detailed Earnings Estimates](#)

»

»

»

Detailed Estimates

»

Enter Symbol



»

»

Estimates

»

Earnings Date



»

*BMO 8/4/23

Current Quarter

0.79

EPS Last Quarter

0.59

Last EPS Surprise

5.36%

ABR

2.80

»

»

»

Earnings ESP

»

»

-3.80%

Current Year

3.61

Next Year

3.93

EPS (TTM)

3.76

P/E (F1)

16.65

»

*BMO = Before Market Open *AMC = After Market Close

»

»

»

| Growth Estimates | EVRG | IND | S&P |
|------------------------|--------|----------|-------|
| Current Qtr (06/2023) | -8.14 | 2,324.86 | 17.35 |
| Next Qtr (09/2023) | -13.93 | 2,680.74 | 15.19 |
| Current Year (12/2023) | -2.70 | -4.60 | 8.78 |
| Next Year (12/2024) | 8.86 | 6.60 | 16.69 |
| Past 5 Years | 8.50 | 11.20 | 9.00 |
| Next 5 Years | 5.20 | 4.50 | NA |
| PE | 16.65 | 16.10 | 21.39 |
| PEG Ratio | 3.19 | 3.58 | NA |

Learn More About Estimate Research

See Brokerage Recommendations

Additional navigation links

Navigation link

Navigation link

Better trading starts here

Navigation link

Research for EVRG

Analyst Snapshot

Price and EPS Surprise Chart

1 Month 3 Months YTD

Interactive Chart | Fundamental Chart

Additional navigation links

Navigation link

[IDACORP \(IDA\) Quote Overview](#) » [Estimates](#) » [IDACORP \(IDA\) Detailed Earnings Estimates](#)

Detailed Estimates

Enter Symbol

Search

Estimates

Earnings Date



*BMO 8/3/23

Current Quarter 1.22

EPS Last Quarter 1.11

Last EPS Surprise 16.84%

[ABR](#) 3.00

Earnings ESP

0.00%

Current Year 5.07

Next Year 5.35

[EPS \(TTM\)](#) 5.31

P/E (F1) 20.23

*BMO = Before Market Open *AMC = After Market Close

| Growth Estimates | IDA | IND | S&P |
|------------------------|--------|-------|-------|
| Current Qtr (06/2023) | -3.94 | -1.70 | 17.35 |
| Next Qtr (09/2023) | -20.00 | 10.64 | 15.19 |
| Current Year (12/2023) | -0.78 | 2.50 | 8.78 |
| Next Year (12/2024) | 5.52 | 5.60 | 16.69 |
| Past 5 Years | 3.90 | 3.50 | 9.00 |
| Next 5 Years | 3.70 | 6.00 | NA |
| PE | 20.23 | 11.10 | 21.39 |
| PEG Ratio | 5.50 | 1.85 | NA |

Learn More About Estimate Research

See Brokerage Recommendations

See Earnings Report Transcript

Horizontal separator line

Vertical separator line

Vertical separator line

Better trading starts here

Vertical separator line

Research for IDA

Analyst Snapshot

Price and EPS Surprise Chart

1 Month 3 Months YTD

Interactive Chart | Fundamental Chart

Input field

Input field

Vertical separator line

Horizontal separator line



Placeholder text for the top of the table.

| | Quarter Ending
(3/2023) | Quarter Ending
(12/2022) | Quarter Ending
(9/2022) | Quarter Ending
(6/2022) | Average Surprise |
|------------|----------------------------|-----------------------------|----------------------------|----------------------------|------------------|
| Reported | 1.11 | 0.83 | 2.10 | 1.27 | NA |
| Estimate | 0.95 | 0.80 | 1.95 | 1.41 | NA |
| Difference | 0.16 | 0.03 | 0.15 | -0.14 | 0.05 |
| Surprise | 16.84% | 3.75% | 7.69% | -9.93% | 4.59% |

Quarterly Estimates By Analyst

Zacks Premium Subscription Required [Learn more](#)

Annual Estimates By Analyst

Zacks Premium Subscription Required [Learn more](#)

Quick Links



Zacks Research is Reported On:



BBB Rating: A+
As of 10/8/2023
[Click for Profile](#)

This page has not been authorized, sponsored, or otherwise approved or endorsed by the companies represented herein. Each of the company logos represented herein are trademarks of Microsoft Corporation; Dow Jones & Company; Nasdaq, Inc.; Forbes Media, LLC; Investor's Business Daily, Inc.; and Morningstar, Inc.

↵

At the center of everything we do is a strong commitment to independent research and sharing its profitable discoveries with investors. This dedication to giving investors a trading advantage led to the creation of our proven Zacks Rank stock-rating system. Since 1988 it has more than doubled the S&P 500 with an average gain of +24.26% per year. These returns cover a period from January 1, 1988 through July 3, 2023. Zacks Rank stock-rating system returns are computed monthly based on the beginning of the month and end of the month Zacks Rank stock prices plus any dividends received during that particular month. A simple, equally-weighted average return of all Zacks Rank stocks is calculated to determine the monthly return. The monthly returns are then compounded to arrive at the annual return. Only Zacks Rank stocks included in Zacks hypothetical portfolios at the beginning of each month are included in the return calculations. Zacks Ranks stocks can, and often do, change throughout the month. Certain Zacks Rank stocks for which no month-end price was available, pricing information was not collected, or for certain other reasons have been excluded from these return calculations.

↵

Visit [Performance Disclosure](#) for information about the performance numbers displayed above.

↵

Visit www.zacksdata.com to get our data and content for your mobile app or website.

↵

Real time prices by BATS. Delayed quotes by FIS.

↵

NYSE and AMEX data is at least 20 minutes delayed. NASDAQ data is at least 15 minutes delayed.

↵

This site is protected by reCAPTCHA and the Google [Privacy Policy](#) and [Terms of Service](#) apply.

↵

↵

↵
↵

»

[NextEra Energy \(NEE\) Quote Overview](#) » [Estimates](#) » [NextEra Energy \(NEE\) Detailed Earnings Estimates](#)

»

»

»

Detailed Estimates

»

Enter Symbol



»

»

Estimates

»

Exp Earnings Date

10/27/23

»

Current Quarter

0.87

EPS Last Quarter

0.88

Last EPS Surprise

6.02%

[ABR](#)

1.38

»

»

»

Earnings ESP

0.00%

»

Current Year

3.11

Next Year

3.40

[EPS \(TTM\)](#)

3.08

P/E (F1)

23.42

»

»

»

Growth Estimates

NEE

IND

S&P

IN

Placeholder text for the table header area.

| | Quarter Ending
(6/2023) | Quarter Ending
(3/2023) | Quarter Ending
(12/2022) | Quarter Ending
(9/2022) | Average Surprise |
|------------|----------------------------|----------------------------|-----------------------------|----------------------------|------------------|
| Reported | 0.88 | 0.84 | 0.51 | 0.85 | NA |
| Estimate | 0.83 | 0.75 | 0.50 | 0.79 | NA |
| Difference | 0.05 | 0.09 | 0.01 | 0.06 | 0.05 |
| Surprise | 6.02% | 12.00% | 2.00% | 7.59% | 6.90% |

Quarterly Estimates By Analyst

Annual Estimates By Analyst

Zacks Premium Subscription Required [Learn more](#)

Zacks Premium Subscription Required [Learn more](#)

Quick Links



Zacks Research is Reported On:

BBB Rating: A+
As of 10/8/2023
[Click for Profile](#)

This page has not been authorized, sponsored, or otherwise approved or endorsed by the companies represented herein. Each of the company logos represented herein are trademarks of Microsoft Corporation; Dow Jones & Company; Nasdaq, Inc.; Forbes Media, LLC; Investor's Business Daily, Inc.; and Morningstar, Inc.

»

[NorthWestern \(NWE\) Quote Overview](#) » [Estimates](#) » [NorthWestern \(NWE\) Detailed Earnings Estimates](#)

»

»

»

Detailed Estimates

»

Enter Symbol



»

»

Estimates

»

Exp Earnings Date

10/23/23

»

Current Quarter

0.70

EPS Last Quarter

0.35

Last EPS Surprise

-31.37%

[ABR](#)

2.43

»

»

»

Earnings ESP

0.00%

»

Current Year

3.43

Next Year

3.56

[EPS \(TTM\)](#)

2.95

P/E (F1)

16.59

»

»

»

Growth Estimates

NWE

IND

S&P

IN

Placeholder text for the table header.

| | Quarter Ending
(6/2023) | Quarter Ending
(3/2023) | Quarter Ending
(12/2022) | Quarter Ending
(9/2022) | Average Surprise |
|------------|----------------------------|----------------------------|-----------------------------|----------------------------|------------------|
| Reported | 0.35 | 1.05 | 1.13 | 0.42 | NA |
| Estimate | 0.51 | 1.07 | 1.19 | 0.58 | NA |
| Difference | -0.16 | -0.02 | -0.06 | -0.16 | -0.10 |
| Surprise | -31.37% | -1.87% | -5.04% | -27.59% | -16.47% |

Quarterly Estimates By Analyst

Annual Estimates By Analyst

Zacks Premium Subscription Required [Learn more](#)

Zacks Premium Subscription Required [Learn more](#)

Quick Links



Zacks Research is Reported On:

BBB Rating: A+
As of 10/8/2023
[Click for Profile](#)

This page has not been authorized, sponsored, or otherwise approved or endorsed by the companies represented herein. Each of the company logos represented herein are trademarks of Microsoft Corporation; Dow Jones & Company; Nasdaq, Inc.; Forbes Media, LLC; Investor's Business Daily, Inc.; and Morningstar, Inc.

Placeholder text for the top header area.



Join Now | Sign In

IN Zacks Research

Detailed Estimates

OGE Energy (OGE)

(Delayed Data from NYSE)

\$36.15 USD

+0.19 (0.53%)

Updated Jul 31, 2023 04:00 PM ET

Add To Portfolio

After-Market: \$36.18 +0.03 (0.08%) 6:50 PM ET

Zacks Rank: ?

4 - Sell

Style Scores: ?

C Value | C Growth | B Momentum | C VGM

Industry Rank: ?

Top 41% (105 out of 251)

Industry: Utility - Electric Power

»

» [OGE Energy \(OGE\) Quote Overview](#) » [Estimates](#) » [OGE Energy \(OGE\) Detailed Earnings Estimates](#) »

»

»

»

Detailed Estimates

»

Enter Symbol



»

»

Estimates

»

Earnings Date



»

*BMO 8/9/23

Current Quarter

0.19

EPS Last Quarter

0.19

Last EPS Surprise

26.67%

[ABR](#)

2.71

»

»

»

Earnings ESP

»

»

0.00%

Current Year

2.00

Next Year

2.12

[EPS \(TTM\)](#)

2.11

P/E (F1)

17.96

»

*BMO = Before Market Open *AMC = After Market Close

»

»

| Growth Estimates | OGE | IND | S&P |
|------------------------|--------|-------|-------|
| Current Qtr (06/2023) | -47.22 | -1.70 | 17.35 |
| Next Qtr (09/2023) | -49.62 | 10.64 | 15.19 |
| Current Year (12/2023) | -39.76 | 2.50 | 8.78 |
| Next Year (12/2024) | 6.00 | 5.60 | 16.69 |
| Past 5 Years | 11.60 | 3.50 | 9.00 |
| Next 5 Years | 3.70 | 6.00 | NA |
| PE | 17.96 | 11.10 | 21.39 |
| PEG Ratio | 4.92 | 1.85 | NA |

Learn More About Estimate Research

See Brokerage Recommendations

See Earnings Report Transcript

Horizontal separator line

Horizontal separator line

Better trading starts here

Research for OGE

Analyst Snapshot

Price and EPS Surprise Chart

1 Month 3 Months YTD

Interactive Chart | Fundamental Chart



Horizontal separator line

Horizontal separator line

Horizontal separator line

Horizontal separator line

Horizontal separator line

Horizontal separator line

Horizontal separator line

Horizontal separator line

Horizontal separator line

Horizontal separator line

Horizontal separator line

Horizontal separator line

Horizontal separator line

Horizontal separator line

Horizontal separator line

Horizontal separator line

Horizontal separator line

Horizontal separator line

Horizontal separator line

Horizontal separator line

Horizontal separator line



Placeholder text for the top of the table.

| | Quarter Ending
(3/2023) | Quarter Ending
(12/2022) | Quarter Ending
(9/2022) | Quarter Ending
(6/2022) | Average Surprise |
|------------|----------------------------|-----------------------------|----------------------------|----------------------------|------------------|
| Reported | 0.19 | 0.25 | 1.31 | 0.36 | NA |
| Estimate | 0.15 | NA | 1.12 | 0.31 | NA |
| Difference | 0.04 | NA | 0.19 | 0.05 | 0.09 |
| Surprise | 26.67% | NA | 16.96% | 16.13% | 19.92% |

Quarterly Estimates By Analyst

Zacks Premium Subscription Required [Learn more](#)

Annual Estimates By Analyst

Zacks Premium Subscription Required [Learn more](#)

Quick Links



Zacks Research is Reported On:



BBB Rating: A+
As of 10/8/2023
[Click for Profile](#)

This page has not been authorized, sponsored, or otherwise approved or endorsed by the companies represented herein. Each of the company logos represented herein are trademarks of Microsoft Corporation; Dow Jones & Company; Nasdaq, Inc.; Forbes Media, LLC; Investor's Business Daily, Inc.; and Morningstar, Inc.

~~~~~

At the center of everything we do is a strong commitment to independent research and sharing its profitable discoveries with investors. This dedication to giving investors a trading advantage led to the creation of our proven Zacks Rank stock-rating system. Since 1988 it has more than doubled the S&P 500 with an average gain of +24.26% per year. These returns cover a period from January 1, 1988 through July 3, 2023. Zacks Rank stock-rating system returns are computed monthly based on the beginning of the month and end of the month Zacks Rank stock prices plus any dividends received during that particular month. A simple, equally-weighted average return of all Zacks Rank stocks is calculated to determine the monthly return. The monthly returns are then compounded to arrive at the annual return. Only Zacks Rank stocks included in Zacks hypothetical portfolios at the beginning of each month are included in the return calculations. Zacks Ranks stocks can, and often do, change throughout the month. Certain Zacks Rank stocks for which no month-end price was available, pricing information was not collected, or for certain other reasons have been excluded from these return calculations.

~~~~~

Visit [Performance Disclosure](#) for information about the performance numbers displayed above.

~~~~~

Visit [www.zacksdata.com](http://www.zacksdata.com) to get our data and content for your mobile app or website.

~~~~~

Real time prices by BATS. Delayed quotes by FIS.

~~~~~

NYSE and AMEX data is at least 20 minutes delayed. NASDAQ data is at least 15 minutes delayed.

~~~~~

This site is protected by reCAPTCHA and the Google [Privacy Policy](#) and [Terms of Service](#) apply.

~
~

~~~~~  
~~~~~

Placeholder text for the top header area.



Join Now | Sign In

IN Zacks Research

Detailed Estimates

Pinnacle West Capital (PNW)

(Delayed Data from NYSE)

\$82.82 USD

-0.98 (-1.17%)

Updated Jul 31, 2023 04:03 PM ET

Add To Portfolio

After-Market: **\$82.84** **+0.02 (0.02%)** 6:50 PM ET

Zacks Rank: **2**

2 Buy

Style Scores: **B**

B Value | **C** Growth | **C** Momentum | **B** VGM

Industry Rank: **41**

Top 41% (105 out of 251)

Industry: Utility - Electric Power

[Pinnacle West Capital \(PNW\) Quote Overview](#) » [Estimates](#) » [Pinnacle West Capital \(PNW\) Detailed Earnings Estimates](#)

Detailed Estimates

Enter Symbol



Estimates

Earnings Date

*BMO 8/3/23

Current Quarter

1.19

EPS Last Quarter

-0.03

Last EPS Surprise

-200.00%

ABR

3.57

Earnings ESP

-4.40%

Current Year

4.13

Next Year

4.86

EPS (TTM)

4.09

P/E (F1)

20.28

*BMO = Before Market Open *AMC = After Market Close

|||||

| Growth Estimates | PNW | IND | S&P |
|------------------------|--------|-------|-------|
| Current Qtr (06/2023) | -17.93 | -1.70 | 17.35 |
| Next Qtr (09/2023) | -0.35 | 10.64 | 15.19 |
| Current Year (12/2023) | -3.05 | 2.50 | 8.78 |
| Next Year (12/2024) | 17.68 | 5.60 | 16.69 |
| Past 5 Years | -0.10 | 3.50 | 9.00 |
| Next 5 Years | 6.30 | 6.00 | NA |
| PE | 20.28 | 11.10 | 21.39 |
| PEG Ratio | 3.21 | 1.85 | NA |

Learn More About Estimate Research

See Brokerage Recommendations

See Earnings Report Transcript

|||||

|||||

|||||

Better trading starts here

|||||

Research for PNW

Analyst Snapshot

Price and EPS Surprise Chart

|||||

1 Month 3 Months YTD

|||||

|||||



Interactive Chart | Fundamental Chart

|||||

|||||

|||||

Surprise - Reported Earnings History



Placeholder text for the section header.

| | Quarter Ending
(3/2023) | Quarter Ending
(12/2022) | Quarter Ending
(9/2022) | Quarter Ending
(6/2022) | Average Surprise |
|------------|----------------------------|-----------------------------|----------------------------|----------------------------|------------------|
| Reported | -0.03 | -0.21 | 2.88 | 1.45 | NA |
| Estimate | 0.03 | -0.18 | 2.62 | 1.30 | NA |
| Difference | -0.06 | -0.03 | 0.26 | 0.15 | 0.08 |
| Surprise | -200.00% | -16.67% | 9.92% | 11.54% | -48.80% |

Quarterly Estimates By Analyst

Annual Estimates By Analyst

Zacks Premium Subscription Required [Learn more](#)

Zacks Premium Subscription Required [Learn more](#)

Quick Links



Zacks Research is Reported On:



BBB Rating: A+
As of 10/8/2023
[Click for Profile](#)

Placeholder text for the top header area.



Join Now | Sign In

Placeholder text for the top navigation area.

Placeholder text for the top navigation area.

Placeholder text for the top navigation area.

Placeholder text for the top navigation area.

W Zacks Research

Detailed Estimates

Portland General Electric (POR)

(Delayed Data from NYSE)

\$47.67 USD

+0.13 (0.27%)

Updated Jul 31, 2023 04:10 PM ET

Add To Portfolio

After-Market: **\$47.68** **+0.01 (0.02%)** 6:50 PM ET

Zacks Rank: **2**

2 Buy

Style Scores: **D**

B Value | **F** Growth | **F** Momentum | **D** VGM

Industry Rank: **41%**

Top 41% (105 out of 251)

Industry: Utility - Electric Power

[Portland General Electric \(POR\) Quote Overview](#) » [Estimates](#) » [Portland General Electric \(POR\) Detailed Earnings Estimates](#)

Detailed Estimates

Enter Symbol



Estimates

Exp Earnings Date

10/24/23

Current Quarter

0.76

EPS Last Quarter

0.44

Last EPS Surprise

-6.38%

ABR

2.33

Earnings ESP

3.95%

Current Year

2.73

Next Year

3.11

EPS (TTM)

2.59

P/E (F1)

17.39



Placeholder text for the top of the table.

| | Quarter Ending
(6/2023) | Quarter Ending
(3/2023) | Quarter Ending
(12/2022) | Quarter Ending
(9/2022) | Average Surprise |
|------------|----------------------------|----------------------------|-----------------------------|----------------------------|------------------|
| Reported | 0.44 | 0.80 | 0.70 | 0.65 | NA |
| Estimate | 0.47 | 0.79 | 0.59 | 0.63 | NA |
| Difference | -0.03 | 0.01 | 0.11 | 0.02 | 0.03 |
| Surprise | -6.38% | 1.27% | 18.64% | 3.17% | 4.18% |

Quarterly Estimates By Analyst

Annual Estimates By Analyst

Zacks Premium Subscription Required [Learn more](#)

Zacks Premium Subscription Required [Learn more](#)

Quick Links



Zacks Research is Reported On:



BBB Rating: A+
As of 10/8/2023
[Click for Profile](#)

This page has not been authorized, sponsored, or otherwise approved or endorsed by the companies represented herein. Each of the company logos represented herein are trademarks of Microsoft Corporation; Dow Jones & Company; Nasdaq, Inc.; Forbes Media, LLC; Investor's Business Daily, Inc.; and Morningstar, Inc.

↵

At the center of everything we do is a strong commitment to independent research and sharing its profitable discoveries with investors. This dedication to giving investors a trading advantage led to the creation of our proven Zacks Rank stock-rating system. Since 1988 it has more than doubled the S&P 500 with an average gain of +24.26% per year. These returns cover a period from January 1, 1988 through July 3, 2023. Zacks Rank stock-rating system returns are computed monthly based on the beginning of the month and end of the month Zacks Rank stock prices plus any dividends received during that particular month. A simple, equally-weighted average return of all Zacks Rank stocks is calculated to determine the monthly return. The monthly returns are then compounded to arrive at the annual return. Only Zacks Rank stocks included in Zacks hypothetical portfolios at the beginning of each month are included in the return calculations. Zacks Ranks stocks can, and often do, change throughout the month. Certain Zacks Rank stocks for which no month-end price was available, pricing information was not collected, or for certain other reasons have been excluded from these return calculations.

↵

Visit [Performance Disclosure](#) for information about the performance numbers displayed above.

↵

Visit www.zacksdata.com to get our data and content for your mobile app or website.

↵

Real time prices by BATS. Delayed quotes by FIS.

↵

NYSE and AMEX data is at least 20 minutes delayed. NASDAQ data is at least 15 minutes delayed.

↵

This site is protected by reCAPTCHA and the Google [Privacy Policy](#) and [Terms of Service](#) apply.

↵

↵

↵
↵

Placeholder text for the top header area.



Join Now | Sign In

IN Zacks Research

Detailed Estimates

The Southern Company (SO)

(Delayed Data from NYSE)

\$72.34 USD

-0.01 (-0.01%)

Updated Jul 31, 2023 04:04 PM ET

[Add To Portfolio](#)

After-Market: **\$72.34** 0.00 (0.00%) 6:50 PM ET

Zacks Rank: ?

3 3-Hold

Style Scores: ?

Value | Growth | Momentum | VGM

Industry Rank: ?

Top 41% (105 out of 251)

Industry: Utility - Electric Power

[The Southern Company \(SO\) Quote Overview](#) » [Estimates](#) » [The Southern Company \(SO\) Detailed Earnings Estimates](#)

Detailed Estimates

Enter Symbol



Estimates

Earnings Date

*BMO 8/3/23

Current Quarter 0.74

EPS Last Quarter 0.79

Last EPS Surprise 11.27%

[ABR](#) 2.52

Earnings ESP

-0.48%

Current Year 3.60

Next Year 4.02

[EPS \(TTM\)](#) 3.43

P/E (F1) 20.10

*BMO = Before Market Open *AMC = After Market Close

| Growth Estimates | SO | IND | S&P |
|------------------------|--------|-------|-------|
| Current Qtr (06/2023) | -30.84 | -1.70 | 17.35 |
| Next Qtr (09/2023) | 16.79 | 10.64 | 15.19 |
| Current Year (12/2023) | 0.00 | 2.50 | 8.78 |
| Next Year (12/2024) | 11.67 | 5.60 | 16.69 |
| Past 5 Years | 3.80 | 3.50 | 9.00 |
| Next 5 Years | 4.00 | 6.00 | NA |
| PE | 20.10 | 11.10 | 21.39 |
| PEG Ratio | 5.03 | 1.85 | NA |

[Learn More About Estimate Research](#)

[See Brokerage Recommendations](#)

[See Earnings Report Transcript](#)

[Home](#)
[Market](#)
[News](#)
[Analysis](#)

[Home](#)

[Market](#)

[Home](#)
[Market](#)
[News](#)
[Analysis](#)

[Market](#)

[Home](#)
[Market](#)
[News](#)
[Analysis](#)

[Home](#)
[Market](#)
[News](#)
[Analysis](#)

[Home](#)
[Market](#)
[News](#)
[Analysis](#)

[Home](#)
[Market](#)
[News](#)
[Analysis](#)

Price and EPS Surprise Chart

[Home](#)

[Home](#)
[Market](#)
[News](#)
[Analysis](#)

[Home](#)

[Home](#)

[Home](#)



[Home](#)
[Market](#)
[News](#)
[Analysis](#)

[Home](#)

[Home](#)

[Home](#)

Surprise - Reported Earnings History



Table with 6 columns: Metric, Quarter Ending (3/2023), Quarter Ending (12/2022), Quarter Ending (9/2022), Quarter Ending (6/2022), Average Surprise

| | Quarter Ending
(3/2023) | Quarter Ending
(12/2022) | Quarter Ending
(9/2022) | Quarter Ending
(6/2022) | Average Surprise |
|------------|----------------------------|-----------------------------|----------------------------|----------------------------|------------------|
| Reported | 0.79 | 0.26 | 1.31 | 1.07 | NA |
| Estimate | 0.71 | 0.24 | 1.33 | 0.84 | NA |
| Difference | 0.08 | 0.02 | -0.02 | 0.23 | 0.08 |
| Surprise | 11.27% | 8.33% | -1.50% | 27.38% | 11.37% |

Quarterly Estimates By Analyst

Annual Estimates By Analyst

Zacks Premium Subscription Required [Learn more](#)

Zacks Premium Subscription Required [Learn more](#)

Quick Links



Zacks Research is Reported On:



BBB Rating: A+
As of 10/8/2023
[Click for Profile](#)

IN

Placeholder text for the top of the table.

| | Quarter Ending
(6/2023) | Quarter Ending
(3/2023) | Quarter Ending
(12/2022) | Quarter Ending
(9/2022) | Average Surprise |
|------------|----------------------------|----------------------------|-----------------------------|----------------------------|------------------|
| Reported | 0.52 | 0.76 | 0.69 | 1.18 | NA |
| Estimate | 0.55 | 0.74 | 0.69 | 1.20 | NA |
| Difference | -0.03 | 0.02 | 0.00 | -0.02 | -0.01 |
| Surprise | -5.45% | 2.70% | 0.00% | -1.67% | -1.11% |

Quarterly Estimates By Analyst

Annual Estimates By Analyst

Zacks Premium Subscription Required [Learn more](#)

Zacks Premium Subscription Required [Learn more](#)

Quick Links



Zacks Research is Reported On:

BBB Rating: A+
As of 10/8/2023
[Click for Profile](#)

This page has not been authorized, sponsored, or otherwise approved or endorsed by the companies represented herein. Each of the company logos represented herein are trademarks of Microsoft Corporation; Dow Jones & Company; Nasdaq, Inc.; Forbes Media, LLC; Investor's Business Daily, Inc.; and Morningstar, Inc.

PUBLIC DOCUMENT – NOT PUBLIC (OR PRIVILEGED) DATA HAS BEEN EXCISED

[PROTECTED DATA BEGINS...

Case No. PU-23-
Bulkley Workpapers – Generation Screen
is CONFIDENTIAL in its Entirety

...PROTECTED DATA ENDS]

Blue Chip Financial Forecasts®

**Top Analysts' Forecasts Of U.S. And Foreign Interest Rates, Currency Values
And The Factors That Influence Them**

Vol. 42, No. 8, August 1, 2023

Wolters Kluwer

BLUE CHIP FINANCIAL FORECASTS®

Executive Editor: Joseph Aguinaldo
Assistant Editor: Jules Valencia
Haver Analytics
60 East 42nd Street
New York, NY 10165
Phone (212) 986-9300
E-mail: bluechip@haver.com

Robert J. Eggert, Founder
Randell E. Moore, Editor Emeritus
Rocco Impreveduto, General Manager

Blue Chip Financial Forecasts® (ISSN: 0741-8345) is published monthly by CCH Incorporated, 28 Liberty St., 44th Floor New York, NY 10005-1400. Printed in the U.S.A.

Subscriptions: For information on annual subscriptions, format options (PDF, Excel, online), multiple-copy rates and/or site-license agreements please contact Chris Carr at: chris.carr@wolterskluwer.com.

Permission requests: For information on how to obtain permission to reproduce content, please visit the Wolters Kluwer website at: <https://lrus.wolterskluwer.com/policies/permissions-reprints-and-licensing/>

Purchasing reprints: For customized article reprints, please contact *Wright's Media* at 1-877-652-5295 or go to the *Wright's Media* website at www.wrightsmidia.com.

Customer Service: 1-800-234-1660

To Order: 1-800-638-8437

Customer Service Fax: 1-800-901-9075

Email: customer.service@wolterskluwer.com

Web Site:

<https://lrus.wolterskluwer.com/corporate/blue-chip/>

Blue Chip Financial Forecasts® is a general circulation news monthly. No statement in this issue is to be construed as a recommendation to buy or sell securities or to provide investment advice.

The editor and CCH Incorporated, while considering the contents to be reliable, take no responsibility for the information contained herein.

Copyright © 2023 CCH Incorporated. All Rights Reserved. This material may not be used, published, broadcast, rewritten, copied, redistributed or used to create any derivative works without written permission from the publisher.

TABLE OF CONTENTS

| | |
|---|-----------------------------|
| Domestic Commentary – Highlights of July 26-27 Survey | p. 1 |
| Domestic Summary Table – Table of consensus forecasts of U.S. interest rates and key economic assumptions | p. 2 |
| International Summary Table – Table of consensus forecasts of international interest rates and foreign exchange values | p. 3 |
| International Commentary (by Andy Cates) | p. 3 |
| Individual Panel Member's U.S. Forecasts – Of interest rates and key assumptions for the next six quarters | p. 4-9 |
| Individual Panel Member's International Forecasts – Of international interest rates and foreign exchange values | p. 10-11 |
| Viewpoints – A sampling of views on the economy and government policy excerpted from recent reports issued by our panel members | p. 12-13 |
| Special Questions – Results of special questions posed to panel members about the economy, financial markets and government policy | p. 14 |
| Databank – Monthly historical data on many key indicators of economic activity | p. 15 |
| Calendar – Release dates for important upcoming economic data, FOMC meetings, etc. | p. 16 |
| List of Contributing Economists – To Domestic and International Survey | inside of back cover |

Fed Funds Rate Path at a Crossroads

The Fed's July 25-26 decision to raise the federal funds rate by 25bps, bringing the policy target to a range of 5.25% to 5.5%, was widely expected in markets. However, the path forward from here is much less clear, especially since there have been mixed signals from the economy and the Fed has already tightened more aggressively in the past year and a half than at any other time in the past four decades. On the one hand, the labor market remains tight and core inflation continues to run well above target, suggesting a need for even more restraint. In his press conference, Fed Chair Powell stated that "the process of getting inflation down to 2% has a long way to go." On the other hand, there have been leading signals that the economy may be headed for a downturn in coming quarters. Against this backdrop, Fed officials have left their policy options open.

Near-term rate expectations. Since the Fed's rate decision and press conference, markets give low odds for further rate hikes this year. Fed funds futures prices imply there is less than 30% probability of another rate hike at each of the next three FOMC meetings. Likewise, the Blue Chip Financial Forecasts (BCFF) consensus also indicates no change in the funds rate. However, these summary measures are averages and obscure the fact that there is considerable uncertainty surrounding the near-term policy path.

We can look under the surface at the individual BCFF policy projections to obtain insights into market thinking. More than half of the panelists look for no further changes in the funds rate this year. However, a significant group of panelists, 38%, are focused on the robust labor market and elevated inflation, and they expect the Fed to raise rates again this year. Conversely, three forecasters worry that the economy may be headed for a hard landing, and they look for rate cuts by the end of this year.

Labor market and inflation. Nonfarm payrolls have increased by 316,000 per month on average over the past year, the unemployment rate is hovering near 70-year lows, and the participation rate is rising. Importantly, wage gains have remained high, with average hourly earnings up 4.4% over the past year. Likewise, the employment cost index has increased by 4.5% in that time. Tight labor market conditions imply further second-round pressures on inflation.

Any further Fed tightening will depend on the path of inflation. Thus far, the progress in lowering inflation has been frustratingly slow. Headline PCE inflation has subsided notably, from a peak of 7.0% a year ago to the latest reading of 3.0%, but the declines have been centered in the volatile food and energy sectors. In contrast, core PCE inflation has declined much more gradually, from a peak of 5.4% in February 2022 to 4.1% currently. The latest core reading is more than double the Fed's 2% target. The Fed continues to believe that a period of below-trend growth is needed to bring down core inflation.

Economic downturn? The economy has continued to expand at a healthy pace, with real GDP growing at a 2.4% annualized pace in the second quarter. The gains were led by a solid contribution from nonresidential investment and resilient consumer spending. Despite these gains, leading indicators of eco-

omic activity point to a period of below-trend growth or a mild recession going forward. The Conference Board's index of leading indicators has fallen sharply for more than a year. The yield curve, which is one of the individual leading indicators with an exceptional track record predicting downturns, has been sharply negative. In fact, the yield curve remains near the lowest levels in the past 40 years, signaling a strong possibility of a slump. Based on the yield curve, the Federal Reserve Bank of New York's recession gauge gives a 67% probability that the economy will experience a downturn in the next year, and the Federal Reserve Bank of Cleveland's measure gives the odds at 75%.

The BCFF consensus agrees with this assessment. Over the next four quarters, GDP growth is expected to be just 0.5%, which is well below trend. In fact, 51% of the respondents are projecting two consecutive quarterly declines in GDP in the coming year. In addition, all BCFF respondents who answered the special questions anticipate some rise in the unemployment rate. The median expected increase in the jobless rate is 0.9 percentage point. Historically, increases of that magnitude have been associated with declines in economic activity. This weakness would be expected to help alleviate underlying price pressures. Indeed, BCFF panelists projected in another special question that core inflation would subside to 3.5% by yearend 2023 and 2.4% by the end of 2024.

First rate cut. Even though there is much uncertainty about the near-term path of policy, with an outlook for below-trend growth and subsiding inflation, every BCFF panelist expects the Fed to cut rates by the end of 2024. In fact, based on panelists' quarterly forecasts, 81% expect the first cut to occur by midyear 2024. The BCFF consensus expects the Fed to cut by more than is penciled into the Fed's June Statement of Economic Projections. BCFF respondents expect the fed funds rate to be 4.0% at the end of 2024 versus the FOMC rate projection of 4.6%.

Market rates. BCFF consensus projections for Treasury yields indicate that the yield curve will remain inverted over the forecast horizon, consistent with their forecast of below-trend economic growth. Interestingly, the consensus looks for real interest rates to rise over the next six quarters. For example, the 10-year yield is expected to fall 0.4 percentage point to 3.5%, while core inflation is expected to decline by 1.7 percentage points to 2.4%.

Despite the belief that the economy will experience a mild recession, BCFF panelists do not anticipate an accompanying increase in credit spreads. In fact, the consensus suggests a period of only mild risk for corporations. One factor behind this benign outlook for credit spreads is that the banking sector now appears to be on a more solid footing. The Fed mentioned in its FOMC statement that "the US banking system is sound and resilient." In fact, measures of financial market stress, such as the OFR financial stress index, have remained near historical norms.

Peter D'Antonio (Haver Analytics, New York, NY)

Consensus Forecasts of U.S. Interest Rates and Key Assumptions

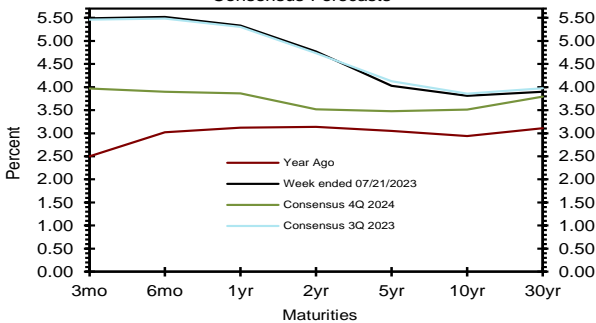
| Interest Rates | History | | | | | | | | Consensus Forecasts-Quarterly Avg. | | | | | | |
|-------------------------|-------------------------|--------|-------|--------|-------------------|------|------|---------|------------------------------------|------|------|------|------|------|----|
| | Average For Week Ending | | | | Average For Month | | | | Latest Qtr | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q |
| | Jul 21 | Jul 14 | Jul 7 | Jun 30 | Jun | May | Apr | 2Q 2023 | 2023 | 2023 | 2024 | 2024 | 2024 | 2024 | |
| Federal Funds Rate | 5.08 | 5.08 | 5.08 | 5.07 | 5.08 | 5.06 | 4.83 | 4.99 | 5.4 | 5.4 | 5.2 | 4.9 | 4.4 | 4.0 | |
| Prime Rate | 8.25 | 8.25 | 8.25 | 8.25 | 8.25 | 8.23 | 8.00 | 8.16 | 8.5 | 8.5 | 8.4 | 8.0 | 7.5 | 7.1 | |
| SOFR | 5.06 | 5.06 | 5.06 | 5.06 | 5.06 | 5.02 | 4.81 | 4.96 | 5.3 | 5.4 | 5.2 | 4.9 | 4.4 | 4.0 | |
| Commercial Paper, 1-mo. | 5.16 | 5.14 | 5.11 | 5.12 | 5.10 | 5.06 | 4.82 | 4.99 | 5.4 | 5.4 | 5.3 | 4.9 | 4.4 | 4.1 | |
| Treasury bill, 3-mo. | 5.49 | 5.48 | 5.45 | 5.45 | 5.42 | 5.31 | 5.07 | 5.27 | 5.5 | 5.4 | 5.2 | 4.7 | 4.3 | 4.0 | |
| Treasury bill, 6-mo. | 5.52 | 5.53 | 5.53 | 5.47 | 5.42 | 5.27 | 4.99 | 5.23 | 5.5 | 5.4 | 5.0 | 4.7 | 4.2 | 3.9 | |
| Treasury bill, 1 yr. | 5.33 | 5.36 | 5.42 | 5.35 | 5.24 | 4.91 | 4.68 | 4.94 | 5.3 | 5.1 | 4.8 | 4.5 | 4.2 | 3.9 | |
| Treasury note, 2 yr. | 4.77 | 4.76 | 4.95 | 4.77 | 4.64 | 4.13 | 4.02 | 4.26 | 4.7 | 4.5 | 4.2 | 4.0 | 3.8 | 3.5 | |
| Treasury note, 5 yr. | 4.03 | 4.11 | 4.29 | 4.04 | 3.95 | 3.59 | 3.54 | 3.69 | 4.1 | 4.0 | 3.8 | 3.7 | 3.6 | 3.5 | |
| Treasury note, 10 yr. | 3.81 | 3.89 | 3.98 | 3.77 | 3.75 | 3.57 | 3.46 | 3.59 | 3.9 | 3.8 | 3.7 | 3.6 | 3.6 | 3.5 | |
| Treasury note, 30 yr. | 3.90 | 3.97 | 3.97 | 3.85 | 3.87 | 3.86 | 3.68 | 3.80 | 4.0 | 3.9 | 4.0 | 3.9 | 3.9 | 3.8 | |
| Corporate Aaa bond | 4.91 | 5.00 | 5.02 | 4.92 | 4.95 | 4.95 | 4.76 | 4.88 | 4.9 | 4.9 | 4.9 | 4.9 | 4.8 | 4.7 | |
| Corporate Baa bond | 5.58 | 5.67 | 5.69 | 5.60 | 5.64 | 5.66 | 5.44 | 5.58 | 6.0 | 6.0 | 6.0 | 6.0 | 5.9 | 5.7 | |
| State & Local bonds | 4.16 | 4.24 | 4.24 | 4.20 | 4.23 | 4.21 | 4.07 | 4.17 | 4.2 | 4.2 | 4.2 | 4.1 | 4.0 | 4.0 | |
| Home mortgage rate | 6.78 | 6.96 | 6.81 | 6.71 | 6.71 | 6.43 | 6.34 | 6.49 | 6.7 | 6.6 | 6.4 | 6.2 | 6.1 | 5.9 | |

| Key Assumptions | History | | | | | | | | Consensus Forecasts-Quarterly | | | | | |
|----------------------|---------|-------|-------|-------|-------|-------|-------|-------|-------------------------------|-------|-------|-------|-------|-------|
| | 3Q | | 4Q | | 1Q | | 2Q | | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q |
| | 2021 | 2021 | 2022 | 2022 | 2022 | 2022 | 2023 | 2023 | 2023 | 2023 | 2024 | 2024 | 2024 | 2024 |
| Fed's AFE \$ Index | 104.9 | 106.9 | 108.3 | 113.5 | 118.8 | 119.8 | 115.5 | 114.6 | 114.4 | 114.1 | 113.6 | 113.1 | 112.7 | 112.4 |
| Real GDP | 2.7 | 7.0 | -1.6 | -0.6 | 3.2 | 2.6 | 2.0 | 2.4 | 0.8 | 0.0 | 0.2 | 0.8 | 1.6 | 1.8 |
| GDP Price Index | 6.2 | 6.8 | 8.3 | 9.0 | 4.4 | 3.9 | 4.1 | 2.2 | 2.7 | 2.6 | 2.5 | 2.3 | 2.3 | 2.3 |
| Consumer Price Index | 6.6 | 8.8 | 9.2 | 9.7 | 5.5 | 4.2 | 3.8 | 2.7 | 2.9 | 2.8 | 2.6 | 2.4 | 2.4 | 2.3 |
| PCE Price Index | 5.6 | 6.2 | 7.5 | 7.3 | 4.3 | 3.7 | 4.1 | 2.6 | 2.7 | 2.7 | 2.4 | 2.3 | 2.2 | 2.2 |

Forecasts for interest rates and the Federal Reserve's Advanced Foreign Economies Index represent averages for the quarter. Forecasts for Real GDP, GDP Price Index, CPI and PCE Price Index are seasonally-adjusted annual rates of change (saar). Individual panel members' forecasts are on pages 4 through 9. Historical data: Treasury rates from the Federal Reserve Board's H.15; AAA-AA and A-BBB corporate bond yields from Bank of America-Merrill Lynch and are 15+ years, yield to maturity; State and local bond yields from Bank of America-Merrill Lynch, A-rated, yield to maturity; Mortgage rates from Freddie Mac, 30-year, fixed; SOFR from the New York Fed. All interest rate data are sourced from Haver Analytics. Historical data for Fed's Major Currency Index are from FRSR H.10. Historical data for Real GDP, GDP Price Index and PCE Price Index are from the Bureau of Economic Analysis (BEA). Consumer Price Index history is from the Department of Labor's Bureau of Labor Statistics (BLS).

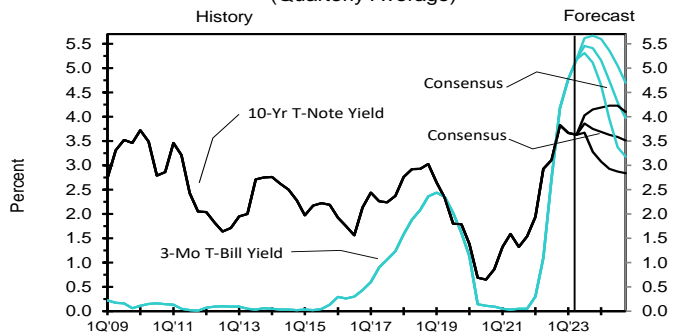
US Treasury Yield Curve

Week ended Jul 21, 2023 & Year Ago vs.
3Q 2023 & 4Q 2024
Consensus Forecasts



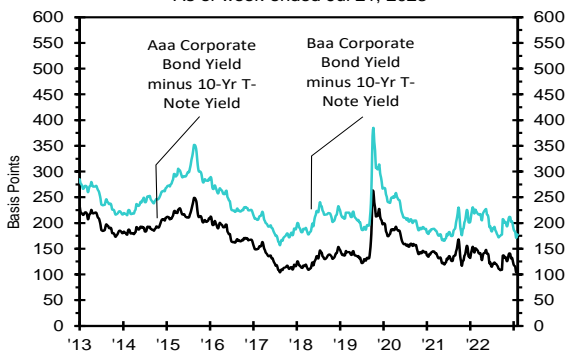
US 3-Mo T-Bills & 10-Yr T-Note Yield

(Quarterly Average)



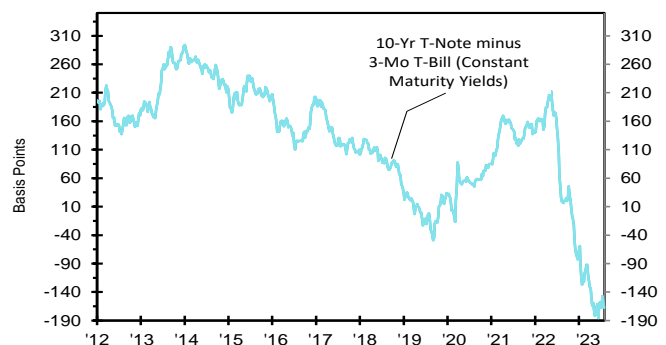
Corporate Bond Spreads

As of week ended Jul 21, 2023



US Treasury Yield Curve

As of week ended Jul 21, 2023



| -----Policy Rates ¹ ----- | | | | | | |
|--------------------------------------|-------|-------|---------------------|--------------|--------------|--------------|
| -----History----- | | | Consensus Forecasts | | | |
| | Month | Year | Months From Now: | | | |
| Latest: | Ago: | Ago: | 3 | 6 | 12 | |
| U.S. | 5.13 | 5.13 | 1.63 | 5.42 | 5.44 | 4.92 |
| Japan | -0.10 | -0.10 | -0.10 | -0.08 | -0.08 | -0.06 |
| U.K. | 5.00 | 5.00 | 1.25 | 5.59 | 5.69 | 5.41 |
| Switzerland | 1.75 | 1.75 | -0.25 | 1.96 | 2.04 | 1.94 |
| Canada | 5.00 | 4.75 | 2.50 | 4.98 | 5.00 | 4.64 |
| Australia | 4.10 | 4.10 | 1.35 | 4.36 | 4.35 | 4.10 |
| Euro area | 4.00 | 4.00 | 0.00 | 4.27 | 4.34 | 4.12 |

| -----10-Yr. Government Bond Yields ² ----- | | | | | | |
|---|-------|------|---------------------|-------------|-------------|-------------|
| -----History----- | | | Consensus Forecasts | | | |
| | Month | Year | Months From Now: | | | |
| Latest: | Ago: | Ago: | 3 | 6 | 12 | |
| U.S. | 3.84 | 3.74 | 2.77 | 3.82 | 3.68 | 3.47 |
| Germany | 2.44 | 2.37 | 1.04 | 2.44 | 2.40 | 2.27 |
| Japan | 0.48 | 0.39 | 0.22 | 0.48 | 0.58 | 0.61 |
| U.K. | 4.30 | 4.37 | 2.07 | 4.30 | 4.23 | 4.03 |
| France | 2.99 | 2.88 | 1.62 | 2.95 | 2.89 | 2.74 |
| Italy | 4.07 | 4.00 | 3.46 | 4.21 | 4.10 | 3.89 |
| Switzerland | 0.92 | 0.93 | 0.72 | 1.29 | 1.41 | 1.37 |
| Canada | 3.41 | 3.36 | 2.84 | 3.46 | 3.41 | 3.32 |
| Australia | 4.00 | 4.00 | 3.45 | 4.03 | 3.96 | 3.77 |
| Spain | 3.41 | 3.42 | 2.40 | 3.51 | 3.46 | 3.32 |

| -----Foreign Exchange Rates ³ ----- | | | | | | |
|--|--------|--------|---------------------|--------------|--------------|--------------|
| -----History----- | | | Consensus Forecasts | | | |
| | Month | Year | Months From Now: | | | |
| Latest: | Ago: | Ago: | 3 | 6 | 12 | |
| U.S. | 112.96 | 114.54 | 116.89 | 112.8 | 112.4 | 110.2 |
| Japan | 141.75 | 143.78 | 136.12 | 138.3 | 135.8 | 129.9 |
| U.K. | 1.29 | 1.27 | 1.20 | 1.30 | 1.30 | 1.34 |
| Switzerland | 0.87 | 0.90 | 0.96 | 0.89 | 0.89 | 0.87 |
| Canada | 1.32 | 1.32 | 1.29 | 1.32 | 1.32 | 1.29 |
| Australia | 0.67 | 0.67 | 0.69 | 0.68 | 0.68 | 0.71 |
| Euro | 1.11 | 1.09 | 1.02 | 1.10 | 1.11 | 1.14 |

| | Consensus Policy Rates vs. US Rate | | | Consensus 10-Year Gov't Yields vs. U.S. Yield | |
|-------------|------------------------------------|--------------|-------------|---|--------------|
| | Now | In 12 Mo. | | Now | In 12 Mo. |
| Japan | -5.23 | -4.98 | Germany | -1.40 | -1.19 |
| U.K. | -0.13 | 0.49 | Japan | -3.36 | -2.86 |
| Switzerland | -3.38 | -2.98 | U.K. | 0.46 | 0.56 |
| Canada | -0.13 | -0.28 | France | -0.85 | -0.73 |
| Australia | -1.03 | -0.82 | Italy | 0.23 | 0.43 |
| Euro area | -1.13 | -0.79 | Switzerland | -2.92 | -2.10 |
| | | | Canada | -0.43 | -0.14 |
| | | | Australia | 0.16 | 0.31 |
| | | | Spain | -0.43 | -0.15 |

Forecasts of panel members are on pages 10 and 11. Definitions of variables are as follows: ¹Monetary policy rates. ²Government bonds are yields to maturity. ³Foreign exchange rate forecasts for U.K., Australia and the Euro are U.S. dollars per currency unit. For the U.S. dollar, forecasts are of the U.S. Federal Reserve Board's AFE Dollar Index.

International. The mood in the world's financial markets has been more upbeat over the past few weeks partly thanks to some stronger-than-expected US corporate earnings reports. Investors have also become more optimistic that central banks either already have completed, or are now close to completing, their monetary policy tightening campaigns. Further downside inflation surprises in many major economies coupled with tentative evidence suggesting that labor markets are cooling off have been pivotal for that view. But, more ominously, so too have data suggesting that economic growth is cooling more rapidly than expected in Europe and China.

That loss of growth momentum was evidenced by July's flash PMI surveys showing a broadly based slowdown at the start of Q3. Country-specific data revealed that US business activity growth slipped to a five-month low, that Japan's activity slowed to a four-month low, that the UK slowed to near-stagnation and that the euro area fell into a much steeper decline. The latter also chimes with more backward-looking data suggesting that activity has been slipping in the euro area's industrial and retail sectors. It chimes too with GDP data suggesting that the German economy has recently entered a recession.

The news from China has been equally downbeat. GDP growth in Q2, 0.8% compared with the previous quarter, was well shy of expectations with accompanying detail from June's retail sales data suggesting that flagging consumption is an important reason for this. Property sector investment, in the meantime, is also still sinking, a symptom of excess capacity that's engulfing the housing market. Sub-par levels of CPI inflation in July coupled with negative rates of PPI inflation speak to excess capacity issues lurking in the broader economy as well.

But while those sub-par inflation rates have given cover to China's authorities to announce a package of fiscal policy support in recent days, above-par core inflation levels elsewhere leave limited scope for policy support. And this may be one reason, notwithstanding a raft of inflation-friendly data, why the decisions and communications from central banks, as well as the views of our BCFF panelists, are not fully synchronized with the views of financial market participants.

Indeed, most major central banks appear willing, at least in their communications, to calibrate monetary policy at a more restrictive level than financial market participants are (or had been) anticipating. The ECB, for example, enacted a further 25bps of policy rate hikes at their latest meeting. While that was in line with expectations, the subsequent post-meeting commentary from President Lagarde appeared to be inconsistent with the idea that the ECB's inflation battle is now over. In the meantime, both the RBA and the BoC have wrong-footed financial markets by lifting their policy rates by 25bps in recent weeks, having previously communicated that they would pause their tightening cycles. As a result, there is now much uncertainty about both central banks' intentions at their upcoming meetings in August. In the meantime, large positive surprises on inflation and pay growth forced the BoE to respond with a 50bps rate hike in June and have raised the possibility that it will keep hiking until it sees clear evidence that services inflation is cooling.

Not for the first time the BoJ is an outlier in this narrative. However, while monetary policy was ostensibly left unchanged at its July 28 meeting, as expected, greater flexibility was announced in its yield curve control policy. That might be seen as a prelude to an eventual shift away from its ultra-loose monetary policy.

Against this backdrop, our latest survey reveals persistent concerns about the global economic outlook. The BCFF consensus estimates a 52% probability of a recession in the euro area and 58% of one in the UK over the next 12 months. As for monetary policy, our panelists have marked up their near- and medium-term projections for policy rates in Canada, Australia, the euro area, and the UK this month. Notwithstanding those recession concerns, hardly any easing is anticipated from the ECB or the BoE over the next 12 months. Finally, expectations for Japan's policy rates in 12 months have been lifted slightly.

Third Quarter 2023

Interest Rate Forecasts

Key Assumptions

| Blue Chip
Financial Forecasts
Panel Members | Percent Per Annum -- Average For Quarter | | | | | | | | | | | | | | | Avg. For
--Qtr.--
Fed's Adv
Fgn Econ
\$ Index | (Q-Q % Change)
(SAAR) | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|-----------------------|--------------|------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|---------------------------|--------------------------|----------------------|----------------------|---------------------------|----------------------|---|---|-------------------|----------------------|-------------------------------|-----------------------------|------------|-----|------------|-----|------------|------------|--------------|------------|------------|------------|------------|------|---|-----|---|-----|---|-----|---|
| | Short-Term | | | | | Intermediate-Term | | | | | Long-Term | | | | | | A.
Fed's Adv
Fgn Econ
\$ Index | B.
Real
GDP | C.
Price
Index | D.
Cons.
Price
Index | E.
PCE
Price
Index | | | | | | | | | | | | | | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Federal
Funds
Rate | Prime
Bank
Rate | SOFR
Rate | Com.
Paper
1-Mo. | Treas.
Bills
3-Mo. | Treas.
Bills
6-Mo. | Treas.
Bills
1-Yr. | Treas.
Notes
2-Yr. | Treas.
Notes
5-Yr. | Treas.
Notes
10-Yr. | Treas.
Bond
30-Yr. | Aaa
Corp.
Bond | Baa
Corp.
Bond | State &
Local
Bonds | Home
Mtg.
Rate | | | | | | | | | | | | | | | | | | | | | | | | | |
| Chan Economics | 5.7 | H | 8.7 | H | 5.6 | H | 5.7 | H | 5.8 | H | 5.8 | H | 5.6 | 5.0 | H | 4.4 | H | 4.1 | H | 4.2 | H | 5.2 | 6.2 | 4.7 | H | 6.6 | 112.9 | 1.5 | 2.7 | 2.9 | 2.4 | | | | | | | | | |
| Bank of America | 5.6 | | na | | na | | na | | na | | na | | na | 4.5 | | 4.0 | | 3.6 | | 3.8 | | na | | na | | na | na | 1.0 | 3.3 | 2.7 | 2.4 | | | | | | | | | |
| Barclays | 5.6 | | na | | na | | na | | na | | na | | na | 4.8 | | 4.0 | | 3.9 | | 3.9 | | na | | na | | na | na | 1.0 | 2.8 | 2.9 | 2.6 | | | | | | | | | |
| Naroff Economic Advisors | 5.6 | | 8.6 | | 5.6 | H | 5.7 | H | 5.6 | | 5.7 | | 5.2 | 4.8 | | 4.3 | | 3.9 | | 4.0 | | na | | na | | 4.1 | 6.7 | 114.0 | -0.3 | 3.9 | H | 3.6 | 3.5 | | | | | | | |
| Bank of the West | 5.5 | | 8.6 | | 5.4 | | 5.4 | | 5.5 | | 5.6 | | 5.4 | 4.9 | | 4.2 | | 4.0 | | 4.1 | | 4.9 | | 6.0 | | 4.5 | 6.9 | 113.9 | 1.8 | 2.5 | 2.6 | 2.5 | | | | | | | | |
| Fannie Mae | 5.5 | | 8.6 | | na | | na | | 5.5 | | 5.5 | | 5.3 | 4.8 | | 4.1 | | 3.9 | | 3.9 | | na | | na | | na | 6.8 | na | 1.0 | 2.7 | 2.7 | 2.8 | | | | | | | | |
| Scotiabank Group | 5.5 | | na | | 5.3 | | na | | 5.3 | | na | | na | 4.6 | | 4.0 | | 3.7 | | 3.9 | | na | | na | | na | na | na | -0.7 | 1.1 | 3.8 | 1.7 | | | | | | | | |
| Action Economics | 5.4 | | 8.6 | | 5.5 | | 5.5 | | 5.6 | | 5.5 | | 5.4 | 4.7 | | 4.1 | | 3.9 | | 4.0 | | 4.7 | | 5.8 | | 3.9 | 7.3 | H | 114.6 | 1.5 | 1.9 | 2.4 | 2.2 | | | | | | | |
| BMO Capital Markets | 5.4 | | 8.5 | | 5.2 | | na | | 5.6 | | 5.6 | | 5.4 | 4.8 | | 4.1 | | 3.9 | | 3.9 | | na | | na | | na | 6.8 | 113.1 | 2.0 | 2.4 | 2.8 | 2.7 | | | | | | | | |
| Economist Intelligence Unit | 5.4 | | 8.4 | | na | | 5.3 | | 5.5 | | 5.6 | | 5.3 | 4.8 | | 4.3 | | 3.9 | | 4.0 | | na | | na | | na | 6.9 | na | -1.4 | na | 2.1 | na | | | | | | | | |
| Georgia State University | 5.4 | | 8.5 | | na | | na | | 5.4 | | 5.4 | | 5.0 | 4.4 | | 4.3 | | 3.8 | | 3.9 | | 4.6 | | 5.6 | | na | 6.5 | na | 0.5 | 3.5 | 4.0 | H | 3.6 | | | | | | | |
| Goldman Sachs & Co. | 5.4 | | na | | na | | na | | 5.1 | L | na | | na | 4.4 | | 3.9 | | 3.9 | | 4.0 | | na | | na | | na | na | na | 1.0 | 3.4 | 2.9 | 2.8 | | | | | | | | |
| ING | 5.4 | | na | | na | | na | | na | | na | | na | 5.0 | H | 4.3 | | 4.0 | | 4.0 | | na | | na | | na | na | na | 1.3 | na | na | na | | | | | | | | |
| Nomura Securities, Inc. | 5.4 | | 8.5 | | na | | na | | na | | na | | na | 4.7 | | 4.0 | | 3.5 | L | na | | na | | na | | na | na | na | 1.4 | 2.8 | 3.1 | 2.8 | | | | | | | | |
| RDQ Economics | 5.4 | | 8.5 | | 5.4 | | 5.4 | | 5.6 | | 5.7 | | 5.2 | 4.6 | | 4.2 | | 3.9 | | 4.0 | | 5.2 | | 6.0 | | 4.4 | 6.6 | 114.5 | 1.6 | 3.7 | 4.0 | H | 3.3 | | | | | | | |
| The Lonski Group | 5.4 | | 8.5 | | 5.3 | | 5.6 | | 5.4 | | 5.5 | | 5.3 | 4.8 | | 4.1 | | 3.8 | | 3.9 | | 5.0 | | 5.7 | | 4.3 | 6.8 | 113.1 | 0.8 | 2.7 | 2.7 | 3.4 | | | | | | | | |
| Wells Fargo | 5.4 | | 8.5 | | 5.3 | | 5.4 | | 5.4 | | 5.4 | | 5.3 | 4.6 | | 4.0 | | 3.8 | | 3.9 | | 5.0 | | 6.0 | | 4.4 | 6.7 | na | 1.7 | 2.4 | 2.3 | 2.4 | | | | | | | | |
| Chmura Economics & Analytics | 5.3 | | 8.4 | | 5.3 | | 5.3 | | 5.6 | | 5.6 | | 5.4 | 4.9 | | 4.3 | | 4.0 | | 4.1 | | 4.9 | | na | | na | 6.9 | na | -1.9 | 3.9 | H | 3.9 | 3.9 | H | | | | | | |
| Daiwa Capital Markets America | 5.3 | | 8.5 | | na | | na | | 5.4 | | na | | na | 4.8 | | 4.0 | | 3.9 | | 4.0 | | na | | na | | na | 7.1 | 115.0 | 1.3 | 2.7 | 2.9 | 3.0 | | | | | | | | |
| DePrince & Assoc. | 5.3 | | 8.4 | | 5.2 | | 5.3 | | 5.6 | | 5.6 | | 5.4 | 4.9 | | 4.2 | | 3.9 | | 4.0 | | 4.7 | | 5.8 | | 4.0 | 6.8 | 114.2 | 0.0 | 3.3 | 3.4 | 3.3 | | | | | | | | |
| EY-Parthenon | 5.3 | | na | | na | | na | | 5.4 | | na | | na | na | | na | | 3.8 | | na | | na | | na | | na | na | na | 0.0 | 1.1 | 2.9 | 2.5 | | | | | | | | |
| GLC Financial Economics | 5.3 | | 8.5 | | 5.2 | | 5.3 | | 5.4 | | 5.4 | | 5.1 | 4.6 | | 4.2 | | 4.0 | | 4.2 | H | 4.8 | | 5.9 | | 4.2 | 6.5 | 115.2 | 0.7 | 2.9 | 2.9 | 2.9 | | | | | | | | |
| J.P. Morgan Chase | 5.3 | | na | | na | | na | | na | | na | | na | 4.4 | | 3.9 | | 3.7 | | 3.9 | | na | | na | | na | na | na | 0.5 | 3.5 | 3.3 | 3.4 | | | | | | | | |
| KPMG | 5.3 | | 8.4 | | 5.3 | | 5.3 | | 5.5 | | 5.6 | | 5.6 | 5.0 | H | 4.3 | | 4.1 | H | 4.1 | | 5.0 | | 6.1 | | na | 7.0 | na | 1.0 | 2.6 | 2.9 | 2.8 | | | | | | | | |
| Loomis, Sayles & Company | 5.3 | | 8.4 | | 5.3 | | 5.5 | | 5.7 | | 5.8 | H | 5.4 | 4.7 | | 3.9 | | 3.8 | | 3.9 | | 4.7 | | 5.7 | | 4.4 | 6.8 | 113.1 | 0.7 | 2.8 | 2.5 | 2.6 | | | | | | | | |
| MacroFin Analytics & Rutgers Bus School | 5.3 | | 8.5 | | 5.3 | | 5.4 | | 5.4 | | 5.5 | | 5.4 | 5.0 | H | 4.3 | | 4.1 | H | 4.2 | H | 5.2 | | 6.2 | | 4.4 | 7.1 | 113.5 | 1.0 | 2.7 | 2.8 | 3.0 | | | | | | | | |
| MacroPolicy Perspectives | 5.3 | | 8.5 | | 5.3 | | 5.1 | L | 5.5 | | 5.5 | | 5.4 | 4.8 | | 4.1 | | 3.9 | | 4.0 | | 4.7 | | 5.6 | | 4.2 | 6.8 | 112.3 | L | 1.4 | 2.4 | 1.9 | 2.0 | | | | | | | |
| Moody's Analytics | 5.3 | | 8.4 | | 5.2 | | 5.4 | | 5.3 | | 5.4 | | 5.4 | 5.0 | H | 4.3 | | 3.8 | | 4.2 | H | 5.2 | | 6.2 | | 4.2 | 6.6 | na | 0.7 | 2.7 | 2.9 | 2.5 | | | | | | | | |
| Oxford Economics | 5.3 | | 8.4 | | 5.3 | | na | | 5.4 | | 5.4 | | 5.3 | 4.9 | | 4.1 | | 3.8 | | 3.9 | | 4.3 | L | na | | na | 6.8 | 115.0 | 1.4 | 1.0 | L | 3.0 | 2.6 | | | | | | | |
| PNC Financial Services Corp. | 5.3 | | 8.4 | | 5.2 | | na | | 5.3 | | 5.4 | | 5.3 | 4.8 | | 4.3 | | 4.0 | | 4.0 | | na | | 6.1 | | 3.9 | 7.0 | 115.0 | 0.5 | 2.9 | 3.2 | 2.6 | | | | | | | | |
| Regions Financial Corporation | 5.3 | | 8.4 | | 5.3 | | 5.4 | | 5.4 | | 5.5 | | 5.3 | 4.8 | | 4.2 | | 3.9 | | 4.0 | | 5.4 | | 6.3 | | 4.5 | 6.8 | 113.2 | 0.9 | 2.7 | 2.8 | 2.8 | | | | | | | | |
| S&P Global Market Intelligence | 5.3 | | 8.4 | | 5.2 | | na | | 5.4 | | 5.4 | | 5.7 | H | 5.0 | H | 4.4 | H | 4.0 | | 4.0 | | na | | na | | na | 6.8 | na | 1.3 | 2.7 | 2.8 | 2.9 | | | | | | | |
| Santander Capital Markets | 5.3 | | 8.4 | | 5.2 | | 5.3 | | 5.5 | | 5.5 | | 5.4 | 4.9 | | 4.2 | | 4.0 | | 4.1 | | 4.8 | | 5.9 | | 3.9 | 6.9 | 113.5 | 2.5 | H | 3.3 | 3.2 | 2.9 | | | | | | | |
| Societe Generale | 5.3 | | 8.4 | | 5.3 | | na | | 5.5 | | 5.4 | | 5.2 | 4.6 | | 4.0 | | 3.8 | | 3.8 | | na | | na | | na | na | na | 1.4 | 2.3 | 2.5 | 2.2 | | | | | | | | |
| The Northern Trust Company | 5.3 | | 8.5 | | 5.3 | | 5.4 | | 5.4 | | 5.3 | | 5.2 | 4.7 | | 4.0 | | 3.8 | | 4.0 | | 4.9 | | 6.0 | | 4.3 | 6.2 | 114.0 | 0.8 | 2.4 | 2.8 | 2.4 | | | | | | | | |
| Via Nova Investment Mgt. | 5.2 | | 8.4 | | 5.2 | | 5.2 | | 5.6 | | 5.7 | | 5.5 | 4.5 | | 3.8 | | 3.5 | L | 3.7 | | 4.7 | | 5.5 | L | 4.0 | 6.2 | 113.3 | 1.5 | 3.0 | 2.9 | 2.5 | | | | | | | | |
| ACIMA Private Wealth | 5.0 | L | 8.0 | L | 5.0 | L | 5.1 | L | 5.1 | L | 4.3 | L | 4.1 | L | 4.0 | L | 3.7 | L | 3.5 | L | 3.6 | L | 5.8 | H | 7.0 | H | 3.0 | L | 6.0 | L | 125.0 | H | -2.0 | L | 1.0 | L | 0.8 | L | 1.0 | L |
| August Consensus | 5.4 | | 8.5 | | 5.3 | | 5.4 | | 5.5 | | 5.5 | | 5.3 | 4.7 | | 4.1 | | 3.9 | | 4.0 | | 4.9 | | 6.0 | | 4.2 | 6.7 | 114.4 | 0.8 | 2.7 | 2.9 | 2.7 | | | | | | | | |
| Top 10 Avg. | 5.5 | | 8.6 | | 5.4 | | 5.5 | | 5.6 | | 5.7 | | 5.5 | 5.0 | | 4.3 | | 4.0 | | 4.1 | | 5.2 | | 6.2 | | 4.4 | 7.0 | 115.7 | 1.7 | 3.5 | 3.6 | 3.3 | | | | | | | | |
| Bottom 10 Avg. | 5.3 | | 8.4 | | 5.2 | | 5.3 | | 5.3 | | 5.3 | | 5.1 | 4.5 | | 3.9 | | 3.7 | | 3.8 | | 4.7 | | 5.8 | | 3.9 | 6.5 | 113.2 | -0.5 | 1.8 | 2.3 | 2.1 | | | | | | | | |
| July Consensus | 5.3 | | 8.4 | | 5.2 | | 5.2 | | 5.3 | | 5.3 | | 5.1 | 4.4 | | 3.9 | | 3.7 | | 3.9 | | 4.8 | | 5.9 | | 4.2 | 6.6 | 114.7 | 0.0 | 2.9 | 3.0 | 2.9 | | | | | | | | |
| Number of Forecasts Changed From A Month Ago: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Down | 3 | | 1 | | 0 | | 2 | | 1 | | 0 | | 0 | 0 | | 2 | | 1 | | 1 | | 3 | | 7 | | 3 | 2 | 13 | 3 | 20 | 17 | 16 | | | | | | | | |
| Same | 18 | | 12 | | 12 | | 5 | | 10 | | 7 | | 3 | 8 | | 7 | | 11 | | 14 | | 5 | | 4 | | 6 | 4 | 4 | 12 | 8 | 6 | 8 | | | | | | | | |
| Up | 16 | | 17 | | 13 | | 14 | | 21 | | 21 | | 25 | 28 | | 27 | | 25 | | 20 | | 13 | | 9 | | 10 | 22 | 3 | 22 | 7 | 13 | 11 | | | | | | | | |
| Diffusion Index | 68% | | 77% | | 76% | | 79% | | 81% | | 88% | | 95% | 89% | | 85% | | 82% | | 77% | | 74% | | 55% | | 68% | 86% | 25% | 76% | 31% | 44% | 43% | | | | | | | | |

Fourth Quarter 2023

Interest Rate Forecasts

Key Assumptions

| Blue Chip
Financial Forecasts
Panel Members | Percent Per Annum -- Average For Quarter | | | | | | | | | | | | | | | Avg. For
--Qtr--
A.
Fed's Adv
Fgn Econ
\$ Index | (Q-Q % Change) | | | | |
|---|--|-----------------------|--------------|------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|---------------------------|--------------------------|----------------------|----------------------|---------------------------|----------------------|--|-------------------|----------------------|-------------------------------|-----------------------------|---|
| | Short-Term | | | | | Intermediate-Term | | | | | Long-Term | | | | | | B.
Real
GDP | C.
Price
Index | D.
Cons.
Price
Index | E.
PCE
Price
Index | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | | | | | | |
| | Federal
Funds
Rate | Prime
Bank
Rate | SOFR
Rate | Com.
Paper
1-Mo. | Treas.
Bills
3-Mo. | Treas.
Bills
6-Mo. | Treas.
Bills
1-Yr. | Treas.
Notes
2-Yr. | Treas.
Notes
5-Yr. | Treas.
Notes
10-Yr. | Treas.
Bond
30-Yr. | Aaa
Corp.
Bond | Baa
Corp.
Bond | State &
Local
Bonds | Home
Mtg.
Rate | | | | | | |
| Chan Economics | 5.7 | H 8.7 | 5.6 | 5.7 | H 5.8 | H 5.8 | H 5.6 | 5.0 | 4.4 | 4.4 | 4.5 | H 5.5 | 6.5 | 5.0 | H 6.9 | 112.7 | 1.0 | 2.6 | 2.8 | 2.3 | |
| Action Economics | 5.6 | 8.8 | H 5.9 | H 5.6 | 5.6 | 5.5 | 5.3 | 4.5 | 4.1 | 4.0 | 4.0 | 4.8 | 5.9 | 3.9 | 7.3 | H 113.2 | 1.2 | 2.4 | 2.5 | 2.2 | |
| Bank of America | 5.6 | na | na | na | na | na | na | 4.3 | 3.9 | 3.5 | 3.8 | na | na | na | na | na | 0.5 | 3.5 | 3.0 | 2.7 | |
| Bank of the West | 5.6 | 8.8 | H 5.5 | 5.6 | 5.7 | 5.5 | 4.9 | 4.3 | 4.1 | 4.2 | 5.0 | 6.1 | 4.6 | 7.0 | 112.8 | 0.4 | 2.6 | 2.5 | 2.4 | | |
| Barclays | 5.6 | na | na | na | na | na | na | 4.5 | 3.9 | 3.9 | 3.9 | na | na | na | na | na | 0.0 | 2.4 | 1.7 | 2.2 | |
| Chmura Economics & Analytics | 5.6 | 8.7 | 5.6 | 5.7 | H 5.8 | H 5.8 | H 5.7 | H 5.1 | H 4.7 | H 4.5 | H 4.4 | 5.4 | na | na | 7.0 | na | -1.8 | 3.5 | 3.6 | 3.8 | H |
| Daiwa Capital Markets America | 5.6 | 8.8 | H na | na | 5.6 | na | na | 4.7 | 3.9 | 3.8 | 4.1 | na | na | na | 6.9 | 115.0 | -0.7 | 3.0 | 3.0 | 3.1 | |
| Fannie Mae | 5.6 | 8.8 | H na | na | 5.4 | 5.3 | 5.1 | 4.5 | 4.0 | 3.8 | 3.9 | na | na | na | 6.6 | na | -0.4 | 2.9 | 2.7 | 2.8 | |
| Naroff Economic Advisors | 5.6 | 8.6 | 5.6 | 5.7 | H 5.6 | 5.7 | 5.1 | 4.7 | 4.2 | 3.8 | 4.0 | na | na | 4.1 | 6.6 | 114.2 | -3.5 | L 3.6 | 3.5 | 3.4 | |
| The Northern Trust Company | 5.6 | 8.8 | H 5.6 | 5.7 | H 5.6 | 5.5 | 5.3 | 4.8 | 3.8 | 3.7 | 3.9 | 4.9 | 6.1 | 4.4 | 5.9 | 116.0 | 0.7 | 2.3 | 2.5 | 2.3 | |
| KPMG | 5.5 | 8.7 | 5.5 | 5.5 | 5.7 | 5.5 | 5.5 | 4.9 | 4.2 | 4.0 | 4.1 | 4.9 | 6.0 | na | 6.8 | na | 0.5 | 3.0 | 3.4 | 3.2 | |
| S&P Global Market Intelligence | 5.5 | 8.6 | 5.5 | na | 5.5 | 5.3 | 5.5 | 4.9 | 4.3 | 4.0 | 4.0 | na | na | na | 6.6 | na | 0.9 | 3.0 | 3.5 | 3.2 | |
| Santander Capital Markets | 5.5 | 8.7 | 5.5 | 5.6 | 5.6 | 5.6 | 5.3 | 5.1 | H 4.4 | 4.2 | 4.3 | 5.1 | 6.2 | 4.1 | 7.0 | 114.0 | 1.9 | H 3.2 | 3.7 | 3.3 | |
| Scotiabank Group | 5.5 | na | 5.3 | na | 5.3 | na | na | 4.4 | 3.9 | 3.6 | 3.9 | na | na | na | na | na | -0.3 | 1.4 | 3.9 | 3.7 | |
| BMO Capital Markets | 5.4 | 8.5 | 5.3 | na | 5.7 | 5.7 | 5.3 | 4.5 | 4.0 | 3.7 | 3.8 | na | na | na | 6.7 | 112.1 | 1.0 | 2.9 | 3.3 | 3.1 | |
| DePrince & Assoc. | 5.4 | 8.5 | 5.4 | 5.4 | 5.6 | 5.6 | 5.5 | 5.0 | 4.4 | 4.0 | 4.0 | 5.0 | 5.9 | 4.2 | 6.7 | 115.7 | 0.1 | 3.0 | 3.0 | 2.9 | |
| Economist Intelligence Unit | 5.4 | 8.4 | na | 5.3 | 5.4 | 5.5 | 5.0 | 4.8 | 4.0 | 3.8 | 3.9 | na | na | na | 6.8 | na | 0.2 | na | 1.8 | na | |
| Goldman Sachs & Co. | 5.4 | na | na | na | 5.1 | na | na | 4.5 | 4.0 | 3.9 | 4.0 | na | na | na | na | na | 1.0 | 4.1 | H 4.4 | H 3.3 | |
| ING | 5.4 | na | na | na | na | na | na | 4.3 | 3.8 | 3.5 | 3.7 | na | na | na | na | na | -0.7 | na | na | na | |
| J.P. Morgan Chase | 5.4 | na | na | na | na | na | na | 4.4 | 3.7 | 3.7 | 3.9 | na | na | na | na | na | -0.5 | 3.2 | 2.9 | 3.0 | |
| Loomis, Sayles & Company | 5.4 | 8.5 | 5.4 | 5.4 | 5.6 | 5.6 | 5.1 | 3.9 | 3.7 | 3.1 | 3.7 | 4.1 | L 5.1 | L 3.7 | 6.0 | 112.3 | -2.1 | 2.3 | 1.9 | 1.9 | |
| MacroPolicy Perspectives | 5.4 | 8.5 | 5.3 | na | na | na | 5.4 | 4.7 | 4.3 | 4.1 | 4.2 | 4.9 | 5.8 | na | 6.9 | na | 1.1 | 2.1 | 1.6 | 1.7 | |
| Nomura Securities, Inc. | 5.4 | 8.5 | na | na | na | na | na | 3.9 | 3.3 | 2.9 | na | na | na | na | na | na | -1.6 | 2.3 | 2.5 | 2.2 | |
| Oxford Economics | 5.4 | 8.5 | 5.4 | na | 5.3 | 5.2 | 5.1 | 4.6 | 3.8 | 3.6 | 3.7 | 4.2 | na | na | 6.3 | 114.9 | -1.6 | -0.6 | 3.2 | 2.7 | |
| RDQ Economics | 5.4 | 8.5 | 5.4 | 5.5 | 5.4 | 5.4 | 4.8 | 4.2 | 4.1 | 4.0 | 4.0 | 5.6 | H 6.4 | 4.4 | 6.6 | 112.7 | 0.8 | 3.6 | 3.6 | 3.5 | |
| The Lonski Group | 5.4 | 8.5 | 5.3 | 5.7 | H 5.4 | 5.4 | 5.0 | 4.6 | 3.9 | 3.7 | 3.8 | 4.9 | 5.7 | 4.2 | 6.6 | 114.8 | 0.2 | 2.5 | 2.9 | 3.1 | |
| Wells Fargo | 5.4 | 8.5 | 5.4 | 5.4 | 5.3 | 5.3 | 4.8 | 4.2 | 3.7 | 3.6 | 3.8 | 4.8 | 5.8 | 4.2 | 6.5 | na | 0.2 | 2.6 | 3.0 | 2.6 | |
| EY-Parthenon | 5.3 | na | na | na | 5.2 | na | na | na | na | 3.3 | na | na | na | na | na | na | -0.6 | 1.8 | 2.6 | 2.2 | |
| MacroFin Analytics & Rutgers Bus School | 5.3 | 8.5 | 5.3 | 5.4 | 5.4 | 5.4 | 5.0 | 4.3 | 4.1 | 4.2 | 5.2 | 6.2 | 4.4 | 7.1 | 113.4 | 1.2 | 2.6 | 2.8 | 2.8 | | |
| Moody's Analytics | 5.3 | 8.5 | 5.3 | 5.5 | 5.2 | 5.1 | 4.9 | 4.6 | 4.2 | 3.9 | 4.3 | 5.4 | 6.4 | 4.4 | 6.7 | na | 0.4 | 2.9 | 3.3 | 3.1 | |
| PNC Financial Services Corp. | 5.3 | 8.5 | 5.3 | na | 5.3 | 5.3 | 4.8 | 4.5 | 4.1 | 3.9 | 4.0 | na | 6.9 | H 4.9 | 6.7 | 116.3 | 0.2 | 2.5 | 2.5 | 2.2 | |
| Regions Financial Corporation | 5.3 | 8.5 | 5.3 | 5.4 | 5.4 | 5.5 | 5.3 | 4.4 | 4.0 | 3.7 | 3.9 | 5.2 | 6.1 | 4.4 | 6.6 | 113.3 | 0.6 | 2.7 | 3.0 | 2.8 | |
| Societe Generale | 5.3 | 8.5 | 5.3 | na | 5.3 | 5.1 | 4.7 | 3.9 | 3.6 | 3.5 | 3.7 | na | na | na | na | na | 1.0 | 2.7 | 3.1 | 2.8 | |
| Via Nova Investment Mgt. | 5.3 | 8.5 | 5.3 | 5.3 | 5.6 | 5.7 | 5.5 | 4.3 | 3.6 | 3.3 | 3.6 | 4.5 | 5.3 | 3.8 | 6.0 | 112.0 | L 1.5 | 2.5 | 2.4 | 2.3 | |
| GLC Financial Economics | 5.2 | 8.3 | 5.1 | 5.2 | 5.2 | 5.2 | 5.0 | 4.6 | 4.3 | 4.1 | 4.4 | 5.1 | 6.1 | 4.2 | 6.5 | 115.2 | 0.4 | 2.9 | 2.9 | 2.8 | |
| Georgia State University | 5.0 | 8.2 | na | na | 5.0 | 4.8 | 4.7 | 4.0 | 3.8 | 3.6 | 3.7 | 4.4 | 5.5 | na | 6.1 | na | 0.1 | 3.4 | 2.4 | 2.8 | |
| ACIMA Private Wealth | 4.1 | L 7.1 | L 4.1 | L 4.2 | L 4.2 | L 3.3 | L 3.0 | L 2.7 | L 2.5 | L 2.5 | L 2.8 | L 4.8 | 6.8 | 2.2 | L 5.0 | L 118.0 | H -2.0 | -1.5 | L -1.0 | L -1.1 | L |
| August Consensus | 5.4 | 8.5 | 5.4 | 5.4 | 5.4 | 5.4 | 5.1 | 4.5 | 4.0 | 3.8 | 3.9 | 4.9 | 6.0 | 4.2 | 6.6 | 114.1 | 0.0 | 2.6 | 2.8 | 2.7 | |
| Top 10 Avg. | 5.6 | 8.7 | 5.6 | 5.6 | 5.7 | 5.7 | 5.5 | 5.0 | 4.4 | 4.2 | 4.3 | 5.3 | 6.4 | 4.5 | 7.0 | 115.4 | 1.2 | 3.4 | 3.6 | 3.4 | |
| Bottom 10 Avg. | 5.1 | 8.3 | 5.2 | 5.3 | 5.1 | 5.0 | 4.7 | 4.0 | 3.6 | 3.3 | 3.6 | 4.6 | 5.7 | 3.9 | 6.2 | 112.9 | -1.5 | 1.5 | 1.8 | 1.8 | |
| July Consensus | 5.2 | 8.4 | 5.2 | 5.2 | 5.2 | 5.1 | 4.9 | 4.3 | 3.8 | 3.6 | 3.9 | 4.9 | 5.9 | 4.2 | 6.4 | 115.1 | -0.2 | 2.8 | 2.8 | 2.7 | |
| Number of Forecasts Changed From A Month Ago: | | | | | | | | | | | | | | | | | | | | | |
| Down | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 3 | 3 | 5 | 1 | 1 | 11 | 10 | 15 | 12 | 11 | |
| Same | 16 | 12 | 9 | 6 | 10 | 6 | 4 | 8 | 12 | 15 | 16 | 6 | 4 | 6 | 5 | 6 | 14 | 12 | 13 | 11 | |
| Up | 19 | 16 | 16 | 14 | 21 | 21 | 23 | 28 | 21 | 21 | 15 | 11 | 10 | 11 | 22 | 2 | 13 | 8 | 11 | 13 | |
| Diffusion Index | 73% | 73% | 82% | 85% | 84% | 89% | 93% | 89% | 77% | 77% | 68% | 70% | 63% | 78% | 88% | 26% | 54% | 40% | 49% | 53% | |

Third Quarter 2024

Interest Rate Forecasts

Key Assumptions

| Blue Chip
Financial Forecasts
Panel Members | Percent Per Annum -- Average For Quarter | | | | | | | | | | | | | | | Avg. For
--Qtr.--
Fed's Adv
Fgn Econ
\$ Index | --(Q-Q % Change)--
--(SAAR)-- | | | | | | | | | | | | | | | |
|---|--|-----------------------|--------------|------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|---------------------------|---------------------------|----------------------|----------------------|---------------------------|----------------------|---|----------------------------------|-------------|----------------|-------------------------|-----------------------|------------|------------|------------|-----|-----|-------|-----|-----|-----|-----|-----|
| | Short-Term | | | | | Intermediate-Term | | | | | Long-Term | | | | | | A. | B. | C. | D. | E. | | | | | | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | | | | | | | | | | | | | | | | | |
| | Federal
Funds
Rate | Prime
Bank
Rate | SOFR
Rate | Com.
Paper
1-Mo. | Treas.
Bills
3-Mo. | Treas.
Bills
6-Mo. | Treas.
Bills
1-Yr. | Treas.
Notes
2-Yr. | Treas.
Notes
5-Yr. | Treas.
Notes
10-Yr. | Treas.
Bonds
30-Yr. | Aaa
Corp.
Bond | Baa
Corp.
Bond | State &
Local
Bonds | Home
Mtg.
Rate | | | Real
GDP | Price
Index | Cons.
Price
Index | PCE
Price
Index | | | | | | | | | | | |
| Santander Capital Markets | 5.4 | H | 8.6 | H | 5.4 | 5.4 | H | 5.3 | H | 5.2 | 5.0 | 4.6 | 4.2 | 4.0 | 4.2 | 5.1 | 6.3 | 4.0 | 6.7 | 112.0 | 0.9 | 2.7 | 2.7 | 2.3 | | | | | | | | |
| Chan Economics | 5.2 | | 8.2 | | 5.1 | 5.2 | | 5.3 | H | 5.3 | H | 5.1 | 4.5 | 3.9 | 3.9 | 4.0 | 5.0 | 6.0 | 4.5 | 6.4 | 112.2 | 0.8 | 2.3 | 2.5 | 2.0 | | | | | | | |
| Barclays | 5.1 | | na | | na | na | | na | na | na | na | na | na | na | na | na | na | na | na | na | na | 0.0 | 2.7 | 2.6 | 2.6 | | | | | | | |
| Economist Intelligence Unit | 5.1 | | 8.1 | | na | 5.0 | | 4.9 | 4.9 | 4.5 | 4.4 | 3.5 | 3.3 | 3.5 | 3.5 | na | na | na | 5.5 | na | na | 2.1 | na | 2.4 | na | | | | | | | |
| Regions Financial Corporation | 5.1 | | 8.3 | | 5.0 | 5.2 | | 4.9 | 5.0 | 5.0 | 3.5 | 3.6 | 3.5 | 3.7 | 3.7 | 5.0 | 5.9 | 4.1 | 6.2 | 112.9 | 1.4 | 1.9 | 2.0 | 1.9 | | | | | | | | |
| The Northern Trust Company | 5.1 | | 8.3 | | 5.1 | 5.2 | | 4.9 | 4.5 | 4.3 | 3.8 | 3.4 | 3.3 | 3.6 | 3.6 | 4.5 | 5.7 | 4.1 | 5.1 | 111.0 | 1.4 | 2.0 | 2.1 | 2.0 | | | | | | | | |
| Action Economics | 5.0 | | 8.2 | | 5.5 | H | 5.1 | | 5.0 | 4.8 | 4.5 | 4.0 | 3.9 | 3.9 | 3.9 | 4.7 | 5.8 | 3.8 | 7.2 | 113.7 | 1.9 | 1.4 | 2.3 | 1.9 | | | | | | | | |
| BMO Capital Markets | 5.0 | | 8.2 | | 5.0 | na | | 5.3 | H | 5.3 | H | 4.7 | 3.7 | 3.5 | 3.4 | 3.5 | na | na | na | 6.3 | 110.2 | 1.5 | 2.0 | 2.2 | 2.0 | | | | | | | |
| Chmura Economics & Analytics | 5.0 | | 8.2 | | 5.0 | 5.1 | | 5.3 | H | 5.3 | H | 5.4 | H | 5.5 | H | 5.6 | H | na | na | 6.7 | na | 3.0 | 3.2 | 3.4 | 3.4 | H | | | | | | |
| J.P. Morgan Chase | 5.0 | | na | | na | na | | na | na | na | na | na | na | na | na | na | na | na | na | na | na | 2.3 | 2.3 | 2.3 | 2.1 | | | | | | | |
| Daiwa Capital Markets America | 4.9 | | 8.0 | | na | na | | 4.7 | na | na | na | 3.9 | 3.7 | 3.6 | 4.3 | na | na | na | 6.3 | 113.5 | 1.3 | 2.5 | 2.5 | 2.4 | | | | | | | | |
| Goldman Sachs & Co. | 4.9 | | na | | na | na | | 4.6 | na | na | na | 4.1 | 3.8 | 3.8 | 3.9 | na | na | na | na | na | na | 1.9 | 2.3 | 2.1 | 2.1 | | | | | | | |
| Moody's Analytics | 4.9 | | 8.0 | | 4.8 | 4.8 | | 4.6 | 4.5 | 4.5 | 4.3 | 4.1 | 3.9 | 4.4 | 4.4 | 5.4 | 6.3 | 4.3 | 6.1 | na | 1.9 | 1.9 | 2.2 | 2.2 | | | | | | | | |
| S&P Global Market Intelligence | 4.9 | | 8.0 | | 4.8 | na | | 4.6 | 4.3 | 4.3 | 3.9 | 3.6 | 3.7 | 3.9 | 3.9 | na | na | na | 5.9 | na | 1.3 | 2.4 | 2.7 | 2.4 | | | | | | | | |
| Bank of the West | 4.8 | | 7.9 | | 4.7 | 4.7 | | 4.8 | 4.8 | 4.6 | 4.2 | 4.1 | 3.9 | 4.0 | 4.0 | 5.0 | 6.1 | 4.7 | 6.7 | 112.4 | 1.2 | 2.2 | 2.2 | 2.2 | | | | | | | | |
| Scotiabank Group | 4.8 | | na | | 4.6 | na | | 4.1 | na | na | na | 3.6 | 3.7 | 3.8 | 3.9 | na | na | na | na | na | na | 1.1 | 0.0 | L | 3.5 | H | 1.4 | | | | | |
| DePrince & Assoc. | 4.7 | | 7.8 | | 4.7 | 4.7 | | 4.8 | 4.9 | 4.9 | 4.7 | 4.3 | 4.1 | 4.1 | 4.1 | 5.3 | 6.2 | 4.5 | 6.3 | 115.8 | 2.1 | 2.5 | 2.5 | 2.4 | | | | | | | | |
| Fannie Mae | 4.7 | | 7.8 | | na | na | | 4.5 | 4.3 | 4.2 | 3.9 | 3.7 | 3.6 | 3.8 | 3.8 | na | na | na | 6.1 | na | 0.3 | 2.4 | 2.8 | 2.4 | | | | | | | | |
| MacroPolicy Perspectives | 4.7 | | 7.8 | | 4.6 | na | | na | na | na | 4.8 | 4.0 | 4.2 | 4.1 | 4.3 | 4.9 | 5.8 | na | 6.9 | na | 1.8 | 2.4 | 2.4 | 2.0 | | | | | | | | |
| Bank of America | 4.6 | | na | | na | na | | na | na | na | na | 3.3 | 3.3 | 3.3 | 3.7 | na | na | na | na | na | na | 0.5 | 3.2 | 2.2 | 2.2 | | | | | | | |
| Oxford Economics | 4.6 | | 7.1 | | 4.6 | na | | 4.2 | 4.3 | 3.8 | 3.3 | 3.0 | 3.0 | 3.2 | 3.2 | 3.5 | L | na | 5.0 | 112.6 | 1.6 | 3.5 | H | 2.2 | 2.1 | | | | | | | |
| Naroff Economic Advisors | 4.5 | | 7.5 | | 4.5 | 4.6 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.0 | 4.0 | 4.2 | na | na | 4.0 | 6.0 | 113.5 | 3.6 | H | 2.6 | 2.8 | 2.9 | | | | | | | |
| Via Nova Investment Mgt. | 4.5 | | 7.8 | | 4.6 | 4.6 | | 4.5 | 4.6 | 4.7 | 4.8 | 4.8 | 4.8 | 4.8 | 4.8 | 6.0 | H | 6.8 | H | 5.3 | H | 7.5 | H | 110.0 | 2.5 | 2.1 | 2.1 | 2.1 | | | | |
| KPMG | 4.4 | | 7.5 | | 4.4 | 4.1 | | 4.3 | 4.3 | 4.3 | 4.0 | 3.6 | 3.5 | 3.9 | 3.9 | 4.5 | 5.7 | na | 5.8 | na | 1.5 | 2.4 | 2.7 | 2.4 | | | | | | | | |
| GLC Financial Economics | 4.3 | | 7.4 | | 4.3 | 4.2 | | 4.3 | 4.2 | 4.2 | 3.9 | 3.9 | 4.0 | 4.0 | 4.2 | 4.8 | 5.8 | 4.0 | 5.7 | 114.3 | 1.7 | 2.2 | 2.8 | 2.6 | | | | | | | | |
| EY-Parthenon | 4.2 | | na | | na | na | | 3.9 | na | na | na | na | na | 2.9 | na | na | na | na | na | na | na | 1.9 | 2.5 | 2.2 | 2.0 | | | | | | | |
| RDQ Economics | 4.2 | | 7.3 | | 4.2 | 4.3 | | 4.1 | 4.0 | 3.8 | 3.6 | 3.7 | 3.8 | 3.7 | 3.7 | 5.6 | 6.4 | 4.1 | 6.1 | 109.1 | 1.0 | 3.0 | 3.0 | 3.1 | | | | | | | | |
| The Lonski Group | 4.2 | | 7.3 | | 4.2 | 4.4 | | 4.1 | 4.2 | 4.1 | 4.0 | 3.5 | 3.4 | 3.6 | 3.6 | 4.6 | 5.5 | 4.0 | 6.3 | 117.0 | 1.2 | 2.0 | 2.2 | 2.1 | | | | | | | | |
| Nomura Securities, Inc. | 4.1 | | 7.3 | | na | na | | na | na | na | na | 2.5 | 2.7 | 2.8 | na | na | na | na | na | na | na | 1.3 | 1.5 | 2.5 | 2.2 | | | | | | | |
| Societe Generale | 4.1 | | 7.3 | | 4.1 | na | | 3.9 | 3.6 | 3.2 | 2.9 | 3.1 | 3.1 | 3.4 | 3.4 | na | na | na | na | na | na | 2.3 | 1.8 | 2.2 | 2.0 | | | | | | | |
| MacroFin Analytics & Rutgers Bus School | 3.9 | | 7.3 | | 3.8 | 3.9 | | 4.1 | 4.3 | 4.7 | 4.7 | 3.9 | 3.9 | 4.0 | 4.0 | 4.9 | 5.9 | 4.0 | 6.7 | 112.8 | 1.6 | 2.5 | 2.3 | 2.4 | | | | | | | | |
| PNC Financial Services Corp. | 3.8 | | 6.9 | | 3.8 | na | | 3.5 | 3.6 | 3.3 | 3.4 | 3.6 | 3.7 | 3.9 | 3.9 | na | 6.1 | 4.6 | 5.9 | 118.8 | H | -1.0 | L | 1.1 | 0.9 | L | 0.7 | L | | | | |
| Loomis, Sayles & Company | 3.5 | | 6.6 | | 3.4 | 3.4 | | 3.5 | 3.5 | 3.0 | 2.0 | 2.4 | 2.7 | 2.9 | 2.9 | 3.7 | 4.7 | L | 3.3 | 112.0 | 2.2 | 2.2 | 2.8 | 2.3 | | | | | | | | |
| ING | 3.4 | | na | | na | na | | na | na | na | na | 3.0 | 3.0 | 3.0 | 3.4 | na | na | na | na | na | na | 1.3 | na | na | na | | | | | | | |
| Wells Fargo | 3.4 | | 6.5 | | 3.4 | 3.4 | | 3.0 | 3.0 | 3.0 | 3.1 | 3.1 | 3.1 | 3.1 | 3.5 | 4.3 | 5.3 | 3.7 | 5.8 | na | 2.1 | 2.4 | 2.8 | 2.4 | | | | | | | | |
| Georgia State University | 3.3 | | 6.4 | | na | na | | 3.0 | 2.9 | 3.6 | 3.3 | 3.2 | 3.5 | 3.9 | 4.6 | 5.7 | na | na | 5.8 | na | 1.4 | 2.4 | 2.5 | 2.3 | | | | | | | | |
| ACIMA Private Wealth | 0.5 | L | 3.5 | L | 0.5 | L | 0.6 | L | 0.6 | L | 0.6 | L | 0.7 | L | 0.7 | L | 1.5 | L | 2.3 | L | 4.0 | 5.0 | 1.5 | L | 3.3 | L | 108.0 | L | 3.3 | 2.7 | 2.2 | 2.2 |
| August Consensus | 4.4 | | 7.5 | | 4.4 | 4.4 | | 4.3 | 4.2 | 4.2 | 4.2 | 3.8 | 3.6 | 3.6 | 3.9 | 4.8 | 5.9 | 4.0 | 6.1 | 112.7 | 1.6 | 2.3 | 2.4 | 2.2 | | | | | | | | |
| Top 10 Avg. | 5.1 | | 8.2 | | 5.0 | 5.0 | | 5.1 | 5.0 | 4.9 | 4.6 | 4.3 | 4.2 | 4.4 | 4.4 | 5.3 | 6.2 | 4.4 | 6.7 | 114.5 | 2.6 | 2.9 | 2.9 | 2.7 | | | | | | | | |
| Bottom 10 Avg. | 3.4 | | 6.6 | | 3.6 | 3.8 | | 3.4 | 3.4 | 3.3 | 2.8 | 2.8 | 2.9 | 3.3 | 3.3 | 4.3 | 5.5 | 3.6 | 5.3 | 111.0 | 0.6 | 1.6 | 2.0 | 1.8 | | | | | | | | |
| July Consensus | 4.3 | | 7.3 | | 4.3 | 4.2 | | 4.2 | 4.1 | 4.0 | 3.6 | 3.5 | 3.5 | 3.8 | 3.8 | 4.6 | 5.6 | 4.0 | 6.0 | 114.7 | 1.7 | 2.2 | 2.4 | 2.2 | | | | | | | | |
| Number of Forecasts Changed From A Month Ago: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Down | 4 | | 3 | | 2 | 4 | | 4 | 1 | 1 | 2 | 3 | 6 | 4 | 3 | 3 | 2 | 3 | 3 | 10 | 14 | 6 | 8 | 9 | | | | | | | | |
| Same | 14 | | 11 | | 8 | 6 | | 11 | 8 | 8 | 14 | 16 | 17 | 17 | 17 | 9 | 7 | 9 | 7 | 7 | 14 | 23 | 20 | 20 | | | | | | | | |
| Up | 19 | | 16 | | 15 | 10 | | 16 | 18 | 18 | 18 | 14 | 12 | 11 | 8 | 9 | 7 | 18 | 18 | 2 | 9 | 6 | 8 | 6 | | | | | | | | |
| Diffusion Index | 70% | | 72% | | 76% | 65% | | 69% | 81% | 81% | 74% | 67% | 59% | 61% | 63% | 66% | 64% | 77% | 77% | 29% | 43% | 50% | 50% | 46% | | | | | | | | |

Fourth Quarter 2024

Interest Rate Forecasts

Key Assumptions

| Blue Chip
Financial Forecasts
Panel Members | Percent Per Annum -- Average For Quarter | | | | | | | | | | | | | | | Avg. For
--Qtr.--
Fed's Adv
Fgn Econ
\$ Index | (Q-Q % Change) | | | | | | | | | |
|---|--|-----------------------|--------------|------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|---------------------------|--------------------------|----------------------|----------------------|---------------------------|----------------------|---|-----------------------------------|-------------|----------------|-------------------------|-----------------------|------------|-----|-----|-----|---|
| | Short-Term | | | | | Intermediate-Term | | | | | Long-Term | | | | | | (SAAR) | | | | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | | A. | B. | C. | D. | E. | | | | | |
| | Federal
Funds
Rate | Prime
Bank
Rate | SOFR
Rate | Com.
Paper
1-Mo. | Treas.
Bills
3-Mo. | Treas.
Bills
6-Mo. | Treas.
Bills
1-Yr. | Treas.
Notes
2-Yr. | Treas.
Notes
5-Yr. | Treas.
Notes
10-Yr. | Treas.
Bond
30-Yr. | Aaa
Corp.
Bond | Baa
Corp.
Bond | State &
Local
Bonds | Home
Mtg.
Rate | | Fed's Adv
Fgn Econ
\$ Index | Real
GDP | Price
Index | Cons.
Price
Index | PCE
Price
Index | | | | | |
| Chan Economics | 4.9 | H | 7.9 | 4.8 | 4.9 | H | 5.0 | H | 5.0 | 4.8 | 4.2 | 3.6 | 3.6 | 3.7 | 4.7 | 5.7 | 4.2 | 6.1 | 112.5 | 1.5 | 2.2 | 2.4 | 1.9 | | | |
| Santander Capital Markets | 4.9 | H | 8.1 | H | 4.9 | 4.9 | H | 4.8 | 4.7 | 4.6 | 4.2 | 4.0 | 3.8 | 4.1 | 5.0 | 6.2 | 3.8 | 6.4 | 111.5 | 1.1 | 2.5 | 2.5 | 2.1 | | | |
| Action Economics | 4.8 | | 7.9 | 5.3 | H | 4.8 | 4.7 | 4.5 | 4.3 | 4.0 | 3.8 | 3.8 | 3.9 | 3.9 | 4.6 | 5.7 | 3.7 | 7.2 | 113.9 | na | na | na | na | | | |
| BMO Capital Markets | 4.8 | | 7.9 | 4.8 | na | 5.0 | H | 5.0 | 4.4 | 3.5 | 3.4 | 3.3 | 3.4 | na | na | na | 6.3 | 109.6 | 2.0 | 1.9 | 2.1 | 1.9 | | | | |
| Chmura Economics & Analytics | 4.7 | | 7.8 | 4.7 | 4.8 | 5.0 | H | 5.1 | H | 5.1 | H | 5.2 | H | 5.3 | H | 5.7 | na | 6.6 | na | 2.5 | 3.0 | 3.2 | 3.2 | H | | |
| Economist Intelligence Unit | 4.7 | | 7.7 | na | 4.8 | 4.7 | 4.4 | 4.3 | 4.3 | 3.3 | 3.2 | 3.3 | na | na | na | 5.3 | na | na | na | 2.5 | na | 2.1 | na | | | |
| Barclays | 4.6 | | na | na | na | na | na | na | na | na | na | na | na | na | na | na | na | na | na | 1.0 | 2.7 | 2.5 | 2.5 | | | |
| Goldman Sachs & Co. | 4.6 | | na | na | na | 4.4 | na | na | na | 3.9 | 3.8 | 3.8 | 3.9 | na | na | na | na | na | na | 1.9 | 3.0 | 3.3 | 2.6 | | | |
| Regions Financial Corporation | 4.6 | | 7.8 | 4.5 | 4.7 | 4.5 | 4.6 | 4.7 | 3.4 | 3.4 | 3.4 | 3.6 | 4.9 | 5.8 | 4.0 | 6.0 | 112.7 | 1.5 | 1.9 | 2.0 | 1.8 | | | | | |
| The Northern Trust Company | 4.6 | | 7.8 | 4.6 | 4.7 | 4.4 | 3.8 | 3.6 | 3.5 | 3.3 | 3.3 | 3.6 | 4.5 | 5.7 | 4.1 | 5.1 | 110.0 | 1.6 | 2.0 | 2.0 | 1.9 | | | | | |
| Bank of the West | 4.5 | | 7.7 | 4.4 | 4.5 | 4.5 | 4.5 | 4.4 | 4.0 | 4.0 | 3.8 | 3.9 | 5.0 | 6.1 | 4.7 | 6.5 | 112.6 | 1.5 | 2.2 | 2.2 | 2.1 | | | | | |
| J.P. Morgan Chase | 4.5 | | na | na | na | na | na | na | na | na | na | na | na | na | na | na | na | na | na | 1.8 | 2.3 | 2.3 | 2.1 | | | |
| Daiwa Capital Markets America | 4.4 | | 7.5 | na | na | 4.3 | na | na | 3.6 | 3.5 | 3.6 | 4.3 | na | na | na | 6.2 | 113.5 | 1.5 | 2.3 | 2.4 | 2.3 | | | | | |
| S&P Global Market Intelligence | 4.4 | | 7.5 | 4.3 | na | 4.1 | 3.9 | 3.9 | 3.6 | 3.4 | 3.6 | 3.9 | na | na | na | 5.7 | na | na | 1.5 | 2.3 | 1.7 | 1.9 | | | | |
| DePrince & Assoc. | 4.3 | | 7.5 | 4.3 | 4.3 | 4.4 | 4.6 | 4.6 | 4.4 | 4.2 | 4.1 | 4.1 | 5.3 | 6.2 | 4.5 | 6.2 | 115.0 | 2.2 | 2.4 | 2.5 | 2.4 | | | | | |
| Via Nova Investment Mgt. | 4.3 | | 7.5 | 4.3 | 4.4 | 4.3 | 4.4 | 4.5 | 4.6 | 4.6 | 4.6 | 4.6 | 5.8 | H | 6.6 | H | 5.0 | H | 7.3 | H | 110.0 | 2.5 | 2.1 | 2.1 | 2.1 | |
| Fannie Mae | 4.2 | | 7.4 | na | na | 4.2 | 4.1 | 4.0 | 3.8 | 3.7 | 3.6 | 3.8 | na | na | na | 5.9 | na | na | 1.5 | 2.3 | 3.0 | 2.4 | | | | |
| MacroPolicy Perspectives | 4.2 | | 7.4 | 4.2 | na | na | na | 4.7 | 3.5 | 4.0 | 3.9 | 4.1 | 4.7 | 5.6 | na | 6.7 | na | na | 2.0 | 2.6 | 2.7 | 2.2 | | | | |
| Bank of America | 4.1 | | na | na | na | na | na | na | 3.0 | 3.2 | 3.3 | 3.7 | na | na | na | na | na | na | 1.0 | 3.1 | 1.8 | 2.0 | | | | |
| Oxford Economics | 4.1 | | 6.5 | 4.1 | na | 3.8 | 3.8 | 3.5 | 3.0 | 2.9 | 2.9 | 3.1 | 3.4 | L | na | 4.7 | 111.7 | 1.8 | 3.5 | H | 2.2 | 2.0 | | | | |
| EY-Parthenon | 4.0 | | na | na | na | 3.7 | na | na | na | na | 2.9 | na | na | na | na | na | na | na | 1.9 | 2.3 | 2.1 | 1.9 | | | | |
| Naroff Economic Advisors | 4.0 | | 7.0 | 4.0 | 4.1 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 3.9 | 4.2 | na | na | 4.1 | 5.8 | 113.0 | 2.2 | 2.5 | 2.5 | 2.2 | | | | | |
| Scotiabank Group | 4.0 | | na | 3.9 | na | 3.7 | na | na | 3.5 | 3.7 | 3.9 | 3.9 | na | na | na | na | na | na | 1.6 | 0.4 | L | 3.3 | 3.1 | | | |
| GLC Financial Economics | 3.9 | | 7.1 | 3.9 | 4.0 | 4.0 | 3.9 | 4.0 | 3.8 | 3.9 | 3.9 | 4.2 | 4.8 | 5.8 | 3.9 | 5.3 | 114.1 | 2.0 | 2.2 | 2.2 | 2.2 | | | | | |
| KPMG | 3.9 | | 7.1 | 3.9 | 3.5 | 3.8 | 3.8 | 3.7 | 3.5 | 3.2 | 3.4 | 3.8 | 4.3 | 5.5 | na | 5.5 | na | na | 1.5 | 2.2 | 1.8 | 1.9 | | | | |
| RDQ Economics | 3.9 | | 7.0 | 3.9 | 4.0 | 3.8 | 3.8 | 3.7 | 3.5 | 3.7 | 3.8 | 3.7 | 5.4 | 6.1 | 4.1 | 6.0 | 108.5 | 1.2 | 2.9 | 3.0 | 3.0 | | | | | |
| Moody's Analytics | 3.8 | | 6.9 | 3.7 | 3.9 | 3.7 | 3.7 | 3.8 | 3.8 | 3.8 | 3.9 | 4.3 | 5.3 | 6.3 | 4.3 | 5.8 | na | na | 2.1 | 2.0 | 2.0 | 2.1 | | | | |
| The Lonski Group | 3.7 | | 6.8 | 3.6 | 3.9 | 3.7 | 3.8 | 3.6 | 3.5 | 3.3 | 3.2 | 3.4 | 4.5 | 5.3 | 3.8 | 6.0 | 116.3 | 1.7 | 2.1 | 2.1 | 2.0 | | | | | |
| Nomura Securities, Inc. | 3.6 | | 6.8 | na | na | na | na | na | 2.3 | 2.7 | 2.7 | na | na | na | na | na | na | na | 1.9 | 1.3 | 2.6 | 2.2 | | | | |
| Societe Generale | 3.6 | | 6.8 | 3.6 | na | 3.4 | 3.1 | 2.9 | 2.7 | 3.0 | 3.1 | 3.4 | na | na | na | na | na | na | 4.3 | H | 1.8 | 2.2 | 1.9 | | | |
| PNC Financial Services Corp. | 3.5 | | 6.6 | 3.5 | na | 3.2 | 3.3 | 3.1 | 3.2 | 3.4 | 3.7 | 3.9 | na | 5.7 | 4.4 | 5.6 | 118.7 | H | 0.8 | L | 0.8 | 0.9 | L | 0.7 | L | |
| MacroFin Analytics & Rutgers Bus School | 3.4 | | 6.8 | 3.3 | 3.4 | 3.6 | 4.0 | 4.3 | 4.5 | 3.8 | 3.8 | 4.0 | 4.8 | 5.8 | 3.9 | 6.6 | 112.6 | 1.8 | 2.2 | 2.1 | 2.2 | | | | | |
| Georgia State University | 3.3 | | 6.4 | na | na | 2.9 | 2.9 | 3.4 | 3.2 | 3.2 | 3.5 | 3.9 | 4.6 | 5.7 | na | 5.6 | na | na | 2.1 | 2.3 | 2.5 | 2.2 | | | | |
| Loomis, Sayles & Company | 3.1 | | 6.2 | 3.1 | 3.0 | 3.1 | 3.1 | 2.7 | 2.0 | 2.5 | 2.8 | 3.0 | 3.8 | 4.8 | L | 3.4 | 5.2 | 111.9 | 2.2 | 2.0 | 2.0 | 1.8 | | | | |
| ING | 2.9 | | na | na | na | na | na | na | 3.0 | 3.1 | 3.0 | 3.4 | na | na | na | na | na | na | 2.2 | na | na | na | | | | |
| Wells Fargo | 2.9 | | 6.0 | 2.9 | 2.9 | 2.9 | 2.9 | 3.0 | 3.0 | 3.1 | 3.1 | 3.5 | 4.3 | 5.3 | 3.7 | 5.6 | na | na | 2.6 | 3.0 | 3.6 | H | 3.0 | | | |
| ACIMA Private Wealth | 1.5 | L | 4.5 | L | 1.5 | L | 1.6 | L | 0.6 | L | 0.6 | L | 0.7 | L | 0.7 | L | 1.5 | L | 2.3 | L | 4.0 | 5.0 | 1.5 | L | 3.3 | L |
| August Consensus | 4.0 | | 7.1 | 4.0 | 4.1 | 4.0 | 3.9 | 3.9 | 3.5 | 3.5 | 3.5 | 3.8 | 4.7 | 5.7 | 4.0 | 5.9 | 112.4 | | 1.8 | 2.3 | 2.3 | 2.2 | | | | |
| Top 10 Avg. | 4.7 | | 7.8 | 4.7 | 4.7 | 4.7 | 4.7 | 4.6 | 4.3 | 4.1 | 4.1 | 4.3 | 5.2 | 6.1 | 4.3 | 6.6 | 114.2 | | 2.5 | 2.9 | 3.0 | 2.7 | | | | |
| Bottom 10 Avg. | 3.2 | | 6.3 | 3.3 | 3.4 | 3.2 | 3.1 | 3.0 | 2.6 | 2.8 | 2.8 | 3.2 | 4.3 | 5.4 | 3.6 | 5.1 | 110.6 | | 1.2 | 1.6 | 1.8 | 1.8 | | | | |
| July Consensus | 3.9 | | 7.0 | 3.9 | 3.9 | 3.9 | 3.8 | 3.8 | 3.5 | 3.5 | 3.5 | 3.8 | 4.6 | 5.5 | 4.0 | 5.9 | 114.1 | | 2.0 | 2.2 | 2.4 | 2.2 | | | | |
| Number of Forecasts Changed From A Month Ago: | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Down | 4 | | 1 | 1 | 2 | 2 | 1 | 2 | 2 | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 9 | | 13 | 4 | 6 | 7 | | | | |
| Same | 11 | | 11 | 7 | 7 | 11 | 7 | 9 | 16 | 17 | 15 | 15 | 8 | 7 | 8 | 9 | 6 | | 13 | 21 | 21 | 20 | | | | |
| Up | 22 | | 18 | 17 | 11 | 18 | 19 | 16 | 16 | 14 | 17 | 14 | 10 | 10 | 8 | 17 | 4 | | 10 | 9 | 8 | 7 | | | | |
| Diffusion Index | 74% | | 78% | 82% | 73% | 76% | 83% | 76% | 71% | 68% | 70% | 67% | 70% | 71% | 67% | 77% | 37% | | 46% | 57% | 53% | 50% | | | | |

International Interest Rate And Foreign Exchange Rate Forecasts

| Blue Chip Forecasters | Fed Fund Target Rate | | |
|--------------------------------|----------------------|-------------|-------------|
| | In 3 Mo. | In 6 Mo. | In 12 Mo. |
| Barclays | 5.63 | 5.63 | 5.38 |
| BMO Capital Markets | 5.38 | 5.38 | 5.38 |
| ING Financial Markets | 5.38 | 5.38 | 3.88 |
| Moody's Analytics | 5.30 | 5.37 | 5.34 |
| Northern Trust | 5.63 | 5.63 | 4.88 |
| Oxford Economics | 5.31 | 5.38 | 4.96 |
| S&P Global Market Intelligence | -- | -- | -- |
| Scotiabank | 5.38 | 5.38 | 5.13 |
| Wells Fargo | 5.38 | 5.38 | 4.38 |
| August Consensus | 5.42 | 5.44 | 4.92 |
| High | 5.63 | 5.63 | 5.38 |
| Low | 5.30 | 5.37 | 3.88 |
| Last Months Avg. | 5.20 | 5.06 | 4.50 |

| United States | | | |
|---------------------------|-------------|-------------|--|
| 10 Yr. Gov't Bond Yield % | | | |
| In 3 Mo. | In 6 Mo. | In 12 Mo. | |
| 3.90 | 3.80 | 3.75 | |
| 3.77 | 3.63 | 3.48 | |
| 4.00 | 3.50 | 3.00 | |
| 3.84 | 3.94 | 3.96 | |
| 3.65 | 3.50 | 3.25 | |
| 3.80 | 3.64 | 3.16 | |
| 4.00 | 3.88 | 3.69 | |
| 3.65 | 3.60 | 3.75 | |
| 3.75 | 3.60 | 3.15 | |
| 3.82 | 3.68 | 3.47 | |
| 4.00 | 3.94 | 3.96 | |
| 3.65 | 3.50 | 3.00 | |
| 3.67 | 3.57 | 3.57 | |

| Fed's AFE \$ Index | | | |
|--------------------|--------------|--------------|--|
| In 3 Mo. | In 6 Mo. | In 12 Mo. | |
| -- | -- | -- | |
| 112.4 | 111.6 | 111.0 | |
| 109.9 | 107.2 | 104.0 | |
| -- | -- | -- | |
| 114.0 | 116.0 | 112.0 | |
| 115.0 | 114.9 | 113.6 | |
| -- | -- | -- | |
| -- | -- | -- | |
| -- | -- | -- | |
| 112.8 | 112.4 | 110.2 | |
| 115.0 | 116.0 | 113.6 | |
| 109.9 | 107.2 | 104.0 | |
| 113.6 | 113.6 | 111.9 | |

| Blue Chip Forecasters | Policy-Rate Balance Rate | | |
|--------------------------------|--------------------------|--------------|--------------|
| | In 3 Mo. | In 6 Mo. | In 12 Mo. |
| Barclays | 0.00 | 0.00 | 0.00 |
| BMO Capital Markets | -0.10 | -0.10 | -0.10 |
| ING Financial Markets | -0.10 | -0.10 | 0.00 |
| Moody's Analytics | -0.10 | -0.10 | -0.10 |
| Nomura Securities | -- | -- | -- |
| Northern Trust | -0.10 | -0.10 | -0.10 |
| Oxford Economics | -0.03 | -0.04 | -0.04 |
| S&P Global Market Intelligence | -- | -- | -- |
| Scotiabank | -- | -- | -- |
| Wells Fargo | -0.10 | -0.10 | -0.10 |
| August Consensus | -0.08 | -0.08 | -0.06 |
| High | 0.00 | 0.00 | 0.00 |
| Low | -0.10 | -0.10 | -0.10 |
| Last Months Avg. | -0.07 | -0.07 | -0.05 |

| Japan | | | |
|---------------------------|-------------|-------------|--|
| 10 Yr. Gov't Bond Yield % | | | |
| In 3 Mo. | In 6 Mo. | In 12 Mo. | |
| 0.35 | 0.30 | 0.25 | |
| 0.67 | 0.80 | 0.80 | |
| 0.50 | 0.75 | 1.00 | |
| 0.45 | 0.48 | 0.53 | |
| -- | -- | -- | |
| 0.45 | 0.50 | 0.50 | |
| 0.45 | 0.46 | 0.48 | |
| -- | -- | -- | |
| -- | -- | -- | |
| 0.50 | 0.75 | 0.70 | |
| 0.48 | 0.58 | 0.61 | |
| 0.67 | 0.80 | 1.00 | |
| 0.35 | 0.30 | 0.25 | |
| 0.43 | 0.46 | 0.50 | |

| Yen per US\$ | | | |
|--------------|--------------|--------------|--|
| In 3 Mo. | In 6 Mo. | In 12 Mo. | |
| 137.0 | 135.0 | 128.0 | |
| 138.0 | 137.0 | 136.0 | |
| 135.0 | 130.0 | 120.0 | |
| 133.5 | 130.3 | 124.8 | |
| 138.0 | 130.0 | 122.5 | |
| 140.0 | 137.0 | 132.0 | |
| 144.6 | 144.9 | 139.6 | |
| 143.9 | 143.3 | 135.8 | |
| 135.0 | 135.0 | 130.0 | |
| -- | -- | -- | |
| 138.3 | 135.8 | 129.9 | |
| 144.6 | 144.9 | 139.6 | |
| 133.5 | 130.0 | 120.0 | |
| 135.9 | 134.0 | 129.7 | |

| Blue Chip Forecasters | Official Bank Rate | | |
|--------------------------------|--------------------|-------------|-------------|
| | In 3 Mo. | In 6 Mo. | In 12 Mo. |
| Barclays | 5.75 | 5.75 | 5.75 |
| BMO Capital Markets | 5.75 | 5.75 | 5.75 |
| ING Financial Markets | 5.50 | 5.50 | 5.00 |
| Moody's Analytics | 5.35 | 5.75 | 5.75 |
| Nomura Securities | -- | -- | -- |
| Northern Trust | 5.75 | 5.75 | 5.50 |
| Oxford Economics | 5.35 | 5.75 | 5.75 |
| S&P Global Market Intelligence | -- | -- | -- |
| Scotiabank | 5.50 | 5.50 | 5.00 |
| Wells Fargo | 5.75 | 5.75 | 4.75 |
| August Consensus | 5.59 | 5.69 | 5.41 |
| High | 5.75 | 5.75 | 5.75 |
| Low | 5.35 | 5.50 | 4.75 |
| Last Months Avg. | 5.12 | 5.20 | 4.89 |

| United Kingdom | | | |
|----------------------|-------------|-------------|--|
| 10 Yr. Gilt Yields % | | | |
| In 3 Mo. | In 6 Mo. | In 12 Mo. | |
| 4.50 | 4.50 | 4.40 | |
| 3.96 | 3.71 | 3.51 | |
| 4.40 | 3.80 | 3.25 | |
| 4.33 | 4.99 | 5.11 | |
| -- | -- | -- | |
| 4.30 | 4.20 | 4.00 | |
| 4.33 | 4.28 | 4.18 | |
| -- | -- | -- | |
| -- | -- | -- | |
| 4.25 | 4.10 | 3.75 | |
| 4.30 | 4.23 | 4.03 | |
| 4.50 | 4.99 | 5.11 | |
| 3.96 | 3.71 | 3.25 | |
| 4.16 | 4.00 | 3.78 | |

| US\$ per Pound Sterling | | | |
|-------------------------|-------------|-------------|--|
| In 3 Mo. | In 6 Mo. | In 12 Mo. | |
| 1.29 | 1.29 | 1.29 | |
| 1.28 | 1.27 | 1.28 | |
| 1.29 | 1.31 | 1.34 | |
| 1.42 | 1.46 | 1.55 | |
| 1.26 | 1.27 | 1.33 | |
| 1.25 | 1.23 | 1.28 | |
| 1.27 | 1.27 | 1.28 | |
| 1.29 | 1.28 | 1.29 | |
| 1.35 | 1.35 | 1.38 | |
| -- | -- | -- | |
| 1.30 | 1.30 | 1.34 | |
| 1.42 | 1.46 | 1.55 | |
| 1.25 | 1.23 | 1.28 | |
| 1.26 | 1.28 | 1.30 | |

| Blue Chip Forecasters | SNB Policy Rate | | |
|--------------------------------|-----------------|-------------|-------------|
| | In 3 Mo. | In 6 Mo. | In 12 Mo. |
| Barclays | 2.00 | 2.25 | 2.25 |
| ING Financial Markets | 2.00 | 2.00 | 2.00 |
| Moody's Analytics | 2.00 | 2.00 | 2.00 |
| Nomura Securities | -- | -- | -- |
| Northern Trust | 2.00 | 2.00 | 1.75 |
| Oxford Economics | 1.77 | 2.00 | 1.88 |
| S&P Global Market Intelligence | -- | -- | -- |
| Scotiabank | -- | -- | -- |
| Wells Fargo | 2.00 | 2.00 | 1.75 |
| August Consensus | 1.96 | 2.04 | 1.94 |
| High | 2.00 | 2.25 | 2.25 |
| Low | 1.77 | 2.00 | 1.75 |
| Last Months Avg. | 1.86 | 1.91 | 1.79 |

| Switzerland | | | |
|---------------------------|-------------|-------------|--|
| 10 Yr. Gov't Bond Yield % | | | |
| In 3 Mo. | In 6 Mo. | In 12 Mo. | |
| -- | -- | -- | |
| 1.15 | 1.15 | 1.10 | |
| 1.90 | 2.11 | 2.22 | |
| -- | -- | -- | |
| 1.00 | 1.00 | 0.80 | |
| 1.09 | 1.37 | 1.34 | |
| -- | -- | -- | |
| -- | -- | -- | |
| 1.29 | 1.41 | 1.37 | |
| 1.90 | 2.11 | 2.22 | |
| 1.00 | 1.00 | 0.80 | |
| 1.25 | 1.22 | 1.22 | |

| CHF per US\$ | | | |
|--------------|-------------|-------------|--|
| In 3 Mo. | In 6 Mo. | In 12 Mo. | |
| 0.90 | 0.88 | 0.87 | |
| 0.86 | 0.84 | 0.85 | |
| 0.88 | 0.86 | 0.82 | |
| 0.88 | 0.89 | 0.89 | |
| 0.91 | 0.93 | 0.88 | |
| 0.90 | 0.91 | 0.90 | |
| 0.91 | 0.90 | 0.89 | |
| 0.88 | 0.88 | 0.87 | |
| -- | -- | -- | |
| 0.89 | 0.89 | 0.87 | |
| 0.91 | 0.93 | 0.90 | |
| 0.86 | 0.84 | 0.82 | |
| 0.90 | 0.89 | 0.89 | |

| Blue Chip Forecasters | O/N MMkt Financing Rate | | |
|--------------------------------|-------------------------|-------------|-------------|
| | In 3 Mo. | In 6 Mo. | In 12 Mo. |
| Barclays | 5.00 | 5.00 | 4.75 |
| BMO Capital Markets | 5.00 | 5.00 | 4.75 |
| ING Financial Markets | 5.00 | 5.00 | 4.25 |
| Moody's Analytics | 4.94 | 5.00 | 4.71 |
| Nomura Securities | -- | -- | -- |
| Northern Trust | 5.00 | 5.00 | 4.50 |
| Oxford Economics | 4.88 | 5.00 | 4.88 |
| S&P Global Market Intelligence | -- | -- | -- |
| Scotiabank | 5.00 | 5.00 | 4.75 |
| Wells Fargo | 5.00 | 5.00 | 4.50 |
| August Consensus | 4.98 | 5.00 | 4.64 |
| High | 5.00 | 5.00 | 4.88 |
| Low | 4.88 | 5.00 | 4.25 |
| Last Months Avg. | 4.80 | 4.69 | 4.26 |

| Canada | | | |
|---------------------------|-------------|-------------|--|
| 10 Yr. Gov't Bond Yield % | | | |
| In 3 Mo. | In 6 Mo. | In 12 Mo. | |
| -- | -- | -- | |
| 3.33 | 3.21 | 3.08 | |
| 3.50 | 3.40 | 3.00 | |
| 3.82 | 4.02 | 4.21 | |
| -- | -- | -- | |
| 3.40 | 3.30 | 3.10 | |
| 3.44 | 3.48 | 3.42 | |
| -- | -- | -- | |
| 3.25 | 3.20 | 3.40 | |
| 3.45 | 3.25 | 3.05 | |
| 3.46 | 3.41 | 3.32 | |
| 3.82 | 4.02 | 4.21 | |
| 3.25 | 3.20 | 3.00 | |
| 3.36 | 3.22 | 3.14 | |

| C\$ per US\$ | | | |
|--------------|-------------|-------------|--|
| In 3 Mo. | In 6 Mo. | In 12 Mo. | |
| 1.33 | 1.32 | 1.30 | |
| 1.31 | 1.30 | 1.29 | |
| 1.29 | 1.27 | 1.25 | |
| 1.33 | 1.29 | 1.24 | |
| 1.36 | 1.35 | 1.33 | |
| 1.33 | 1.35 | 1.28 | |
| 1.32 | 1.32 | 1.31 | |
| 1.32 | 1.34 | 1.31 | |
| 1.30 | 1.30 | 1.27 | |
| -- | -- | -- | |
| 1.32 | 1.32 | 1.29 | |
| 1.36 | 1.35 | 1.33 | |
| 1.29 | 1.27 | 1.24 | |
| 1.34 | 1.33 | 1.30 | |

International Interest Rate And Foreign Exchange Rate Forecasts

| Blue Chip Forecasters | Official Cash Rate | | |
|--------------------------------|--------------------|-------------|-------------|
| | In 3 Mo. | In 6 Mo. | In 12 Mo. |
| Barclays | 4.35 | 3.85 | 3.60 |
| ING Financial Markets | 4.35 | 4.35 | 4.10 |
| Moody's Analytics | 4.18 | 4.35 | 4.10 |
| Nomura Securities | -- | -- | -- |
| Northern Trust | 4.60 | 4.60 | 4.10 |
| Oxford Economics | 4.35 | 4.60 | 4.60 |
| S&P Global Market Intelligence | -- | -- | -- |
| Scotiabank | -- | -- | -- |
| Wells Fargo | 4.35 | 4.35 | 4.10 |
| August Consensus | 4.36 | 4.35 | 4.10 |
| High | 4.60 | 4.60 | 4.60 |
| Low | 4.18 | 3.85 | 3.60 |
| Last Months Avg. | 4.16 | 4.10 | 3.64 |

| Australia | | |
|---------------------------|-------------|-------------|
| 10 Yr. Gov't Bond Yield % | | |
| In 3 Mo. | In 6 Mo. | In 12 Mo. |
| -- | -- | -- |
| 3.75 | 3.30 | 3.20 |
| 4.49 | 4.66 | 4.41 |
| -- | -- | -- |
| 4.00 | 4.00 | 3.80 |
| 3.88 | 3.89 | 3.68 |
| -- | -- | -- |
| -- | -- | -- |
| -- | -- | -- |
| 4.03 | 3.96 | 3.77 |
| 4.49 | 4.66 | 4.41 |
| 3.75 | 3.30 | 3.20 |
| 3.68 | 3.52 | 3.35 |

| US\$ per A\$ | | |
|--------------|-------------|-------------|
| In 3 Mo. | In 6 Mo. | In 12 Mo. |
| 0.67 | 0.68 | 0.70 |
| 0.68 | 0.70 | 0.74 |
| 0.68 | 0.69 | 0.72 |
| 0.68 | 0.69 | 0.70 |
| 0.66 | 0.64 | 0.68 |
| 0.66 | 0.67 | 0.68 |
| 0.68 | 0.70 | 0.72 |
| 0.69 | 0.69 | 0.70 |
| -- | -- | -- |
| 0.68 | 0.68 | 0.71 |
| 0.69 | 0.70 | 0.74 |
| 0.66 | 0.64 | 0.68 |
| 0.67 | 0.68 | 0.70 |

| Blue Chip Forecasters | Main Refinancing Rate | | |
|--------------------------------|-----------------------|-------------|-------------|
| | In 3 Mo. | In 6 Mo. | In 12 Mo. |
| Barclays | 4.25 | 4.25 | 4.25 |
| BMO Capital Markets | 4.25 | 4.25 | 4.25 |
| ING Financial Markets | 4.50 | 4.50 | 4.25 |
| Moody's Analytics | 4.19 | 4.50 | 4.45 |
| Nomura Securities | -- | -- | -- |
| Northern Trust | 4.50 | 4.50 | 4.25 |
| Oxford Economics | 4.22 | 4.50 | 4.04 |
| S&P Global Market Intelligence | -- | -- | -- |
| Scotiabank | 4.50 | 4.50 | 4.25 |
| Wells Fargo | 3.75 | 3.75 | 3.25 |
| August Consensus | 4.27 | 4.34 | 4.12 |
| High | 4.50 | 4.50 | 4.45 |
| Low | 3.75 | 3.75 | 3.25 |
| Last Months Avg. | 4.07 | 4.20 | 3.94 |

Euro area

| US\$ per Euro | | |
|---------------|-------------|-------------|
| In 3 Mo. | In 6 Mo. | In 12 Mo. |
| 1.08 | 1.10 | 1.12 |
| 1.11 | 1.12 | 1.13 |
| 1.12 | 1.15 | 1.18 |
| 1.09 | 1.11 | 1.16 |
| 1.12 | 1.12 | 1.14 |
| 1.07 | 1.05 | 1.12 |
| 1.09 | 1.09 | 1.10 |
| 1.08 | 1.09 | 1.12 |
| 1.12 | 1.12 | 1.15 |
| -- | -- | -- |
| 1.10 | 1.11 | 1.14 |
| 1.12 | 1.15 | 1.18 |
| 1.07 | 1.05 | 1.10 |
| 1.09 | 1.10 | 1.13 |

| Blue Chip Forecasters | 10 Yr. Gov't Bond Yields % | | | | | | | | | | | |
|-------------------------|----------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | Germany | | | France | | | Italy | | | Spain | | |
| | In 3 Mo. | In 6 Mo. | In 12 Mo. | In 3 Mo. | In 6 Mo. | In 12 Mo. | In 3 Mo. | In 6 Mo. | In 12 Mo. | In 3 Mo. | In 6 Mo. | In 12 Mo. |
| Barclays | 2.55 | 2.50 | 2.30 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| BMO Capital Markets | 2.38 | 2.32 | 2.19 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ING Financial Markets | 2.30 | 2.20 | 2.10 | 2.90 | 2.75 | 2.65 | 4.30 | 4.10 | 3.90 | 3.40 | 3.25 | 3.10 |
| Moody's Analytics | 2.62 | 2.75 | 2.78 | 3.01 | 3.08 | 3.05 | 4.34 | 4.24 | 3.96 | 3.49 | 3.57 | 3.54 |
| Northern Trust | 2.40 | 2.40 | 2.20 | 2.90 | 2.90 | 2.70 | 4.00 | 4.00 | 3.80 | 3.70 | 3.70 | 3.50 |
| Oxford Economics | 2.42 | 2.30 | 2.08 | 2.97 | 2.82 | 2.54 | 4.18 | 4.07 | 3.91 | 3.44 | 3.32 | 3.13 |
| Wells Fargo | 2.40 | 2.35 | 2.25 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| August Consensus | 2.44 | 2.40 | 2.27 | 2.95 | 2.89 | 2.74 | 4.21 | 4.10 | 3.89 | 3.51 | 3.46 | 3.32 |
| High | 2.62 | 2.75 | 2.78 | 3.01 | 3.08 | 3.05 | 4.34 | 4.24 | 3.96 | 3.70 | 3.70 | 3.54 |
| Low | 2.30 | 2.20 | 2.08 | 2.90 | 2.75 | 2.54 | 4.00 | 4.00 | 3.80 | 3.40 | 3.25 | 3.10 |
| Last Months Avg. | 2.38 | 2.35 | 2.35 | 2.86 | 2.82 | 2.87 | 4.09 | 4.06 | 4.05 | 3.40 | 3.35 | 3.42 |

| | Consensus Forecasts | | | |
|----------------|-----------------------------------|----------|----------|-----------|
| | 10-year Bond Yields vs U.S. Yield | | | |
| | Current | In 3 Mo. | In 6 Mo. | In 12 Mo. |
| Japan | -3.36 | -3.34 | -3.10 | -2.86 |
| United Kingdom | 0.46 | 0.48 | 0.55 | 0.56 |
| Switzerland | -2.92 | -2.53 | -2.27 | -2.10 |
| Canada | -0.43 | -0.36 | -0.27 | -0.14 |
| Australia | 0.16 | 0.21 | 0.29 | 0.31 |
| Germany | -1.40 | -1.38 | -1.27 | -1.19 |
| France | -0.85 | -0.87 | -0.79 | -0.73 |
| Italy | 0.23 | 0.39 | 0.43 | 0.43 |
| Spain | -0.43 | -0.31 | -0.22 | -0.15 |

| | Consensus Forecasts | | | |
|----------------|----------------------------------|----------|----------|-----------|
| | Policy Rates vs U.S. Target Rate | | | |
| | Current | In 3 Mo. | In 6 Mo. | In 12 Mo. |
| Japan | -5.23 | -5.50 | -5.36 | -4.98 |
| United Kingdom | -0.13 | 0.16 | 0.25 | 0.49 |
| Switzerland | -3.38 | -3.46 | -3.40 | -2.98 |
| Canada | -0.13 | -0.45 | -0.44 | -0.28 |
| Australia | -1.03 | -1.06 | -1.09 | -0.82 |
| Euro area | -1.13 | -1.15 | -1.10 | -0.79 |

Viewpoints:**A Sampling of Views on the Economy, Financial Markets and Government Policy
Excerpted from Recent Reports Issued by our Blue Chip Panel Members and Others****A “patient and resolute” Fed**

The goal is to defeat, not just cool, inflation.

The Federal Open Market Committee (FOMC) – the policy arm of the Federal Reserve voted to raise rates again in July after a brief reprieve in June. That increased the fed funds rate to a 5.25% - 5.5% range, the highest rate for short-term rates since 2001, before it cut rates to mop up in the wake of the dot.com bust. The vote to raise rates was once again unanimous, which underscored Chairman Powell’s finesse in corralling the cats in a key vote.

At least two meeting participants, Austan Goolsbee of Chicago and Raphael Bostic of Atlanta, had voiced their preferences to pause on rate hikes in July before this meeting. Powell hinted that they may have pushed back against this hike. He said that will be reflected in the minutes to this meeting, which will be released in three weeks. Debate is expected to intensify within the ranks of the Fed leadership about how far they should go on rate hikes given the cooling in inflation we have seen and the uncertainty about the path of inflation going forward.

The statement following the meeting was little changed. It left the door open to additional rate hikes, much to the chagrin of market participants eager for an end to rate hikes. Chairman Jay Powell emphasized the Fed’s commitment to hold rates higher for longer at the press conference following the meeting; that will raise real rates as inflation cools. A cut in rates by year-end or at the start of next year is unlikely, barring a full-blown recession.

The Fed worries that financial markets will front-run it on rate cuts and undo some of the progress made on inflation. The ground is fertile. The excess savings triggered by the pandemic are still significant, a GenAI bubble is taking root and earlier fiscal stimulus is boosting infrastructure investment. The construction of chip and EV plants is accelerating, while funds allocated to upgrade schools and roads during the pandemic are being deployed.

Chairman Jay Powell underscored that the Fed needs to see core inflation come down in a more “durable” way. The “historic record” is clear on the fact that the worst error would be to fail to fully derail inflation now. “Policy has not been restrictive enough for long enough” to ensure that inflation will come down and stay there.

Much of the cooling in goods inflation reflects a reversal of the supply chain problems triggered by an uneven reopening of the global economy. That is good news as it has alleviated inflation in the goods sector. However, supply chains remain fragile.

Concern is high that we could see a bump in inflation this Fall when a quirk in how medical insurance is measured plays out. The consumer price index (CPI) measure of medical insurance plummeted nearly 25% from a year ago in June; that measure reverses course and rises on both a month-on-month and year-over-year basis in October. That could prevent inflation from cooling as much as needed in the service sector. Nearly all other insurance costs are already rising rapidly, with extreme weather risks prompting insurers to pull out of some markets entirely.

Separately, recent improvements in inflation have likely emboldened the Fed to reach its 2% inflation target. There was an unspoken sense that the Fed would stop short of its actual target to avoid the pain – a rise in unemployment – necessary to get inflation back to its target. The resilience of the economy has helped alleviate those concerns, while simultaneously upping the risk of an overshoot on rate hikes by the Fed. Powell said, “We are determined to bring inflation down to 2% over time and no one should doubt that.”

The bulk of the drag associated with earlier rate hikes is still ahead of us. Business loans that were taken out when rates were much lower are about to reset, while rejections for credit card, mortgage and vehicle loans have surged since the turmoil we saw in financial markets in the Spring. Powell acknowledged that bank lending conditions continued to tighten since the last report; bank lending standards were in recession territory in the first quarter. That data is due to be released on Monday, July 31.

Powell was careful to point out that the Fed would not need to reach the 2% level before cutting rates. The Fed is expecting to cut rates well before inflation reaches 2%; it only needs to be moving toward 2% over a sustained period. Note: The Fed does not expect inflation to fall to 2% until 2025. Real or inflation-adjusted interest rates will rise as inflation decelerates. Those shifts coupled with the lags in monetary policy mean the Fed should cut rates before it hits the 2% target, or it will most definitely overshoot and trigger a much harder landing. He said that the Fed could keep reducing its balance sheet or what is known as quantitative tightening, even after starting to cut short-term rates.

Powell noted that the staff has a significant slowdown in the economy at the end of the year but no longer has a full-blown recession in their forecast. That is only one forecast. He cautioned that the historical record suggests some softening in labor market conditions, aka increases in unemployment, are likely before inflation is defeated.

Powell said that the short-term social costs of unemployment were less than the long-term social costs of inflation. He thinks some increase in unemployment will occur – the issue is how much.

Bottom Line

The Fed will stand its ground and hold rates high well into 2024, barring a more pronounced slowdown in the economy and rise in unemployment. The goal is to defeat, not just cool, inflation. Another rate hike is possible. Our current forecast has it in November, given the time needed to assess how rapidly the economy is actually cooling and the risk of noise due to strikes. The writers’ and actors’ strikes could hit payrolls in August in the movie and production sector, while the UAW is weighing a strike in September. The Fed is scheduled to release its next forecast in September, which would enable it to signal its intent to hold rates elevated or hike again. The goal is to keep real rates elevated.

Diane Swonk (KPMG)

Tight Job Market Limits Growth and Lifts Inflation Risk

A historically low unemployment rate and industry specific shortages of qualified workers are the biggest threat to continued declines by price inflation. A tight job market traps the economy. An ultra-low jobless rate limits the upside for noninflationary economic growth. Today's reality of a high rate of labor market utilization implies the economy can grow slowly at best. Little more than a near depletion of the available supply of qualified labor warns of slower growth rates for jobs and spending. As spending ebbs, more businesses may find that their sales fall short of what justifies current staffing levels. In turn, layoffs will mount. And it is a slackening of the labor market that will curb the growth of both consumer spending and prices. Not until wage growth subsides from June's 4.4% year-on-year increase to a pace no greater than 3% might the demise of rapid inflation be declared with confidence. The latest upturn by actual and potential strikes, as well as the growing number of announced pay hikes of 5% to 10% annually, warn of a possible upturn by the year-on-year growth of the average hourly wage from June's 4.4%. As long as the labor market remains tight, the risk of a wage driven upturn by price inflation persists. Faster wage growth will do more than just boost operating costs. In addition, faster wage growth will enliven consumer spending and enhance the ability of workers to absorb higher prices. Once a wage price spiral becomes entrenched, only a significantly higher unemployment rate might succeed at taming wage driven price inflation.

Slower jobs growth will decelerate business sales. Retail sales, which serve as a proxy for consumer spending, ultimately depend on personal income growth, which is closely tied to jobs growth. An unfolding deceleration by private sector jobs growth will curb consumer spending. The drop by monthly jobs growth from May's 306,000 to June's 209,000 would have been deeper were it not for an increase by the monthly change in public sector payrolls from 47,000 to 60,000. Far different was the drop by the monthly addition to private-sector payrolls from May's 259,000 to June's 149,000. June's results reflect a continuation of 2023's distribution of payrolls growth between the private and public sectors. Seasonally adjusted data show the average monthly increase for private-sector jobs fell from the 317,000 of 2022's second half to the 215,000 of 2023's first half. According to the same serial comparison, the average monthly addition to public-sector payrolls rose from H2-2022's 37,000 to H1-2023's 63,000.

The faster growth of government employment brings attention to how government spending now contradicts Fed efforts to slow expenditures via higher interest rates. By not raising any objections, the Fed is effectively complicit with the Biden Administration's aim to expand the role of government in the US economy. The current expansion of government in the economy warns of slower economic growth and faster price inflation than otherwise.

Yearly growth for core retail sales slumps from Q1-2023's 6.0% to Q2-2023's 3.9%. Ordinarily, the change in corporate revenues is expressed in terms of year-over-year growth rates

using data that is not adjusted for seasonality. When comparing second-quarter data with results from prior second quarters, it makes little sense to employ seasonal adjustment. Before seasonal adjustment, retail sales year-over-year growth rate decelerated from first quarter 2023's 5.1% to the second quarter's 1.6%. After excluding the downward bias imparted to total retail sales by gasoline's second quarter yearly price plunge of -19.8%, the yearly increase for retail sales excluding gas station sales, or core retail sales, fell from Q1-2023's 6.0% to 3.9% for the second quarter.

Strong retail sales confined to e-commerce and restaurants. However, Q2-2023's 3.9% year-over-year increase by core retail sales masked considerable variation across categories of core retail sales. For example, the second quarter's 9.0% yearly advance by restaurant and bar sales led all broad categories of retail sales. However, almost all of the 9.0% advance consisted of price increases as inferred from Q2-2023's 8.2% yearly increase by the CPI's "food away from home" component.

Restaurant sales now top food store sales. Americans are more inclined to either dine out or order takeout than to prepare food at home. According to the retail sales report, the \$1,065 billion of restaurant and bar sales from the 12-months-ended June 2023 topped the accompanying \$971 billion of food and beverage store sales. In fact, 2022 was the first calendar year, wherein restaurant and bar sales surpassed food and beverage store sales. Things were far different as recently as the five years ended 2015, or when the span's annual averages of \$647 billion for food and beverage store sales exceeded the \$553 billion of restaurant and bar sales by 17%. Nevertheless, a significant amount of grocery sales has moved from the food and beverage store category to the general merchandise store excluding department stores category. Still, restaurants and bars share of core retail sales has climbed up from 2019's 13.7% to the record high 14.2% of the year-ended June 2023.

Core retail sales growth drops from 3.9% to 3.1% excluding restaurants. Absent restaurants and bars, remaining core retail sales grew by a modest 3.1% yearly, which was faster than Q1-2023's 2.5% yearly increase but slower than yearlong 2022's 6.8% annual growth rate. Second-quarter's year-to-year growth rate for remaining core retail sales was led by the 8.2% increase for non-store sales that is heavily weighted towards e-commerce. The second quarter's yearly gain by non-store sales outran Q1-2023's 7.8%, but lagged calendar year 2022's 12.8% annual advance. The 3.4% yearly increase by Q2-2023's sales of motor vehicle and parts dealerships was up from both Q1-2023's 2.1% and yearlong 2022's 2.8%. The second-quarter's price index for new and used autos barely rose by 0.7% from a year earlier. By contrast, the CPI's price index for motor vehicle parts and equipment rose by a faster 4.6% yearly in the second quarter.

In addition, second-quarter 2023's seasonally-adjusted, annualized sales pace of 15.6 million units for new cars and light trucks was up by 17.4% year-over-year, but was -8.9% less than 2017-2019's 17.1-million units average.

John Lonski (The Lonski Group)

Special Questions:

1. What do you think will be the peak federal funds rate target (midpoint of range) in the current tightening cycle? 5.47%

2. What do you think the fed funds rate target (midpoint of range) will be at the end of:

| | | | |
|-------------|-------|-------------|-------|
| <u>2023</u> | 5.40% | <u>2024</u> | 3.82% |
|-------------|-------|-------------|-------|

3. a. When will the first fed funds rate cut occur?

| | | | | |
|----------------|----------------|----------------|----------------|--------------|
| <u>Q3 2023</u> | <u>Q4 2023</u> | <u>Q1 2024</u> | <u>Q2 2024</u> | <u>Later</u> |
| 6% | 6% | 47% | 28% | 13% |

 b. What will likely be the primary factor behind the first fed funds rate cut?

| | |
|---|-----|
| <u>A sharp slowdown in the economy</u> | 26% |
| <u>A meaningful and persistent slowing in inflation</u> | 74% |
| <u>Global financial market stress</u> | 0% |

4. What probability do you attach to a recession beginning over the next 12 months in the:

| | |
|------------------|-----|
| <u>US</u> | 48% |
| <u>euro area</u> | 52% |
| <u>UK</u> | 58% |

5. a. Repayments of U.S. student loan debt will resume in October. Will this lower your outlook for the US economy in:

| | | |
|------|------------|-----------|
| | <u>Yes</u> | <u>No</u> |
| 2023 | 37% | 63% |
| 2024 | 63% | 37% |

 b. Have your forecasts for global growth been adversely impacted by recent sluggish data releases, notably in Asia and Europe?

| | | | |
|------------|-----|-----------|-----|
| <u>Yes</u> | 81% | <u>No</u> | 19% |
|------------|-----|-----------|-----|

 c. Does China's recent disappointing data threaten to weaken the global outlook for economic growth in 2023?

| | | | |
|------------|-----|-----------|-----|
| <u>Yes</u> | 89% | <u>No</u> | 11% |
|------------|-----|-----------|-----|

6. While the headline US PCE price index has slowed markedly, core inflation, which excludes food and energy prices, has slowed much less. What do you expect the core inflation rate to be for:

| | | | |
|---------------------|------|---------------------|------|
| <u>Dec/Dec 2023</u> | 3.5% | <u>Dec/Dec 2024</u> | 2.4% |
|---------------------|------|---------------------|------|

7. What is your US unemployment rate forecast for:

| | |
|---------------|------|
| December 2023 | 3.9% |
| June 2024 | 4.4% |
| December 2024 | 4.5% |

2023 Historical Data

| Monthly Indicator | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|--|-------|-------|-------|-------|-------|-------|------|------|------|------|------|------|
| Retail and Food Service Sales (a) | 2.8 | -0.7 | -0.9 | 0.4 | 0.5 | 0.2 | .... | .... | .... | .... | .... | .... |
| Auto & Light Truck Sales (b) | 15.95 | 14.92 | 14.92 | 16.09 | 15.08 | 15.68 | .... | .... | .... | .... | .... | .... |
| Personal Income (a, current \$) | 0.7 | 0.4 | 0.4 | 0.3 | 0.5 | 0.3 | .... | .... | .... | .... | .... | .... |
| Personal Consumption (a, current \$) | 1.9 | 0.3 | 0.1 | 0.6 | 0.2 | 0.5 | .... | .... | .... | .... | .... | .... |
| Consumer Credit (e) | 5.3 | 2.9 | 4.8 | 5.0 | 1.8 | .... | .... | .... | .... | .... | .... | .... |
| Consumer Sentiment (U. of Mich.) | 64.9 | 67.0 | 62.0 | 63.5 | 59.2 | 64.4 | 71.6 | .... | .... | .... | .... | .... |
| Household Employment (c) | 894 | 177 | 577 | 139 | -310 | 273 | .... | .... | .... | .... | .... | .... |
| Nonfarm Payroll Employment (c) | 472 | 248 | 217 | 217 | 306 | 209 | .... | .... | .... | .... | .... | .... |
| Unemployment Rate (%) | 3.4 | 3.6 | 3.5 | 3.4 | 3.7 | 3.6 | .... | .... | .... | .... | .... | .... |
| Average Hourly Earnings (All, cur. \$) | 33.02 | 33.11 | 33.20 | 33.34 | 33.46 | 33.58 | .... | .... | .... | .... | .... | .... |
| Average Workweek (All, hrs.) | 34.6 | 34.5 | 34.4 | 34.4 | 34.3 | 34.4 | .... | .... | .... | .... | .... | .... |
| Industrial Production (d) | 1.5 | 0.9 | 0.2 | 0.5 | 0.0 | -0.4 | .... | .... | .... | .... | .... | .... |
| Capacity Utilization (%) | 79.6 | 79.6 | 79.5 | 79.9 | 79.4 | 78.9 | .... | .... | .... | .... | .... | .... |
| ISM Manufacturing Index (g) | 47.4 | 47.7 | 46.3 | 47.1 | 46.9 | 46.0 | .... | .... | .... | .... | .... | .... |
| ISM Nonmanufacturing Index (g) | 55.2 | 55.1 | 51.2 | 51.9 | 50.3 | 53.9 | .... | .... | .... | .... | .... | .... |
| Housing Starts (b) | 1.340 | 1.436 | 1.380 | 1.348 | 1.559 | 1.434 | .... | .... | .... | .... | .... | .... |
| Housing Permits (b) | 1.354 | 1.482 | 1.437 | 1.417 | 1.496 | 1.441 | .... | .... | .... | .... | .... | .... |
| New Home Sales (1-family, c) | 649 | 625 | 640 | 671 | 715 | 697 | .... | .... | .... | .... | .... | .... |
| Construction Expenditures (a) | 2.2 | 0.4 | 0.6 | 0.4 | 0.9 | .... | .... | .... | .... | .... | .... | .... |
| Consumer Price Index (nsa, d) | 6.4 | 6.0 | 5.0 | 4.9 | 4.0 | 3.0 | .... | .... | .... | .... | .... | .... |
| CPI ex. Food and Energy (nsa, d) | 5.6 | 5.5 | 5.6 | 5.5 | 5.3 | 4.8 | .... | .... | .... | .... | .... | .... |
| PCE Chain Price Index (d) | 5.4 | 5.0 | 4.2 | 4.3 | 3.8 | 3.0 | .... | .... | .... | .... | .... | .... |
| Core PCE Chain Price Index (d) | 4.7 | 4.7 | 4.6 | 4.6 | 4.6 | 4.1 | .... | .... | .... | .... | .... | .... |
| Producer Price Index (nsa, d) | 5.7 | 4.7 | 2.7 | 2.1 | 0.9 | 0.1 | .... | .... | .... | .... | .... | .... |
| Durable Goods Orders (a) | -1.3 | -2.7 | 3.3 | 1.2 | 2.0 | 4.7 | .... | .... | .... | .... | .... | .... |
| Leading Economic Indicators (a) | -0.5 | -0.5 | -1.2 | -0.7 | -0.6 | -0.7 | .... | .... | .... | .... | .... | .... |
| Balance of Trade & Services (f) | -70.2 | -70.2 | -60.6 | -74.4 | -69.0 | .... | .... | .... | .... | .... | .... | .... |
| Federal Funds Rate (%) | 4.33 | 4.57 | 4.65 | 4.83 | 5.06 | 5.08 | .... | .... | .... | .... | .... | .... |
| 3-Mo. Treasury Bill Rate (%) | 4.69 | 4.79 | 4.86 | 5.07 | 5.31 | 5.42 | .... | .... | .... | .... | .... | .... |
| 10-Year Treasury Note Yield (%) | 3.53 | 3.75 | 3.66 | 3.46 | 3.57 | 3.75 | .... | .... | .... | .... | .... | .... |

2022 Historical Data

| Monthly Indicator | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|--|-------|-------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Retail and Food Service Sales (a) | 1.4 | 1.4 | 2.1 | 1.3 | -0.1 | 0.7 | -0.5 | 0.7 | 0.0 | 1.0 | -1.3 | -0.7 |
| Auto & Light Truck Sales (b) | 15.11 | 13.71 | 13.56 | 14.28 | 12.58 | 13.05 | 13.31 | 13.23 | 13.64 | 15.28 | 14.34 | 13.37 |
| Personal Income (a, current \$) | -0.1 | 0.5 | 0.5 | 0.2 | 0.5 | 0.5 | 0.8 | 0.6 | 0.5 | 0.6 | 0.2 | 0.2 |
| Personal Consumption (a, current \$) | 1.2 | 0.7 | 1.2 | 0.4 | 0.7 | 1.2 | -0.1 | 0.7 | 0.6 | 0.7 | -0.2 | 0.0 |
| Consumer Credit (e) | 5.0 | 8.6 | 11.0 | 7.8 | 7.4 | 9.2 | 7.3 | 7.4 | 7.2 | 8.9 | 8.3 | 4.9 |
| Consumer Sentiment (U. of Mich.) | 67.2 | 62.8 | 59.4 | 65.2 | 58.4 | 50.0 | 51.5 | 58.2 | 58.6 | 59.9 | 56.8 | 59.7 |
| Household Employment (c) | 1041 | 468 | 738 | -346 | 317 | -242 | 215 | 422 | 156 | -257 | -66 | 717 |
| Nonfarm Payroll Employment (c) | 364 | 904 | 414 | 254 | 364 | 370 | 568 | 352 | 350 | 324 | 290 | 239 |
| Unemployment Rate (%) | 4.0 | 3.8 | 3.6 | 3.6 | 3.6 | 3.6 | 3.5 | 3.7 | 3.5 | 3.7 | 3.6 | 3.5 |
| Average Hourly Earnings (All, cur. \$) | 31.63 | 31.63 | 31.83 | 31.94 | 32.06 | 32.18 | 32.33 | 32.43 | 32.53 | 32.66 | 32.80 | 32.92 |
| Average Workweek (All, hrs.) | 34.6 | 34.7 | 34.7 | 34.6 | 34.6 | 34.6 | 34.6 | 34.5 | 34.6 | 34.6 | 34.5 | 34.4 |
| Industrial Production (d) | 2.3 | 6.6 | 4.4 | 4.6 | 3.7 | 3.2 | 3.0 | 3.1 | 4.5 | 3.1 | 1.9 | 0.6 |
| Capacity Utilization (%) | 79.4 | 79.9 | 80.5 | 80.7 | 80.6 | 80.5 | 80.7 | 80.7 | 80.8 | 80.6 | 80.3 | 78.9 |
| ISM Manufacturing Index (g) | 57.6 | 58.4 | 57.0 | 55.9 | 56.1 | 53.1 | 52.7 | 52.9 | 51.0 | 50.0 | 49.0 | 48.4 |
| ISM Nonmanufacturing Index (g) | 60.4 | 57.2 | 58.4 | 57.5 | 56.4 | 56.0 | 56.4 | 56.1 | 55.9 | 54.5 | 55.5 | 49.2 |
| Housing Starts (b) | 1.669 | 1.771 | 1.713 | 1.803 | 1.543 | 1.561 | 1.371 | 1.505 | 1.463 | 1.432 | 1.427 | 1.357 |
| Housing Permits (b) | 1.898 | 1.817 | 1.877 | 1.795 | 1.708 | 1.701 | 1.658 | 1.586 | 1.588 | 1.555 | 1.402 | 1.409 |
| New Home Sales (1-family, c) | 810 | 773 | 707 | 611 | 636 | 563 | 543 | 638 | 567 | 577 | 582 | 636 |
| Construction Expenditures (a) | 2.4 | 1.5 | 1.4 | 1.8 | -0.1 | -0.4 | -0.2 | -1.2 | -0.6 | -0.4 | 0.6 | -0.1 |
| Consumer Price Index (nsa, d) | 7.5 | 7.9 | 8.5 | 8.3 | 8.6 | 9.1 | 8.5 | 8.3 | 8.2 | 7.7 | 7.1 | 6.5 |
| CPI ex. Food and Energy (nsa, d) | 6.0 | 6.4 | 6.5 | 6.2 | 6.0 | 5.9 | 5.9 | 6.3 | 6.6 | 6.3 | 6.0 | 5.7 |
| PCE Chain Price Index (d) | 6.1 | 6.4 | 6.8 | 6.4 | 6.5 | 7.0 | 6.4 | 6.3 | 6.3 | 6.1 | 5.7 | 5.3 |
| Core PCE Chain Price Index (d) | 5.2 | 5.4 | 5.4 | 5.0 | 4.9 | 5.0 | 4.7 | 4.9 | 5.2 | 5.1 | 4.8 | 4.6 |
| Producer Price Index (nsa, d) | 10.1 | 10.4 | 11.7 | 11.2 | 11.1 | 11.2 | 9.7 | 8.7 | 8.5 | 8.2 | 7.4 | 6.4 |
| Durable Goods Orders (a) | 2.0 | -1.4 | -0.1 | 1.0 | 0.7 | 1.6 | -0.8 | -0.1 | 0.3 | 1.0 | -3.1 | 4.5 |
| Leading Economic Indicators (a) | -0.5 | 0.3 | 0.0 | -0.6 | -0.9 | -0.7 | -0.6 | -0.3 | -0.5 | -0.9 | -0.9 | -0.7 |
| Balance of Trade & Services (f) | -86.5 | -87.0 | -102.5 | -86.0 | -84.1 | -80.9 | -71.7 | -67.3 | -71.7 | -78.3 | -63.8 | -71.4 |
| Federal Funds Rate (%) | 0.08 | 0.08 | 0.20 | 0.33 | 0.77 | 1.21 | 1.68 | 2.33 | 2.56 | 3.08 | 3.78 | 4.10 |
| 3-Mo. Treasury Bill Rate (%) | 0.15 | 0.31 | 0.45 | 0.76 | 0.99 | 1.54 | 2.30 | 2.72 | 3.22 | 3.87 | 4.32 | 4.36 |
| 10-Year Treasury Note Yield (%) | 1.76 | 1.93 | 2.13 | 2.75 | 2.90 | 3.14 | 2.90 | 2.90 | 3.52 | 3.98 | 3.89 | 3.62 |

(a) month-over-month % change; (b) millions, saar; (c) month-over-month change, thousands; (d) year-over-year % change; (e) annualized % change; (f) \$ billions; (g) level. Most series are subject to frequent government revisions. Use with care.

Calendar of Upcoming Economic Data Releases

| Monday | Tuesday | Wednesday | Thursday | Friday |
|--|---|--|--|---|
| | August 1
Construction (Jun & Revisions)
JOLTS (Jun)
ISM Manufacturing (Jul)
S&P Global Mfg PMI (Jul)
Texas Service Sector Outlook Survey (Jul) | 2
ADP Employment Report (Jul)
BEA Auto and Truck Sales (Jul)
Housing Vacancies (Q2)
EIA Crude Oil Stocks
Mortgage Application | 3
Productivity & Costs (Q2)
Manufacturers' Shipments, Inventories & Orders (Jun)
ISM Services PMI (Jul)
S&P Global Services PMI (Jul)
Challenger Employment Report (Jul)
CEO Confidence Survey (Q3)
Weekly Jobless Claims | 4
Employment Situation (Jul)
Public Debt (Jul)
Interest Expense on the Public Debt (Jul) |
| 7
Consumer Credit (Jun)
Treasury Auction Allotments (Jul) | 8
International Trade (Jun)
Wholesale Trade (Jun)
NFIB (Jul)
Kansas City Fed Labor Market Conditions Indicators (Jul) | 9
Transportation Services Index (Jun)
Kansas City Financial Stress Index (Jul)
EIA Crude Oil Stocks
Mortgage Application | 10
CPI & Real Earnings (Jul)
Cleveland Fed Median CPI (Jul)
First Time Housing Affordability (Q2)
Housing Affordability (Jun)
NAHB-Wells Fargo Housing Opportunity Index (Q2)
Monthly Treasury (Jul)
Weekly Jobless Claims | 11
Producer Prices (Jul)
Consumer Sentiment (Aug, Preliminary)
Survey of Professional Forecasters (Q3) |
| 14 | 15
Advance Retail Sales (Jul)
Import & Export Prices (Jul)
MTIS (Jun)
Empire State Mfg Survey (Aug)
Home Builders (Aug)
TIC Data (Jun) | 16
New Residential Construction (Jul)
IP & Capacity Utilization (Jul)
Business Leaders Survey (Aug)
EIA Crude Oil Stocks
Mortgage Application | 17
Retail E-Commerce Sales (Q2)
Philadelphia Fed Mfg Business Outlook Survey (Aug)
Composite Indexes (Jul)
Weekly Jobless Claims | 18
Advance Quarterly Services(Q2) |
| 21
Dallas Fed Banking Conditions Survey (Jul) | 22
Existing Home Sales (Jul)
H.6 Money Stock (Jul)
Treas Auction Allotments (Aug)
Philadelphia Fed Nonmfg Business Outlook Survey (Aug)
Richmond Fed Mfg & Service Sector Surveys (Aug) | 23
New Residential Sales (Jul)
CEW (Q1)
S&P Global Flash PMIs (Aug)
FRB Philadelphia Coincident Economic Activity Index (Jul)
Final Building Permits (Jul)
EIA Crude Oil Stocks
Mortgage Application | 24
Advance Durable Goods (Jul)
Chicago Fed National Activity Index (Jul)
Kansas City Fed Manufacturing Survey (Aug)
Weekly Jobless Claims | 25
Consumer Sentiment (Aug, Final)
Strike Report (Aug)
Steel Imports for Consumption (Jul, Preliminary) |
| 28
Texas Manufacturing Outlook Survey (Aug) | 29
Case-Shiller HPI (Jun)
FHFA HPI (Jun & Q2)
Consumer Confidence (Aug)
JOLTS (Jul)
Texas Service Sector Outlook Survey (Aug) | 30
ADP Employment Report (Aug)
GDP (Q2, 2nd Estimate)
Adv Trade & Inventories (Jul)
Pending Home Sales (Jul)
EIA Crude Oil Stocks
Mortgage Application | 31
Dallas Fed Trimmed Mean PCE (Jul)
Personal Income (Jul)
Agricultural Prices (Jul)
Underlying NIPA Tables (Q2, 2 nd Estimate)
Challenger Employment Report (Aug)
Chicago PMI (Aug)
Weekly Jobless Claims | September 1
Employment Situation (Aug)
ISM Manufacturing (Aug)
S&P Global Mfg PMI (Aug)
Construction (Jul) |
| 4

LABOR DAY

ALL MARKETS CLOSED | 5
Manufacturers' Shipments, Inventories & Orders (Jul)
BEA Auto & Truck Sales (Aug) | 6
International Trade (Jul)
ISM Services PMI (Aug)
S&P Global Services PMI (Aug)
QFR (Q2)
Kansas City Fed Labor Market Conditions Indicators (Aug)
Mortgage Application | 7
Productivity & Costs (Q2)
QSS (Q2)
Weekly Jobless Claims
EIA Crude Oil Stocks | 8
Wholesale Trade (Jul)
Treasury Auction Allotments (Aug)
Consumer Credit (Jul)
Public Debt (Aug)
Interest Expense on the Public Debt (Aug) |

BLUE CHIP FORECASTERS

CONTRIBUTORS TO DOMESTIC SURVEY

ACIMA Private Wealth, Richmond, VA
Ardavan Mobasheri

Action Economics, LLC, Boulder, CO
Michael Englund

Bank of America, New York, NY
Ethan Harris

Bank of the West, SF, CA
Scott Anderson

Barclays, New York, NY
Marc Giannoni

BMO Capital Markets Economics, Toronto, Canada
Douglas Porter

BNP Paribas North America, New York, NY
Andrew Schneider

Chan Economics, New York, NY
Anthony Chan

Chmura Economics & Analytics, Richmond, VA
Christine Chmura and Xiaobing Shuai

Comerica, Dallas, TX
Bill Adams

Daiwa Capital Markets America, New York, NY
Michael Moran

DePrince & Associates, Murfreesboro, TN
Albert E. DePrince Jr.

Economist Intelligence Unit, New York, NY
Leo Abruzzese and Jan Friederich

EY- Parthenon, New York, NY
Gregory Daco

Fannie Mae, Washington, DC
Douglas Duncan

Georgia State University, Atlanta, GA
Rajeev Dhawan

GLC Financial Economics, Providence, RI
Gary L. Ciminero

Goldman, Sachs & Co., New York, NY
Jan Hatzius

KPMG, New York, NY
Diane Swonk

ING Financial Markets, London, England
James Knightley

J.P. Morgan Chase, New York, NY
Bruce Kasman

Loomis, Sayles & Company, L.P., Boston, MA
Brian Horrigan

MacroFin Analytics & Rutgers Business School, Wayne, NJ
Parul Jain

MacroPolicy Perspectives, New York, NY
Julia Coronado and Laura Rosner

Moody's Analytics, West Chester, PA
Mark M. Zandi

Naroff Economic Advisors, Philadelphia, PA
Joel L. Naroff

Nationwide, New York, NY
Kathy Bostjancic

NatWest Markets, Greenwich, CT
Kevin Cummins and Deepika Dayal

Nomura Securities International, Inc., New York, NY
U.S. Economics

Northern Trust Company, Chicago, IL
Carl Tannenbaum

Oxford Economics, New York, NY
Oren Klachkin

PNC Financial Services Group, Pittsburgh, PA
Gus Faucher

RDQ Economics, New York, NY
John Ryding and Conrad de Quadros

Regions Financial Corporation, Birmingham, AL
Richard F. Moody

Santander Capital Markets, New York, NY
Stephen Stanley

Scotiabank Group, Toronto, Canada
Jean-Francois Perrault

Societe Generale, New York, NY
Stephen W. Gallagher

S&P Global Market Intelligence, St. Louis, MO
Joel Prakken & Chris Varvares

Swiss Re, New York, NY
Jerome Haegeli

The Lonski Group, White Plains, NY
John Lonski

TS Lombard, London, UK
Steven Blitz

Via Nova Investment Management, Crozet, VA
Alan Gayle

Wells Fargo, Charlotte, NC
Jay Bryson

CONTRIBUTORS TO INTERNATIONAL SURVEY

Barclays Capital, New York, NY

BMO Capital Markets Economics, Toronto, Canada

ING Financial Markets, London, England

Moody's Analytics, West Chester, PA

Nomura Securities International, Inc., New York, NY

Northern Trust Company, Chicago, IL

Oxford Economics, Wayne, PA

Scotiabank Group, Toronto, Canada

S&P Global Market Intelligence, St. Louis, MO

TS Lombard, London, UK

Wells Fargo, Charlotte, NC

Blue Chip Financial Forecasts[®]

**Top Analysts' Forecasts Of U.S. And Foreign Interest Rates, Currency Values
And The Factors That Influence Them**

Vol. 42, No. 6, June 1, 2023

Wolters Kluwer

BLUE CHIP FINANCIAL FORECASTS®

Executive Editor: Joseph Aguinaldo
Assistant Editor: Jules Valencia
Haver Analytics
60 East 42nd Street
New York, NY 10165
Phone (212) 986-9300
E-mail: bluechip@haver.com

Robert J. Eggert, Founder
Randell E. Moore, Editor Emeritus
Rocco Impreveduto, General Manager

Blue Chip Financial Forecasts® (ISSN: 0741-8345) is published monthly by CCH Incorporated, 28 Liberty St., 44th Floor New York, NY 10005-1400. Printed in the U.S.A.

Subscriptions: For information on annual subscriptions, format options (PDF, Excel, online), multiple-copy rates and/or site-license agreements please contact Chris Carr at: chris.carr@wolterskluwer.com.

Permission requests: For information on how to obtain permission to reproduce content, please visit the Wolters Kluwer website at: <https://lrus.wolterskluwer.com/policies/permissions-reprints-and-licensing/>

Purchasing reprints: For customized article reprints, please contact *Wright's Media* at 1-877-652-5295 or go to the *Wright's Media* website at www.wrightsmmedia.com.

Customer Service: 1-800-234-1660

To Order: 1-800-638-8437

Customer Service Fax: 1-800-901-9075

Email: customer.service@wolterskluwer.com

Web Site:

<https://lrus.wolterskluwer.com/corporate/blue-chip/>

Blue Chip Financial Forecasts® is a general circulation news monthly. No statement in this issue is to be construed as a recommendation to buy or sell securities or to provide investment advice. The editor and CCH Incorporated, while considering the contents to be reliable, take no responsibility for the information contained herein.

Copyright © 2023 CCH Incorporated. All Rights Reserved. This material may not be used, published, broadcast, rewritten, copied, redistributed or used to create any derivative works without written permission from the publisher.

TABLE OF CONTENTS

| | |
|--|-----------------------------|
| Domestic Commentary – Highlights of May 25-26 Survey | p. 1 |
| Domestic Summary Table – Table of consensus forecasts of U.S. interest rates and key economic assumptions | p. 2 |
| International Summary Table – Table of consensus forecasts of international interest rates and foreign exchange values | p. 3 |
| International Commentary (by Andy Cates) | p. 3 |
| Individual Panel Member's U.S. Forecasts – Of interest rates and key assumptions for the next six quarters | p. 4-9 |
| Individual Panel Member's International Forecasts – Of international interest rates and foreign exchange values | p. 10-11 |
| Special Questions – Results of special questions posed to panel members about the economy, financial markets and government policy | p. 12 |
| Viewpoints – A sampling of views on the economy and government policy excerpted from recent reports issued by our panel members | p. 13 |
| Long-Range Survey – Results of twice annual long-range survey forecasts for the years 2024 through 2029 and the five-year periods 2025-2029 and 2030-2034 | p. 14 |
| Databank – Monthly historical data on many key indicators of economic activity | p. 15 |
| Calendar – Release dates for important upcoming economic data, FOMC meetings, etc. | p. 16 |
| List of Contributing Economists – To domestic and international survey | inside of back cover |

Downside Economic Risks Complicate Inflation Fight

While the Fed would like to avoid recession, there is arguably a need for slower-than-trend growth to ease pressure in the labor market. Recently, there have been some important signs of slowing in the labor market, including a rise in initial unemployment claims and a decline in job openings. However, the pace of job growth has been strong and the unemployment rate matched its 50-year low of 3.4% in April. Further easing in the labor market ought to reduce wage pressures and ultimately help tame inflation. Against this backdrop, Fed officials, market participants, and the Blue Chip Financial Forecasts (BCFF) panelists have been trying to predict the end of tightening and the start of easing.

Turning point. Several FOMC members recently commented that a rate hike in June is data dependent. The decision is contingent on the balance between stubbornly high inflation and the risks to the economy from the aggressive tightening over the past year and a half. The federal funds futures market has recently priced in significant odds of one last rate hike in coming months. In contrast, the June BCFF consensus expects that the Fed has already hiked rates for the last time in this cycle. In fact, the overwhelming majority of respondents (89%) believe the next move will be a rate cut.

Short-term economic outlook. Chairman Powell recently noted that the Fed may not have to raise rates again because of tightening credit. Many panelists agreed with this sentiment, with nearly half (47%) stating that they had downgraded their economic outlook due to the recent banking sector turmoil.

BCFF panelists expect a mild recession in the second half of 2023, with two quarters of slightly declining GDP. In addition, 97% of forecasters anticipate a rise in the unemployment rate in 2023, with a median increase of 0.8 percentage point to 4.2%. Following the mild downturn, the consensus expects GDP to rebound modestly in the first half of 2024, with gains of just 0.8% in Q1 and 1.3% in Q2. These views are consistent with Fed measures of recession probabilities based on the yield curve.

Signs from the yield curve. The yield curve, a harbinger of economic turning points and an important signal of financial conditions, has been inverted for the past year. In fact, the yield curve (measured either as the difference between the 10-year yield minus the 1-year bill rate or the 10-year yield minus the fed funds rate) is more inverted now than at any other time since the early 1980s. This deep inversion suggests that the economy will soon experience a period of recession. Based on the yield curve, the New York Fed estimates a 68% probability of recession. The Cleveland Fed measure puts the odds at 79%.

Yields and spreads. Panelists predict that yields on 2-year, 5-year, and 10-year Treasury debt have already peaked and will decline modestly over the next six quarters. However, the projections suggest that tight financial conditions will persist. The consensus view is that the yield curve will steepen, but remain

inverted, perhaps indicating that panelists expect the Fed to maintain some degree of tightening for the entire forecast horizon.

Also, corporate credit spreads (the gap between yields on corporate and Treasury debt) can signal business distress and recession risks. The consensus view is that corporate yields will edge up even as Treasury yields begin to decline. While this suggests credit spreads will widen slightly through year-end, they are expected to remain in a range that does not indicate excessive financial stress.

Stubborn inflation and rate cuts. Although inflation has moderated noticeably over the past year, it remains well above the Fed's target. The decline in CPI inflation from the June 2022 peak of 8.9% year-to-year largely reflected diminished energy and goods inflation. The more intractable services inflation has remained elevated. As a result, core measures of inflation have likely not declined enough for Fed officials to be comfortable signaling rate cuts later this year. The BCFF consensus, however, projects that PCE inflation will subside significantly over the next year dropping to 2.2% by midyear 2024. As a result, 31% of panelists expect the first rate cut by Q4 2023 and 55% believe the first cut will occur in Q1 2024.

The BCFF consensus forecast is for the funds rate to decline to 4.6% by Q1 2024 and to hit 3.9% by the end of the forecast horizon in Q3 2024. Every respondent expects some decline in the funds rate, and the average of the bottom 10 responses is 2.9%. This view likely reflects the expected retreat of inflation. In fact, 72% of respondents believe that a meaningful and persistent decline in the inflation rate will motivate the first rate cut.

Long-range forecasts. Blue Chip publishes longer-range forecasts twice a year, in June and December. These projections show the BCFF consensus views on trends in growth, inflation, and interest rates out 11 years to 2034. Respondents generally expect US GDP to grow at a pace slightly above the CBO estimate of potential, inflation to decline nearly to the Fed's target, and interest rates to remain somewhat elevated. Following the expected mild recession and recovery in 2023-24, the consensus looks for annual GDP growth in the range of 1.9% to 2.2%. PCE inflation is expected to drop to 2.4% in 2024, 2.2% in 2025, and remain at 2.1% thereafter.

Compared to the December forecasts, the BCFF consensus looks for a lower fed funds rate to prevail over the long-term horizon. Despite this markdown, the projected funds rate is higher than the actual funds rate for the decade prior to the pandemic. This could reflect either a higher expected neutral funds rate or the expectation of an extended period of tight Fed policy. Similarly, yields across the maturity spectrum were downgraded in this long-term forecast round relative to December. Nevertheless, the BCFF projected Treasury yields are actually high relative to pre-pandemic norms.

Peter D'Antonio (Haver Analytics, New York, NY)

Consensus Forecasts of U.S. Interest Rates and Key Assumptions

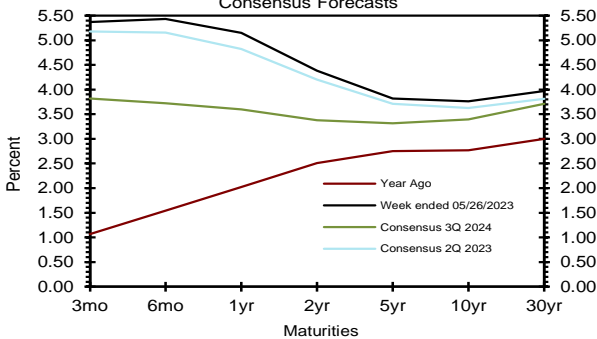
| Interest Rates | History | | | | | | | | Consensus Forecasts-Quarterly Avg. | | | | | |
|-------------------------|-------------------------|--------|--------|-------|-------------------|------|------|------------|------------------------------------|---------|---------|---------|---------|---------|
| | Average For Week Ending | | | | Average For Month | | | Latest Qtr | 2Q 2023 | 3Q 2023 | 4Q 2023 | 1Q 2024 | 2Q 2024 | 3Q 2024 |
| | May 26 | May 19 | May 12 | May 5 | Apr | Mar | Feb | 1Q 2023 | 2023 | 2023 | 2023 | 2024 | 2024 | 2024 |
| Federal Funds Rate | 5.08 | 5.08 | 5.08 | 4.83 | 4.83 | 4.65 | 4.57 | 4.52 | 5.0 | 5.1 | 5.0 | 4.6 | 4.2 | 3.9 |
| Prime Rate | 8.25 | 8.25 | 8.25 | 8.00 | 8.00 | 7.82 | 7.74 | 7.69 | 8.2 | 8.2 | 8.1 | 7.8 | 7.3 | 7.0 |
| SOFR | 5.05 | 5.05 | 5.06 | 4.91 | 4.81 | 4.64 | 4.54 | 4.49 | 5.0 | 5.1 | 4.9 | 4.6 | 4.2 | 3.9 |
| Commercial Paper, 1-mo. | 5.10 | 5.07 | 5.04 | 5.00 | 4.82 | 4.74 | 4.55 | 4.54 | 5.1 | 5.1 | 4.9 | 4.5 | 4.1 | 3.9 |
| Treasury bill, 3-mo. | 5.37 | 5.26 | 5.26 | 5.26 | 5.07 | 4.86 | 4.79 | 4.78 | 5.2 | 5.2 | 4.9 | 4.6 | 4.1 | 3.8 |
| Treasury bill, 6-mo. | 5.43 | 5.31 | 5.15 | 5.09 | 4.99 | 4.99 | 4.97 | 4.92 | 5.2 | 5.1 | 4.8 | 4.4 | 4.0 | 3.7 |
| Treasury bill, 1 yr. | 5.15 | 4.91 | 4.75 | 4.72 | 4.68 | 4.68 | 4.93 | 4.77 | 4.8 | 4.7 | 4.4 | 4.1 | 3.8 | 3.6 |
| Treasury note, 2 yr. | 4.38 | 4.14 | 3.96 | 3.93 | 4.02 | 4.30 | 4.53 | 4.35 | 4.2 | 4.1 | 3.9 | 3.7 | 3.5 | 3.4 |
| Treasury note, 5 yr. | 3.82 | 3.60 | 3.44 | 3.43 | 3.54 | 3.82 | 3.94 | 3.80 | 3.7 | 3.7 | 3.6 | 3.5 | 3.4 | 3.3 |
| Treasury note, 10 yr. | 3.76 | 3.59 | 3.47 | 3.44 | 3.46 | 3.66 | 3.75 | 3.65 | 3.6 | 3.6 | 3.5 | 3.5 | 3.4 | 3.4 |
| Treasury note, 30 yr. | 3.97 | 3.89 | 3.80 | 3.75 | 3.68 | 3.77 | 3.80 | 3.74 | 3.8 | 3.8 | 3.8 | 3.8 | 3.8 | 3.7 |
| Corporate Aaa bond | 5.07 | 4.98 | 4.88 | 4.82 | 4.76 | 4.92 | 4.87 | 4.84 | 4.8 | 4.8 | 4.8 | 4.7 | 4.6 | 4.6 |
| Corporate Baa bond | 5.78 | 5.70 | 5.59 | 5.52 | 5.44 | 5.61 | 5.50 | 5.49 | 5.8 | 5.9 | 5.9 | 5.7 | 5.6 | 5.5 |
| State & Local bonds | 4.36 | 4.19 | 4.11 | 4.13 | 4.07 | 4.23 | 4.16 | 4.15 | 4.0 | 4.1 | 4.1 | 4.0 | 3.9 | 3.9 |
| Home mortgage rate | 6.57 | 6.39 | 6.35 | 6.39 | 6.34 | 6.54 | 6.26 | 6.36 | 6.4 | 6.3 | 6.2 | 6.0 | 5.9 | 5.7 |

| Key Assumptions | History | | | | | | | | Consensus Forecasts-Quarterly | | | | | |
|----------------------|---------|---------|---------|---------|---------|---------|---------|---------|-------------------------------|---------|---------|---------|---------|---------|
| | 2Q 2021 | 3Q 2021 | 4Q 2021 | 1Q 2022 | 2Q 2022 | 3Q 2022 | 4Q 2022 | 1Q 2023 | 2Q 2023 | 3Q 2023 | 4Q 2023 | 1Q 2024 | 2Q 2024 | 3Q 2024 |
| Fed's AFE \$ Index | 102.8 | 104.9 | 106.9 | 108.3 | 113.5 | 118.8 | 119.8 | 115.5 | 115.4 | 114.4 | 114.0 | 113.6 | 113.5 | 113.5 |
| Real GDP | 7.0 | 2.7 | 7.0 | -1.6 | -0.6 | 3.2 | 2.6 | 1.3 | 0.8 | -0.4 | -0.1 | 0.8 | 1.3 | 1.9 |
| GDP Price Index | 6.3 | 6.2 | 6.8 | 8.3 | 9.0 | 4.4 | 3.9 | 4.2 | 3.3 | 2.8 | 2.7 | 2.5 | 2.5 | 2.2 |
| Consumer Price Index | 7.5 | 6.6 | 8.8 | 9.2 | 9.7 | 5.5 | 4.2 | 3.8 | 3.3 | 3.0 | 2.8 | 2.5 | 2.4 | 2.4 |
| PCE Price Index | 6.4 | 5.6 | 6.2 | 7.5 | 7.3 | 4.3 | 3.7 | 4.2 | 3.0 | 2.8 | 2.6 | 2.4 | 2.2 | 2.2 |

Forecasts for interest rates and the Federal Reserve's Advanced Foreign Economies Index represent averages for the quarter. Forecasts for Real GDP, GDP Price Index, CPI and PCE Price Index are seasonally adjusted annual rates of change (saar). Individual panel members' forecasts are on pages 4 through 9. Historical data: Treasury rates from the Federal Reserve Board's H.15; AAA-AA and A-BBB corporate bond yields from Bank of America-Merrill Lynch and are 15+ years, yield to maturity; State and local bond yields from Bank of America-Merrill Lynch, A-rated, yield to maturity; Mortgage rates from Freddie Mac, 30-year, fixed; SOFR from the New York Fed. All interest rate data are sourced from Haver Analytics. Historical data for Fed's Major Currency Index are from FRSR H.10. Historical data for Real GDP, GDP Price Index and PCE Price Index are from the Bureau of Economic Analysis (BEA). Consumer Price Index history is from the Department of Labor's Bureau of Labor Statistics (BLS).

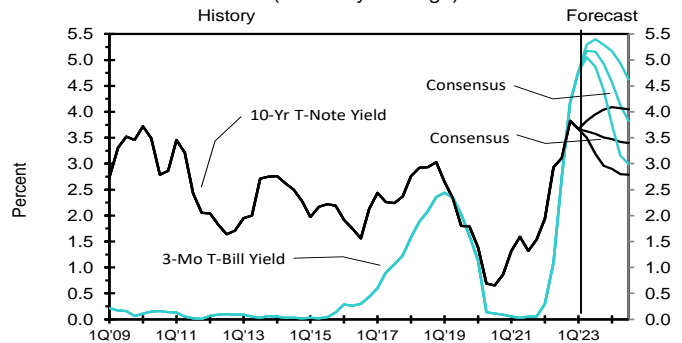
US Treasury Yield Curve

Week ended May 26, 2023 & Year Ago vs.
2Q 2023 & 3Q 2024
Consensus Forecasts



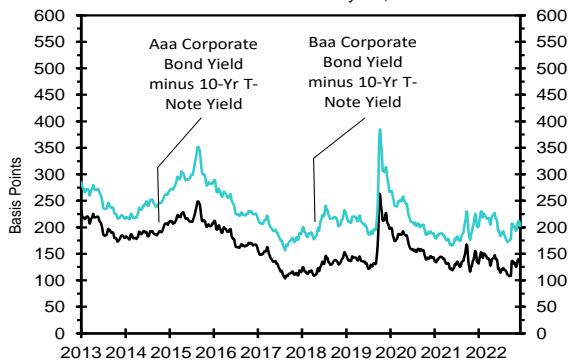
US 3-Mo T-Bills & 10-Yr T-Note Yield

(Quarterly Average)



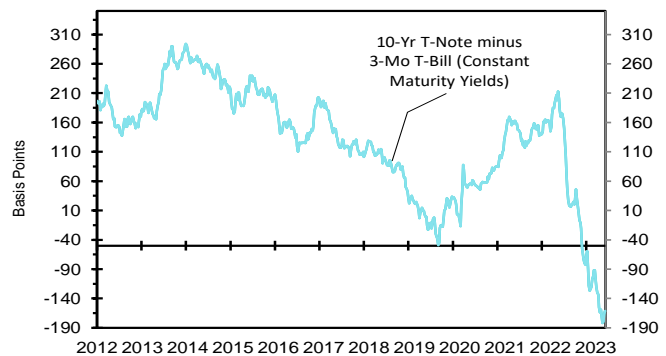
Corporate Bond Spreads

As of week ended May 26, 2023



US Treasury Yield Curve

As of week ended May 26, 2023



-----Policy Rates¹-----

| | -----History----- | | | Consensus Forecasts | | |
|-------------|-------------------|-------|-------|---------------------|--------------|--------------|
| | Month | | Year | Months From Now: | | |
| | Latest: | Ago: | Ago: | 3 | 6 | 12 |
| U.S. | 5.13 | 4.88 | 0.88 | 5.08 | 4.95 | 4.02 |
| Japan | -0.10 | -0.10 | -0.10 | -0.06 | -0.06 | -0.05 |
| U.K. | 4.50 | 4.25 | 1.00 | 4.60 | 4.60 | 4.11 |
| Switzerland | 1.50 | 1.50 | -0.75 | 1.68 | 1.77 | 1.61 |
| Canada | 4.50 | 4.50 | 1.00 | 4.53 | 4.36 | 3.54 |
| Australia | 3.85 | 3.60 | 0.35 | 3.99 | 4.06 | 3.58 |
| Euro area | 3.75 | 3.50 | 0.00 | 3.92 | 4.03 | 3.72 |

-----10-Yr. Government Bond Yields²-----

| | -----History----- | | | Consensus Forecasts | | |
|-------------|-------------------|------|------|---------------------|-------------|-------------|
| | Month | | Year | Months From Now: | | |
| | Latest: | Ago: | Ago: | 3 | 6 | 12 |
| U.S. | 3.80 | 3.44 | 2.74 | 3.54 | 3.42 | 3.35 |
| Germany | 2.52 | 2.33 | 0.98 | 2.49 | 2.43 | 2.37 |
| Japan | 0.43 | 0.40 | 0.24 | 0.47 | 0.50 | 0.58 |
| U.K. | 4.39 | 3.74 | 1.92 | 3.81 | 3.65 | 3.43 |
| France | 3.12 | 2.89 | 1.48 | 3.06 | 3.00 | 2.93 |
| Italy | 4.37 | 4.18 | 2.90 | 4.35 | 4.29 | 4.15 |
| Switzerland | 1.06 | 1.08 | 0.74 | 1.41 | 1.38 | 1.36 |
| Canada | 3.33 | 2.84 | 2.79 | 3.23 | 3.07 | 3.09 |
| Australia | 3.74 | 3.34 | 3.26 | 3.55 | 3.47 | 3.47 |
| Spain | 3.56 | 3.42 | 2.02 | 3.56 | 3.49 | 3.44 |

-----Foreign Exchange Rates³-----

| | -----History----- | | | Consensus Forecasts | | |
|-------------|-------------------|--------|--------|---------------------|--------------|--------------|
| | Month | | Year | Months From Now: | | |
| | Latest: | Ago: | Ago: | 3 | 6 | 12 |
| U.S. | 116.50 | 114.01 | 112.81 | 113.9 | 111.3 | 111.5 |
| Japan | 140.53 | 135.99 | 127.14 | 132.8 | 129.8 | 128.3 |
| U.K. | 1.23 | 1.26 | 1.26 | 1.26 | 1.28 | 1.28 |
| Switzerland | 0.91 | 0.89 | 0.96 | 0.90 | 0.88 | 0.89 |
| Canada | 1.36 | 1.36 | 1.27 | 1.34 | 1.33 | 1.31 |
| Australia | 0.65 | 0.66 | 0.72 | 0.67 | 0.68 | 0.70 |
| Euro | 1.07 | 1.10 | 1.07 | 1.10 | 1.12 | 1.13 |

Consensus
Policy Rates
vs. US Rate

| | Now | In 12 Mo. |
|-------------|-------|--------------|
| | Japan | -5.23 | -4.07 |
| U.K. | -0.63 | 0.09 |
| Switzerland | -3.63 | -2.42 |
| Canada | -0.63 | -0.48 |
| Australia | -1.28 | -0.44 |
| Euro area | -1.38 | -0.30 |

Consensus
10-Year Gov't
Yields vs. U.S. Yield

| | Now | In 12 Mo. |
|-------------|---------|--------------|
| | Germany | -1.28 | -0.98 |
| Japan | -3.37 | -2.77 |
| U.K. | 0.59 | 0.08 |
| France | -0.68 | -0.42 |
| Italy | 0.57 | 0.80 |
| Switzerland | -2.74 | -1.99 |
| Canada | -0.47 | -0.26 |
| Australia | -0.06 | 0.12 |
| Spain | -0.24 | 0.09 |

Forecasts of panel members are on pages 10 and 11. Definitions of variables are as follows: ¹Monetary policy rates. ²Government bonds are yields to maturity. ³Foreign exchange rate forecasts for U.K., Australia and the Euro are U.S. dollars per currency unit. For the U.S. dollar, forecasts are of the U.S. Federal Reserve Board's AFE Dollar Index.

International. The world economy's underlying vulnerabilities have been in sharp focus over the past few weeks, but more deep-seated wounds with longer-lasting scars have been avoided, at least for now. The anxiety that surfaced about the health of the US banking sector in March, for example, has faded, partly because of the willingness of policymakers to offer targeted support. More recently some heightened uncertainty about the willingness of US politicians to raise the debt ceiling has eased after a deal was struck to cap government spending. In the meantime, the alarm bells that had been ringing about the weakness of global growth have softened thanks to weaker energy prices and still-sturdy labor markets. That weakness in energy prices has been helpful for the economic outlook by offering some relief on the headline inflation front as well.

Still, the avoidance for now of bigger wounds does not mean that these vulnerabilities have been erased. Those issues in the United States that bedeviled the banking sector, for example, are arguably a symptom of broader efforts from the Fed – and other central banks - to tighten monetary policy and slow the wheels of credit. But the latest surveys of credit conditions in the US and Europe, suggest the wheels are indeed now slowing down quite quickly. Financial markets (and Blue Chip panelists) also now appear much less convinced that a pivot toward easier monetary policy will unfold in the immediate months ahead. Meanwhile, the intensity of that debt ceiling debate has exposed the absence of US growth drivers and highlighted the fractious nature of US politics at the same time.

As for economic growth, May's flash PMI surveys certainly suggest that global growth has picked up pace of late. Service sector PMIs, for example, rose to multi-month highs in the US and UK and to multi-year highs in Japan. The modest drop recorded in the euro area, moreover, occurred from a 12-month high that had been chalked up in April. Those same surveys, nevertheless, also reveal broadly-based weakness in the manufacturing sector. Indeed with the exception of Japan, the manufacturing PMI in all major economies was deep in contractionary territory in May and most notably in the euro area. This squares too with latest GDP data for Q1 from Germany revealing recessionary conditions over the last 6 months.

Those vulnerabilities in manufacturing – and Germany - find an echo too in China and its disappointing reopening phase. While the annual pace of retail sales growth picked up in April, much of that growth has been centered on domestic services. Spending on goods has been much weaker, as has fixed asset investment and industrial production, leaving much less scope for a boost to those economies that import into China.

It is, however, on inflation matters that there is arguably most cause for concern. For while falling energy prices have been generating weaker headline CPI readings in most major economies, core inflationary pressures have remained firm, most notably in services. Those flash PMI surveys in May suggested that input costs and prices charged for services continued to rise at a solid pace in May and at elevated rates by historic standards. That message additionally chimes with recent service sector CPI readings for Europe in April. And it is this, namely stubborn service sector price pressures, coupled with still-sturdy labor market activity, which is generating the pressure on central banks to now keep interest rates higher for longer.

Against this backdrop, our latest survey reveals that Blue Chip panelists have lifted their forecasts for 3-month and 6-month-ahead forecasts for policy rates in most major economies compared with our survey in May. The pivot toward easier policy setting that had been anticipated in Australia, Switzerland and to a lesser extent in the UK over the next 6 months has also now been pushed out to 2024. This is incidentally notwithstanding still-elevated probabilities about the likelihood of a European and broader global recession. In response to a special question this month our panelists attach around a 55% probability on the chances of a US and euro area recession in 2023 and a 60% probability for the UK.

Second Quarter 2023

Interest Rate Forecasts

Key Assumptions

| Blue Chip
Financial Forecasts
Panel Members | Percent Per Annum -- Average For Quarter-- | | | | | | | | | | | | | | | Avg. For
--Qtr.--
Fed's Adv
Fgn Econ
\$ Index | (Q-Q % Change) | | | | | | | | | | | | | | | | | | |
|---|--|-----------------------|--------------|------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|---------------------------|---------------------------|----------------------|----------------------|---------------------------|----------------------|---|-----------------------------------|-------------|----------------|-------------------------|-----------------------|-----|-----|-----|-------|-----|------|---|-----|---|-----|---|-----|---|--|
| | Short-Term | | | | | Intermediate-Term | | | | | Long-Term | | | | | | (SAAR) | | | | | | | | | | | | | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | | A. | B. | C. | D. | E. | | | | | | | | | | | | | | |
| | Federal
Funds
Rate | Prime
Bank
Rate | SOFR
Rate | Com.
Paper
1-Mo. | Treas.
Bills
3-Mo. | Treas.
Bills
6-Mo. | Treas.
Bills
1-Yr. | Treas.
Notes
2-Yr. | Treas.
Notes
5-Yr. | Treas.
Notes
10-Yr. | Treas.
Bonds
30-Yr. | Aaa
Corp.
Bond | Baa
Corp.
Bond | State &
Local
Bonds | Home
Mtg.
Rate | | Fed's Adv
Fgn Econ
\$ Index | Real
GDP | Price
Index | Cons.
Price
Index | PCE
Price
Index | | | | | | | | | | | | | | |
| Naroff Economic Advisors | 5.3 | H | 8.3 | 5.3 | H | 5.3 | H | 5.4 | H | 5.5 | H | 5.1 | 4.4 | 3.8 | 3.8 | 4.0 | na | na | 4.1 | 6.4 | 115.6 | 2.0 | 4.7 | 4.8 | 4.3 | | | | | | | | | | |
| Scotiabank Group | 5.3 | H | na | na | na | 5.1 | na | na | na | 4.2 | 3.5 | L | 3.6 | 3.8 | na | na | na | na | na | na | na | 0.7 | 7.9 | H | 5.2 | H | 3.3 | | | | | | | | |
| TS Lombard | 5.3 | H | 8.4 | H | 5.2 | 5.2 | 5.2 | 5.4 | 4.9 | 4.5 | 3.9 | 3.8 | 3.9 | 4.6 | 5.5 | L | 3.8 | 5.6 | L | 115.0 | -0.5 | 5.0 | 5.0 | 5.0 | H | 5.0 | H | | | | | | | | |
| Bank of America | 5.1 | na | na | na | na | na | na | na | na | 4.0 | L | 3.6 | 3.5 | L | 3.7 | na | na | na | na | na | na | 1.0 | 3.6 | 3.0 | 3.0 | | | | | | | | | | |
| Chan Economics | 5.1 | 8.1 | 5.0 | 5.1 | 5.2 | 5.2 | 4.9 | 4.4 | 3.8 | 3.8 | 3.8 | 3.8 | 4.8 | 5.8 | 4.4 | 6.3 | 115.0 | 2.5 | H | 3.1 | 3.3 | 2.8 | | | | | | | | | | | | | |
| Goldman Sachs & Co. | 5.1 | na | na | na | 5.0 | na | na | na | na | 4.5 | 3.8 | 3.8 | 3.9 | na | na | na | na | na | na | na | na | 2.1 | 3.2 | 2.9 | 2.9 | | | | | | | | | | |
| ING | 5.1 | na | na | na | na | na | na | na | 4.6 | H | 4.1 | H | 4.0 | H | 4.0 | na | na | na | na | na | na | 2.0 | na | na | na | | | | | | | | | | |
| NatWest Markets | 5.1 | 8.2 | na | 5.2 | 5.4 | H | 5.5 | H | 5.6 | H | 4.4 | 3.7 | 3.6 | 3.8 | 5.4 | 6.4 | 4.8 | H | 6.6 | na | 0.7 | 3.2 | 2.8 | 2.8 | | | | | | | | | | | |
| Nomura Securities, Inc. | 5.1 | 8.3 | na | na | na | na | na | na | 4.3 | 3.8 | 3.6 | na | na | na | na | na | na | na | na | na | 0.6 | 3.3 | 2.7 | 2.4 | | | | | | | | | | | |
| RDQ Economics | 5.1 | 8.2 | 5.0 | 5.1 | 5.4 | H | 5.5 | H | 4.9 | 4.2 | 3.8 | 3.6 | 3.8 | 4.7 | 5.7 | 4.2 | 6.4 | 114.7 | 1.9 | 4.0 | 4.1 | 3.9 | | | | | | | | | | | | | |
| The Lonski Group | 5.1 | 8.2 | 5.0 | 5.1 | 5.2 | 5.2 | 4.7 | 4.2 | 3.9 | 3.6 | 3.8 | 4.8 | 5.6 | 4.2 | 6.4 | 115.3 | 1.1 | 3.2 | 3.2 | 3.2 | | | | | | | | | | | | | | | |
| Via Nova Investment Mgt. | 5.1 | 8.2 | 5.1 | 5.1 | 5.2 | 5.2 | 4.8 | 4.5 | 4.1 | H | 4.0 | H | 4.0 | 5.2 | 6.0 | 4.5 | 6.8 | H | 114.0 | 1.5 | 3.5 | 3.4 | 3.0 | | | | | | | | | | | | |
| Wells Fargo | 5.1 | 8.3 | 5.1 | 5.1 | 5.1 | 5.1 | 4.8 | 4.1 | 3.6 | 3.5 | L | 3.8 | 4.7 | 5.7 | 4.1 | 6.3 | na | 1.9 | 2.3 | 2.6 | 2.3 | | | | | | | | | | | | | | |
| ACIMA Private Wealth | 5.0 | 8.0 | L | 5.0 | 5.1 | 5.1 | 4.3 | L | 4.1 | L | 4.0 | L | 3.7 | 3.5 | L | 3.6 | L | 5.8 | H | 7.0 | H | 3.0 | L | 6.0 | 125.0 | H | -2.0 | L | 1.0 | L | 0.8 | L | 1.0 | L | |
| Action Economics | 5.0 | 8.2 | 5.1 | 5.0 | 5.2 | 5.1 | 4.8 | 4.0 | L | 3.5 | L | 3.5 | L | 3.7 | 4.5 | 5.5 | L | 3.8 | 6.8 | H | 115.5 | 1.0 | 3.5 | 2.9 | 2.8 | | | | | | | | | | |
| Bank of the West | 5.0 | 8.2 | 4.9 | L | 5.0 | 5.2 | 5.1 | 4.7 | 4.0 | L | 3.5 | L | 3.5 | L | 3.7 | 4.5 | 5.6 | 4.1 | 6.5 | 114.4 | -0.2 | 3.2 | 3.4 | 3.3 | | | | | | | | | | | |
| BMO Capital Markets | 5.0 | 8.2 | 5.0 | na | 5.2 | 5.2 | 4.8 | 4.1 | 3.5 | L | 3.5 | L | 3.8 | na | na | na | 6.4 | 114.1 | -0.5 | 3.2 | 3.2 | 3.1 | | | | | | | | | | | | | |
| Chmura Economics & Analytics | 5.0 | 8.2 | 5.0 | 5.1 | 5.2 | 5.2 | 4.8 | 4.1 | 3.6 | 3.5 | L | 3.8 | 4.6 | na | na | 6.4 | na | 0.5 | 3.9 | 4.0 | 4.1 | | | | | | | | | | | | | | |
| Comerica Bank | 5.0 | 8.1 | 5.0 | na | 5.2 | 5.1 | 4.7 | 4.0 | L | 3.6 | 3.5 | L | 3.8 | 4.5 | 5.6 | na | 6.4 | na | -0.5 | 3.4 | 3.6 | 3.6 | | | | | | | | | | | | | |
| Daiwa Capital Markets America | 5.0 | 8.1 | na | na | 5.1 | na | na | 4.3 | 3.8 | 3.7 | 3.8 | na | na | na | 6.5 | 115.0 | 0.2 | 3.5 | 3.4 | 3.3 | | | | | | | | | | | | | | | |
| DePrince & Assoc. | 5.0 | 8.2 | 5.0 | 5.0 | 5.2 | 5.1 | 4.8 | 4.0 | L | 3.5 | L | 3.5 | L | 3.8 | 4.6 | 5.7 | 3.8 | 6.4 | 115.1 | 0.3 | 3.3 | 3.3 | 3.1 | | | | | | | | | | | | |
| Economist Intelligence Unit | 5.0 | 8.0 | L | na | 5.0 | 5.4 | H | 5.1 | 4.5 | 4.3 | 3.7 | 3.6 | 3.7 | na | na | na | 6.5 | na | -0.3 | na | 2.4 | 1.9 | | | | | | | | | | | | | |
| EY-Parthenon | 5.0 | na | na | na | 5.0 | na | na | na | na | na | na | 3.6 | na | na | na | na | na | na | 0.0 | 2.6 | 3.1 | 2.8 | | | | | | | | | | | | | |
| Fannie Mae | 5.0 | 8.1 | na | na | 5.2 | 5.2 | 4.8 | 4.1 | 3.6 | 3.6 | 3.8 | na | na | na | 6.5 | na | 0.8 | 3.6 | 3.5 | 2.8 | | | | | | | | | | | | | | | |
| Georgia State University | 5.0 | 8.1 | na | na | 4.9 | L | 4.9 | 4.8 | 4.0 | L | 3.9 | 3.6 | 3.8 | 4.9 | 6.0 | na | 6.4 | na | -1.0 | 3.2 | 2.9 | 3.1 | | | | | | | | | | | | | |
| GLC Financial Economics | 5.0 | 8.1 | 4.9 | L | 5.0 | 5.1 | 5.0 | 4.3 | 4.0 | 3.7 | 3.9 | 4.7 | 5.7 | 4.0 | 6.4 | 116.3 | 1.6 | 3.6 | 2.5 | 3.2 | | | | | | | | | | | | | | | |
| KPMG | 5.0 | 8.1 | 5.0 | 4.8 | L | 5.1 | 5.1 | 4.7 | 4.0 | L | 3.5 | L | 3.5 | L | 3.7 | 4.5 | 5.9 | na | 6.4 | na | 0.7 | 3.7 | 3.5 | 3.0 | | | | | | | | | | | |
| Loomis, Sayles & Company | 5.0 | 8.2 | 5.0 | 4.9 | 5.2 | 5.2 | 4.8 | 4.0 | L | 3.6 | 3.5 | L | 3.7 | 4.5 | 5.5 | L | 4.1 | 6.4 | 115.1 | 0.8 | 3.5 | 2.9 | 2.4 | | | | | | | | | | | | |
| MacroFin Analytics & Rutgers Bus School | 5.0 | 8.1 | 4.9 | L | 5.1 | 5.4 | H | 5.4 | 5.2 | 4.4 | 3.9 | 3.9 | 4.1 | H | 5.1 | 5.8 | 4.3 | 6.7 | 115.7 | -0.3 | 3.7 | 3.7 | 3.8 | | | | | | | | | | | | |
| Moody's Analytics | 5.0 | 8.1 | 5.0 | 5.0 | 5.1 | 5.1 | 4.8 | 4.3 | 3.8 | 3.7 | 3.8 | 4.6 | 5.6 | 3.5 | 6.3 | na | 1.6 | 2.3 | 2.2 | 2.0 | | | | | | | | | | | | | | | |
| Oxford Economics | 5.0 | 8.2 | 5.0 | na | 5.2 | 5.1 | 4.7 | 4.0 | L | 3.5 | L | 3.5 | L | 3.7 | 4.0 | L | na | na | 6.3 | 114.8 | 0.6 | 1.1 | 3.8 | 3.0 | | | | | | | | | | | |
| PNC Financial Services Corp. | 5.0 | 8.2 | 5.0 | na | 5.1 | 5.1 | 4.7 | 4.0 | L | 3.5 | L | 3.5 | L | 3.8 | na | 5.7 | 3.6 | 6.3 | 112.5 | L | 0.5 | 2.9 | 3.8 | 2.9 | | | | | | | | | | | |
| Regions Financial Corporation | 5.0 | 8.2 | 5.0 | 5.1 | 5.2 | 5.1 | 4.9 | 4.1 | 3.6 | 3.6 | 3.8 | 5.1 | 6.0 | 4.3 | 6.4 | 114.3 | 1.3 | 2.7 | 3.7 | 3.0 | | | | | | | | | | | | | | | |
| S&P Global Market Intelligence | 5.0 | 8.1 | 5.0 | na | 5.0 | 4.9 | 4.7 | 4.1 | 3.6 | 3.5 | L | 3.8 | na | na | na | 6.4 | na | -0.1 | 3.4 | 3.2 | 3.8 | | | | | | | | | | | | | | |
| Santander Capital Markets | 5.0 | 8.2 | 5.0 | 5.0 | 5.2 | 5.2 | 4.9 | 4.2 | 3.7 | 3.6 | 3.8 | 4.7 | 5.8 | 3.6 | 6.6 | 115.0 | 2.1 | 3.5 | 3.1 | 3.1 | | | | | | | | | | | | | | | |
| Societe Generale | 5.0 | 8.2 | 5.0 | na | 5.1 | 5.1 | 4.8 | 4.1 | 3.7 | 3.5 | L | 3.8 | na | na | na | na | na | 1.8 | 3.5 | 2.8 | 2.5 | | | | | | | | | | | | | | |
| The Northern Trust Company | 5.0 | 8.2 | 5.0 | 5.0 | 5.2 | 5.3 | 5.0 | 4.3 | 3.7 | 3.7 | 3.9 | 4.7 | 5.7 | 4.2 | 6.3 | 115.0 | 1.4 | 2.3 | 3.0 | 2.5 | | | | | | | | | | | | | | | |
| J.P. Morgan Chase | 4.9 | L | na | na | na | na | na | na | 4.5 | 4.0 | 3.8 | 3.9 | na | na | na | na | na | 1.5 | 2.3 | 3.0 | 3.0 | | | | | | | | | | | | | | |
| June Consensus | 5.0 | 8.2 | 5.0 | 5.1 | 5.2 | 5.2 | 4.8 | 4.2 | 3.7 | 3.6 | 3.8 | 4.8 | 5.8 | 4.0 | 6.4 | 115.4 | 0.8 | 3.3 | 3.3 | 3.0 | | | | | | | | | | | | | | | |
| Top 10 Avg. | 5.2 | 8.3 | 5.1 | 5.1 | 5.3 | 5.3 | 5.0 | 4.5 | 3.9 | 3.8 | 3.9 | 5.1 | 6.0 | 4.3 | 6.6 | 116.4 | 2.0 | 4.4 | 4.2 | 3.8 | | | | | | | | | | | | | | | |
| Bottom 10 Avg. | 5.0 | 8.1 | 5.0 | 5.0 | 5.1 | 5.0 | 4.6 | 4.0 | 3.5 | 3.5 | 3.7 | 4.5 | 5.6 | 3.7 | 6.2 | 114.4 | -0.5 | 2.3 | 2.5 | 2.3 | | | | | | | | | | | | | | | |
| May Consensus | 5.0 | 8.2 | 5.0 | 5.0 | 5.1 | 5.1 | 4.8 | 4.2 | 3.7 | 3.6 | 3.8 | 4.7 | 5.8 | 4.0 | 6.4 | 115.3 | 0.2 | 3.2 | 3.4 | 3.0 | | | | | | | | | | | | | | | |
| Number of Forecasts Changed From A Month Ago: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Down | 3 | 7 | 2 | 7 | 2 | 4 | 7 | 12 | 15 | 15 | 13 | 8 | 9 | 4 | 4 | 4 | 4 | 10 | 20 | 19 | | | | | | | | | | | | | | | |
| Same | 30 | 21 | 19 | 11 | 16 | 12 | 8 | 12 | 11 | 11 | 11 | 11 | 7 | 6 | 9 | 15 | 9 | 3 | 14 | 8 | 7 | | | | | | | | | | | | | | |
| Up | 5 | 4 | 5 | 4 | 16 | 14 | 15 | 13 | 11 | 12 | 12 | 8 | 7 | 7 | 11 | 7 | 31 | 12 | 9 | 10 | | | | | | | | | | | | | | | |
| Diffusion Index | 53% | 45% | 56% | 43% | 71% | 67% | 63% | 51% | 45% | 46% | 49% | 50% | 45% | 58% | 62% | 58% | 86% | 53% | 35% | 38% | | | | | | | | | | | | | | | |

Third Quarter 2023

Interest Rate Forecasts

Key Assumptions

| Blue Chip
Financial Forecasts
Panel Members | Percent Per Annum -- Average For Quarter | | | | | | | | | | | | | | | Avg. For
--Qtr.--
Fed's Adv
Fgn Econ
\$ Index | (Q-Q % Change)
(SAAR) | | | | |
|---|--|-----------------------|--------------|------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|---------------------------|--------------------------|----------------------|----------------------|---------------------------|----------------------|---|--------------------------|------------|------------|-------------|-----------|
| | Short-Term | | | | | Intermediate-Term | | | | | Long-Term | | | | | | A. | B. | C.
GDP | D.
Cons. | E.
PCE |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | | | | | | |
| | Federal
Funds
Rate | Prime
Bank
Rate | SOFR
Rate | Com.
Paper
1-Mo. | Treas.
Bills
3-Mo. | Treas.
Bills
6-Mo. | Treas.
Bills
1-Yr. | Treas.
Notes
2-Yr. | Treas.
Notes
5-Yr. | Treas.
Notes
10-Yr. | Treas.
Bond
30-Yr. | Aaa
Corp.
Bond | Baa
Corp.
Bond | State &
Local
Bonds | Home
Mtg.
Rate | | | | | | |
| RDQ Economics | 5.4 | H 8.5 | H 5.4 | 5.4 | H 5.6 | H 4.9 | 4.1 | 3.9 | 3.8 | 3.9 | 5.1 | 6.2 | 4.3 | 6.5 | 111.8 | 1.6 | H 3.7 | 3.9 | 3.5 | | |
| The Lonski Group | 5.4 | H 8.5 | H 5.3 | 5.4 | H 5.5 | 5.0 | 4.6 | 4.1 | 3.6 | 3.8 | 4.9 | 5.7 | 4.4 | 6.4 | 116.4 | -0.2 | 2.8 | 2.9 | 3.1 | | |
| Naroff Economic Advisors | 5.3 | 8.3 | 5.3 | 5.3 | 5.4 | 5.4 | 5.1 | 4.4 | 3.9 | 3.8 | 4.0 | na | na | 4.1 | 6.4 | 115.0 | -0.3 | 4.4 | H 4.6 | 4.1 | H |
| Scotiabank Group | 5.3 | na | na | na | 5.1 | na | na | 3.8 | 3.5 | 3.6 | 3.9 | na | na | na | na | na | -0.3 | 1.7 | 4.3 | 3.4 | |
| Via Nova Investment Mgt. | 5.3 | 8.5 | H 5.3 | 5.4 | H 5.3 | 5.4 | 4.9 | 4.9 | H 4.5 | H 4.4 | H 4.3 | H 5.6 | H 6.4 | 4.8 | H 7.1 | H 113.0 | 1.5 | 3.0 | 2.9 | 2.5 | |
| Daiwa Capital Markets America | 5.2 | 8.4 | na | na | 5.4 | na | na | 4.6 | 4.0 | 3.9 | 4.0 | na | na | na | 6.6 | 115.0 | -1.3 | 3.2 | 3.3 | 3.2 | |
| DePrince & Assoc. | 5.2 | 8.4 | 5.2 | 5.1 | 5.4 | 5.2 | 4.9 | 4.1 | 3.5 | 3.5 | 3.8 | 4.8 | 5.8 | 4.0 | 6.2 | 115.7 | 0.0 | 3.1 | 3.2 | 3.0 | |
| GLC Financial Economics | 5.2 | 8.3 | 5.0 | 5.1 | 5.0 | 5.0 | 4.8 | 4.4 | 4.2 | 3.7 | 3.9 | 4.7 | 5.7 | 4.2 | 6.3 | 115.6 | 0.9 | 2.8 | 2.9 | 2.7 | |
| J.P. Morgan Chase | 5.2 | na | na | na | na | na | na | 4.3 | 3.9 | 3.7 | 3.9 | na | na | na | na | na | 0.5 | 2.5 | 2.4 | 2.4 | |
| Action Economics | 5.1 | 8.3 | 5.5 | H 5.2 | 5.1 | 5.1 | 4.9 | 4.1 | 3.6 | 3.7 | 3.9 | 4.6 | 5.6 | 3.9 | 6.9 | 114.1 | 0.6 | 2.1 | 2.4 | 2.1 | |
| Bank of America | 5.1 | na | na | na | na | na | na | 3.8 | 3.5 | 3.4 | 3.6 | na | na | na | na | na | -1.0 | 3.2 | 2.3 | 2.4 | |
| Bank of the West | 5.1 | 8.3 | 5.0 | 5.1 | 5.2 | 5.1 | 4.8 | 4.3 | 3.9 | 3.9 | 4.0 | 4.9 | 6.0 | 4.6 | 6.8 | 113.5 | -1.1 | 2.9 | 2.9 | 3.0 | |
| BMO Capital Markets | 5.1 | 8.3 | 5.1 | na | 5.3 | 5.3 | 4.9 | 4.0 | 3.5 | 3.5 | 3.8 | na | na | na | 6.4 | 113.0 | -0.8 | 3.5 | 3.7 | 3.5 | |
| Chan Economics | 5.1 | 8.1 | 5.0 | 5.1 | 5.2 | 5.2 | 4.9 | 4.4 | 3.8 | 3.8 | 3.8 | 4.8 | 5.8 | 4.4 | 6.3 | 114.9 | 0.3 | 2.9 | 3.1 | 2.6 | |
| Chmura Economics & Analytics | 5.1 | 8.3 | 5.1 | 5.2 | 5.3 | 5.3 | 5.0 | 4.5 | 4.1 | 4.1 | 4.1 | 5.1 | na | na | 6.6 | na | -1.9 | 3.9 | 3.9 | 3.9 | |
| Comerica Bank | 5.1 | 8.2 | 5.1 | na | 5.1 | 5.0 | 4.6 | 3.9 | 3.6 | 3.6 | 3.9 | 4.7 | 5.9 | na | 6.4 | na | -1.0 | 3.1 | 3.4 | 3.4 | |
| Economist Intelligence Unit | 5.1 | 8.1 | na | 5.1 | 5.2 | 5.2 | 4.3 | 4.2 | 3.6 | 3.6 | 3.7 | na | na | na | 6.5 | na | -1.2 | na | 2.4 | 2.5 | |
| EY-Parthenon | 5.1 | na | na | na | 4.9 | na | na | na | na | 2.9 | na | na | na | na | na | na | -1.7 | 2.3 | 2.4 | 2.5 | |
| Fannie Mae | 5.1 | 8.3 | na | na | 5.3 | 5.2 | 4.7 | 4.1 | 3.6 | 3.7 | 3.9 | na | na | na | 6.7 | na | -1.2 | 2.9 | 1.5 | 2.3 | |
| Georgia State University | 5.1 | 8.2 | na | na | 4.9 | 4.7 | 4.7 | 3.8 | 3.8 | 3.5 | 3.7 | 4.8 | 5.9 | na | 6.3 | na | -0.8 | 3.6 | 3.2 | 3.5 | |
| Goldman Sachs & Co. | 5.1 | na | na | na | 5.1 | na | na | 4.4 | 3.9 | 3.9 | 4.0 | na | na | na | na | na | 0.6 | 2.9 | 2.3 | 2.4 | |
| ING | 5.1 | na | na | na | na | na | na | 4.0 | 3.6 | 3.5 | 3.7 | na | na | na | na | na | -1.5 | na | na | na | |
| KPMG | 5.1 | 8.3 | 5.1 | 4.9 | 5.2 | 5.1 | 4.7 | 4.0 | 3.5 | 3.5 | 3.8 | 4.5 | 5.8 | na | 6.4 | na | 0.1 | 3.3 | 4.2 | 3.6 | |
| Loomis, Sayles & Company | 5.1 | 8.3 | 5.1 | 5.0 | 5.3 | 5.3 | 4.7 | 3.6 | 3.4 | 3.0 | 3.3 | 4.0 | L 5.0 | L 3.6 | 5.9 | 115.6 | -2.1 | 2.6 | 2.1 | 2.0 | |
| MacroFin Analytics & Rutgers Bus School | 5.1 | 8.3 | 5.0 | 5.1 | 5.4 | 5.5 | 5.2 | 4.3 | 3.9 | 3.9 | 4.1 | 5.2 | 5.9 | 4.3 | 6.7 | 116.2 | 0.8 | 3.3 | 3.4 | 3.4 | |
| Moody's Analytics | 5.1 | 8.2 | 5.0 | 5.3 | 5.2 | 5.1 | 4.7 | 4.5 | 4.1 | 3.8 | 4.2 | 5.2 | 6.2 | 4.2 | 6.1 | na | 0.9 | 2.4 | 2.7 | 2.4 | |
| NatWest Markets | 5.1 | 8.2 | na | 5.2 | 5.4 | 5.5 | 5.6 | H 4.0 | 3.5 | 3.5 | 3.7 | 5.3 | 6.3 | 4.7 | 6.5 | na | -2.5 | 2.6 | 2.8 | 2.7 | |
| Nomura Securities, Inc. | 5.1 | 8.3 | na | na | na | na | na | 4.1 | 3.5 | 3.0 | na | na | na | na | na | na | -1.1 | 2.5 | 2.4 | 2.3 | |
| Oxford Economics | 5.1 | 8.3 | 5.1 | na | 5.2 | 5.0 | 4.7 | 3.8 | 3.4 | 3.4 | 3.7 | 4.2 | na | na | 6.1 | 114.6 | -5.1 | L 2.4 | 4.7 | H 3.8 | |
| PNC Financial Services Corp. | 5.1 | 8.3 | 5.1 | na | 5.1 | 5.0 | 4.6 | 4.0 | 3.4 | 3.4 | 3.8 | na | 6.5 | 4.4 | 6.1 | 112.5 | 0.2 | 2.6 | 3.1 | 2.7 | |
| Regions Financial Corporation | 5.1 | 8.3 | 5.0 | 5.0 | 5.1 | 5.1 | 4.7 | 4.0 | 3.5 | 3.5 | 3.8 | 5.0 | 5.9 | 4.2 | 6.3 | 114.0 | 0.8 | 2.9 | 3.3 | 3.1 | |
| S&P Global Market Intelligence | 5.1 | 8.2 | 5.0 | na | 5.0 | 4.9 | 4.7 | 4.0 | 3.5 | 3.5 | 3.8 | na | na | na | 6.3 | na | 0.5 | 3.2 | 3.6 | 3.4 | |
| Santander Capital Markets | 5.1 | 8.3 | 5.1 | 5.2 | 5.3 | 5.4 | 5.2 | 4.6 | 4.0 | 4.0 | 4.2 | 5.1 | 6.2 | 4.0 | 7.0 | 115.5 | 1.5 | 3.4 | 4.0 | 3.7 | |
| Societe Generale | 5.1 | 8.3 | 5.1 | na | 5.1 | 5.0 | 4.7 | 3.9 | 3.6 | 3.5 | 3.8 | na | na | na | na | na | 1.6 | H 3.5 | 3.2 | 2.8 | |
| The Northern Trust Company | 5.1 | 8.3 | 5.1 | 5.2 | 5.2 | 5.2 | 4.9 | 4.1 | 3.6 | 3.5 | 3.7 | 4.6 | 5.8 | 4.0 | 5.9 | 113.0 | 0.5 | 2.2 | 2.8 | 2.2 | |
| Wells Fargo | 5.1 | 8.3 | 5.1 | 5.1 | 5.1 | 5.0 | 4.3 | 3.7 | 3.3 | 3.3 | 3.6 | 4.5 | 5.5 | 3.9 | 5.9 | na | -0.2 | 2.1 | 2.2 | 2.1 | |
| TS Lombard | 4.3 | 7.4 | 4.2 | 4.3 | 4.3 | 4.1 | 3.9 | 3.7 | 3.7 | 3.5 | 3.6 | 4.4 | 5.2 | 3.5 | 5.3 | 110.0 | L -1.5 | 4.0 | 4.0 | 4.0 | |
| ACIMA Private Wealth | 4.1 | L 7.1 | L 4.1 | L 4.2 | L 4.2 | L 3.3 | L 3.0 | L 2.7 | L 2.5 | L 2.5 | L 2.8 | L 4.8 | 6.8 | H 2.2 | L 5.0 | L 118.0 | H -2.0 | -1.5 | L -1.0 | L -1.1 | L |
| June Consensus | 5.1 | 8.2 | 5.1 | 5.1 | 5.2 | 5.1 | 4.7 | 4.1 | 3.7 | 3.6 | 3.8 | 4.8 | 5.9 | 4.1 | 6.3 | 114.4 | -0.4 | 2.8 | 3.0 | 2.8 | |
| Top 10 Avg. | 5.3 | 8.4 | 5.2 | 5.3 | 5.4 | 5.4 | 5.1 | 4.5 | 4.1 | 4.0 | 4.1 | 5.1 | 6.2 | 4.4 | 6.7 | 115.8 | 1.1 | 3.7 | 4.1 | 3.7 | |
| Bottom 10 Avg. | 4.9 | 8.0 | 4.8 | 4.9 | 4.9 | 4.7 | 4.4 | 3.7 | 3.4 | 3.2 | 3.5 | 4.5 | 5.6 | 3.7 | 5.9 | 113.0 | -2.1 | 1.9 | 1.9 | 1.9 | |
| May Consensus | 5.1 | 8.3 | 5.1 | 5.1 | 5.1 | 5.0 | 4.7 | 4.1 | 3.7 | 3.6 | 3.8 | 4.8 | 6.0 | 4.1 | 6.3 | 114.6 | -0.3 | 2.9 | 3.0 | 2.8 | |
| Number of Forecasts Changed From A Month Ago: | | | | | | | | | | | | | | | | | | | | | |
| Down | 4 | 7 | 4 | 6 | 3 | 4 | 6 | 10 | 14 | 12 | 10 | 4 | 5 | 5 | 7 | 6 | 10 | 10 | 17 | 14 | |
| Same | 28 | 20 | 17 | 10 | 16 | 12 | 8 | 15 | 14 | 17 | 15 | 11 | 10 | 7 | 10 | 6 | 11 | 18 | 5 | 6 | |
| Up | 6 | 5 | 5 | 6 | 15 | 14 | 16 | 12 | 9 | 9 | 11 | 8 | 7 | 8 | 13 | 8 | 17 | 8 | 15 | 16 | |
| Diffusion Index | 53% | 47% | 52% | 50% | 68% | 67% | 67% | 53% | 43% | 46% | 51% | 59% | 55% | 58% | 60% | 55% | 59% | 47% | 47% | 53% | |

Fourth Quarter 2023

Interest Rate Forecasts

Key Assumptions

| Blue Chip
Financial Forecasts
Panel Members | Percent Per Annum -- Average For Quarter-- | | | | | | | | | | | | | | | Avg. For
--Qtr.--
Fed's Adv
Fgn Econ
\$ Index | ------(Q-Q % Change)-----
------(SAAR)----- | | | | | | | | | | | | | | | | | | | | | | |
|---|--|-----------------------|--------------|------------------------|--------------------------|-----------------------------|--------------------------|--------------------------|--------------------------|---------------------------|--------------------------|----------------------|----------------------|---------------------------|----------------------|---|--|-----------------------------|-------------------------------|-----------------------------|------------|-------|------------|-------|------------|-----|------------|-----|------------|--|--------------|--|-------------|--|------------|--|------------|--|------------|
| | -----Short-Term----- | | | | | -----Intermediate-Term----- | | | | | -----Long-Term----- | | | | | | A.
B.
Real
GDP | C.
GDP
Price
Index | D.
Cons.
Price
Index | E.
PCE
Price
Index | | | | | | | | | | | | | | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | | | | | | | | | | | | | | | | | | | | | | | | |
| | Federal
Funds
Rate | Prime
Bank
Rate | SOFR
Rate | Com.
Paper
1-Mo. | Treas.
Bills
3-Mo. | Treas.
Bills
6-Mo. | Treas.
Bills
1-Yr. | Treas.
Notes
2-Yr. | Treas.
Notes
5-Yr. | Treas.
Notes
10-Yr. | Treas.
Bond
30-Yr. | Aaa
Corp.
Bond | Baa
Corp.
Bond | State &
Local
Bonds | Home
Mtg.
Rate | | | | | | | | | | | | | | | | | | | | | | | | |
| Daiwa Capital Markets America | 5.5 | H | 8.6 | H | na | na | 5.6 | H | na | na | 4.4 | 3.9 | 3.8 | 4.1 | na | na | na | 6.5 | 115.0 | -0.5 | 3.0 | 3.0 | 2.9 | | | | | | | | | | | | | | | | |
| RDQ Economics | 5.4 | | 8.5 | | 5.4 | H | 5.5 | H | 5.4 | H | 4.7 | 4.0 | 4.0 | 4.0 | 5.6 | H | 6.8 | H | 4.4 | 6.6 | 111.1 | 0.8 | 3.6 | 3.8 | 3.5 | | | | | | | | | | | | | | |
| J.P. Morgan Chase | 5.3 | | na | | na | | na | | na | | na | 4.1 | 3.7 | 3.6 | 3.9 | na | na | na | na | na | na | -0.5 | 2.3 | 2.2 | 2.3 | | | | | | | | | | | | | | |
| Naroff Economic Advisors | 5.3 | | 8.3 | | 5.3 | | 5.3 | | 5.4 | H | 5.1 | H | 4.4 | 3.9 | 3.9 | 4.0 | na | na | 4.1 | 6.4 | 114.5 | -3.5 | L | 4.2 | H | 4.3 | H | 3.8 | H | | | | | | | | | | |
| Scotiabank Group | 5.3 | | na | | na | | 4.9 | | na | | na | 3.5 | 3.4 | 3.6 | 3.9 | na | na | na | na | na | na | -0.4 | 1.3 | L | 3.3 | | 3.2 | | | | | | | | | | | | |
| Via Nova Investment Mgt. | 5.3 | | 8.5 | | 5.3 | | 5.4 | | 5.3 | H | 4.9 | 4.9 | H | 4.5 | 4.4 | 4.3 | 5.6 | H | 6.4 | 4.8 | H | 7.1 | H | 112.0 | 1.5 | 2.5 | 2.4 | 2.3 | | | | | | | | | | | |
| GLC Financial Economics | 5.2 | | 8.3 | | 4.9 | | 4.9 | | 4.7 | | 4.5 | 4.2 | 4.1 | 3.6 | 3.9 | 4.8 | 6.0 | 4.2 | 6.2 | 6.2 | 115.3 | 1.1 | 2.6 | 2.7 | 2.6 | | | | | | | | | | | | | | |
| The Lonski Group | 5.2 | | 8.3 | | 5.2 | | 5.2 | | 5.2 | | 4.7 | 4.2 | 3.8 | 3.5 | 3.7 | 4.8 | 5.6 | 4.3 | 6.3 | 6.3 | 117.6 | H | 0.1 | 2.5 | 2.9 | 2.7 | | | | | | | | | | | | | |
| Action Economics | 5.1 | | 8.3 | | 5.5 | H | 5.2 | | 5.1 | | 5.1 | 4.9 | 4.1 | 3.7 | 3.7 | 3.9 | 4.6 | 5.6 | 4.0 | 6.9 | 114.4 | | 1.0 | 2.2 | 2.5 | 2.1 | | | | | | | | | | | | | |
| Bank of America | 5.1 | | na | | na | | na | | na | | na | 3.5 | 3.4 | 3.3 | 3.4 | na | na | na | na | na | na | -2.0 | 2.9 | 2.3 | 1.8 | | | | | | | | | | | | | | |
| Bank of the West | 5.1 | | 8.3 | | 5.0 | | 5.1 | | 5.2 | | 5.1 | 4.7 | 4.3 | 3.9 | 3.9 | 4.0 | 4.9 | 6.1 | 4.8 | H | 6.8 | 111.8 | 0.3 | 2.6 | 2.7 | 2.6 | | | | | | | | | | | | | |
| BMO Capital Markets | 5.1 | | 8.3 | | 5.1 | | na | | 5.3 | | 5.3 | 4.8 | 3.9 | 3.5 | 3.4 | 3.7 | na | na | na | 6.3 | 111.7 | | 0.8 | 2.4 | 2.7 | 2.5 | | | | | | | | | | | | | |
| Chmura Economics & Analytics | 5.1 | | 8.3 | | 5.1 | | 5.2 | | 5.2 | | 5.3 | 5.0 | 4.8 | 4.6 | H | 4.7 | H | 5.5 | na | na | 6.6 | na | -1.8 | 3.5 | 3.6 | 3.8 | H | | | | | | | | | | | | |
| Economist Intelligence Unit | 5.1 | | 8.1 | | na | | 5.1 | | 5.2 | | 5.2 | 4.1 | 4.1 | 3.5 | 3.5 | 3.6 | na | na | na | 6.3 | na | 0.7 | na | 1.7 | 1.2 | | | | | | | | | | | | | | |
| EY-Parthenon | 5.1 | | na | | na | | 4.8 | | na | | na | na | na | na | 2.9 | na | na | na | na | na | na | na | 0.5 | 2.0 | 2.3 | 2.2 | | | | | | | | | | | | | |
| Goldman Sachs & Co. | 5.1 | | na | | na | | 5.1 | | na | | na | 4.5 | 4.0 | 3.9 | 4.0 | na | na | na | na | na | na | na | 0.9 | 3.6 | 3.5 | 2.9 | | | | | | | | | | | | | |
| KPMG | 5.1 | | 8.3 | | 5.1 | | 4.8 | | 5.1 | | 4.9 | 4.5 | 3.9 | 3.4 | 3.4 | 3.8 | 4.4 | 5.7 | na | 6.1 | na | -0.3 | 3.1 | 2.8 | 2.9 | | | | | | | | | | | | | | |
| Moody's Analytics | 5.1 | | 8.3 | | 5.0 | | 5.3 | | 5.0 | | 4.9 | 4.5 | 4.3 | 4.1 | 3.9 | 4.3 | 5.4 | 6.3 | 4.4 | 6.0 | na | 1.1 | 2.6 | 3.0 | 2.7 | | | | | | | | | | | | | | |
| Nomura Securities, Inc. | 5.1 | | 8.3 | | na | | na | | na | | na | 3.9 | 3.3 | 2.9 | na | na | na | na | na | na | na | na | -1.2 | 2.3 | 2.1 | 2.2 | | | | | | | | | | | | | |
| Oxford Economics | 5.1 | | 8.3 | | 5.1 | | na | | 5.2 | | 5.0 | 4.6 | 3.7 | 3.3 | 3.3 | 3.7 | 4.2 | na | na | 5.8 | 114.4 | | -0.6 | 2.3 | 3.4 | 2.9 | | | | | | | | | | | | | |
| PNC Financial Services Corp. | 5.1 | | 8.3 | | 5.1 | | na | | 5.0 | | 5.0 | 4.5 | 3.8 | 3.4 | 3.4 | 3.8 | na | 6.6 | 4.7 | 6.0 | 112.7 | | -0.5 | 2.1 | 2.1 | 2.0 | | | | | | | | | | | | | |
| Regions Financial Corporation | 5.1 | | 8.3 | | 4.9 | | 5.0 | | 4.9 | | 4.9 | 4.6 | 3.9 | 3.5 | 3.4 | 3.7 | 4.9 | 5.8 | 4.1 | 6.2 | 113.9 | | 1.0 | 2.6 | 2.9 | 2.4 | | | | | | | | | | | | | |
| S&P Global Market Intelligence | 5.1 | | 8.2 | | 5.0 | | na | | 4.9 | | 4.7 | 4.5 | 3.9 | 3.5 | 3.5 | 3.8 | na | na | na | 6.2 | na | 0.5 | 2.9 | 2.7 | 3.2 | | | | | | | | | | | | | | |
| Santander Capital Markets | 5.1 | | 8.3 | | 5.1 | | 5.1 | | 5.2 | | 5.3 | 5.1 | H | 4.7 | 4.2 | 4.1 | 4.4 | 5.3 | 6.4 | 4.1 | 7.0 | 115.0 | | 1.1 | 3.3 | 3.7 | 3.3 | | | | | | | | | | | | |
| Societe Generale | 5.1 | | 8.3 | | 5.1 | | na | | 5.0 | | 4.8 | 4.3 | 3.6 | 3.5 | 3.4 | 3.7 | na | na | na | na | na | na | 0.4 | 3.6 | 3.6 | 3.3 | | | | | | | | | | | | | |
| The Northern Trust Company | 5.1 | | 8.3 | | 5.1 | | 5.2 | | 5.0 | | 4.8 | 4.3 | 3.8 | 3.4 | 3.3 | 3.5 | 4.5 | 5.7 | 4.0 | 5.5 | 112.0 | | 0.8 | 2.3 | 2.5 | 2.2 | | | | | | | | | | | | | |
| Wells Fargo | 5.1 | | 8.3 | | 5.1 | | 5.1 | | 4.8 | | 4.3 | 3.4 | 3.2 | 3.1 | 3.0 | 3.5 | 4.2 | 5.2 | 3.6 | 5.6 | na | -2.8 | 1.9 | 2.4 | 1.9 | | | | | | | | | | | | | | |
| Chan Economics | 5.0 | | 8.0 | | 4.9 | | 5.0 | | 5.1 | | 5.1 | 4.8 | 4.3 | 3.7 | 3.7 | 3.7 | 4.7 | 5.7 | 4.3 | 6.2 | 114.7 | | -0.2 | 2.7 | 2.9 | 2.4 | | | | | | | | | | | | | |
| DePrince & Assoc. | 5.0 | | 8.2 | | 5.0 | | 4.9 | | 5.1 | | 5.0 | 4.7 | 4.0 | 3.5 | 3.5 | 3.9 | 4.8 | 5.8 | 4.1 | 6.1 | 116.6 | | 0.3 | 2.8 | 2.9 | 2.7 | | | | | | | | | | | | | |
| Fannie Mae | 5.0 | | 8.1 | | na | | na | | 5.0 | | 4.7 | 4.3 | 3.8 | 3.5 | 3.6 | 3.9 | na | na | na | 6.4 | na | -1.7 | 2.7 | 3.2 | 2.8 | | | | | | | | | | | | | | |
| Georgia State University | 5.0 | | 8.2 | | na | | na | | 4.8 | | 4.5 | 4.5 | 3.6 | 3.6 | 3.4 | 3.6 | 4.8 | 5.9 | na | 6.0 | na | -0.2 | 3.3 | 2.3 | 2.7 | | | | | | | | | | | | | | |
| MacroFin Analytics & Rutgers Bus School | 5.0 | | 8.1 | | 5.0 | | 5.1 | | 5.0 | | 5.1 | 5.0 | 4.2 | 3.8 | 3.8 | 4.0 | 5.1 | 5.9 | 4.2 | 6.6 | 116.0 | | 1.2 | 3.0 | 3.0 | 2.8 | | | | | | | | | | | | | |
| Comerica Bank | 4.8 | | 8.0 | | 4.8 | | na | | 4.8 | | 4.6 | 4.2 | 3.6 | 3.5 | 3.6 | 3.9 | 4.8 | 6.0 | na | 6.2 | na | -0.5 | 2.7 | 2.9 | 2.9 | | | | | | | | | | | | | | |
| Loomis, Sayles & Company | 4.7 | | 7.8 | | 4.6 | | 4.5 | | 4.7 | | 4.7 | 4.0 | 2.8 | 2.8 | 2.6 | 2.9 | 3.6 | L | 4.6 | L | 3.2 | 5.5 | 115.5 | | -1.5 | 2.5 | 2.0 | 2.0 | | | | | | | | | | | |
| NatWest Markets | 4.6 | | 7.7 | | na | | 4.7 | | 4.9 | | 5.0 | 5.1 | H | 3.9 | 3.4 | 3.4 | 3.7 | 5.2 | 6.1 | 4.7 | 6.5 | na | -1.5 | 2.0 | 1.8 | 2.3 | | | | | | | | | | | | | |
| ING | 4.1 | | na | | na | | na | | na | | na | 3.3 | 3.2 | 3.0 | 3.0 | 3.4 | na | na | na | na | na | -2.3 | na | na | na | | | | | | | | | | | | | | |
| TS Lombard | 3.0 | | 6.1 | | 2.9 | | 3.0 | L | 2.8 | L | 3.0 | 3.1 | 3.2 | 3.4 | 3.3 | 3.4 | 4.1 | 5.0 | 3.3 | 5.1 | 110.0 | L | 0.5 | 3.5 | 3.5 | 3.5 | | | | | | | | | | | | | |
| ACIMA Private Wealth | 2.8 | L | 5.8 | L | 2.8 | L | 2.9 | L | 2.8 | L | 1.5 | L | 1.1 | L | 1.0 | L | 1.0 | L | 2.0 | L | 2.8 | L | 4.5 | 6.0 | 2.0 | L | 4.5 | L | | | | | | | | | | | |
| June Consensus | 5.0 | | 8.1 | | 4.9 | | 4.9 | | 4.9 | | 4.8 | | 4.4 | | 3.9 | | 3.6 | | 3.5 | | 3.8 | | 4.8 | | 5.9 | | 4.1 | | 6.2 | | 114.0 | | -0.1 | | 2.7 | | 2.8 | | 2.6 |
| Top 10 Avg. | 5.3 | | 8.4 | | 5.2 | | 5.3 | | 5.3 | | 5.3 | 4.9 | 4.5 | 4.1 | 4.0 | 4.2 | 5.2 | 6.3 | 4.5 | 6.7 | 115.5 | | 1.5 | 3.5 | 3.6 | 3.3 | | | | | | | | | | | | | |
| Bottom 10 Avg. | 4.4 | | 7.6 | | 4.5 | | 4.5 | | 4.4 | | 4.2 | 3.7 | 3.1 | 3.0 | 3.0 | 3.4 | 4.4 | 5.5 | 3.7 | 5.6 | 112.4 | | -1.9 | 2.0 | 2.0 | 1.8 | | | | | | | | | | | | | |
| May Consensus | 5.0 | | 8.1 | | 4.9 | | 4.9 | | 4.9 | | 4.7 | 4.4 | 3.9 | 3.6 | 3.5 | 3.8 | 4.9 | 5.9 | 4.0 | 6.2 | 114.1 | | 0.0 | 2.7 | 2.7 | 2.5 | | | | | | | | | | | | | |
| Number of Forecasts Changed From A Month Ago: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Down | 4 | | 5 | | 3 | | 6 | | 4 | | 4 | | 8 | | 8 | | 11 | | 12 | | 9 | | 4 | | 4 | | 3 | | 10 | | 6 | | 17 | | 9 | | 11 | | 9 |
| Same | 28 | | 21 | | 17 | | 9 | | 15 | | 12 | | 11 | | 18 | | 18 | | 19 | | 20 | | 12 | | 12 | | 9 | | 8 | | 7 | | 13 | | 16 | | 13 | | 13 |
| Up | 6 | | 6 | | 6 | | 7 | | 15 | | 14 | | 11 | | 11 | | 8 | | 7 | | 7 | | 7 | | 6 | | 8 | | 12 | | 7 | | 8 | | 11 | | 13 | | 14 |
| Diffusion Index | 53% | | 52% | | 56% | | 52% | | 66% | | 67% | | 55% | | 54% | | 46% | | 43% | | 47% | | 57% | | 55% | | 63% | | 53% | | 53% | | 38% | | 53% | | 53% | | 57% |

First Quarter 2024

Interest Rate Forecasts

Key Assumptions

| Blue Chip
Financial Forecasts
Panel Members | Percent Per Annum -- Average For Quarter-- | | | | | | | | | | | | | | | Avg. For
--Qtr.--
Fed's Adv
Fgn Econ
\$ Index | --(Q-Q % Change)--
--(SAAR)-- | | | | | | | | | | | | | | | | | | |
|---|--|-----------------------|--------------|------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|---------------------------|---------------------------|----------------------|----------------------|---------------------------|----------------------|---|----------------------------------|------------|------------|------------|------|-----|-----|-----|-----|-----|-----|-----|-------|---|-----|---|-----|-----|-----|
| | Short-Term | | | | | --Intermediate-Term-- | | | | | Long-Term | | | | | | B. | C. | D. | E. | | | | | | | | | | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | | | | | | | | | | | | | | | | | | | | |
| | Federal
Funds
Rate | Prime
Bank
Rate | SOFR
Rate | Com.
Paper
1-Mo. | Treas.
Bills
3-Mo. | Treas.
Bills
6-Mo. | Treas.
Bills
1-Yr. | Treas.
Notes
2-Yr. | Treas.
Notes
5-Yr. | Treas.
Notes
10-Yr. | Treas.
Bonds
30-Yr. | Aaa
Corp.
Bond | Baa
Corp.
Bond | State &
Local
Bonds | Home
Mtg.
Rate | | | | | | | | | | | | | | | | | | | | |
| Daiwa Capital Markets America | 5.6 | H | 8.8 | H | na | na | 5.6 | H | na | na | 4.3 | 3.8 | 3.8 | 4.2 | na | na | na | 6.4 | 114.5 | 0.9 | 2.8 | 2.7 | 2.6 | | | | | | | | | | | | |
| J.P. Morgan Chase | 5.3 | na | na | na | na | na | na | na | 3.9 | 3.6 | 3.4 | 3.8 | na | na | na | na | na | na | na | na | -0.5 | 2.3 | 2.4 | 2.2 | | | | | | | | | | | |
| Naroff Economic Advisors | 5.3 | 8.3 | 5.3 | 5.3 | H | 5.2 | 5.3 | H | 5.1 | H | 4.4 | 3.9 | 3.9 | 4.1 | na | na | 4.0 | 6.3 | 114.0 | 0.9 | 4.0 | H | 4.0 | H | 3.5 | | | | | | | | | | |
| RDQ Economics | 5.2 | 8.3 | 5.3 | 5.3 | H | 5.1 | 5.0 | 4.4 | 3.9 | 4.0 | 4.0 | 4.0 | 5.8 | H | 7.1 | H | 4.4 | 6.5 | 110.2 | -1.1 | L | 3.5 | 3.6 | 3.3 | | | | | | | | | | | |
| Action Economics | 5.1 | 8.3 | 5.5 | H | 5.2 | 5.1 | 5.0 | 4.8 | 4.1 | 3.6 | 3.6 | 3.9 | 4.6 | 5.6 | 3.9 | 6.9 | na | na | 114.5 | 1.6 | 2.3 | 2.4 | 2.0 | | | | | | | | | | | | |
| Chmura Economics & Analytics | 5.1 | 8.3 | 5.1 | 5.2 | 5.2 | 5.3 | H | 5.1 | H | 5.1 | H | 5.1 | H | 5.2 | H | 5.1 | H | 5.8 | H | na | na | na | 6.7 | na | 1.8 | 3.4 | 3.5 | 3.6 | H | | | | | | |
| Economist Intelligence Unit | 5.1 | 8.1 | na | 5.1 | 5.1 | 5.1 | 4.0 | 4.0 | 3.5 | 3.4 | 3.5 | na | na | na | na | na | 6.0 | na | na | 1.2 | na | 2.4 | 2.0 | | | | | | | | | | | | |
| Goldman Sachs & Co. | 5.1 | na | na | na | 5.1 | na | na | 4.4 | 4.0 | 3.8 | 3.9 | na | na | na | na | na | na | na | na | 1.9 | 2.6 | 2.9 | 2.4 | | | | | | | | | | | | |
| KPMG | 5.1 | 8.2 | 5.0 | 4.7 | 4.9 | 4.7 | 4.3 | 3.7 | 3.3 | 3.4 | 3.8 | 4.3 | 5.6 | na | 5.9 | na | na | na | na | 0.8 | 2.6 | 1.7 | 2.2 | | | | | | | | | | | | |
| Regions Financial Corporation | 5.1 | 8.3 | 4.8 | 4.8 | 4.6 | 4.8 | 4.4 | 3.7 | 3.4 | 3.4 | 3.6 | 4.9 | 5.8 | 4.0 | 6.0 | 113.6 | 1.0 | 2.6 | 2.6 | 2.6 | 2.6 | | | | | | | | | | | | | | |
| S&P Global Market Intelligence | 5.1 | 8.2 | 5.0 | na | 4.8 | 4.5 | 4.3 | 3.8 | 3.4 | 3.5 | 3.9 | na | na | na | 6.1 | na | 1.2 | 2.6 | 1.7 | 2.9 | | | | | | | | | | | | | | | |
| Santander Capital Markets | 5.1 | 8.3 | 5.1 | 5.1 | 5.1 | 5.1 | 5.0 | 4.7 | 4.2 | 4.1 | 4.4 | 5.4 | 6.6 | 4.1 | 6.9 | 114.0 | 1.0 | 3.1 | 3.2 | 2.9 | | | | | | | | | | | | | | | |
| Bank of the West | 5.0 | 8.2 | 4.9 | 5.0 | 5.0 | 4.9 | 4.7 | 4.2 | 3.9 | 3.9 | 4.0 | 5.0 | 6.1 | 4.7 | 6.8 | 111.2 | 1.2 | 2.4 | 2.4 | 2.3 | | | | | | | | | | | | | | | |
| BMO Capital Markets | 5.0 | 8.2 | 5.0 | na | 5.2 | 5.3 | H | 4.8 | 3.8 | 3.5 | 3.4 | 3.7 | na | na | na | 6.3 | 110.8 | 1.7 | 1.9 | 2.0 | 1.8 | | | | | | | | | | | | | | |
| Via Nova Investment Mgt. | 5.0 | 8.3 | 5.1 | 5.1 | 5.0 | 5.1 | 4.7 | 4.8 | 4.5 | 4.5 | 4.5 | 5.7 | 6.5 | 5.0 | H | 7.2 | H | 110.0 | L | 2.0 | 2.2 | 2.1 | 2.0 | | | | | | | | | | | | |
| Bank of America | 4.9 | na | na | na | na | na | na | 3.3 | 3.3 | 3.3 | 3.4 | na | na | na | na | na | na | na | na | -0.5 | 3.1 | 2.8 | 2.1 | | | | | | | | | | | | |
| Moody's Analytics | 4.9 | 8.0 | 4.8 | 5.0 | 4.7 | 4.6 | 4.3 | 4.2 | 4.0 | 3.9 | 4.4 | 5.5 | 6.4 | 4.4 | 5.8 | na | 1.7 | 2.4 | 2.5 | 2.3 | | | | | | | | | | | | | | | |
| Nomura Securities, Inc. | 4.9 | 8.0 | na | na | na | na | na | 3.2 | 3.0 | 2.9 | na | na | na | na | na | na | na | na | na | -0.4 | 2.0 | 2.2 | 2.2 | | | | | | | | | | | | |
| Oxford Economics | 4.9 | 8.0 | 4.9 | na | 4.9 | 4.7 | 4.3 | 3.6 | 3.1 | 3.3 | 3.6 | 3.8 | na | na | 5.5 | 113.9 | 1.4 | 2.6 | 2.6 | 2.3 | | | | | | | | | | | | | | | |
| PNC Financial Services Corp. | 4.9 | 8.0 | 4.9 | na | 4.7 | 4.7 | 4.2 | 3.5 | 3.3 | 3.3 | 3.8 | na | 6.4 | 4.5 | 5.8 | 113.1 | -1.0 | 1.2 | 1.0 | 1.0 | L | | | | | | | | | | | | | | |
| Societe Generale | 4.9 | 8.1 | 4.9 | na | 4.6 | 4.4 | 3.9 | 3.4 | 3.3 | 3.3 | 3.6 | na | na | na | na | na | na | na | na | -0.2 | 1.8 | 2.2 | 3.0 | | | | | | | | | | | | |
| Chan Economics | 4.8 | 7.8 | 4.7 | 4.8 | 4.9 | 4.9 | 4.6 | 4.1 | 3.5 | 3.5 | 3.5 | 4.5 | 5.5 | 4.1 | 6.0 | 114.2 | -0.8 | 2.6 | 2.8 | 2.3 | | | | | | | | | | | | | | | |
| EY-Parthenon | 4.8 | na | na | na | 4.4 | na | na | na | na | 3.0 | na | na | na | na | na | na | na | na | na | 1.5 | 2.0 | 2.3 | 2.2 | | | | | | | | | | | | |
| GLC Financial Economics | 4.8 | 7.9 | 4.6 | 4.6 | 4.5 | 4.4 | 4.3 | 4.0 | 4.0 | 3.6 | 3.8 | 4.7 | 5.9 | 4.1 | 6.0 | 114.6 | 1.7 | 2.3 | 2.4 | 2.3 | | | | | | | | | | | | | | | |
| Scotiabank Group | 4.8 | na | na | na | 4.5 | na | na | 3.3 | 3.4 | 3.6 | 3.9 | na | na | na | na | na | na | na | na | 0.4 | 1.1 | L | 0.6 | L | 1.7 | | | | | | | | | | |
| DePrince & Assoc. | 4.7 | 7.8 | 4.6 | 4.6 | 4.7 | 4.6 | 4.4 | 3.8 | 3.4 | 3.5 | 3.9 | 4.8 | 5.7 | 4.1 | 5.9 | 116.8 | 0.9 | 2.6 | 2.6 | 2.5 | | | | | | | | | | | | | | | |
| The Lonski Group | 4.7 | 7.8 | 4.7 | 4.7 | 4.7 | 4.8 | 4.3 | 3.9 | 3.6 | 3.4 | 3.6 | 4.9 | 5.7 | 4.3 | 6.3 | 118.7 | H | 0.6 | 2.3 | 1.9 | 2.1 | | | | | | | | | | | | | | |
| Comerica Bank | 4.6 | 7.7 | 4.6 | na | 4.5 | 4.3 | 3.8 | 3.3 | 3.5 | 3.6 | 3.9 | 4.8 | 5.8 | na | 5.9 | na | 0.7 | 2.4 | 2.2 | 2.2 | | | | | | | | | | | | | | | |
| MacroFin Analytics & Rutgers Bus School | 4.6 | 7.8 | 4.5 | 4.7 | 4.6 | 4.6 | 4.7 | 4.2 | 3.8 | 3.8 | 4.0 | 5.0 | 5.8 | 4.2 | 6.5 | 115.8 | 1.4 | 2.8 | 2.7 | 2.6 | | | | | | | | | | | | | | | |
| The Northern Trust Company | 4.6 | 7.8 | 4.6 | 4.7 | 4.5 | 4.4 | 4.0 | 3.6 | 3.3 | 3.3 | 3.5 | 4.5 | 5.7 | 4.1 | 5.3 | 111.0 | 1.0 | 2.3 | 2.4 | 2.1 | | | | | | | | | | | | | | | |
| Fannie Mae | 4.5 | 7.6 | na | na | 4.4 | 4.1 | 3.8 | 3.6 | 3.5 | 3.6 | 3.9 | na | na | na | 6.2 | na | -0.5 | 2.5 | 3.7 | 2.9 | | | | | | | | | | | | | | | |
| Georgia State University | 4.2 | 7.3 | na | na | 4.0 | 3.6 | 3.4 | 3.1 | 2.9 | 3.0 | 3.4 | 4.1 | 5.3 | na | 5.8 | na | 0.1 | 2.9 | 1.9 | 2.3 | | | | | | | | | | | | | | | |
| Wells Fargo | 4.1 | 7.3 | 4.1 | 4.1 | 3.8 | 3.3 | 2.9 | 2.9 | 2.9 | 3.0 | 3.4 | 4.2 | 5.2 | 3.6 | 5.5 | na | -1.1 | L | 2.1 | 2.5 | 2.1 | | | | | | | | | | | | | | |
| Loomis, Sayles & Company | 3.9 | 7.1 | 3.9 | 3.8 | 3.9 | 3.9 | 3.3 | 2.0 | 2.3 | 2.5 | 2.8 | 3.5 | 4.5 | 3.1 | 5.3 | 115.4 | 1.1 | 2.4 | 3.0 | 2.4 | | | | | | | | | | | | | | | |
| NatWest Markets | 3.6 | 6.7 | na | 3.7 | 3.9 | 4.0 | 4.1 | 3.4 | 3.1 | 3.3 | 3.5 | 3.2 | L | 3.4 | L | 3.6 | 6.3 | na | 1.0 | 1.8 | 2.1 | 2.0 | | | | | | | | | | | | | |
| ING | 3.1 | na | na | na | na | na | na | 3.1 | 3.1 | 3.0 | 3.4 | na | na | na | na | na | na | na | na | -1.0 | na | na | na | | | | | | | | | | | | |
| TS Lombard | 2.8 | 5.9 | 2.7 | 2.7 | 3.0 | 3.0 | 3.1 | 3.2 | 3.4 | 3.4 | 3.5 | 4.3 | 5.1 | 3.4 | 5.2 | 115.0 | 3.5 | 3.0 | 3.0 | 3.0 | | | | | | | | | | | | | | | |
| ACIMA Private Wealth | 1.0 | L | 4.0 | L | 1.0 | L | 1.1 | L | 1.1 | L | 1.0 | L | 0.8 | L | 0.7 | L | 0.7 | L | 1.7 | L | 2.5 | L | 4.3 | 5.7 | 1.7 | L | 3.7 | L | 110.0 | L | 4.0 | H | 1.8 | 2.0 | 2.2 |
| June Consensus | 4.6 | 7.8 | 4.6 | 4.5 | 4.6 | 4.4 | 4.1 | 3.7 | 3.5 | 3.5 | 3.8 | 4.7 | 5.7 | 4.0 | 6.0 | 113.6 | 0.8 | 2.5 | 2.5 | 2.4 | | | | | | | | | | | | | | | |
| Top 10 Avg. | 5.2 | 8.3 | 5.1 | 5.1 | 5.2 | 5.1 | 4.8 | 4.4 | 4.1 | 4.1 | 4.3 | 5.3 | 6.2 | 4.4 | 6.7 | 115.4 | 2.1 | 3.1 | 3.3 | 3.0 | | | | | | | | | | | | | | | |
| Bottom 10 Avg. | 3.6 | 6.9 | 3.9 | 3.9 | 3.8 | 3.6 | 3.3 | 2.8 | 2.8 | 2.9 | 3.3 | 4.1 | 5.2 | 3.6 | 5.4 | 111.8 | -0.7 | 1.8 | 1.7 | 1.9 | | | | | | | | | | | | | | | |
| May Consensus | 4.7 | 7.8 | 4.6 | 4.6 | 4.5 | 4.4 | 4.1 | 3.7 | 3.5 | 3.5 | 3.8 | 4.7 | 5.8 | 4.0 | 6.0 | 113.4 | 0.7 | 2.5 | 2.4 | 2.4 | | | | | | | | | | | | | | | |
| Number of Forecasts Changed From A Month Ago: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Down | 6 | 7 | 4 | 6 | 6 | 5 | 9 | 7 | 13 | 10 | 10 | 5 | 6 | 5 | 8 | 5 | 16 | 11 | 8 | 7 | | | | | | | | | | | | | | | |
| Same | 26 | 19 | 15 | 12 | 19 | 14 | 10 | 19 | 19 | 20 | 18 | 10 | 9 | 9 | 11 | 7 | 15 | 19 | 15 | 19 | | | | | | | | | | | | | | | |
| Up | 6 | 6 | 7 | 4 | 9 | 11 | 11 | 11 | 5 | 8 | 8 | 8 | 7 | 6 | 11 | 8 | 7 | 6 | 14 | 10 | | | | | | | | | | | | | | | |
| Diffusion Index | 50% | 48% | 56% | 45% | 54% | 60% | 53% | 55% | 39% | 47% | 47% | 57% | 52% | 53% | 55% | 58% | 38% | 43% | 58% | 54% | | | | | | | | | | | | | | | |

Second Quarter 2024

Interest Rate Forecasts

Key Assumptions

| Blue Chip
Financial Forecasts
Panel Members | Percent Per Annum -- Average For Quarter-- | | | | | | | | | | | | | | | Avg. For
--Qtr.--
Fed's Adv
Fgn Econ
\$ Index | (Q-Q % Change)--
--(SAAR)-- | | | | | | | | | | | | | | | | | | | | | | |
|---|--|-----------------------|--------------|------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|---------------------------|--------------------------|----------------------|----------------------|---------------------------|----------------------|---|--------------------------------|------------|------------|------------|-------|-------|-------|-------|-----|-----|-----|-----|-----|--|-----|--|-----|--|-----|--|-----|--|-----|
| | Short-Term | | | | | Intermediate-Term | | | | | Long-Term | | | | | | B. | C. | D. | E. | | | | | | | | | | | | | | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | | | | | | | | | | | | | | | | | | | | | | | | |
| | Federal
Funds
Rate | Prime
Bank
Rate | SOFR
Rate | Com.
Paper
1-Mo. | Treas.
Bills
3-Mo. | Treas.
Bills
6-Mo. | Treas.
Bills
1-Yr. | Treas.
Notes
2-Yr. | Treas.
Notes
5-Yr. | Treas.
Notes
10-Yr. | Treas.
Bond
30-Yr. | Aaa
Corp.
Bond | Baa
Corp.
Bond | State &
Local
Bonds | Home
Mtg.
Rate | | | | | | | | | | | | | | | | | | | | | | | | |
| Daiwa Capital Markets America | 5.5 | H | 8.5 | H | na | na | 5.3 | H | na | na | 4.1 | 3.8 | 3.7 | 4.4 | na | na | na | 6.3 | 114.0 | 1.5 | 2.7 | 2.6 | 2.5 | | | | | | | | | | | | | | | | |
| Economist Intelligence Unit | 5.1 | | 8.1 | | na | 5.1 | H | 5.0 | | 4.9 | 3.9 | 3.9 | 3.9 | 3.4 | 3.2 | 3.5 | na | na | na | 5.7 | na | 1.7 | na | 2.1 | 1.3 | | | | | | | | | | | | | | |
| J.P. Morgan Chase | 5.1 | | na | | na | na | | na | | na | na | na | na | na | na | na | na | na | na | na | na | 0.5 | 2.3 | 1.8 | 1.6 | | | | | | | | | | | | | | |
| Santander Capital Markets | 5.1 | | 8.3 | | 5.1 | H | 5.0 | | 4.9 | 4.7 | 4.5 | 4.1 | 4.0 | 4.4 | 5.4 | 6.6 | 4.1 | 6.7 | 113.5 | 0.9 | 2.9 | 2.9 | 2.6 | | | | | | | | | | | | | | | | |
| Action Economics | 5.0 | | 8.2 | | 5.5 | H | 5.1 | H | 5.0 | | 4.8 | 4.5 | 4.0 | 3.5 | 3.6 | 3.8 | 4.5 | 5.5 | 3.9 | 6.8 | 114.7 | 2.0 | 1.5 | 2.3 | 2.0 | | | | | | | | | | | | | | |
| Chmura Economics & Analytics | 5.0 | | 8.1 | | 4.9 | | 5.1 | H | 5.0 | | 5.1 | H | 5.1 | H | 5.2 | H | 5.3 | H | 5.4 | H | 6.1 | H | na | na | 6.7 | na | | | | | | | | | | | | | |
| Naroff Economic Advisors | 5.0 | | 8.0 | | 5.0 | | 5.1 | H | 4.9 | | 4.9 | | 5.0 | 4.4 | 3.9 | 3.9 | 4.1 | na | na | na | 4.0 | 6.1 | 113.5 | 2.1 | 3.7 | 3.6 | 3.2 | | | | | | | | | | | | |
| Goldman Sachs & Co. | 4.9 | | na | | na | | na | | 4.8 | | na | | 4.2 | 3.9 | 3.8 | 3.9 | na | na | na | na | na | na | 1.9 | 2.4 | 2.3 | 2.2 | | | | | | | | | | | | | |
| BMO Capital Markets | 4.8 | | 7.9 | | 4.8 | | na | | 4.9 | | 5.0 | | 4.5 | 3.6 | 3.5 | 3.3 | 3.6 | na | na | na | 6.2 | 110.1 | 2.2 | 2.1 | 2.3 | 2.2 | | | | | | | | | | | | | |
| Regions Financial Corporation | 4.8 | | 8.0 | | 4.5 | | 4.6 | | 4.3 | | 4.4 | | 4.3 | 3.5 | 3.4 | 3.3 | 3.6 | 4.9 | 5.8 | 3.9 | 5.9 | 113.2 | 1.2 | 2.2 | 2.3 | 2.3 | | | | | | | | | | | | | |
| Via Nova Investment Mgt. | 4.8 | | 8.0 | | 4.8 | | 4.9 | | 4.8 | | 4.9 | | 4.9 | 4.9 | 5.1 | 4.6 | 4.7 | 5.8 | 6.6 | 5.1 | H | 7.3 | H | 110.0 | 2.5 | 2.1 | 2.1 | 2.1 | | | | | | | | | | | |
| RDQ Economics | 4.7 | | 7.8 | | 4.8 | | 4.8 | | 4.6 | | 4.5 | | 4.1 | 3.7 | 3.8 | 3.9 | 3.9 | 5.8 | 6.9 | H | 4.3 | 6.3 | 109.4 | -1.8 | L | 3.2 | 3.4 | 3.2 | | | | | | | | | | | |
| Bank of the West | 4.6 | | 7.8 | | 4.5 | | 4.6 | | 4.6 | | 4.5 | | 4.3 | 4.0 | 3.8 | 3.7 | 3.8 | 4.9 | 6.0 | 4.6 | 6.6 | 111.2 | 1.2 | 2.3 | 2.3 | 2.2 | | | | | | | | | | | | | |
| Chan Economics | 4.6 | | 7.6 | | 4.5 | | 4.6 | | 4.7 | | 4.7 | | 4.4 | 3.9 | 3.3 | 3.3 | 3.3 | 4.3 | 5.3 | 3.9 | 5.8 | 113.9 | -0.2 | 2.5 | 2.7 | 2.2 | | | | | | | | | | | | | |
| S&P Global Market Intelligence | 4.6 | | 7.8 | | 4.6 | | na | | 4.4 | | 4.1 | | 3.9 | 3.5 | 3.3 | 3.5 | 3.9 | na | na | na | 5.8 | na | 1.1 | 2.7 | 2.6 | 2.7 | | | | | | | | | | | | | |
| Bank of America | 4.4 | | na | | na | | na | | na | | na | | 3.0 | 3.1 | 3.3 | 3.5 | na | na | na | na | na | na | 1.0 | 3.2 | 2.2 | 2.0 | | | | | | | | | | | | | |
| GLC Financial Economics | 4.4 | | 7.6 | | 4.1 | | 4.2 | | 4.1 | | 4.1 | | 3.9 | 3.9 | 4.1 | 3.5 | 3.8 | 4.5 | 5.7 | 4.0 | 5.9 | 114.3 | 1.7 | 2.2 | 2.3 | 2.2 | | | | | | | | | | | | | |
| Moody's Analytics | 4.4 | | 7.6 | | 4.3 | | 4.5 | | 4.2 | | 4.2 | | 4.2 | 4.1 | 4.0 | 4.0 | 4.4 | 5.4 | 6.4 | 4.4 | 5.7 | na | 2.1 | 2.1 | 2.4 | 2.3 | | | | | | | | | | | | | |
| Nomura Securities, Inc. | 4.4 | | 7.5 | | na | | na | | na | | na | | 2.8 | 2.8 | 2.8 | na | na | na | na | na | na | na | 0.5 | 1.3 | 1.4 | 1.5 | | | | | | | | | | | | | |
| Oxford Economics | 4.4 | | 7.5 | | 4.4 | | na | | 4.2 | | 4.2 | | 4.0 | 3.4 | 3.0 | 3.1 | 3.5 | 3.7 | na | na | 5.3 | 113.2 | 1.9 | 2.8 | 2.3 | 2.1 | | | | | | | | | | | | | |
| Societe Generale | 4.4 | | 7.5 | | 4.4 | | na | | 4.1 | | 3.9 | | 3.4 | 3.1 | 2.8 | 3.3 | 3.6 | na | na | na | na | na | na | -1.1 | 1.8 | 2.2 | 2.6 | | | | | | | | | | | | |
| EY-Parthenon | 4.3 | | na | | na | | na | | 4.0 | | na | | na | na | na | 3.1 | na | na | na | na | na | na | na | 1.8 | 1.8 | 1.7 | 1.9 | | | | | | | | | | | | |
| Scotiabank Group | 4.3 | | na | | na | | na | | 3.9 | | na | | na | 3.2 | 3.3 | 3.6 | 3.9 | na | na | na | na | na | na | 1.3 | 5.5 | H | 3.7 | H | 2.2 | | | | | | | | | | |
| Comerica Bank | 4.2 | | 7.3 | | 4.2 | | na | | 4.0 | | 3.8 | | 3.3 | 3.1 | 3.3 | 3.4 | 3.7 | 4.6 | 5.6 | na | 5.4 | na | 1.6 | 2.2 | 1.9 | 1.9 | | | | | | | | | | | | | |
| DePrince & Assoc. | 4.2 | | 7.3 | | 4.1 | | 4.2 | | 4.3 | | 4.2 | | 4.0 | 3.5 | 3.3 | 3.5 | 3.9 | 4.8 | 5.6 | 4.1 | 5.8 | 116.4 | 1.5 | 2.5 | 2.5 | 2.4 | | | | | | | | | | | | | |
| KPMG | 4.2 | | 7.4 | | 4.2 | | 3.8 | | 4.1 | | 3.9 | | 3.6 | 3.2 | 3.1 | 3.3 | 3.8 | 4.3 | 5.5 | na | 5.6 | na | 1.3 | 2.4 | 2.3 | 2.3 | | | | | | | | | | | | | |
| The Lonski Group | 4.2 | | 7.3 | | 4.2 | | 4.2 | | 4.2 | | 4.3 | | 4.0 | 3.7 | 3.5 | 3.4 | 3.6 | 4.7 | 5.7 | 4.4 | 6.3 | 119.9 | 0.4 | 2.2 | 2.4 | 1.9 | | | | | | | | | | | | | |
| MacroFin Analytics & Rutgers Bus School | 4.1 | | 7.3 | | 4.0 | | 4.2 | | 4.3 | | 4.4 | | 4.4 | 4.1 | 3.8 | 3.8 | 4.0 | 4.9 | 5.7 | 4.1 | 6.4 | 115.6 | 1.5 | 2.6 | 2.6 | 2.4 | | | | | | | | | | | | | |
| The Northern Trust Company | 4.1 | | 7.3 | | 4.1 | | 4.2 | | 4.0 | | 3.8 | | 3.7 | 3.4 | 3.2 | 3.3 | 3.6 | 4.5 | 5.7 | 4.1 | 5.1 | 110.0 | 1.2 | 2.3 | 2.2 | 2.1 | | | | | | | | | | | | | |
| PNC Financial Services Corp. | 4.0 | | 7.1 | | 4.0 | | na | | 3.8 | | 3.8 | | 3.6 | 3.3 | 3.3 | 3.3 | 3.8 | na | 6.1 | 4.4 | 5.6 | 113.8 | -0.8 | 1.0 | L | 0.8 | L | 0.8 | L | | | | | | | | | | |
| Fannie Mae | 3.9 | | 7.1 | | na | | na | | 3.8 | | 3.6 | | 3.5 | 3.5 | 3.4 | 3.6 | 3.9 | na | na | na | 6.0 | na | 1.2 | 2.3 | 2.7 | 2.5 | | | | | | | | | | | | | |
| Georgia State University | 3.6 | | 6.7 | | na | | na | | 3.3 | | 3.1 | | 2.9 | 3.0 | 2.7 | 2.9 | 3.4 | 4.0 | 5.1 | na | 5.3 | na | 1.0 | 2.6 | 1.9 | 2.2 | | | | | | | | | | | | | |
| Loomis, Sayles & Company | 3.4 | | 6.6 | | 3.4 | | 3.3 | | 3.4 | | 3.4 | | 2.9 | 1.8 | 2.3 | 2.5 | 2.8 | 3.5 | 4.5 | 3.1 | 5.2 | 115.3 | 2.0 | 2.4 | 3.6 | 2.7 | | | | | | | | | | | | | |
| Wells Fargo | 3.1 | | 6.3 | | 3.1 | | 3.1 | | 2.8 | | 2.8 | | 2.8 | 2.8 | 2.9 | 2.9 | 3.4 | 4.1 | 5.1 | 3.5 | 5.3 | na | 2.9 | 2.2 | 2.4 | 2.2 | | | | | | | | | | | | | |
| TS Lombard | 3.0 | | 6.1 | | 2.9 | | 3.0 | | 3.1 | | 3.1 | | 3.2 | 3.2 | 3.4 | 3.4 | 3.5 | 4.3 | 5.1 | 3.4 | 5.2 | 120.0 | H | 3.0 | 2.5 | 2.5 | 2.5 | | | | | | | | | | | | |
| ING | 2.9 | | na | | na | | na | | na | | na | | 3.0 | 3.0 | 3.0 | 3.4 | na | na | na | na | na | na | 1.4 | na | na | na | na | | | | | | | | | | | | |
| NatWest Markets | 2.6 | | 5.7 | | na | | 2.7 | | 2.9 | | 3.0 | | 3.1 | 2.7 | 2.8 | 3.0 | 3.2 | 2.9 | L | 3.1 | L | 3.3 | 6.0 | na | 1.3 | 1.7 | 0.8 | L | 1.0 | | | | | | | | | | |
| ACIMA Private Wealth | 0.5 | L | 3.5 | L | 0.5 | L | 0.6 | L | 0.6 | L | 0.6 | L | 0.6 | L | 0.7 | L | 0.7 | L | 1.5 | L | 2.3 | L | 4.0 | 5.0 | 1.5 | L | 3.3 | L | 2.2 | | | | | | | | | | |
| June Consensus | 4.2 | 7.3 | 4.2 | 4.1 | 4.1 | 4.0 | 3.8 | 3.5 | 3.4 | 3.4 | 3.8 | 4.6 | 5.6 | 3.9 | 5.9 | 113.5 | 1.3 | 2.5 | 2.4 | 2.2 | | | | | | | | | | | | | | | | | | | |
| Top 10 Avg. | 5.0 | | 8.1 | | 4.9 | | 4.9 | | 4.9 | | 4.8 | | 4.6 | 4.3 | 4.2 | 4.1 | 4.3 | 5.3 | 6.2 | 4.4 | 6.6 | 115.8 | 2.4 | 3.3 | 3.1 | 2.8 | | | | | | | | | | | | | |
| Bottom 10 Avg. | 3.1 | | 6.4 | | 3.4 | | 3.3 | | 3.2 | | 3.1 | | 2.9 | 2.6 | 2.6 | 2.8 | 3.2 | 4.0 | 5.0 | 3.5 | 5.1 | 111.2 | 0.0 | 1.8 | 1.7 | 1.6 | | | | | | | | | | | | | |
| May Consensus | 4.2 | | 7.3 | | 4.1 | | 4.1 | | 4.1 | | 4.0 | | 3.8 | 3.5 | 3.4 | 3.4 | 3.7 | 4.6 | 5.6 | 3.9 | 5.8 | 113.1 | 1.3 | 2.3 | 2.3 | 2.2 | | | | | | | | | | | | | |
| Number of Forecasts Changed From A Month Ago: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Down | 4 | | 4 | | 3 | | 4 | | 5 | | 6 | | 8 | | 8 | | 8 | | 8 | | 6 | | 2 | | 4 | | 3 | | 6 | | 5 | | 17 | | 7 | | 9 | | 5 |
| Same | 26 | | 20 | | 16 | | 12 | | 16 | | 13 | | 12 | | 19 | | 21 | | 20 | | 21 | | 13 | | 11 | | 11 | | 13 | | 6 | | 16 | | 19 | | 17 | | 22 |
| Up | 8 | | 8 | | 7 | | 6 | | 13 | | 11 | | 10 | | 9 | | 7 | | 9 | | 8 | | 8 | | 7 | | 6 | | 11 | | 9 | | 5 | | 10 | | 11 | | 9 |
| Diffusion Index | 55% | | 56% | | 58% | | 55% | | 62% | | 58% | | 53% | | 51% | | 49% | | 51% | | 53% | | 63% | | 57% | | 58% | | 58% | | 60% | | 34% | | 54% | | 53% | | 56% |

Third Quarter 2024

Interest Rate Forecasts

Key Assumptions

| Blue Chip
Financial Forecasts
Panel Members | Percent Per Annum -- Average For Quarter | | | | | | | | | | | | | | | Avg. For
--Qtr.--
A.
Fed's Adv
Fgn Econ
\$ Index | --(Q-Q % Change)--
--(SAAR)--
B. C. D. E.
GDP Price Price Price
Real Index Index Index | | | | | | | | | | | | | | | | | | |
|---|--|-----------------------|--------------|------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|---------------------------|--------------------------|----------------------|----------------------|---------------------------|----------------------|---|--|------------|------------|------------|-----|-----|-----|-----|-----|---|-----|---|-------|---|-----|-----|-----|-----|--|
| | Short-Term | | | | | Intermediate-Term | | | | | Long-Term | | | | | | B. | C. | D. | E. | | | | | | | | | | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | | | | | | | | | | | | | | | | | | | | |
| | Federal
Funds
Rate | Prime
Bank
Rate | SOFR
Rate | Com.
Paper
1-Mo. | Treas.
Bills
3-Mo. | Treas.
Bills
6-Mo. | Treas.
Bills
1-Yr. | Treas.
Notes
2-Yr. | Treas.
Notes
5-Yr. | Treas.
Notes
10-Yr. | Treas.
Bond
30-Yr. | Aaa
Corp.
Bond | Baa
Corp.
Bond | State &
Local
Bonds | Home
Mtg.
Rate | | | | | | | | | | | | | | | | | | | | |
| Daiwa Capital Markets America | 4.9 | H | 8.0 | H | na | na | 4.8 | H | na | na | 3.9 | 3.7 | 3.7 | 4.4 | na | na | na | 6.2 | 113.5 | 1.9 | 2.5 | 2.5 | 2.4 | | | | | | | | | | | | |
| Santander Capital Markets | 4.9 | H | 8.0 | H | 4.8 | 4.9 | H | 4.8 | H | 4.7 | 4.5 | 4.3 | 4.0 | 3.9 | 4.3 | 5.3 | 6.5 | 4.0 | 6.5 | 113.0 | 0.8 | L | 2.7 | 2.7 | 2.3 | | | | | | | | | | |
| Action Economics | 4.8 | 7.9 | 5.3 | H | 4.8 | 4.7 | 4.5 | 4.3 | 3.8 | 3.5 | 3.5 | 3.8 | 4.5 | 5.5 | 3.8 | 6.8 | na | na | na | 114.9 | na | na | na | na | na | | | | | | | | | | |
| J.P. Morgan Chase | 4.8 | na | na | na | na | na | na | na | na | na | na | na | na | na | na | na | na | na | na | na | 2.3 | 2.3 | 2.7 | 2.5 | na | | | | | | | | | | |
| Economist Intelligence Unit | 4.7 | 7.7 | na | 4.7 | 4.6 | 4.5 | 3.8 | 3.8 | 3.2 | 3.0 | 3.3 | na | na | na | na | 5.5 | na | na | na | na | 2.2 | na | 2.5 | 1.7 | na | | | | | | | | | | |
| Goldman Sachs & Co. | 4.6 | na | na | na | 4.6 | na | na | 4.1 | 3.8 | 3.8 | 3.9 | na | na | na | na | na | na | na | na | na | 1.9 | 2.1 | 1.9 | 1.9 | na | | | | | | | | | | |
| BMO Capital Markets | 4.5 | 7.7 | 4.5 | na | 4.7 | 4.8 | H | 4.3 | 3.5 | 3.4 | 3.3 | 3.5 | na | na | na | na | 6.2 | 109.4 | 2.5 | 1.8 | 2.0 | 1.8 | na | na | | | | | | | | | | | |
| Chmura Economics & Analytics | 4.5 | 7.7 | 4.5 | 4.7 | 4.6 | 4.7 | 4.8 | H | 4.9 | H | 5.0 | H | 5.1 | H | 6.0 | H | na | na | 6.6 | na | 3.0 | 3.2 | 3.4 | 3.4 | na | | | | | | | | | | |
| Naroff Economic Advisors | 4.5 | 7.5 | 4.5 | 4.6 | 4.4 | 4.5 | 4.6 | 4.4 | 3.8 | 3.9 | 4.1 | na | na | na | 3.9 | 5.9 | 113.0 | 3.6 | H | 3.3 | 3.1 | 2.9 | na | na | | | | | | | | | | | |
| Via Nova Investment Mgt. | 4.5 | 7.8 | 4.6 | 4.6 | 4.5 | 4.6 | 4.7 | 4.8 | 5.0 | H | 4.8 | 4.8 | 6.0 | H | 6.8 | H | 5.3 | H | 7.5 | H | 2.5 | 2.1 | 2.1 | 2.1 | na | | | | | | | | | | |
| Chan Economics | 4.4 | 7.4 | 4.3 | 4.4 | 4.5 | 4.5 | 4.2 | 3.7 | 3.1 | 3.1 | 3.1 | 4.1 | 5.1 | 5.1 | 3.7 | 5.6 | 113.4 | 0.8 | L | 2.3 | 2.5 | 2.0 | na | na | | | | | | | | | | | |
| Regions Financial Corporation | 4.4 | 7.7 | 4.2 | 4.3 | 4.1 | 4.2 | 4.2 | 3.4 | 3.3 | 3.3 | 3.5 | 4.8 | 5.6 | 3.9 | 5.7 | 112.8 | 1.5 | 2.1 | 2.1 | 2.0 | na | na | na | na | | | | | | | | | | | |
| Bank of the West | 4.3 | 7.4 | 4.2 | 4.2 | 4.2 | 4.2 | 3.9 | 3.7 | 3.6 | 3.5 | 3.6 | 4.7 | 5.8 | 4.5 | 6.3 | 111.4 | 1.3 | 2.2 | 2.2 | 2.2 | na | na | na | na | | | | | | | | | | | |
| GLC Financial Economics | 4.3 | 7.4 | 3.8 | 3.9 | 3.8 | 3.8 | 3.8 | 3.8 | 4.0 | 3.4 | 3.7 | 4.5 | 5.6 | 3.9 | 5.8 | 113.9 | 1.7 | 2.1 | 2.3 | 2.1 | na | na | na | na | | | | | | | | | | | |
| RDQ Economics | 4.2 | 7.3 | 4.2 | 4.3 | 4.1 | 4.0 | 3.8 | 3.6 | 3.7 | 3.8 | 3.7 | 5.6 | 6.4 | 4.1 | 6.1 | 109.1 | 1.1 | 3.0 | 3.2 | 3.1 | na | na | na | na | | | | | | | | | | | |
| Moody's Analytics | 4.1 | 7.2 | 4.0 | 4.1 | 3.9 | 3.9 | 4.0 | 3.9 | 3.9 | 3.9 | 4.3 | 5.4 | 6.3 | 4.3 | 5.6 | na | 2.3 | 1.8 | 2.1 | 2.0 | na | na | na | na | | | | | | | | | | | |
| S&P Global Market Intelligence | 4.1 | 7.3 | 4.1 | na | 3.9 | 3.7 | 3.6 | 3.3 | 3.2 | 3.5 | 3.9 | na | na | na | 5.7 | na | 1.3 | 2.3 | 2.6 | 2.4 | na | na | na | na | | | | | | | | | | | |
| The Lonski Group | 4.0 | 7.1 | 3.9 | 4.0 | 3.9 | 4.0 | 3.8 | 3.5 | 3.4 | 3.3 | 3.6 | 4.6 | 5.6 | 4.1 | 6.2 | 121.1 | 1.4 | 2.0 | 2.2 | 1.7 | na | na | na | na | | | | | | | | | | | |
| Bank of America | 3.9 | na | na | na | na | na | na | na | na | na | na | na | na | na | na | na | 1.5 | 3.4 | 2.4 | 2.4 | na | na | na | na | | | | | | | | | | | |
| EY-Parthenon | 3.9 | na | na | na | 3.6 | na | na | na | na | 3.1 | na | na | na | na | na | na | 2.3 | 2.0 | 2.2 | 2.1 | na | na | na | na | | | | | | | | | | | |
| Nomura Securities, Inc. | 3.9 | 7.0 | na | na | na | na | na | 2.5 | 2.7 | 2.8 | na | na | na | na | na | na | 0.9 | 1.2 | 1.9 | 1.8 | na | na | na | na | | | | | | | | | | | |
| Oxford Economics | 3.9 | 7.0 | 3.9 | na | 3.8 | 3.8 | 3.7 | 3.2 | 3.0 | 3.0 | 3.2 | 3.6 | na | na | 5.0 | 112.3 | 2.0 | 3.0 | 2.2 | 2.0 | na | na | na | na | | | | | | | | | | | |
| Societe Generale | 3.9 | 7.0 | 3.9 | na | 3.6 | 3.4 | 3.1 | 3.0 | 2.7 | 3.2 | 3.5 | na | na | na | na | na | 2.5 | 1.8 | 2.2 | 2.4 | na | na | na | na | | | | | | | | | | | |
| DePrince & Assoc. | 3.8 | 6.9 | 3.7 | 3.7 | 3.8 | 3.8 | 3.7 | 3.2 | 3.2 | 3.5 | 3.9 | 4.8 | 5.6 | 4.0 | 5.7 | 115.5 | 2.1 | 2.5 | 2.5 | 2.4 | na | na | na | na | | | | | | | | | | | |
| Scotiabank Group | 3.8 | na | na | na | 3.4 | na | na | 3.2 | 3.3 | 3.6 | 3.9 | na | na | na | na | na | 1.9 | 0.0 | L | 3.2 | 2.4 | na | na | na | | | | | | | | | | | |
| KPMG | 3.7 | 6.8 | 3.6 | 3.2 | 3.5 | 3.3 | 3.0 | 2.6 | 2.6 | 3.0 | 3.6 | 4.0 | 5.3 | na | 5.2 | na | 1.7 | 2.2 | 2.4 | 2.2 | na | na | na | na | | | | | | | | | | | |
| Comerica Bank | 3.6 | 6.7 | 3.6 | na | 3.5 | 3.3 | 3.0 | 2.9 | 3.1 | 3.2 | 3.6 | 4.4 | 5.4 | na | 5.0 | na | 1.7 | 2.0 | 1.9 | 1.9 | na | na | na | na | | | | | | | | | | | |
| MacroFin Analytics & Rutgers Bus School | 3.6 | 6.8 | 3.5 | 3.7 | 4.1 | 4.2 | 4.1 | 4.1 | 3.8 | 3.8 | 4.0 | 4.8 | 5.6 | 4.1 | 6.3 | 115.4 | 1.8 | 2.5 | 2.3 | 2.2 | na | na | na | na | | | | | | | | | | | |
| The Northern Trust Company | 3.6 | 6.8 | 3.6 | 3.7 | 3.5 | 3.3 | 3.2 | 3.0 | 3.2 | 3.3 | 3.6 | 4.5 | 5.7 | 4.1 | 5.1 | 109.0 | 1.5 | 2.2 | 2.1 | 2.1 | na | na | na | na | | | | | | | | | | | |
| Fannie Mae | 3.4 | 6.5 | na | na | 3.4 | 3.3 | 3.3 | 3.4 | 3.4 | 3.6 | 3.9 | na | na | na | 5.9 | na | 1.9 | 2.5 | 2.9 | 2.6 | na | na | na | na | | | | | | | | | | | |
| Georgia State University | 3.3 | 6.4 | na | na | 3.0 | 2.9 | 2.8 | 2.9 | 2.8 | 3.1 | 3.5 | 4.2 | 5.2 | na | 5.2 | na | 1.9 | 2.2 | 2.4 | 2.2 | na | na | na | na | | | | | | | | | | | |
| PNC Financial Services Corp. | 3.3 | 6.5 | 3.3 | na | 3.2 | 3.2 | 3.1 | 3.1 | 3.2 | 3.3 | 3.8 | na | 5.9 | 4.3 | 5.5 | 114.5 | 0.8 | L | 1.0 | 0.9 | L | 0.7 | L | na | | | | | | | | | | | |
| TS Lombard | 3.3 | 6.4 | 3.2 | 3.2 | 3.4 | 3.4 | 3.6 | 3.7 | 3.7 | 3.8 | 3.9 | 4.7 | 5.5 | 3.8 | 5.6 | 125.0 | H | 2.5 | 3.5 | H | 3.5 | H | 3.5 | H | | | | | | | | | | | |
| ING | 2.9 | na | na | na | na | na | na | 3.0 | 3.2 | 3.3 | 3.4 | na | na | na | na | na | 2.5 | na | na | na | na | na | na | na | | | | | | | | | | | |
| Loomis, Sayles & Company | 2.9 | 6.1 | 2.9 | 2.8 | 2.9 | 2.9 | 2.6 | 1.9 | 2.4 | 2.6 | 2.9 | 3.6 | 4.6 | 3.2 | 5.2 | 115.2 | 2.2 | 2.0 | 2.8 | 2.2 | na | na | na | na | | | | | | | | | | | |
| NatWest Markets | 2.6 | 5.7 | na | 2.7 | 2.9 | 3.0 | 3.1 | 2.6 | 2.7 | 2.9 | 3.2 | 2.8 | L | 3.0 | L | 3.3 | 6.0 | na | 1.9 | 1.5 | 1.3 | 1.1 | na | na | | | | | | | | | | | |
| Wells Fargo | 2.6 | 5.8 | 2.6 | 2.6 | 2.6 | 2.7 | 2.7 | 2.8 | 2.8 | 2.9 | 3.3 | 4.1 | 5.1 | 3.5 | 5.0 | na | 2.8 | 2.7 | 3.1 | 2.7 | na | na | na | na | | | | | | | | | | | |
| ACIMA Private Wealth | 1.5 | L | 4.5 | L | 1.5 | L | 1.6 | L | 1.6 | L | 0.6 | L | 0.6 | L | 0.7 | L | 0.7 | L | 1.5 | L | 2.3 | L | 4.0 | 5.0 | 1.5 | L | 3.3 | L | 108.0 | L | 1.3 | 2.6 | 2.0 | 2.0 | |
| June Consensus | 3.9 | 7.0 | 3.9 | 3.9 | 3.8 | 3.7 | 3.6 | 3.4 | 3.3 | 3.4 | 3.7 | 4.6 | 5.5 | 3.9 | 5.7 | 113.5 | 1.9 | 2.2 | 2.4 | 2.2 | | | | | | | | | | | | | | | |
| Top 10 Avg. | 4.7 | 7.7 | 4.5 | 4.6 | 4.6 | 4.5 | 4.4 | 4.2 | 4.1 | 4.1 | 4.3 | 5.2 | 6.0 | 4.3 | 6.5 | 116.2 | 2.7 | 3.0 | 3.1 | 2.8 | | | | | | | | | | | | | | | |
| Bottom 10 Avg. | 2.9 | 6.1 | 3.2 | 3.1 | 3.0 | 2.9 | 2.7 | 2.5 | 2.6 | 2.8 | 3.2 | 3.9 | 5.0 | 3.5 | 5.0 | 110.8 | 1.1 | 1.5 | 1.8 | 1.7 | | | | | | | | | | | | | | | |
| May Consensus | 3.8 | 6.9 | 3.8 | 3.8 | 3.7 | 3.6 | 3.6 | 3.3 | 3.3 | 3.4 | 3.7 | 4.6 | 5.5 | 3.8 | 5.7 | 112.8 | 1.8 | 2.2 | 2.3 | 2.1 | | | | | | | | | | | | | | | |
| Number of Forecasts Changed From A Month Ago: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Down | 2 | 2 | 3 | 3 | 3 | 5 | 7 | 8 | 8 | 7 | 6 | 2 | 3 | 4 | 6 | 5 | 13 | 6 | 5 | 8 | | | | | | | | | | | | | | | |
| Same | 27 | 22 | 15 | 12 | 17 | 15 | 12 | 18 | 19 | 20 | 19 | 11 | 10 | 10 | 14 | 7 | 16 | 18 | 19 | 16 | | | | | | | | | | | | | | | |
| Up | 9 | 8 | 8 | 7 | 14 | 10 | 11 | 9 | 8 | 9 | 9 | 10 | 9 | 6 | 10 | 8 | 8 | 11 | 12 | 11 | | | | | | | | | | | | | | | |
| Diffusion Index | 59% | 59% | 60% | 59% | 66% | 58% | 57% | 51% | 50% | 53% | 54% | 67% | 64% | 55% | 57% | 58% | 43% | 57% | 60% | 54% | | | | | | | | | | | | | | | |

International Interest Rate And Foreign Exchange Rate Forecasts

| Blue Chip Forecasters | Fed Fund Target Rate | | |
|--------------------------------|----------------------|-------------|-------------|
| | In 3 Mo. | In 6 Mo. | In 12 Mo. |
| BMO Capital Markets | 5.13 | 5.13 | 4.88 |
| ING Financial Markets | 5.10 | 4.60 | 2.90 |
| Moody's Analytics | 5.05 | 5.13 | 4.92 |
| Northern Trust | 5.13 | 5.13 | 4.38 |
| Oxford Economics | 5.03 | 5.13 | 4.85 |
| S&P Global Market Intelligence | -- | -- | -- |
| Scotiabank | 5.25 | 5.25 | 4.25 |
| TS Lombard | 4.85 | 4.12 | 2.85 |
| Wells Fargo | 5.13 | 5.13 | 3.13 |
| June Consensus | 5.08 | 4.95 | 4.02 |
| High | 5.25 | 5.25 | 4.92 |
| Low | 4.85 | 4.12 | 2.85 |
| Last Months Avg. | 5.12 | 5.11 | 4.40 |

| Blue Chip Forecasters | Policy-Rate Balance Rate | | |
|--------------------------------|--------------------------|--------------|--------------|
| | In 3 Mo. | In 6 Mo. | In 12 Mo. |
| BMO Capital Markets | 0.00 | 0.00 | 0.00 |
| ING Financial Markets | -0.10 | -0.10 | 0.00 |
| Moody's Analytics | -0.10 | -0.10 | -0.10 |
| Nomura Securities | -- | -- | -- |
| Northern Trust | -0.10 | -0.10 | -0.10 |
| Oxford Economics | -0.03 | -0.03 | -0.03 |
| S&P Global Market Intelligence | -- | -- | -- |
| Scotiabank | -- | -- | -- |
| TS Lombard | 0.00 | 0.00 | 0.00 |
| Wells Fargo | -0.10 | -0.10 | -0.10 |
| June Consensus | -0.06 | -0.06 | -0.05 |
| High | 0.00 | 0.00 | 0.00 |
| Low | -0.10 | -0.10 | -0.10 |
| Last Months Avg. | -0.06 | -0.06 | -0.06 |

| Blue Chip Forecasters | Official Bank Rate | | |
|--------------------------------|--------------------|-------------|-------------|
| | In 3 Mo. | In 6 Mo. | In 12 Mo. |
| BMO Capital Markets | 5.00 | 5.25 | 4.75 |
| ING Financial Markets | 4.50 | 4.50 | 4.00 |
| Moody's Analytics | 4.39 | 4.50 | 4.38 |
| Nomura Securities | -- | -- | -- |
| Northern Trust | 4.75 | 4.75 | 4.75 |
| Oxford Economics | 4.39 | 4.50 | 4.50 |
| S&P Global Market Intelligence | -- | -- | -- |
| Scotiabank | 4.50 | 4.50 | 4.00 |
| TS Lombard | 4.50 | 3.77 | 2.50 |
| Wells Fargo | 4.75 | 5.00 | 4.00 |
| June Consensus | 4.60 | 4.60 | 4.11 |
| High | 5.00 | 5.25 | 4.75 |
| Low | 4.39 | 3.77 | 2.50 |
| Last Months Avg. | 4.47 | 4.53 | 4.28 |

| Blue Chip Forecasters | SNB Policy Rate | | |
|--------------------------------|-----------------|-------------|-------------|
| | In 3 Mo. | In 6 Mo. | In 12 Mo. |
| ING Financial Markets | 1.75 | 1.75 | 1.75 |
| Moody's Analytics | 1.75 | 1.75 | 1.75 |
| Nomura Securities | -- | -- | -- |
| Northern Trust | 1.75 | 1.75 | 1.75 |
| Oxford Economics | 1.56 | 2.13 | 2.13 |
| S&P Global Market Intelligence | -- | -- | -- |
| Scotiabank | -- | -- | -- |
| TS Lombard | 1.50 | 1.50 | 1.00 |
| Wells Fargo | 1.75 | 1.75 | 1.25 |
| June Consensus | 1.68 | 1.77 | 1.61 |
| High | 1.75 | 2.13 | 2.13 |
| Low | 1.50 | 1.50 | 1.00 |
| Last Months Avg. | 1.88 | 1.94 | 1.90 |

| Blue Chip Forecasters | O/N MMkt Financing Rate | | |
|--------------------------------|-------------------------|-------------|-------------|
| | In 3 Mo. | In 6 Mo. | In 12 Mo. |
| BMO Capital Markets | 4.50 | 4.50 | 4.00 |
| ING Financial Markets | 4.50 | 4.50 | 3.25 |
| Moody's Analytics | 4.50 | 4.50 | 4.10 |
| Nomura Securities | -- | -- | -- |
| Northern Trust | 4.50 | 4.50 | 3.75 |
| Oxford Economics | 4.50 | 4.50 | 4.38 |
| S&P Global Market Intelligence | -- | -- | -- |
| Scotiabank | 4.75 | 4.75 | 4.00 |
| TS Lombard | 4.50 | 3.12 | 1.85 |
| Wells Fargo | 4.50 | 4.50 | 3.00 |
| June Consensus | 4.53 | 4.36 | 3.54 |
| High | 4.75 | 4.75 | 4.38 |
| Low | 4.50 | 3.12 | 1.85 |
| Last Months Avg. | 4.50 | 4.50 | 3.79 |

| United States | | | |
|---------------------------|-------------|-------------|--|
| 10 Yr. Gov't Bond Yield % | | | |
| In 3 Mo. | In 6 Mo. | In 12 Mo. | |
| 3.45 | 3.40 | 3.25 | |
| 4.00 | 3.50 | 3.00 | |
| 3.74 | 3.83 | 3.92 | |
| 3.40 | 3.30 | 3.30 | |
| 3.47 | 3.42 | 3.26 | |
| 3.48 | 3.52 | 3.52 | |
| 3.60 | 3.60 | 3.60 | |
| 3.50 | 3.25 | 3.40 | |
| 3.25 | 3.00 | 2.90 | |
| 3.54 | 3.42 | 3.35 | |
| 4.00 | 3.83 | 3.92 | |
| 3.25 | 3.00 | 2.90 | |
| 3.58 | 3.51 | 3.37 | |

| Japan | | | |
|---------------------------|-------------|-------------|--|
| 10 Yr. Gov't Bond Yield % | | | |
| In 3 Mo. | In 6 Mo. | In 12 Mo. | |
| 0.50 | 0.50 | 0.50 | |
| 0.40 | 0.50 | 1.00 | |
| 0.43 | 0.53 | 0.50 | |
| -- | -- | -- | |
| 0.50 | 0.50 | 0.50 | |
| 0.43 | 0.45 | 0.47 | |
| -- | -- | -- | |
| -- | -- | -- | |
| 0.60 | 0.50 | 0.40 | |
| 0.45 | 0.50 | 0.70 | |
| 0.47 | 0.50 | 0.58 | |
| 0.60 | 0.53 | 1.00 | |
| 0.40 | 0.45 | 0.40 | |
| 0.46 | 0.49 | 0.62 | |

| United Kingdom | | | |
|----------------------|-------------|-------------|--|
| 10 Yr. Gilt Yields % | | | |
| In 3 Mo. | In 6 Mo. | In 12 Mo. | |
| 3.55 | 3.50 | 3.20 | |
| 3.50 | 3.10 | 3.00 | |
| 3.48 | 3.44 | 3.33 | |
| -- | -- | -- | |
| 4.20 | 4.10 | 4.00 | |
| 3.67 | 3.63 | 3.55 | |
| -- | -- | -- | |
| -- | -- | -- | |
| 4.25 | 4.00 | 3.75 | |
| 4.05 | 3.75 | 3.20 | |
| 3.81 | 3.65 | 3.43 | |
| 4.25 | 4.10 | 4.00 | |
| 3.48 | 3.10 | 3.00 | |
| 3.59 | 3.47 | 3.22 | |

| Switzerland | | | |
|---------------------------|-------------|-------------|--|
| 10 Yr. Gov't Bond Yield % | | | |
| In 3 Mo. | In 6 Mo. | In 12 Mo. | |
| 1.35 | 1.30 | 1.30 | |
| 1.45 | 1.93 | 2.11 | |
| -- | -- | -- | |
| 1.10 | 1.05 | 1.00 | |
| 1.17 | 1.40 | 1.38 | |
| -- | -- | -- | |
| -- | -- | -- | |
| 2.00 | 1.24 | 1.00 | |
| -- | -- | -- | |
| 1.41 | 1.38 | 1.36 | |
| 2.00 | 1.93 | 2.11 | |
| 1.10 | 1.05 | 1.00 | |
| 1.45 | 1.51 | 1.51 | |

| Canada | | | |
|---------------------------|-------------|-------------|--|
| 10 Yr. Gov't Bond Yield % | | | |
| In 3 Mo. | In 6 Mo. | In 12 Mo. | |
| 2.95 | 2.90 | 2.85 | |
| 3.50 | 3.00 | 3.00 | |
| 3.25 | 3.77 | 4.04 | |
| -- | -- | -- | |
| 3.00 | 2.90 | 2.80 | |
| 2.98 | 3.04 | 2.96 | |
| -- | -- | -- | |
| 3.25 | 3.40 | 3.50 | |
| 3.80 | 2.55 | 2.70 | |
| 3.10 | 3.00 | 2.85 | |
| 3.23 | 3.07 | 3.09 | |
| 3.80 | 3.77 | 4.04 | |
| 2.95 | 2.55 | 2.70 | |
| 3.05 | 3.11 | 3.10 | |

| Fed's AFE \$ Index | | | |
|--------------------|--------------|--------------|--|
| In 3 Mo. | In 6 Mo. | In 12 Mo. | |
| 113.0 | 111.7 | 110.1 | |
| 111.6 | 107.0 | 102.7 | |
| -- | -- | -- | |
| 115.0 | 113.0 | 111.0 | |
| 114.8 | 114.6 | 113.9 | |
| -- | -- | -- | |
| -- | -- | -- | |
| 115.0 | 110.0 | 120.0 | |
| -- | -- | -- | |
| 113.9 | 111.3 | 111.5 | |
| 115.0 | 114.6 | 120.0 | |
| 111.6 | 107.0 | 102.7 | |
| 114.2 | 112.6 | 110.9 | |

| Yen per US\$ | | | |
|--------------|--------------|--------------|--|
| In 3 Mo. | In 6 Mo. | In 12 Mo. | |
| 135.0 | 133.0 | 129.0 | |
| 128.0 | 125.0 | 118.0 | |
| 133.6 | 130.0 | 124.6 | |
| 125.0 | 120.0 | 120.0 | |
| 135.0 | 130.0 | 127.0 | |
| 135.1 | 135.8 | 133.5 | |
| 133.1 | 130.8 | 126.9 | |
| 130.0 | 130.0 | 130.0 | |
| 140.0 | 133.9 | 146.1 | |
| -- | -- | -- | |
| 132.8 | 129.8 | 128.3 | |
| 140.0 | 135.8 | 146.1 | |
| 125.0 | 120.0 | 118.0 | |
| 131.1 | 129.0 | 125.8 | |

| US\$ per Pound Sterling | | | |
|-------------------------|-------------|-------------|--|
| In 3 Mo. | In 6 Mo. | In 12 Mo. | |
| 1.26 | 1.27 | 1.28 | |
| 1.24 | 1.28 | 1.33 | |
| 1.31 | 1.40 | 1.46 | |
| 1.29 | 1.32 | 1.36 | |
| 1.22 | 1.24 | 1.25 | |
| 1.24 | 1.26 | 1.26 | |
| 1.24 | 1.25 | 1.26 | |
| 1.25 | 1.25 | 1.25 | |
| 1.25 | 1.21 | 1.07 | |
| -- | -- | -- | |
| 1.26 | 1.28 | 1.28 | |
| 1.31 | 1.40 | 1.46 | |
| 1.22 | 1.21 | 1.07 | |
| 1.25 | 1.27 | 1.30 | |

| CHF per US\$ | | | |
|--------------|-------------|-------------|--|
| In 3 Mo. | In 6 Mo. | In 12 Mo. | |
| 0.87 | 0.78 | 0.85 | |
| 0.89 | 0.87 | 0.83 | |
| 0.92 | 0.92 | 0.93 | |
| 0.90 | 0.88 | 0.86 | |
| 0.90 | 0.90 | 0.89 | |
| 0.88 | 0.88 | 0.88 | |
| 0.91 | 0.91 | 0.93 | |
| 0.91 | 0.91 | 0.95 | |
| -- | -- | -- | |
| 0.90 | 0.88 | 0.89 | |
| 0.92 | 0.92 | 0.95 | |
| 0.87 | 0.78 | 0.83 | |
| 0.90 | 0.88 | 0.88 | |

| C\$ per US\$ | | | |
|--------------|-------------|-------------|--|
| In 3 Mo. | In 6 Mo. | In 12 Mo. | |
| 1.33 | 1.31 | 1.29 | |
| 1.35 | 1.30 | 1.26 | |
| 1.32 | 1.29 | 1.27 | |
| 1.36 | 1.35 | 1.33 | |
| 1.37 | 1.34 | 1.32 | |
| 1.36 | 1.37 | 1.37 | |
| 1.31 | 1.33 | 1.33 | |
| 1.30 | 1.30 | 1.27 | |
| 1.35 | 1.35 | 1.35 | |
| -- | -- | -- | |
| 1.34 | 1.33 | 1.31 | |
| 1.37 | 1.37 | 1.37 | |
| 1.30 | 1.29 | 1.26 | |
| 1.34 | 1.33 | 1.31 | |

International Interest Rate And Foreign Exchange Rate Forecasts

| Blue Chip Forecasters | Official Cash Rate | | |
|--------------------------------|--------------------|-------------|-------------|
| | In 3 Mo. | In 6 Mo. | In 12 Mo. |
| ING Financial Markets | 4.10 | 4.10 | 3.10 |
| Moody's Analytics | 3.68 | 3.85 | 3.35 |
| Nomura Securities | -- | -- | -- |
| Northern Trust | 4.10 | 4.10 | 4.10 |
| Oxford Economics | 3.84 | 4.10 | 4.10 |
| S&P Global Market Intelligence | -- | -- | -- |
| Scotiabank | -- | -- | -- |
| TS Lombard | 3.85 | 3.85 | 2.85 |
| Wells Fargo | 4.35 | 4.35 | 4.00 |
| June Consensus | 3.99 | 4.06 | 3.58 |
| High | 4.35 | 4.35 | 4.10 |
| Low | 3.68 | 3.85 | 2.85 |
| Last Months Avg. | 3.82 | 3.85 | 3.67 |

| Australia | | |
|---------------------------|-------------|-------------|
| 10 Yr. Gov't Bond Yield % | | |
| In 3 Mo. | In 6 Mo. | In 12 Mo. |
| 3.30 | 3.10 | 3.00 |
| 3.52 | 3.91 | 3.98 |
| -- | -- | -- |
| 3.80 | 3.70 | 3.60 |
| 3.39 | 3.52 | 3.51 |
| -- | -- | -- |
| -- | -- | -- |
| 3.73 | 3.10 | 3.25 |
| -- | -- | -- |
| 3.55 | 3.47 | 3.47 |
| 3.80 | 3.91 | 3.98 |
| 3.30 | 3.10 | 3.00 |
| 3.43 | 3.45 | 3.36 |

| US\$ per A\$ | | |
|--------------|-------------|-------------|
| In 3 Mo. | In 6 Mo. | In 12 Mo. |
| 0.68 | 0.71 | 0.75 |
| 0.70 | 0.71 | 0.72 |
| 0.68 | 0.69 | 0.70 |
| 0.64 | 0.66 | 0.68 |
| 0.67 | 0.67 | 0.68 |
| 0.67 | 0.69 | 0.71 |
| 0.69 | 0.69 | 0.70 |
| 0.65 | 0.65 | 0.65 |
| -- | -- | -- |
| 0.67 | 0.68 | 0.70 |
| 0.70 | 0.71 | 0.75 |
| 0.64 | 0.65 | 0.65 |
| 0.68 | 0.69 | 0.70 |

| Blue Chip Forecasters | Main Refinancing Rate | | |
|--------------------------------|-----------------------|-------------|-------------|
| | In 3 Mo. | In 6 Mo. | In 12 Mo. |
| BMO Capital Markets | 4.25 | 4.25 | 4.00 |
| ING Financial Markets | 4.00 | 4.00 | 3.75 |
| Moody's Analytics | 3.66 | 4.16 | 4.23 |
| Nomura Securities | -- | -- | -- |
| Northern Trust | 4.25 | 4.25 | 4.25 |
| Oxford Economics | 3.70 | 4.18 | 4.16 |
| S&P Global Market Intelligence | -- | -- | -- |
| Scotiabank | 4.25 | 4.25 | 4.00 |
| TS Lombard | 3.75 | 3.62 | 2.35 |
| Wells Fargo | 3.50 | 3.50 | 3.00 |
| June Consensus | 3.92 | 4.03 | 3.72 |
| High | 4.25 | 4.25 | 4.25 |
| Low | 3.50 | 3.50 | 2.35 |
| Last Months Avg. | 3.89 | 4.01 | 3.96 |

Euro area

| US\$ per Euro | | |
|---------------|-------------|-------------|
| In 3 Mo. | In 6 Mo. | In 12 Mo. |
| 1.11 | 1.12 | 1.13 |
| 1.10 | 1.15 | 1.20 |
| 1.09 | 1.10 | 1.14 |
| 1.15 | 1.16 | 1.17 |
| 1.07 | 1.10 | 1.12 |
| 1.09 | 1.10 | 1.11 |
| 1.12 | 1.12 | 1.14 |
| 1.10 | 1.10 | 1.10 |
| 1.10 | 1.10 | 1.02 |
| -- | -- | -- |
| 1.10 | 1.12 | 1.13 |
| 1.15 | 1.16 | 1.20 |
| 1.07 | 1.10 | 1.02 |
| 1.09 | 1.11 | 1.13 |

| Blue Chip Forecasters | 10 Yr. Gov't Bond Yields % | | | | | | | | | | | |
|-----------------------|----------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | Germany | | | France | | | Italy | | | Spain | | |
| | In 3 Mo. | In 6 Mo. | In 12 Mo. | In 3 Mo. | In 6 Mo. | In 12 Mo. | In 3 Mo. | In 6 Mo. | In 12 Mo. | In 3 Mo. | In 6 Mo. | In 12 Mo. |
| BMO Capital Markets | 2.20 | 2.10 | 1.90 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| ING Financial Markets | 2.30 | 2.20 | 2.10 | 2.90 | 2.85 | 2.65 | 4.30 | 4.40 | 4.10 | 3.40 | 3.35 | 3.15 |
| Moody's Analytics | 2.43 | 2.60 | 2.72 | 2.94 | 2.99 | 3.01 | 4.35 | 4.32 | 4.03 | 3.42 | 3.46 | 3.50 |
| Northern Trust | 2.60 | 2.55 | 2.45 | 3.10 | 3.05 | 2.95 | 4.45 | 4.40 | 4.30 | 3.70 | 3.65 | 3.55 |
| Oxford Economics | 2.31 | 2.28 | 2.08 | 2.86 | 2.82 | 2.57 | 4.19 | 4.13 | 3.93 | 3.35 | 3.31 | 3.13 |
| TS Lombard | 3.17 | 2.92 | 3.10 | 3.52 | 3.27 | 3.45 | 4.47 | 4.22 | 4.40 | 3.92 | 3.67 | 3.85 |
| Wells Fargo | 2.40 | 2.35 | 2.25 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| June Consensus | 2.49 | 2.43 | 2.37 | 3.06 | 3.00 | 2.93 | 4.35 | 4.29 | 4.15 | 3.56 | 3.49 | 3.44 |
| High | 3.17 | 2.92 | 3.10 | 3.52 | 3.27 | 3.45 | 4.47 | 4.40 | 4.40 | 3.92 | 3.67 | 3.85 |
| Low | 2.20 | 2.10 | 1.90 | 2.86 | 2.82 | 2.57 | 4.19 | 4.13 | 3.93 | 3.35 | 3.31 | 3.13 |
| Last Months Avg. | 2.42 | 2.40 | 2.29 | 2.90 | 2.87 | 2.74 | 4.32 | 4.25 | 4.02 | 3.40 | 3.35 | 3.25 |

| | Consensus Forecasts | | | |
|----------------|-----------------------------------|----------|----------|-----------|
| | 10-year Bond Yields vs U.S. Yield | | | |
| | Current | In 3 Mo. | In 6 Mo. | In 12 Mo. |
| Japan | -3.37 | -3.07 | -2.93 | -2.77 |
| United Kingdom | 0.59 | 0.27 | 0.22 | 0.08 |
| Switzerland | -2.74 | -2.13 | -2.04 | -1.99 |
| Canada | -0.47 | -0.31 | -0.35 | -0.26 |
| Australia | -0.06 | 0.00 | 0.04 | 0.12 |
| Germany | -1.28 | -1.06 | -1.00 | -0.98 |
| France | -0.68 | -0.48 | -0.43 | -0.42 |
| Italy | 0.57 | 0.81 | 0.87 | 0.80 |
| Spain | -0.24 | 0.01 | 0.06 | 0.09 |

| | Consensus Forecasts | | | |
|----------------|----------------------------------|----------|----------|-----------|
| | Policy Rates vs U.S. Target Rate | | | |
| | Current | In 3 Mo. | In 6 Mo. | In 12 Mo. |
| Japan | -5.23 | -5.15 | -4.89 | -4.07 |
| United Kingdom | -0.63 | -0.49 | -0.36 | 0.09 |
| Switzerland | -3.63 | -3.41 | -3.18 | -2.42 |
| Canada | -0.63 | -0.55 | -0.59 | -0.48 |
| Australia | -1.28 | -1.10 | -0.89 | -0.44 |
| Euro area | -1.38 | -1.16 | -0.93 | -0.30 |

12 ■ BLUE CHIP FINANCIAL FORECASTS ■ JUNE 1, 2023

Special Questions:

1. a. When will the first fed funds rate cut occur?

| | |
|---------|-----|
| Q3 2023 | 9% |
| Q4 2023 | 27% |
| Q1 2024 | 42% |
| Q2 2024 | 15% |
| Later | 6% |

b. What will motivate the first fed funds rate cut the most?

| | |
|--|-----|
| A sharp slowdown in the economy | 28% |
| A meaningful & persistent slowing in inflation | 72% |
| The current tension in regional banks | 0% |

c. Has the recent financial market unrest from the failure of three regional banks caused you to move forward your expected date for the first FFR cut?

Yes 15% No 85%

2. What probability do you attach to a recession beginning in 2023 in the:

| | |
|----------------|-----|
| United States | 55% |
| euro area | 56% |
| United Kingdom | 60% |

3. a. Do you expect the US unemployment rate to increase in 2023? Yes 97% No 3%

b. If yes, by how much? 0.8%

4. Has the recent turmoil in the banking sector caused you to lower your outlook for the US and broader world economy?

Yes 47% No 53%

Viewpoints:**A Sampling of Views on the Economy, Financial Markets and Government Policy
Excerpted from Recent Reports Issued by our Blue Chip Panel Members and Others****What's in the Debt Ceiling Deal?**

A debt ceiling resolution has been reached. Over Memorial Day weekend President Joe Biden and Speaker of the House Kevin McCarthy struck an eleventh hour agreement to suspend the debt ceiling through year-end 2024.

The most important macro drivers in the bill are the discretionary spending budget caps for fiscal years 2024 and 2025. Defense discretionary spending will be increased by roughly 3.3% in fiscal year 2024, while nondefense discretionary spending appears to be roughly flat after accounting for anticipated appropriations adjustments. In FY 2025, the budget caps increase 1% for both categories. These figures suggest that base discretionary spending will continue to grow over the next couple of years, albeit at a relatively modest pace. In dollar terms, we estimate that these spending caps imply roughly \$46 billion less in discretionary spending in FY 2024 and \$72 billion less in FY 2025 compared to the Congressional Budget Office's baseline projections.

That said, it is important to note that this slower spending growth is coming off of a relatively high base. Discretionary spending grew rapidly during the pandemic, and even in FY 2023 Congress approved a nearly 10% increase in discretionary spending budget authority. Furthermore, other previously-enacted bills continue to provide a fiscal tailwind, such as the Infrastructure Investment and Jobs Act and the CHIPS Act. The debt ceiling bill also leaves tax policies and most mandatory spending such as Social Security and the major healthcare programs unchanged. Discretionary spending accounts for just one quarter of total federal outlays. Accordingly, this bill presents a small downside risk to our current economic forecast. Incorporating this agreement into our economic forecast will probably reduce real GDP growth by a modest 0.1-0.2 percentage points per year over the next couple of years.

The Congressional Budget Office estimates that the bill will reduce budget deficits by about \$1.5 trillion over the 2023-2033 period relative to its May 2023 projections. Admittedly, CBO projections rely on a host of assumptions about what future Congresses will do, and the actual deficit reduction could be much bigger or smaller than the \$1.5 trillion figure. But setting aside the specific figures, we think this bill marks an important inflection point in federal fiscal policy. The past several years have been marked by highly accommodative federal fiscal policy. This era may be coming to an end as federal fiscal policy is shifting to a more neutral stance. That said, the shift is hardly draconian. As mentioned previously, tax increases or mandatory spending cuts were avoided. And despite the caps, discretionary spending should continue to grow at a modest pace over the next couple years, in contrast to the outright spending cuts seen in the wake of the 2011 debt ceiling episode.

The debt ceiling bill contains numerous other policy changes, such as rescinding some unspent COVID relief money, streamlining some energy project permitting and tweaking work re-

quirements for the Supplemental Assistance Program (SNAP) and Temporary Assistance for Needy Families (TANF). However, the deficit impact from these policies is relatively small, and we doubt they will have a material impact on our U.S. macroeconomic forecast. The bill also codifies the end of the student loan payment moratorium 60 days after June 30 (August 29). This was already the stated intention of the Biden administration, but the debt ceiling bill ensures another extension will not occur without an act of Congress. Critically, the bill does not weigh in on President Biden's sweeping student loan forgiveness plan. The fate of that executive action will be determined by the Supreme Court, potentially as soon as June.

It is important to note that the debt ceiling bill is not the end of the road for the FY 2024 budget process. Now that topline spending levels have been set, Congress must pass the 12 annual appropriation bills before the start of the next fiscal year on October 1. The appropriations process involves allocating the pot of money to all the various discretionary programs and activities funded by the federal government. Imagine a household that has developed a high-level budget for its major spending categories such as rent, groceries, etc., but still has to choose which individual items to purchase at the grocery store. If Congress does not pass the 12 appropriation bills or a continuing resolution (CR) by September 30, a government shutdown would ensue. If a CR is still in effect on or after January 1, the debt ceiling bill stipulates that even lower discretionary budget caps would kick in. This provision is designed to push lawmakers to complete the annual budget process without too much of a delay.

A Fiscal Cliff Is Coming in 2025

Assuming a government shutdown is avoided this year and next, the debt ceiling and budget drama should subside until after the 2024 presidential election. However, the next president and Congress will face a long list of fiscal policy items to address in 2025. First, the debt ceiling will once again need to be increased or suspended by the summer/fall of 2025. Second, topline spending levels for FY 2024 and FY 2025 are now set, but starting in FY 2026 the budget caps implied in the debt ceiling bill are non-enforceable. So, Congress and the president will once again need to sort through the appropriate level of discretionary spending. Third, major parts of the 2017 Tax Cuts and Jobs Act (the tax cut bill passed under President Trump) are set to expire at the end of 2025. Generally speaking, most of the individual income tax cuts are set to expire, while most of the business tax cuts were made permanent. Fourth, the Inflation Reduction Act (IRA) passed under President Biden included an extension of more generous subsidies for individuals purchasing health insurance through the Affordable Care Act. These too will expire after 2025. Thus, the next election will have elevated stakes for the federal fiscal policy outlook.

Michael Pugliese and Karl Vesely (Wells Fargo Economics)

Long-Range Survey:

The table below contains the results of our twice-annual long-range CONSENSUS survey. There are also Top 10 and Bottom 10 averages for each variable. Shown are consensus estimates for the years 2024 through 2029 and averages for the five-year periods 2025-2029 and 2030-2034. Apply these projections cautiously. Few if any economic, demographic and political forces can be evaluated accurately over such long time spans.

| | | ----- Average For The Year ----- | | | | | | Five-Year Averages | |
|--------------------------------|-------------------|--------------------------------------|-------|-------|-------|-------|-------|--------------------|-----------|
| | | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2025-2029 | 2030-2034 |
| 1. Federal Funds Rate | CONSENSUS | 3.9 | 3.0 | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 |
| | Top 10 Average | 4.6 | 3.5 | 3.2 | 3.2 | 3.2 | 3.1 | 3.2 | 3.1 |
| | Bottom 10 Average | 3.1 | 2.4 | 2.3 | 2.2 | 2.2 | 2.3 | 2.3 | 2.3 |
| 2. Prime Rate | CONSENSUS | 7.0 | 6.0 | 5.8 | 5.8 | 5.7 | 5.8 | 5.8 | 5.8 |
| | Top 10 Average | 7.7 | 6.6 | 6.2 | 6.3 | 6.2 | 6.1 | 6.3 | 6.2 |
| | Bottom 10 Average | 6.3 | 5.5 | 5.4 | 5.3 | 5.3 | 5.4 | 5.4 | 5.4 |
| 3. SOFR | CONSENSUS | 3.8 | 2.9 | 2.6 | 2.7 | 2.6 | 2.6 | 2.7 | 2.6 |
| | Top 10 Average | 4.5 | 3.4 | 3.0 | 3.1 | 3.0 | 2.9 | 3.1 | 3.0 |
| | Bottom 10 Average | 3.2 | 2.4 | 2.3 | 2.2 | 2.2 | 2.3 | 2.3 | 2.3 |
| 4. Commercial Paper, 1-Mo | CONSENSUS | 3.7 | 2.9 | 2.7 | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 |
| | Top 10 Average | 4.3 | 3.3 | 3.0 | 3.1 | 3.0 | 3.0 | 3.1 | 3.0 |
| | Bottom 10 Average | 3.3 | 2.6 | 2.4 | 2.4 | 2.4 | 2.6 | 2.5 | 2.5 |
| 5. Treasury Bill Yield, 3-Mo | CONSENSUS | 3.8 | 2.9 | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 |
| | Top 10 Average | 4.4 | 3.4 | 3.1 | 3.2 | 3.2 | 3.0 | 3.2 | 3.1 |
| | Bottom 10 Average | 3.1 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 |
| 6. Treasury Bill Yield, 6-Mo | CONSENSUS | 3.8 | 3.0 | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 |
| | Top 10 Average | 4.4 | 3.5 | 3.2 | 3.3 | 3.2 | 3.1 | 3.2 | 3.1 |
| | Bottom 10 Average | 3.1 | 2.5 | 2.4 | 2.4 | 2.4 | 2.5 | 2.4 | 2.5 |
| 7. Treasury Bill Yield, 1-Yr | CONSENSUS | 3.6 | 3.0 | 2.9 | 2.9 | 2.9 | 2.9 | 2.9 | 2.9 |
| | Top 10 Average | 4.3 | 3.5 | 3.3 | 3.4 | 3.3 | 3.2 | 3.3 | 3.3 |
| | Bottom 10 Average | 3.0 | 2.5 | 2.5 | 2.5 | 2.5 | 2.6 | 2.5 | 2.6 |
| 8. Treasury Note Yield, 2-Yr | CONSENSUS | 3.4 | 3.0 | 3.0 | 3.1 | 3.0 | 3.0 | 3.0 | 3.1 |
| | Top 10 Average | 4.0 | 3.5 | 3.5 | 3.5 | 3.5 | 3.4 | 3.5 | 3.5 |
| | Bottom 10 Average | 2.8 | 2.6 | 2.6 | 2.6 | 2.5 | 2.7 | 2.6 | 2.7 |
| 9. Treasury Note Yield, 5-Yr | CONSENSUS | 3.4 | 3.1 | 3.2 | 3.2 | 3.3 | 3.2 | 3.2 | 3.3 |
| | Top 10 Average | 4.0 | 3.6 | 3.7 | 3.8 | 3.8 | 3.6 | 3.7 | 3.8 |
| | Bottom 10 Average | 2.8 | 2.7 | 2.7 | 2.7 | 2.8 | 2.8 | 2.7 | 2.8 |
| 10. Treasury Note Yield, 10-Yr | CONSENSUS | 3.4 | 3.3 | 3.4 | 3.5 | 3.5 | 3.5 | 3.4 | 3.6 |
| | Top 10 Average | 3.9 | 3.7 | 4.0 | 4.1 | 4.1 | 4.0 | 4.0 | 4.2 |
| | Bottom 10 Average | 3.0 | 3.0 | 2.9 | 2.9 | 3.0 | 3.0 | 3.0 | 3.1 |
| 11. Treasury Bond Yield, 30-Yr | CONSENSUS | 3.8 | 3.6 | 3.7 | 3.8 | 3.9 | 3.8 | 3.8 | 3.9 |
| | Top 10 Average | 4.2 | 4.0 | 4.2 | 4.3 | 4.3 | 4.2 | 4.2 | 4.5 |
| | Bottom 10 Average | 3.4 | 3.3 | 3.3 | 3.3 | 3.4 | 3.4 | 3.3 | 3.4 |
| 12. Corporate Aaa Bond Yield | CONSENSUS | 4.7 | 4.6 | 4.7 | 4.8 | 4.9 | 4.8 | 4.8 | 5.0 |
| | Top 10 Average | 5.1 | 4.9 | 5.2 | 5.4 | 5.4 | 5.3 | 5.2 | 5.6 |
| | Bottom 10 Average | 4.3 | 4.3 | 4.2 | 4.3 | 4.3 | 4.3 | 4.3 | 4.3 |
| 13. Corporate Baa Bond Yield | CONSENSUS | 5.8 | 5.6 | 5.7 | 5.8 | 5.8 | 5.8 | 5.7 | 5.9 |
| | Top 10 Average | 6.1 | 5.9 | 6.1 | 6.3 | 6.3 | 6.2 | 6.1 | 6.5 |
| | Bottom 10 Average | 5.3 | 5.3 | 5.3 | 5.3 | 5.4 | 5.3 | 5.3 | 5.4 |
| 14. State & Local Bonds Yield | CONSENSUS | 4.0 | 3.8 | 4.0 | 4.1 | 4.1 | 4.1 | 4.0 | 4.2 |
| | Top 10 Average | 4.3 | 4.1 | 4.3 | 4.4 | 4.5 | 4.3 | 4.3 | 4.5 |
| | Bottom 10 Average | 3.6 | 3.6 | 3.6 | 3.7 | 3.7 | 3.7 | 3.7 | 3.8 |
| 15. Home Mortgage Rate | CONSENSUS | 5.7 | 5.4 | 5.4 | 5.4 | 5.5 | 5.4 | 5.4 | 5.5 |
| | Top 10 Average | 6.4 | 5.9 | 6.0 | 6.1 | 6.1 | 5.9 | 6.0 | 6.1 |
| | Bottom 10 Average | 5.1 | 4.9 | 4.7 | 4.8 | 4.8 | 4.9 | 4.8 | 4.9 |
| A. Fed's AFE Nominal \$ Index | CONSENSUS | 113.5 | 111.8 | 111.8 | 110.9 | 110.1 | 110.1 | 111.0 | 110.0 |
| | Top 10 Average | 115.5 | 114.2 | 115.1 | 114.7 | 114.3 | 115.2 | 114.7 | 115.3 |
| | Bottom 10 Average | 111.5 | 109.5 | 108.4 | 107.5 | 106.3 | 105.8 | 107.5 | 105.3 |
| | | ----- Year-Over-Year, % Change ----- | | | | | | Five-Year Averages | |
| | | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2025-2029 | 2030-2034 |
| B. Real GDP | CONSENSUS | 1.1 | 2.1 | 2.2 | 2.1 | 2.0 | 1.9 | 2.1 | 2.0 |
| | Top 10 Average | 2.0 | 2.5 | 2.7 | 2.5 | 2.3 | 2.1 | 2.4 | 2.3 |
| | Bottom 10 Average | 0.4 | 1.7 | 1.8 | 1.8 | 1.7 | 1.7 | 1.7 | 1.7 |
| C. GDP Chained Price Index | CONSENSUS | 2.5 | 2.3 | 2.2 | 2.2 | 2.1 | 2.1 | 2.2 | 2.2 |
| | Top 10 Average | 3.0 | 2.7 | 2.5 | 2.5 | 2.3 | 2.3 | 2.5 | 2.4 |
| | Bottom 10 Average | 2.1 | 1.9 | 1.9 | 1.9 | 2.0 | 2.0 | 1.9 | 1.9 |
| D. Consumer Price Index | CONSENSUS | 2.6 | 2.3 | 2.2 | 2.2 | 2.2 | 2.1 | 2.2 | 2.2 |
| | Top 10 Average | 3.0 | 2.7 | 2.5 | 2.5 | 2.3 | 2.3 | 2.5 | 2.4 |
| | Bottom 10 Average | 2.1 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| E. PCE Price Index | CONSENSUS | 2.4 | 2.2 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 |
| | Top 10 Average | 2.9 | 2.5 | 2.4 | 2.3 | 2.2 | 2.2 | 2.3 | 2.3 |
| | Bottom 10 Average | 2.1 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 | 1.9 |

2023 Historical Data

| Monthly Indicator | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|--|-------|-------|-------|-------|------|-----|-----|-----|-----|-----|-----|-----|
| Retail and Food Service Sales (a) | 2.8 | -0.7 | -0.7 | 0.4 | ... | ... | ... | ... | ... | ... | ... | ... |
| Auto & Light Truck Sales (b) | 15.95 | 14.92 | 14.84 | 15.91 | ... | ... | ... | ... | ... | ... | ... | ... |
| Personal Income (a, current \$) | 0.6 | 0.3 | 0.3 | 0.4 | ... | ... | ... | ... | ... | ... | ... | ... |
| Personal Consumption (a, current \$) | 1.9 | 0.1 | 0.1 | 0.8 | ... | ... | ... | ... | ... | ... | ... | ... |
| Consumer Credit (e) | 5.9 | 3.8 | 6.6 | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Consumer Sentiment (U. of Mich.) | 64.9 | 67.0 | 62.0 | 63.5 | 59.2 | ... | ... | ... | ... | ... | ... | ... |
| Household Employment (c) | 894 | 177 | 577 | 139 | ... | ... | ... | ... | ... | ... | ... | ... |
| Nonfarm Payroll Employment (c) | 472 | 248 | 165 | 253 | ... | ... | ... | ... | ... | ... | ... | ... |
| Unemployment Rate (%) | 3.4 | 3.6 | 3.5 | 3.4 | ... | ... | ... | ... | ... | ... | ... | ... |
| Average Hourly Earnings (All, cur. \$) | 33.02 | 33.11 | 33.20 | 33.36 | ... | ... | ... | ... | ... | ... | ... | ... |
| Average Workweek (All, hrs.) | 34.6 | 34.5 | 34.4 | 34.4 | ... | ... | ... | ... | ... | ... | ... | ... |
| Industrial Production (d) | 1.5 | 0.8 | 0.1 | 0.2 | ... | ... | ... | ... | ... | ... | ... | ... |
| Capacity Utilization (%) | 79.6 | 79.5 | 79.4 | 79.7 | ... | ... | ... | ... | ... | ... | ... | ... |
| ISM Manufacturing Index (g) | 47.4 | 47.7 | 46.3 | 47.1 | ... | ... | ... | ... | ... | ... | ... | ... |
| ISM Nonmanufacturing Index (g) | 55.2 | 55.1 | 51.2 | 51.9 | ... | ... | ... | ... | ... | ... | ... | ... |
| Housing Starts (b) | 1.340 | 1.436 | 1.371 | 1.401 | ... | ... | ... | ... | ... | ... | ... | ... |
| Housing Permits (b) | 1.354 | 1.482 | 1.437 | 1.417 | ... | ... | ... | ... | ... | ... | ... | ... |
| New Home Sales (1-family, c) | 649 | 631 | 656 | 683 | ... | ... | ... | ... | ... | ... | ... | ... |
| Construction Expenditures (a) | -0.2 | -0.3 | 0.3 | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Consumer Price Index (nsa, d) | 6.4 | 6.0 | 5.0 | 4.9 | ... | ... | ... | ... | ... | ... | ... | ... |
| CPI ex. Food and Energy (nsa, d) | 5.6 | 5.5 | 5.6 | 5.5 | ... | ... | ... | ... | ... | ... | ... | ... |
| PCE Chain Price Index (d) | 5.4 | 5.1 | 4.2 | 4.4 | ... | ... | ... | ... | ... | ... | ... | ... |
| Core PCE Chain Price Index (d) | 4.7 | 4.7 | 4.6 | 4.7 | ... | ... | ... | ... | ... | ... | ... | ... |
| Producer Price Index (nsa, d) | 5.7 | 4.8 | 2.7 | 2.3 | ... | ... | ... | ... | ... | ... | ... | ... |
| Durable Goods Orders (a) | -1.3 | -2.7 | 3.3 | 1.1 | ... | ... | ... | ... | ... | ... | ... | ... |
| Leading Economic Indicators (a) | -0.5 | -0.6 | -1.2 | -0.6 | ... | ... | ... | ... | ... | ... | ... | ... |
| Balance of Trade & Services (f) | -68.7 | -70.6 | -64.2 | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| Federal Funds Rate (%) | 4.33 | 4.57 | 4.65 | 4.83 | ... | ... | ... | ... | ... | ... | ... | ... |
| 3-Mo. Treasury Bill Rate (%) | 4.69 | 4.79 | 4.86 | 5.07 | ... | ... | ... | ... | ... | ... | ... | ... |
| 10-Year Treasury Note Yield (%) | 3.53 | 3.75 | 3.66 | 3.46 | ... | ... | ... | ... | ... | ... | ... | ... |

2022 Historical Data

| Monthly Indicator | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|--|-------|-------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Retail and Food Service Sales (a) | 1.4 | 1.4 | 2.1 | 1.2 | 0.0 | 0.6 | -0.5 | 0.7 | 0.0 | 1.0 | -1.3 | -0.7 |
| Auto & Light Truck Sales (b) | 15.11 | 13.71 | 13.56 | 14.28 | 12.58 | 13.05 | 13.31 | 13.23 | 13.64 | 15.28 | 14.34 | 13.37 |
| Personal Income (a, current \$) | -0.1 | 0.5 | 0.5 | 0.2 | 0.5 | 0.5 | 0.8 | 0.6 | 0.5 | 0.6 | 0.2 | 0.2 |
| Personal Consumption (a, current \$) | 1.2 | 0.7 | 1.2 | 0.4 | 0.7 | 1.2 | -0.1 | 0.7 | 0.6 | 0.7 | -0.2 | 0.0 |
| Consumer Credit (e) | 4.9 | 8.6 | 11.1 | 7.7 | 7.3 | 9.4 | 7.1 | 7.7 | 7.0 | 9.0 | 8.5 | 4.7 |
| Consumer Sentiment (U. of Mich.) | 67.2 | 62.8 | 59.4 | 65.2 | 58.4 | 50.0 | 51.5 | 58.2 | 58.6 | 59.9 | 56.8 | 59.7 |
| Household Employment (c) | 1041 | 468 | 738 | -346 | 317 | -242 | 215 | 422 | 156 | -257 | -66 | 717 |
| Nonfarm Payroll Employment (c) | 364 | 904 | 414 | 254 | 364 | 370 | 568 | 352 | 350 | 324 | 290 | 239 |
| Unemployment Rate (%) | 4.0 | 3.8 | 3.6 | 3.6 | 3.6 | 3.6 | 3.5 | 3.7 | 3.5 | 3.7 | 3.6 | 3.5 |
| Average Hourly Earnings (All, cur. \$) | 31.63 | 31.63 | 31.83 | 31.94 | 32.06 | 32.18 | 32.33 | 32.43 | 32.53 | 32.66 | 32.80 | 32.92 |
| Average Workweek (All, hrs.) | 34.6 | 34.7 | 34.7 | 34.6 | 34.6 | 34.6 | 34.6 | 34.5 | 34.6 | 34.6 | 34.5 | 34.4 |
| Industrial Production (d) | 2.3 | 6.6 | 4.4 | 4.6 | 3.7 | 3.2 | 3.0 | 3.1 | 4.5 | 3.1 | 1.9 | 0.6 |
| Capacity Utilization (%) | 79.4 | 79.9 | 80.5 | 80.7 | 80.6 | 80.5 | 80.7 | 80.7 | 80.8 | 80.6 | 80.3 | 78.9 |
| ISM Manufacturing Index (g) | 57.6 | 58.4 | 57.0 | 55.9 | 56.1 | 53.1 | 52.7 | 52.9 | 51.0 | 50.0 | 49.0 | 48.4 |
| ISM Nonmanufacturing Index (g) | 60.4 | 57.2 | 58.4 | 57.5 | 56.4 | 56.0 | 56.4 | 56.1 | 55.9 | 54.5 | 55.5 | 49.2 |
| Housing Starts (b) | 1.669 | 1.771 | 1.713 | 1.803 | 1.543 | 1.561 | 1.371 | 1.505 | 1.463 | 1.432 | 1.427 | 1.357 |
| Housing Permits (b) | 1.898 | 1.817 | 1.877 | 1.795 | 1.708 | 1.701 | 1.658 | 1.586 | 1.588 | 1.555 | 1.402 | 1.409 |
| New Home Sales (1-family, c) | 810 | 773 | 707 | 611 | 636 | 563 | 543 | 638 | 567 | 577 | 582 | 636 |
| Construction Expenditures (a) | 2.7 | 1.5 | 0.9 | 0.7 | 0.7 | 0.6 | 0.8 | -1.1 | 0.5 | 0.0 | 1.8 | -0.1 |
| Consumer Price Index (nsa, d) | 7.5 | 7.9 | 8.5 | 8.3 | 8.6 | 9.1 | 8.5 | 8.3 | 8.2 | 7.7 | 7.1 | 6.5 |
| CPI ex. Food and Energy (nsa, d) | 6.0 | 6.4 | 6.5 | 6.2 | 6.0 | 5.9 | 5.9 | 6.3 | 6.6 | 6.3 | 6.0 | 5.7 |
| PCE Chain Price Index (d) | 6.1 | 6.4 | 6.8 | 6.4 | 6.5 | 7.0 | 6.4 | 6.3 | 6.3 | 6.1 | 5.7 | 5.3 |
| Core PCE Chain Price Index (d) | 5.2 | 5.4 | 5.4 | 5.0 | 4.9 | 5.0 | 4.7 | 4.9 | 5.2 | 5.1 | 4.8 | 4.6 |
| Producer Price Index (nsa, d) | 10.1 | 10.4 | 11.7 | 11.2 | 11.1 | 11.2 | 9.7 | 8.7 | 8.5 | 8.2 | 7.4 | 6.4 |
| Durable Goods Orders (a) | 2.0 | -1.4 | -0.1 | 1.0 | 0.7 | 1.6 | -0.8 | -0.1 | 0.3 | 1.0 | -3.1 | 4.5 |
| Leading Economic Indicators (a) | -0.5 | 0.3 | 0.0 | -0.6 | -0.9 | -0.7 | -0.6 | -0.3 | -0.5 | -0.9 | -0.9 | -0.7 |
| Balance of Trade & Services (f) | -87.4 | -87.3 | -106.4 | -86.0 | -85.4 | -80.8 | -69.8 | -64.6 | -72.6 | -77.2 | -60.6 | -67.2 |
| Federal Funds Rate (%) | 0.08 | 0.08 | 0.20 | 0.33 | 0.77 | 1.21 | 1.68 | 2.33 | 2.56 | 3.08 | 3.78 | 4.10 |
| 3-Mo. Treasury Bill Rate (%) | 0.15 | 0.31 | 0.45 | 0.76 | 0.99 | 1.54 | 2.30 | 2.72 | 3.22 | 3.87 | 4.32 | 4.36 |
| 10-Year Treasury Note Yield (%) | 1.76 | 1.93 | 2.13 | 2.75 | 2.90 | 3.14 | 2.90 | 2.90 | 3.52 | 3.98 | 3.89 | 3.62 |

(a) month-over-month % change; (b) millions, saar; (c) month-over-month change, thousands; (d) year-over-year % change; (e) annualized % change; (f) \$ billions; (g) level. Most series are subject to frequent government revisions. Use with care.

Calendar of Upcoming Economic Data Releases

| Monday | Tuesday | Wednesday | Thursday | Friday |
|---|--|--|--|--|
| | | | June 1
ADP Employment Report (May)
Productivity & Costs (Q1)
ISM Manufacturing (May)
S&P Global Mfg PMI (May)
Construction (Apr)
Challenger Employment Report (May)
EIA Crude Oil Stocks
Weekly Jobless Claims | 2
Employment Situation (May) |
| 5
Manufacturers' Shipments, Inventories & Orders (Apr)
ISM Services PMI (May)
S&P Global Services PMI (May)
BEA Auto & Truck Sales (May) | 6
QFR (Q1)
Public Debt (May)
Interest Expense on the Public Debt (May)
Kansas City Fed Labor Market Conditions Indicators (May)
Short-Term Energy Outlook (May) | 7
International Trade (Apr & Rev)
Transportation Services Index (Apr)
Consumer Credit (Apr)
Treasury Auction Allotments (May)
EIA Crude Oil Stocks
Mortgage Application | 8
Wholesale Trade (Apr)
Financial Account (Q1)
Weekly Jobless Claims | 9
QSS (Q1)
Kansas City Financial Stress Index (May) |
| 12
Monthly Treasury (May) | 13
CPI & Real Earnings (May)
Cleveland Fed Median CPI (May)
Manpower Survey (Q3)
NFIB (May)
FOMC Meeting | 14
Producer Prices (May)
FOMC Meeting
EIA Crude Oil Stocks
Mortgage Application | 15
Import & Export Prices (May)
Advance Retail Sales (May)
IP & Capacity Utilization (May)
MTIS (Apr)
Empire State Mfg Survey (Jun)
Philadelphia Fed Mfg Business Outlook Survey (Jun)
TIC Data (Apr)
Weekly Jobless Claims | 16
Consumer Sentiment (Jun, Preliminary)
ECEC (Q1)
Business Leaders Survey (Jun)
Livingston Survey (Jun) |
| 19
Home Builders (Jun)

JUNETEENTH
ALL MARKETS COSED | 20
New Residential Construction (May)
Philadelphia Fed Nonmanufacturing Business Outlook Survey (Jun) | 21 | 22
Intl Transactions (Q1 & Rev)
Existing Home Sales (May)
Treasury Auction (Jun)
Chicago Fed National Activity Index (May)
Kansas City Fed Mfg (Jun)
Composite Indexes (May)
EIA Crude Oil Stocks
Mortgage Application
Weekly Jobless Claims | 23
FRB Philadelphia Coincident Economic Activity Index(May)
S&P Global Flash PMI (Jun) |
| 26
Texas Manufacturing Outlook Survey (Jun)
Dallas Fed Banking Conditions Survey (Jun)
Steel Imports for Consumption (May, Preliminary) | 27
Adv Durable Goods (May)
Case-Shiller HPI (Apr)
FHFA HPI (Apr)
New Residential Sales (May)
H.6 Money Stock (May)
Final Building Permits (May)
Richmond Fed Mfg & Service Sector Surveys(Jun)
Texas Service Outlook (Jun)
Consumer Confidence (Jun) | 28
International Investment Position (Q1 & Revisions)
Advance Trade & Inventories (May)
EIA Crude Oil Stocks
Mortgage Application | 29
GDP & Corp Profits (Q1, 3rd Estimate)
GDP by Industry (Q1)
Pending Home Sales (May)
Weekly Jobless Claims | 30
Personal Income (May)
Dallas Fed Trimmed-Mean PCE (May)
Agricultural Prices (May)
Strike Report (Jun)
Chicago PMI (Jun)
Consumer Sentiment (Jun,Final) |
| July 3
Construction (May)
ISM Manufacturing (Jun)
S&P Global Mfg PMI (Jun) | 4

INDEPENDENCE DAY
ALL MARKETS COSED | 5
Manufacturers' Shipments, Inventories & Orders (May) | 6
ADP Employment Report (Jun)
International Trade (May)
ISM Services PMI (Jun)
S&P Global Services PMI (May)
BEA Auto & Truck Sales (Jun)
JOLTS (May)
Challenger Employment (Jun)
EIA Crude Oil Stocks
Mortgage Application
Weekly Jobless Claims | 7
Employment Situation (Jun)
Public Debt (Jun)
Interest Expense on the Public Debt (Jun) |

BLUE CHIP FORECASTERS

CONTRIBUTORS TO DOMESTIC SURVEY

ACIMA Private Wealth, Richmond, VA
Ardavan Mobasheri

Action Economics, LLC, Boulder, CO
Michael Englund

Amherst Pierpont Securities, Stamford, CT
Stephen Stanley

Bank of America, New York, NY
Ethan Harris

Bank of the West, SF, CA
Scott Anderson

Barclays, New York, NY
Marc Giannoni

BMO Capital Markets Economics, Toronto, Canada
Douglas Porter

BNP Paribas North America, New York, NY
Andrew Schneider

Chan Economics, New York, NY
Anthony Chan

Chmura Economics & Analytics, Richmond, VA
Christine Chmura and Xiaobing Shuai

Comerica, Dallas, TX
Bill Adams

Daiwa Capital Markets America, New York, NY
Michael Moran

DePrince & Associates, Murfreesboro, TN
Albert E. DePrince Jr.

Economist Intelligence Unit, New York, NY
Leo Abruzzese and Jan Friederich

EY- Parthenon, New York, NY
Gregory Daco

Fannie Mae, Washington, DC
Douglas Duncan

Georgia State University, Atlanta, GA
Rajeev Dhawan

GLC Financial Economics, Providence, RI
Gary L. Ciminero

Goldman, Sachs & Co., New York, NY
Jan Hatzius

KPMG, New York, NY
Diane Swonk

ING Financial Markets, London, England
James Knightley

J.P. Morgan Chase, New York, NY
Bruce Kasman

Loomis, Sayles & Company, L.P., Boston, MA
Brian Horrigan

MacroFin Analytics & Rutgers Business School, Wayne, NJ
Parul Jain

MacroPolicy Perspectives, New York, NY
Julia Coronado and Laura Rosner

Moody's Analytics, West Chester, PA
Mark M. Zandi

Naroff Economic Advisors, Philadelphia, PA
Joel L. Naroff

Nationwide, New York, NY
Kathy Bostjancic

NatWest Markets, Greenwich, CT
Kevin Cummins and Deepika Dayal

Nomura Securities International, Inc., New York, NY
U.S. Economics

Northern Trust Company, Chicago, IL
Carl Tannenbaum

Oxford Economics, New York, NY
Oren Klachkin

PNC Financial Services Group, Pittsburgh, PA
Gus Faucher

RDQ Economics, New York, NY
John Ryding and Conrad de Quadros

Regions Financial Corporation, Birmingham, AL
Richard F. Moody

Scotiabank Group, Toronto, Canada
Jean-Francois Perrault

Societe Generale, New York, NY
Stephen W. Gallagher

S&P Global Market Intelligence, St. Louis, MO
Joel Prakken & Chris Varvares

Swiss Re, New York, NY
Jerome Haegeli

ThruTheCycle.com, White Plains, NY
John Lonski

TS Lombard, London, UK
Steven Blitz

Via Nova Investment Management, Crozet, VA
Alan Gayle

Wells Fargo, Charlotte, NC
Jay Bryson

CONTRIBUTORS TO INTERNATIONAL SURVEY

Barclays Capital, New York, NY

BMO Capital Markets Economics, Toronto, Canada

ING Financial Markets, London, England

Moody's Analytics, West Chester, PA

Nomura Securities International, Inc., New York, NY

Northern Trust Company, Chicago, IL

Oxford Economics, Wayne, PA

Scotiabank Group, Toronto, Canada

S&P Global Market Intelligence, St. Louis, MO

TS Lombard, London, UK

Wells Fargo, Charlotte, NC

PUBLIC DOCUMENT – NOT PUBLIC (OR PRIVILEGED) DATA HAS BEEN EXCISED

[PROTECTED DATA BEGINS...

Case No. PU-23-
Bulkley Workpapers – Risk Premium Analysis
is CONFIDENTIAL in its Entirety

...PROTECTED DATA ENDS]

PUBLIC DOCUMENT – NOT PUBLIC (OR PRIVILEGED) DATA HAS BEEN EXCISED

[PROTECTED DATA BEGINS...

Case No. PU-23-
Bulkley Workpapers – Small Size Premium (Figure 12)
is CONFIDENTIAL in its Entirety

...PROTECTED DATA ENDS]

PUBLIC DOCUMENT – NOT PUBLIC (OR PRIVILEGED) DATA HAS BEEN EXCISED

[PROTECTED DATA BEGINS...

Case No. PU-23-
Bulkley Workpapers – Trading Volume Analysis (Figure 13)
is **CONFIDENTIAL** in its Entirety

...PROTECTED DATA ENDS]

PUBLIC DOCUMENT – NOT PUBLIC (OR PRIVILEGED) DATA HAS BEEN EXCISED

[PROTECTED DATA BEGINS...

Case No. PU-23-
Bulkley Workpapers – Institutional Ownership Analysis
is **CONFIDENTIAL** in its Entirety

...PROTECTED DATA ENDS]

PUBLIC DOCUMENT – NOT PUBLIC (OR PRIVILEGED) DATA HAS BEEN EXCISED

[PROTECTED DATA BEGINS...

Case No. PU-23-
Bulkley Workpapers – RRA – Adj Clauses
is CONFIDENTIAL in its Entirety

...PROTECTED DATA ENDS]

PUBLIC DOCUMENT – NOT PUBLIC (OR PRIVILEGED) DATA HAS BEEN EXCISED

[PROTECTED DATA BEGINS...

Case No. PU-23-
Bulkley Workpapers – Capital Structure Analysis
is CONFIDENTIAL in its Entirety

...PROTECTED DATA ENDS]

| Case | Date | Federal
Funds
Rate | 30-Day Avg
of 30-Year
Treasury
Bond Yield | Inflation
Rate | Auth'd
ROE |
|-------------|-------------|-----------------------------------|--|---------------------------|-----------------------|
| PU-17-398 | 9/26/2018 | 1.95% | 3.09% | 2.20% | 9.77% |
| Current | 7/31/2023 | 5.12% | 3.92% | 4.70% | |

FRED Graph Observations
 Federal Reserve Economic Data
 Link: <https://fred.stlouisfed.org>
 Help: <https://fredhelp.stlouisfed.org>
 Economic Research Division
 Federal Reserve Bank of St. Louis

FEDFUNDS Federal Funds Effective Rate, Percent, Monthly, Not Seasonally Adjusted

Frequency: Monthly

| observation_date | FEDFUNDS | | |
|------------------|----------|-------------------------------|-------|
| 2017-01-01 | 0.65 | As of 9/26/2018 Decision Date | 1.95% |
| 2017-02-01 | 0.66 | | |
| 2017-03-01 | 0.79 | Current (as of July 31, 2023) | 5.12% |
| 2017-04-01 | 0.90 | | |
| 2017-05-01 | 0.91 | | |
| 2017-06-01 | 1.04 | | |
| 2017-07-01 | 1.15 | | |
| 2017-08-01 | 1.16 | | |
| 2017-09-01 | 1.15 | | |
| 2017-10-01 | 1.15 | | |
| 2017-11-01 | 1.16 | | |
| 2017-12-01 | 1.30 | | |
| 2018-01-01 | 1.41 | | |
| 2018-02-01 | 1.42 | | |
| 2018-03-01 | 1.51 | | |
| 2018-04-01 | 1.69 | | |
| 2018-05-01 | 1.70 | | |
| 2018-06-01 | 1.82 | | |
| 2018-07-01 | 1.91 | | |
| 2018-08-01 | 1.91 | | |
| 2018-09-01 | 1.95 | | |
| 2018-10-01 | 2.19 | | |
| 2018-11-01 | 2.20 | | |
| 2018-12-01 | 2.27 | | |
| 2019-01-01 | 2.40 | | |
| 2019-02-01 | 2.40 | | |
| 2019-03-01 | 2.41 | | |
| 2019-04-01 | 2.42 | | |
| 2019-05-01 | 2.39 | | |
| 2019-06-01 | 2.38 | | |
| 2019-07-01 | 2.40 | | |
| 2019-08-01 | 2.13 | | |
| 2019-09-01 | 2.04 | | |
| 2019-10-01 | 1.83 | | |
| 2019-11-01 | 1.55 | | |
| 2019-12-01 | 1.55 | | |
| 2020-01-01 | 1.55 | | |
| 2020-02-01 | 1.58 | | |

FEDFUNDS Federal Funds Effective Rate, Percent, Monthly, Not Seasonally Adjusted

Frequency: Monthly
observation_date

| FEDFUNDS | FEDFUNDS |
|------------|----------|
| 2020-03-01 | 0.65 |
| 2020-04-01 | 0.05 |
| 2020-05-01 | 0.05 |
| 2020-06-01 | 0.08 |
| 2020-07-01 | 0.09 |
| 2020-08-01 | 0.10 |
| 2020-09-01 | 0.09 |
| 2020-10-01 | 0.09 |
| 2020-11-01 | 0.09 |
| 2020-12-01 | 0.09 |
| 2021-01-01 | 0.09 |
| 2021-02-01 | 0.08 |
| 2021-03-01 | 0.07 |
| 2021-04-01 | 0.07 |
| 2021-05-01 | 0.06 |
| 2021-06-01 | 0.08 |
| 2021-07-01 | 0.10 |
| 2021-08-01 | 0.09 |
| 2021-09-01 | 0.08 |
| 2021-10-01 | 0.08 |
| 2021-11-01 | 0.08 |
| 2021-12-01 | 0.08 |
| 2022-01-01 | 0.08 |
| 2022-02-01 | 0.08 |
| 2022-03-01 | 0.20 |
| 2022-04-01 | 0.33 |
| 2022-05-01 | 0.77 |
| 2022-06-01 | 1.21 |
| 2022-07-01 | 1.68 |
| 2022-08-01 | 2.33 |
| 2022-09-01 | 2.56 |
| 2022-10-01 | 3.08 |
| 2022-11-01 | 3.78 |
| 2022-12-01 | 4.10 |
| 2023-01-01 | 4.33 |
| 2023-02-01 | 4.57 |
| 2023-03-01 | 4.65 |
| 2023-04-01 | 4.83 |
| 2023-05-01 | 5.06 |
| 2023-06-01 | 5.08 |
| 2023-07-01 | 5.12 |

FRED Graph Observations
Federal Reserve Economic Data
Link: <https://fred.stlouisfed.org>
Help: <https://fredhelp.stlouisfed.org>
Economic Research Division
Federal Reserve Bank of St. Louis

DGS30 Market Yield on U.S. Treasury Securities at 30-Year Constant Maturity, Quoted on an Investment Basis, Percent, Daily, Not Seasonally Adjusted

Frequency: Daily

| observation_date | DGS30 | | |
|------------------|-------|-------|--|
| 2017-01-03 | 3.04 | 3.04% | 30 days prior to 9/26/2018 Decision Date |
| 2017-01-04 | 3.05 | 3.05% | |
| 2017-01-05 | 2.96 | 2.96% | Current (thru 7/31/23) |
| 2017-01-06 | 3.00 | 3.00% | |
| 2017-01-09 | 2.97 | 2.97% | |
| 2017-01-10 | 2.97 | 2.97% | |
| 2017-01-11 | 2.96 | 2.96% | |
| 2017-01-12 | 3.01 | 3.01% | |
| 2017-01-13 | 2.99 | 2.99% | |
| 2017-01-16 | 0 | | |
| 2017-01-17 | 2.93 | 2.93% | |
| 2017-01-18 | 3.00 | 3.00% | |
| 2017-01-19 | 3.04 | 3.04% | |
| 2017-01-20 | 3.05 | 3.05% | |
| 2017-01-23 | 2.99 | 2.99% | |
| 2017-01-24 | 3.05 | 3.05% | |
| 2017-01-25 | 3.10 | 3.10% | |
| 2017-01-26 | 3.08 | 3.08% | |
| 2017-01-27 | 3.06 | 3.06% | |
| 2017-01-30 | 3.08 | 3.08% | |
| 2017-01-31 | 3.05 | 3.05% | |
| 2017-02-01 | 3.08 | 3.08% | |
| 2017-02-02 | 3.09 | 3.09% | |
| 2017-02-03 | 3.11 | 3.11% | |
| 2017-02-06 | 3.05 | 3.05% | |
| 2017-02-07 | 3.02 | 3.02% | |
| 2017-02-08 | 2.96 | 2.96% | |
| 2017-02-09 | 3.02 | 3.02% | |
| 2017-02-10 | 3.01 | 3.01% | |
| 2017-02-13 | 3.03 | 3.03% | |
| 2017-02-14 | 3.07 | 3.07% | |
| 2017-02-15 | 3.09 | 3.09% | |
| 2017-02-16 | 3.05 | 3.05% | |
| 2017-02-17 | 3.03 | 3.03% | |
| 2017-02-20 | 0 | | |
| 2017-02-21 | 3.04 | 3.04% | |
| 2017-02-22 | 3.04 | 3.04% | |
| 2017-02-23 | 3.02 | 3.02% | |
| 2017-02-24 | 2.95 | 2.95% | |
| 2017-02-27 | 2.98 | 2.98% | |
| 2017-02-28 | 2.97 | 2.97% | |
| 2017-03-01 | 3.06 | 3.06% | |
| 2017-03-02 | 3.09 | 3.09% | |
| 2017-03-03 | 3.08 | 3.08% | |
| 2017-03-06 | 3.10 | 3.10% | |
| 2017-03-07 | 3.11 | 3.11% | |
| 2017-03-08 | 3.15 | 3.15% | |
| 2017-03-09 | 3.19 | 3.19% | |
| 2017-03-10 | 3.16 | 3.16% | |
| 2017-03-13 | 3.20 | 3.20% | |
| 2017-03-14 | 3.17 | 3.17% | |
| 2017-03-15 | 3.11 | 3.11% | |
| 2017-03-16 | 3.14 | 3.14% | |
| 2017-03-17 | 3.11 | 3.11% | |
| 2017-03-20 | 3.08 | 3.08% | |
| 2017-03-21 | 3.04 | 3.04% | |
| 2017-03-22 | 3.02 | 3.02% | |
| 2017-03-23 | 3.02 | 3.02% | |
| 2017-03-24 | 3.00 | 3.00% | |
| 2017-03-27 | 2.98 | 2.98% | |
| 2017-03-28 | 3.02 | 3.02% | |
| 2017-03-29 | 2.99 | 2.99% | |
| 2017-03-30 | 3.03 | 3.03% | |
| 2017-03-31 | 3.02 | 3.02% | |
| 2017-04-03 | 2.98 | 2.98% | |
| 2017-04-04 | 2.99 | 2.99% | |
| 2017-04-05 | 2.98 | 2.98% | |
| 2017-04-06 | 2.99 | 2.99% | |
| 2017-04-07 | 3.00 | 3.00% | |

DGS30 Market Yield on U.S. Treasury Securities at 30-Year Constant Maturity, Quoted on an Investment Basis, Percent, Daily, Not Seasonally Adjusted

Frequency: Daily

| observation_date | DGS30 | |
|------------------|-------|-------|
| 2017-04-10 | 2.99 | 2.99% |
| 2017-04-11 | 2.93 | 2.93% |
| 2017-04-12 | 2.92 | 2.92% |
| 2017-04-13 | 2.89 | 2.89% |
| 2017-04-14 | 0 | |
| 2017-04-17 | 2.92 | 2.92% |
| 2017-04-18 | 2.84 | 2.84% |
| 2017-04-19 | 2.87 | 2.87% |
| 2017-04-20 | 2.89 | 2.89% |
| 2017-04-21 | 2.89 | 2.89% |
| 2017-04-24 | 2.93 | 2.93% |
| 2017-04-25 | 2.99 | 2.99% |
| 2017-04-26 | 2.97 | 2.97% |
| 2017-04-27 | 2.96 | 2.96% |
| 2017-04-28 | 2.96 | 2.96% |
| 2017-05-01 | 3.00 | 3.00% |
| 2017-05-02 | 2.97 | 2.97% |
| 2017-05-03 | 2.97 | 2.97% |
| 2017-05-04 | 3.00 | 3.00% |
| 2017-05-05 | 2.99 | 2.99% |
| 2017-05-08 | 3.02 | 3.02% |
| 2017-05-09 | 3.04 | 3.04% |
| 2017-05-10 | 3.03 | 3.03% |
| 2017-05-11 | 3.03 | 3.03% |
| 2017-05-12 | 2.98 | 2.98% |
| 2017-05-15 | 3.00 | 3.00% |
| 2017-05-16 | 2.99 | 2.99% |
| 2017-05-17 | 2.91 | 2.91% |
| 2017-05-18 | 2.90 | 2.90% |
| 2017-05-19 | 2.90 | 2.90% |
| 2017-05-22 | 2.91 | 2.91% |
| 2017-05-23 | 2.95 | 2.95% |
| 2017-05-24 | 2.92 | 2.92% |
| 2017-05-25 | 2.92 | 2.92% |
| 2017-05-26 | 2.92 | 2.92% |
| 2017-05-29 | 0 | |
| 2017-05-30 | 2.88 | 2.88% |
| 2017-05-31 | 2.87 | 2.87% |
| 2017-06-01 | 2.87 | 2.87% |
| 2017-06-02 | 2.80 | 2.80% |
| 2017-06-05 | 2.84 | 2.84% |
| 2017-06-06 | 2.81 | 2.81% |
| 2017-06-07 | 2.84 | 2.84% |
| 2017-06-08 | 2.85 | 2.85% |
| 2017-06-09 | 2.86 | 2.86% |
| 2017-06-12 | 2.86 | 2.86% |
| 2017-06-13 | 2.87 | 2.87% |
| 2017-06-14 | 2.79 | 2.79% |
| 2017-06-15 | 2.78 | 2.78% |
| 2017-06-16 | 2.78 | 2.78% |
| 2017-06-19 | 2.79 | 2.79% |
| 2017-06-20 | 2.74 | 2.74% |
| 2017-06-21 | 2.73 | 2.73% |
| 2017-06-22 | 2.72 | 2.72% |
| 2017-06-23 | 2.71 | 2.71% |
| 2017-06-26 | 2.70 | 2.70% |
| 2017-06-27 | 2.75 | 2.75% |
| 2017-06-28 | 2.77 | 2.77% |
| 2017-06-29 | 2.82 | 2.82% |
| 2017-06-30 | 2.84 | 2.84% |
| 2017-07-03 | 2.86 | 2.86% |
| 2017-07-04 | 0 | |
| 2017-07-05 | 2.85 | 2.85% |
| 2017-07-06 | 2.90 | 2.90% |
| 2017-07-07 | 2.93 | 2.93% |
| 2017-07-10 | 2.93 | 2.93% |
| 2017-07-11 | 2.92 | 2.92% |
| 2017-07-12 | 2.89 | 2.89% |
| 2017-07-13 | 2.92 | 2.92% |
| 2017-07-14 | 2.91 | 2.91% |
| 2017-07-17 | 2.89 | 2.89% |
| 2017-07-18 | 2.85 | 2.85% |
| 2017-07-19 | 2.85 | 2.85% |
| 2017-07-20 | 2.83 | 2.83% |
| 2017-07-21 | 2.81 | 2.81% |
| 2017-07-24 | 2.83 | 2.83% |

DGS30 Market Yield on U.S. Treasury Securities at 30-Year Constant Maturity, Quoted on an Investment Basis, Percent, Daily, Not Seasonally Adjusted

Frequency: Daily

| observation_date | DGS30 | |
|------------------|-------|-------|
| 2017-07-25 | 2.91 | 2.91% |
| 2017-07-26 | 2.89 | 2.89% |
| 2017-07-27 | 2.93 | 2.93% |
| 2017-07-28 | 2.89 | 2.89% |
| 2017-07-31 | 2.89 | 2.89% |
| 2017-08-01 | 2.86 | 2.86% |
| 2017-08-02 | 2.85 | 2.85% |
| 2017-08-03 | 2.81 | 2.81% |
| 2017-08-04 | 2.84 | 2.84% |
| 2017-08-07 | 2.84 | 2.84% |
| 2017-08-08 | 2.86 | 2.86% |
| 2017-08-09 | 2.82 | 2.82% |
| 2017-08-10 | 2.79 | 2.79% |
| 2017-08-11 | 2.79 | 2.79% |
| 2017-08-14 | 2.81 | 2.81% |
| 2017-08-15 | 2.84 | 2.84% |
| 2017-08-16 | 2.81 | 2.81% |
| 2017-08-17 | 2.78 | 2.78% |
| 2017-08-18 | 2.78 | 2.78% |
| 2017-08-21 | 2.77 | 2.77% |
| 2017-08-22 | 2.79 | 2.79% |
| 2017-08-23 | 2.75 | 2.75% |
| 2017-08-24 | 2.77 | 2.77% |
| 2017-08-25 | 2.75 | 2.75% |
| 2017-08-28 | 2.76 | 2.76% |
| 2017-08-29 | 2.74 | 2.74% |
| 2017-08-30 | 2.75 | 2.75% |
| 2017-08-31 | 2.73 | 2.73% |
| 2017-09-01 | 2.77 | 2.77% |
| 2017-09-04 | 0 | |
| 2017-09-05 | 2.69 | 2.69% |
| 2017-09-06 | 2.72 | 2.72% |
| 2017-09-07 | 2.66 | 2.66% |
| 2017-09-08 | 2.67 | 2.67% |
| 2017-09-11 | 2.75 | 2.75% |
| 2017-09-12 | 2.78 | 2.78% |
| 2017-09-13 | 2.79 | 2.79% |
| 2017-09-14 | 2.77 | 2.77% |
| 2017-09-15 | 2.77 | 2.77% |
| 2017-09-18 | 2.80 | 2.80% |
| 2017-09-19 | 2.81 | 2.81% |
| 2017-09-20 | 2.82 | 2.82% |
| 2017-09-21 | 2.80 | 2.80% |
| 2017-09-22 | 2.80 | 2.80% |
| 2017-09-25 | 2.76 | 2.76% |
| 2017-09-26 | 2.78 | 2.78% |
| 2017-09-27 | 2.86 | 2.86% |
| 2017-09-28 | 2.87 | 2.87% |
| 2017-09-29 | 2.86 | 2.86% |
| 2017-10-02 | 2.87 | 2.87% |
| 2017-10-03 | 2.87 | 2.87% |
| 2017-10-04 | 2.87 | 2.87% |
| 2017-10-05 | 2.89 | 2.89% |
| 2017-10-06 | 2.91 | 2.91% |
| 2017-10-09 | 0 | |
| 2017-10-10 | 2.88 | 2.88% |
| 2017-10-11 | 2.88 | 2.88% |
| 2017-10-12 | 2.86 | 2.86% |
| 2017-10-13 | 2.81 | 2.81% |
| 2017-10-16 | 2.82 | 2.82% |
| 2017-10-17 | 2.80 | 2.80% |
| 2017-10-18 | 2.85 | 2.85% |
| 2017-10-19 | 2.83 | 2.83% |
| 2017-10-20 | 2.89 | 2.89% |
| 2017-10-23 | 2.89 | 2.89% |
| 2017-10-24 | 2.92 | 2.92% |
| 2017-10-25 | 2.95 | 2.95% |
| 2017-10-26 | 2.96 | 2.96% |
| 2017-10-27 | 2.93 | 2.93% |
| 2017-10-30 | 2.88 | 2.88% |
| 2017-10-31 | 2.88 | 2.88% |
| 2017-11-01 | 2.85 | 2.85% |
| 2017-11-02 | 2.83 | 2.83% |
| 2017-11-03 | 2.82 | 2.82% |
| 2017-11-06 | 2.80 | 2.80% |
| 2017-11-07 | 2.77 | 2.77% |

DGS30 Market Yield on U.S. Treasury Securities at 30-Year Constant Maturity, Quoted on an Investment Basis, Percent, Daily, Not Seasonally Adjusted

Frequency: Daily

| observation_date | DGS30 | |
|------------------|-------|-------|
| 2017-11-08 | 2.79 | 2.79% |
| 2017-11-09 | 2.81 | 2.81% |
| 2017-11-10 | 2.88 | 2.88% |
| 2017-11-13 | 2.87 | 2.87% |
| 2017-11-14 | 2.84 | 2.84% |
| 2017-11-15 | 2.77 | 2.77% |
| 2017-11-16 | 2.81 | 2.81% |
| 2017-11-17 | 2.78 | 2.78% |
| 2017-11-20 | 2.78 | 2.78% |
| 2017-11-21 | 2.76 | 2.76% |
| 2017-11-22 | 2.75 | 2.75% |
| 2017-11-23 | 0 | |
| 2017-11-24 | 2.76 | 2.76% |
| 2017-11-27 | 2.76 | 2.76% |
| 2017-11-28 | 2.77 | 2.77% |
| 2017-11-29 | 2.81 | 2.81% |
| 2017-11-30 | 2.83 | 2.83% |
| 2017-12-01 | 2.76 | 2.76% |
| 2017-12-04 | 2.77 | 2.77% |
| 2017-12-05 | 2.73 | 2.73% |
| 2017-12-06 | 2.71 | 2.71% |
| 2017-12-07 | 2.76 | 2.76% |
| 2017-12-08 | 2.77 | 2.77% |
| 2017-12-11 | 2.77 | 2.77% |
| 2017-12-12 | 2.79 | 2.79% |
| 2017-12-13 | 2.74 | 2.74% |
| 2017-12-14 | 2.71 | 2.71% |
| 2017-12-15 | 2.68 | 2.68% |
| 2017-12-18 | 2.74 | 2.74% |
| 2017-12-19 | 2.82 | 2.82% |
| 2017-12-20 | 2.88 | 2.88% |
| 2017-12-21 | 2.84 | 2.84% |
| 2017-12-22 | 2.83 | 2.83% |
| 2017-12-25 | 0 | |
| 2017-12-26 | 2.82 | 2.82% |
| 2017-12-27 | 2.75 | 2.75% |
| 2017-12-28 | 2.75 | 2.75% |
| 2017-12-29 | 2.74 | 2.74% |
| 2018-01-01 | 0 | |
| 2018-01-02 | 2.81 | 2.81% |
| 2018-01-03 | 2.78 | 2.78% |
| 2018-01-04 | 2.79 | 2.79% |
| 2018-01-05 | 2.81 | 2.81% |
| 2018-01-08 | 2.81 | 2.81% |
| 2018-01-09 | 2.88 | 2.88% |
| 2018-01-10 | 2.88 | 2.88% |
| 2018-01-11 | 2.91 | 2.91% |
| 2018-01-12 | 2.85 | 2.85% |
| 2018-01-15 | 0 | |
| 2018-01-16 | 2.83 | 2.83% |
| 2018-01-17 | 2.84 | 2.84% |
| 2018-01-18 | 2.90 | 2.90% |
| 2018-01-19 | 2.91 | 2.91% |
| 2018-01-22 | 2.93 | 2.93% |
| 2018-01-23 | 2.90 | 2.90% |
| 2018-01-24 | 2.93 | 2.93% |
| 2018-01-25 | 2.89 | 2.89% |
| 2018-01-26 | 2.91 | 2.91% |
| 2018-01-29 | 2.94 | 2.94% |
| 2018-01-30 | 2.98 | 2.98% |
| 2018-01-31 | 2.95 | 2.95% |
| 2018-02-01 | 3.01 | 3.01% |
| 2018-02-02 | 3.08 | 3.08% |
| 2018-02-05 | 3.04 | 3.04% |
| 2018-02-06 | 3.06 | 3.06% |
| 2018-02-07 | 3.12 | 3.12% |
| 2018-02-08 | 3.14 | 3.14% |
| 2018-02-09 | 3.14 | 3.14% |
| 2018-02-12 | 3.14 | 3.14% |
| 2018-02-13 | 3.11 | 3.11% |
| 2018-02-14 | 3.18 | 3.18% |
| 2018-02-15 | 3.15 | 3.15% |
| 2018-02-16 | 3.13 | 3.13% |
| 2018-02-19 | 0 | |
| 2018-02-20 | 3.15 | 3.15% |
| 2018-02-21 | 3.22 | 3.22% |

DGS30 Market Yield on U.S. Treasury Securities at 30-Year Constant Maturity, Quoted on an Investment Basis, Percent, Daily, Not Seasonally Adjusted

Frequency: Daily

| observation_date | DGS30 | |
|------------------|-------|-------|
| 2018-02-22 | 3.21 | 3.21% |
| 2018-02-23 | 3.16 | 3.16% |
| 2018-02-26 | 3.15 | 3.15% |
| 2018-02-27 | 3.17 | 3.17% |
| 2018-02-28 | 3.13 | 3.13% |
| 2018-03-01 | 3.09 | 3.09% |
| 2018-03-02 | 3.14 | 3.14% |
| 2018-03-05 | 3.16 | 3.16% |
| 2018-03-06 | 3.14 | 3.14% |
| 2018-03-07 | 3.15 | 3.15% |
| 2018-03-08 | 3.13 | 3.13% |
| 2018-03-09 | 3.16 | 3.16% |
| 2018-03-12 | 3.13 | 3.13% |
| 2018-03-13 | 3.10 | 3.10% |
| 2018-03-14 | 3.05 | 3.05% |
| 2018-03-15 | 3.05 | 3.05% |
| 2018-03-16 | 3.08 | 3.08% |
| 2018-03-19 | 3.09 | 3.09% |
| 2018-03-20 | 3.12 | 3.12% |
| 2018-03-21 | 3.12 | 3.12% |
| 2018-03-22 | 3.06 | 3.06% |
| 2018-03-23 | 3.06 | 3.06% |
| 2018-03-26 | 3.08 | 3.08% |
| 2018-03-27 | 3.03 | 3.03% |
| 2018-03-28 | 3.01 | 3.01% |
| 2018-03-29 | 2.97 | 2.97% |
| 2018-03-30 | 0 | |
| 2018-04-02 | 2.97 | 2.97% |
| 2018-04-03 | 3.02 | 3.02% |
| 2018-04-04 | 3.03 | 3.03% |
| 2018-04-05 | 3.07 | 3.07% |
| 2018-04-06 | 3.01 | 3.01% |
| 2018-04-09 | 3.02 | 3.02% |
| 2018-04-10 | 3.02 | 3.02% |
| 2018-04-11 | 2.99 | 2.99% |
| 2018-04-12 | 3.05 | 3.05% |
| 2018-04-13 | 3.03 | 3.03% |
| 2018-04-16 | 3.03 | 3.03% |
| 2018-04-17 | 3.00 | 3.00% |
| 2018-04-18 | 3.06 | 3.06% |
| 2018-04-19 | 3.11 | 3.11% |
| 2018-04-20 | 3.14 | 3.14% |
| 2018-04-23 | 3.15 | 3.15% |
| 2018-04-24 | 3.18 | 3.18% |
| 2018-04-25 | 3.21 | 3.21% |
| 2018-04-26 | 3.18 | 3.18% |
| 2018-04-27 | 3.13 | 3.13% |
| 2018-04-30 | 3.11 | 3.11% |
| 2018-05-01 | 3.13 | 3.13% |
| 2018-05-02 | 3.14 | 3.14% |
| 2018-05-03 | 3.12 | 3.12% |
| 2018-05-04 | 3.12 | 3.12% |
| 2018-05-07 | 3.12 | 3.12% |
| 2018-05-08 | 3.13 | 3.13% |
| 2018-05-09 | 3.16 | 3.16% |
| 2018-05-10 | 3.12 | 3.12% |
| 2018-05-11 | 3.10 | 3.10% |
| 2018-05-14 | 3.13 | 3.13% |
| 2018-05-15 | 3.20 | 3.20% |
| 2018-05-16 | 3.21 | 3.21% |
| 2018-05-17 | 3.25 | 3.25% |
| 2018-05-18 | 3.20 | 3.20% |
| 2018-05-21 | 3.20 | 3.20% |
| 2018-05-22 | 3.21 | 3.21% |
| 2018-05-23 | 3.17 | 3.17% |
| 2018-05-24 | 3.13 | 3.13% |
| 2018-05-25 | 3.09 | 3.09% |
| 2018-05-28 | 0 | |
| 2018-05-29 | 2.96 | 2.96% |
| 2018-05-30 | 3.01 | 3.01% |
| 2018-05-31 | 3.00 | 3.00% |
| 2018-06-01 | 3.04 | 3.04% |
| 2018-06-04 | 3.08 | 3.08% |
| 2018-06-05 | 3.07 | 3.07% |
| 2018-06-06 | 3.13 | 3.13% |
| 2018-06-07 | 3.08 | 3.08% |

DGS30 Market Yield on U.S. Treasury Securities at 30-Year Constant Maturity, Quoted on an Investment Basis, Percent, Daily, Not Seasonally Adjusted

Frequency: Daily

| observation_date | DGS30 | |
|------------------|-------|-------|
| 2018-06-08 | 3.08 | 3.08% |
| 2018-06-11 | 3.10 | 3.10% |
| 2018-06-12 | 3.09 | 3.09% |
| 2018-06-13 | 3.10 | 3.10% |
| 2018-06-14 | 3.05 | 3.05% |
| 2018-06-15 | 3.05 | 3.05% |
| 2018-06-18 | 3.05 | 3.05% |
| 2018-06-19 | 3.02 | 3.02% |
| 2018-06-20 | 3.06 | 3.06% |
| 2018-06-21 | 3.04 | 3.04% |
| 2018-06-22 | 3.04 | 3.04% |
| 2018-06-25 | 3.02 | 3.02% |
| 2018-06-26 | 3.03 | 3.03% |
| 2018-06-27 | 2.97 | 2.97% |
| 2018-06-28 | 2.97 | 2.97% |
| 2018-06-29 | 2.98 | 2.98% |
| 2018-07-02 | 2.99 | 2.99% |
| 2018-07-03 | 2.96 | 2.96% |
| 2018-07-04 | 0 | |
| 2018-07-05 | 2.95 | 2.95% |
| 2018-07-06 | 2.94 | 2.94% |
| 2018-07-09 | 2.96 | 2.96% |
| 2018-07-10 | 2.97 | 2.97% |
| 2018-07-11 | 2.95 | 2.95% |
| 2018-07-12 | 2.95 | 2.95% |
| 2018-07-13 | 2.94 | 2.94% |
| 2018-07-16 | 2.96 | 2.96% |
| 2018-07-17 | 2.97 | 2.97% |
| 2018-07-18 | 2.99 | 2.99% |
| 2018-07-19 | 2.96 | 2.96% |
| 2018-07-20 | 3.03 | 3.03% |
| 2018-07-23 | 3.10 | 3.10% |
| 2018-07-24 | 3.08 | 3.08% |
| 2018-07-25 | 3.06 | 3.06% |
| 2018-07-26 | 3.10 | 3.10% |
| 2018-07-27 | 3.09 | 3.09% |
| 2018-07-30 | 3.11 | 3.11% |
| 2018-07-31 | 3.08 | 3.08% |
| 2018-08-01 | 3.13 | 3.13% |
| 2018-08-02 | 3.12 | 3.12% |
| 2018-08-03 | 3.09 | 3.09% |
| 2018-08-06 | 3.08 | 3.08% |
| 2018-08-07 | 3.12 | 3.12% |
| 2018-08-08 | 3.12 | 3.12% |
| 2018-08-09 | 3.08 | 3.08% |
| 2018-08-10 | 3.03 | 3.03% |
| 2018-08-13 | 3.05 | 3.05% |
| 2018-08-14 | 3.06 | 3.06% |
| 2018-08-15 | 3.03 | 3.03% |
| 2018-08-16 | 3.03 | 3.03% |
| 2018-08-17 | 3.03 | 3.03% |
| 2018-08-20 | 2.99 | 2.99% |
| 2018-08-21 | 3.00 | 3.00% |
| 2018-08-22 | 2.99 | 2.99% |
| 2018-08-23 | 2.97 | 2.97% |
| 2018-08-24 | 2.97 | 2.97% |
| 2018-08-27 | 3.00 | 3.00% |
| 2018-08-28 | 3.03 | 3.03% |
| 2018-08-29 | 3.02 | 3.02% |
| 2018-08-30 | 3.00 | 3.00% |
| 2018-08-31 | 3.02 | 3.02% |
| 2018-09-03 | 0 | |
| 2018-09-04 | 3.07 | 3.07% |
| 2018-09-05 | 3.08 | 3.08% |
| 2018-09-06 | 3.06 | 3.06% |
| 2018-09-07 | 3.11 | 3.11% |
| 2018-09-10 | 3.09 | 3.09% |
| 2018-09-11 | 3.13 | 3.13% |
| 2018-09-12 | 3.11 | 3.11% |
| 2018-09-13 | 3.11 | 3.11% |
| 2018-09-14 | 3.13 | 3.13% |
| 2018-09-17 | 3.13 | 3.13% |
| 2018-09-18 | 3.20 | 3.20% |
| 2018-09-19 | 3.23 | 3.23% |
| 2018-09-20 | 3.21 | 3.21% |
| 2018-09-21 | 3.20 | 3.20% |

DGS30 Market Yield on U.S. Treasury Securities at 30-Year Constant Maturity, Quoted on an Investment Basis, Percent, Daily, Not Seasonally Adjusted

Frequency: Daily

| observation_date | DGS30 | |
|------------------|-------|-------|
| 2018-09-24 | 3.21 | 3.21% |
| 2018-09-25 | 3.23 | 3.23% |
| 2018-09-26 | 3.19 | 3.19% |
| 2018-09-27 | 3.19 | 3.19% |
| 2018-09-28 | 3.19 | 3.19% |
| 2018-10-01 | 3.24 | 3.24% |
| 2018-10-02 | 3.20 | 3.20% |
| 2018-10-03 | 3.30 | 3.30% |
| 2018-10-04 | 3.35 | 3.35% |
| 2018-10-05 | 3.40 | 3.40% |
| 2018-10-08 | 0 | |
| 2018-10-09 | 3.37 | 3.37% |
| 2018-10-10 | 3.39 | 3.39% |
| 2018-10-11 | 3.32 | 3.32% |
| 2018-10-12 | 3.32 | 3.32% |
| 2018-10-15 | 3.34 | 3.34% |
| 2018-10-16 | 3.32 | 3.32% |
| 2018-10-17 | 3.35 | 3.35% |
| 2018-10-18 | 3.36 | 3.36% |
| 2018-10-19 | 3.38 | 3.38% |
| 2018-10-22 | 3.38 | 3.38% |
| 2018-10-23 | 3.37 | 3.37% |
| 2018-10-24 | 3.33 | 3.33% |
| 2018-10-25 | 3.35 | 3.35% |
| 2018-10-26 | 3.32 | 3.32% |
| 2018-10-29 | 3.33 | 3.33% |
| 2018-10-30 | 3.36 | 3.36% |
| 2018-10-31 | 3.39 | 3.39% |
| 2018-11-01 | 3.38 | 3.38% |
| 2018-11-02 | 3.46 | 3.46% |
| 2018-11-05 | 3.43 | 3.43% |
| 2018-11-06 | 3.43 | 3.43% |
| 2018-11-07 | 3.43 | 3.43% |
| 2018-11-08 | 3.43 | 3.43% |
| 2018-11-09 | 3.40 | 3.40% |
| 2018-11-12 | 0 | |
| 2018-11-13 | 3.36 | 3.36% |
| 2018-11-14 | 3.35 | 3.35% |
| 2018-11-15 | 3.36 | 3.36% |
| 2018-11-16 | 3.33 | 3.33% |
| 2018-11-19 | 3.32 | 3.32% |
| 2018-11-20 | 3.31 | 3.31% |
| 2018-11-21 | 3.31 | 3.31% |
| 2018-11-22 | 0 | |
| 2018-11-23 | 3.31 | 3.31% |
| 2018-11-26 | 3.32 | 3.32% |
| 2018-11-27 | 3.32 | 3.32% |
| 2018-11-28 | 3.34 | 3.34% |
| 2018-11-29 | 3.33 | 3.33% |
| 2018-11-30 | 3.30 | 3.30% |
| 2018-12-03 | 3.27 | 3.27% |
| 2018-12-04 | 3.16 | 3.16% |
| 2018-12-05 | 0 | |
| 2018-12-06 | 3.14 | 3.14% |
| 2018-12-07 | 3.14 | 3.14% |
| 2018-12-10 | 3.13 | 3.13% |
| 2018-12-11 | 3.13 | 3.13% |
| 2018-12-12 | 3.15 | 3.15% |
| 2018-12-13 | 3.16 | 3.16% |
| 2018-12-14 | 3.14 | 3.14% |
| 2018-12-17 | 3.11 | 3.11% |
| 2018-12-18 | 3.07 | 3.07% |
| 2018-12-19 | 3.00 | 3.00% |
| 2018-12-20 | 3.02 | 3.02% |
| 2018-12-21 | 3.03 | 3.03% |
| 2018-12-24 | 3.00 | 3.00% |
| 2018-12-25 | 0 | |
| 2018-12-26 | 3.06 | 3.06% |
| 2018-12-27 | 3.05 | 3.05% |
| 2018-12-28 | 3.04 | 3.04% |
| 2018-12-31 | 3.02 | 3.02% |
| 2019-01-01 | 0 | |
| 2019-01-02 | 2.97 | 2.97% |
| 2019-01-03 | 2.92 | 2.92% |
| 2019-01-04 | 2.98 | 2.98% |
| 2019-01-07 | 2.99 | 2.99% |

DGS30 Market Yield on U.S. Treasury Securities at 30-Year Constant Maturity, Quoted on an Investment Basis, Percent, Daily, Not Seasonally Adjusted

Frequency: Daily

| observation_date | DGS30 | |
|------------------|-------|-------|
| 2019-01-08 | 3.00 | 3.00% |
| 2019-01-09 | 3.03 | 3.03% |
| 2019-01-10 | 3.06 | 3.06% |
| 2019-01-11 | 3.04 | 3.04% |
| 2019-01-14 | 3.06 | 3.06% |
| 2019-01-15 | 3.08 | 3.08% |
| 2019-01-16 | 3.07 | 3.07% |
| 2019-01-17 | 3.07 | 3.07% |
| 2019-01-18 | 3.09 | 3.09% |
| 2019-01-21 | 0 | |
| 2019-01-22 | 3.06 | 3.06% |
| 2019-01-23 | 3.07 | 3.07% |
| 2019-01-24 | 3.04 | 3.04% |
| 2019-01-25 | 3.06 | 3.06% |
| 2019-01-28 | 3.06 | 3.06% |
| 2019-01-29 | 3.04 | 3.04% |
| 2019-01-30 | 3.06 | 3.06% |
| 2019-01-31 | 2.99 | 2.99% |
| 2019-02-01 | 3.03 | 3.03% |
| 2019-02-04 | 3.06 | 3.06% |
| 2019-02-05 | 3.03 | 3.03% |
| 2019-02-06 | 3.03 | 3.03% |
| 2019-02-07 | 3.00 | 3.00% |
| 2019-02-08 | 2.97 | 2.97% |
| 2019-02-11 | 3.00 | 3.00% |
| 2019-02-12 | 3.02 | 3.02% |
| 2019-02-13 | 3.04 | 3.04% |
| 2019-02-14 | 3.01 | 3.01% |
| 2019-02-15 | 3.00 | 3.00% |
| 2019-02-18 | 0 | |
| 2019-02-19 | 2.99 | 2.99% |
| 2019-02-20 | 3.00 | 3.00% |
| 2019-02-21 | 3.05 | 3.05% |
| 2019-02-22 | 3.02 | 3.02% |
| 2019-02-25 | 3.03 | 3.03% |
| 2019-02-26 | 3.01 | 3.01% |
| 2019-02-27 | 3.07 | 3.07% |
| 2019-02-28 | 3.09 | 3.09% |
| 2019-03-01 | 3.13 | 3.13% |
| 2019-03-04 | 3.09 | 3.09% |
| 2019-03-05 | 3.08 | 3.08% |
| 2019-03-06 | 3.06 | 3.06% |
| 2019-03-07 | 3.03 | 3.03% |
| 2019-03-08 | 3.00 | 3.00% |
| 2019-03-11 | 3.03 | 3.03% |
| 2019-03-12 | 3.00 | 3.00% |
| 2019-03-13 | 3.02 | 3.02% |
| 2019-03-14 | 3.04 | 3.04% |
| 2019-03-15 | 3.02 | 3.02% |
| 2019-03-18 | 3.01 | 3.01% |
| 2019-03-19 | 3.02 | 3.02% |
| 2019-03-20 | 2.98 | 2.98% |
| 2019-03-21 | 2.96 | 2.96% |
| 2019-03-22 | 2.88 | 2.88% |
| 2019-03-25 | 2.87 | 2.87% |
| 2019-03-26 | 2.86 | 2.86% |
| 2019-03-27 | 2.83 | 2.83% |
| 2019-03-28 | 2.81 | 2.81% |
| 2019-03-29 | 2.81 | 2.81% |
| 2019-04-01 | 2.89 | 2.89% |
| 2019-04-02 | 2.88 | 2.88% |
| 2019-04-03 | 2.93 | 2.93% |
| 2019-04-04 | 2.92 | 2.92% |
| 2019-04-05 | 2.91 | 2.91% |
| 2019-04-08 | 2.93 | 2.93% |
| 2019-04-09 | 2.92 | 2.92% |
| 2019-04-10 | 2.90 | 2.90% |
| 2019-04-11 | 2.94 | 2.94% |
| 2019-04-12 | 2.97 | 2.97% |
| 2019-04-15 | 2.96 | 2.96% |
| 2019-04-16 | 2.99 | 2.99% |
| 2019-04-17 | 2.99 | 2.99% |
| 2019-04-18 | 2.96 | 2.96% |
| 2019-04-19 | 0 | |
| 2019-04-22 | 2.99 | 2.99% |
| 2019-04-23 | 2.98 | 2.98% |

DGS30 Market Yield on U.S. Treasury Securities at 30-Year Constant Maturity, Quoted on an Investment Basis, Percent, Daily, Not Seasonally Adjusted

Frequency: Daily

| observation_date | DGS30 | |
|------------------|-------|-------|
| 2019-04-24 | 2.94 | 2.94% |
| 2019-04-25 | 2.94 | 2.94% |
| 2019-04-26 | 2.92 | 2.92% |
| 2019-04-29 | 2.96 | 2.96% |
| 2019-04-30 | 2.93 | 2.93% |
| 2019-05-01 | 2.92 | 2.92% |
| 2019-05-02 | 2.94 | 2.94% |
| 2019-05-03 | 2.93 | 2.93% |
| 2019-05-06 | 2.91 | 2.91% |
| 2019-05-07 | 2.86 | 2.86% |
| 2019-05-08 | 2.89 | 2.89% |
| 2019-05-09 | 2.87 | 2.87% |
| 2019-05-10 | 2.89 | 2.89% |
| 2019-05-13 | 2.83 | 2.83% |
| 2019-05-14 | 2.86 | 2.86% |
| 2019-05-15 | 2.82 | 2.82% |
| 2019-05-16 | 2.84 | 2.84% |
| 2019-05-17 | 2.82 | 2.82% |
| 2019-05-20 | 2.83 | 2.83% |
| 2019-05-21 | 2.84 | 2.84% |
| 2019-05-22 | 2.82 | 2.82% |
| 2019-05-23 | 2.75 | 2.75% |
| 2019-05-24 | 2.75 | 2.75% |
| 2019-05-27 | 0 | |
| 2019-05-28 | 2.70 | 2.70% |
| 2019-05-29 | 2.69 | 2.69% |
| 2019-05-30 | 2.65 | 2.65% |
| 2019-05-31 | 2.58 | 2.58% |
| 2019-06-03 | 2.53 | 2.53% |
| 2019-06-04 | 2.60 | 2.60% |
| 2019-06-05 | 2.63 | 2.63% |
| 2019-06-06 | 2.62 | 2.62% |
| 2019-06-07 | 2.57 | 2.57% |
| 2019-06-10 | 2.62 | 2.62% |
| 2019-06-11 | 2.62 | 2.62% |
| 2019-06-12 | 2.62 | 2.62% |
| 2019-06-13 | 2.61 | 2.61% |
| 2019-06-14 | 2.59 | 2.59% |
| 2019-06-17 | 2.58 | 2.58% |
| 2019-06-18 | 2.55 | 2.55% |
| 2019-06-19 | 2.54 | 2.54% |
| 2019-06-20 | 2.53 | 2.53% |
| 2019-06-21 | 2.59 | 2.59% |
| 2019-06-24 | 2.55 | 2.55% |
| 2019-06-25 | 2.53 | 2.53% |
| 2019-06-26 | 2.57 | 2.57% |
| 2019-06-27 | 2.52 | 2.52% |
| 2019-06-28 | 2.52 | 2.52% |
| 2019-07-01 | 2.55 | 2.55% |
| 2019-07-02 | 2.51 | 2.51% |
| 2019-07-03 | 2.47 | 2.47% |
| 2019-07-04 | 0 | |
| 2019-07-05 | 2.54 | 2.54% |
| 2019-07-08 | 2.53 | 2.53% |
| 2019-07-09 | 2.54 | 2.54% |
| 2019-07-10 | 2.57 | 2.57% |
| 2019-07-11 | 2.65 | 2.65% |
| 2019-07-12 | 2.64 | 2.64% |
| 2019-07-15 | 2.61 | 2.61% |
| 2019-07-16 | 2.63 | 2.63% |
| 2019-07-17 | 2.57 | 2.57% |
| 2019-07-18 | 2.56 | 2.56% |
| 2019-07-19 | 2.57 | 2.57% |
| 2019-07-22 | 2.58 | 2.58% |
| 2019-07-23 | 2.61 | 2.61% |
| 2019-07-24 | 2.58 | 2.58% |
| 2019-07-25 | 2.60 | 2.60% |
| 2019-07-26 | 2.59 | 2.59% |
| 2019-07-29 | 2.59 | 2.59% |
| 2019-07-30 | 2.58 | 2.58% |
| 2019-07-31 | 2.53 | 2.53% |
| 2019-08-01 | 2.44 | 2.44% |
| 2019-08-02 | 2.39 | 2.39% |
| 2019-08-05 | 2.30 | 2.30% |
| 2019-08-06 | 2.25 | 2.25% |
| 2019-08-07 | 2.22 | 2.22% |

DGS30 Market Yield on U.S. Treasury Securities at 30-Year Constant Maturity, Quoted on an Investment Basis, Percent, Daily, Not Seasonally Adjusted

Frequency: Daily

| observation_date | DGS30 | |
|------------------|-------|-------|
| 2019-08-08 | 2.25 | 2.25% |
| 2019-08-09 | 2.26 | 2.26% |
| 2019-08-12 | 2.14 | 2.14% |
| 2019-08-13 | 2.15 | 2.15% |
| 2019-08-14 | 2.03 | 2.03% |
| 2019-08-15 | 1.98 | 1.98% |
| 2019-08-16 | 2.01 | 2.01% |
| 2019-08-19 | 2.08 | 2.08% |
| 2019-08-20 | 2.04 | 2.04% |
| 2019-08-21 | 2.07 | 2.07% |
| 2019-08-22 | 2.11 | 2.11% |
| 2019-08-23 | 2.02 | 2.02% |
| 2019-08-26 | 2.04 | 2.04% |
| 2019-08-27 | 1.97 | 1.97% |
| 2019-08-28 | 1.94 | 1.94% |
| 2019-08-29 | 1.97 | 1.97% |
| 2019-08-30 | 1.96 | 1.96% |
| 2019-09-02 | 0 | |
| 2019-09-03 | 1.95 | 1.95% |
| 2019-09-04 | 1.97 | 1.97% |
| 2019-09-05 | 2.06 | 2.06% |
| 2019-09-06 | 2.02 | 2.02% |
| 2019-09-09 | 2.11 | 2.11% |
| 2019-09-10 | 2.19 | 2.19% |
| 2019-09-11 | 2.22 | 2.22% |
| 2019-09-12 | 2.22 | 2.22% |
| 2019-09-13 | 2.37 | 2.37% |
| 2019-09-16 | 2.31 | 2.31% |
| 2019-09-17 | 2.27 | 2.27% |
| 2019-09-18 | 2.25 | 2.25% |
| 2019-09-19 | 2.22 | 2.22% |
| 2019-09-20 | 2.17 | 2.17% |
| 2019-09-23 | 2.16 | 2.16% |
| 2019-09-24 | 2.09 | 2.09% |
| 2019-09-25 | 2.18 | 2.18% |
| 2019-09-26 | 2.15 | 2.15% |
| 2019-09-27 | 2.13 | 2.13% |
| 2019-09-30 | 2.12 | 2.12% |
| 2019-10-01 | 2.11 | 2.11% |
| 2019-10-02 | 2.09 | 2.09% |
| 2019-10-03 | 2.04 | 2.04% |
| 2019-10-04 | 2.01 | 2.01% |
| 2019-10-07 | 2.05 | 2.05% |
| 2019-10-08 | 2.04 | 2.04% |
| 2019-10-09 | 2.08 | 2.08% |
| 2019-10-10 | 2.16 | 2.16% |
| 2019-10-11 | 2.22 | 2.22% |
| 2019-10-14 | 0 | |
| 2019-10-15 | 2.23 | 2.23% |
| 2019-10-16 | 2.23 | 2.23% |
| 2019-10-17 | 2.24 | 2.24% |
| 2019-10-18 | 2.25 | 2.25% |
| 2019-10-21 | 2.28 | 2.28% |
| 2019-10-22 | 2.26 | 2.26% |
| 2019-10-23 | 2.25 | 2.25% |
| 2019-10-24 | 2.26 | 2.26% |
| 2019-10-25 | 2.29 | 2.29% |
| 2019-10-28 | 2.34 | 2.34% |
| 2019-10-29 | 2.33 | 2.33% |
| 2019-10-30 | 2.26 | 2.26% |
| 2019-10-31 | 2.17 | 2.17% |
| 2019-11-01 | 2.21 | 2.21% |
| 2019-11-04 | 2.27 | 2.27% |
| 2019-11-05 | 2.34 | 2.34% |
| 2019-11-06 | 2.30 | 2.30% |
| 2019-11-07 | 2.40 | 2.40% |
| 2019-11-08 | 2.43 | 2.43% |
| 2019-11-11 | 0 | |
| 2019-11-12 | 2.39 | 2.39% |
| 2019-11-13 | 2.36 | 2.36% |
| 2019-11-14 | 2.31 | 2.31% |
| 2019-11-15 | 2.31 | 2.31% |
| 2019-11-18 | 2.30 | 2.30% |
| 2019-11-19 | 2.26 | 2.26% |
| 2019-11-20 | 2.20 | 2.20% |
| 2019-11-21 | 2.24 | 2.24% |

DGS30 Market Yield on U.S. Treasury Securities at 30-Year Constant Maturity, Quoted on an Investment Basis, Percent, Daily, Not Seasonally Adjusted

Frequency: Daily

| observation_date | DGS30 | |
|------------------|-------|-------|
| 2019-11-22 | 2.22 | 2.22% |
| 2019-11-25 | 2.21 | 2.21% |
| 2019-11-26 | 2.18 | 2.18% |
| 2019-11-27 | 2.19 | 2.19% |
| 2019-11-28 | 0 | |
| 2019-11-29 | 2.21 | 2.21% |
| 2019-12-02 | 2.28 | 2.28% |
| 2019-12-03 | 2.17 | 2.17% |
| 2019-12-04 | 2.22 | 2.22% |
| 2019-12-05 | 2.24 | 2.24% |
| 2019-12-06 | 2.29 | 2.29% |
| 2019-12-09 | 2.27 | 2.27% |
| 2019-12-10 | 2.26 | 2.26% |
| 2019-12-11 | 2.23 | 2.23% |
| 2019-12-12 | 2.32 | 2.32% |
| 2019-12-13 | 2.26 | 2.26% |
| 2019-12-16 | 2.30 | 2.30% |
| 2019-12-17 | 2.31 | 2.31% |
| 2019-12-18 | 2.35 | 2.35% |
| 2019-12-19 | 2.35 | 2.35% |
| 2019-12-20 | 2.34 | 2.34% |
| 2019-12-23 | 2.35 | 2.35% |
| 2019-12-24 | 2.33 | 2.33% |
| 2019-12-25 | 0 | |
| 2019-12-26 | 2.33 | 2.33% |
| 2019-12-27 | 2.32 | 2.32% |
| 2019-12-30 | 2.34 | 2.34% |
| 2019-12-31 | 2.39 | 2.39% |
| 2020-01-01 | 0 | |
| 2020-01-02 | 2.33 | 2.33% |
| 2020-01-03 | 2.26 | 2.26% |
| 2020-01-06 | 2.28 | 2.28% |
| 2020-01-07 | 2.31 | 2.31% |
| 2020-01-08 | 2.35 | 2.35% |
| 2020-01-09 | 2.38 | 2.38% |
| 2020-01-10 | 2.28 | 2.28% |
| 2020-01-13 | 2.30 | 2.30% |
| 2020-01-14 | 2.27 | 2.27% |
| 2020-01-15 | 2.23 | 2.23% |
| 2020-01-16 | 2.26 | 2.26% |
| 2020-01-17 | 2.29 | 2.29% |
| 2020-01-20 | 0 | |
| 2020-01-21 | 2.23 | 2.23% |
| 2020-01-22 | 2.22 | 2.22% |
| 2020-01-23 | 2.18 | 2.18% |
| 2020-01-24 | 2.14 | 2.14% |
| 2020-01-27 | 2.05 | 2.05% |
| 2020-01-28 | 2.10 | 2.10% |
| 2020-01-29 | 2.05 | 2.05% |
| 2020-01-30 | 2.04 | 2.04% |
| 2020-01-31 | 1.99 | 1.99% |
| 2020-02-03 | 2.01 | 2.01% |
| 2020-02-04 | 2.08 | 2.08% |
| 2020-02-05 | 2.14 | 2.14% |
| 2020-02-06 | 2.11 | 2.11% |
| 2020-02-07 | 2.05 | 2.05% |
| 2020-02-10 | 2.03 | 2.03% |
| 2020-02-11 | 2.05 | 2.05% |
| 2020-02-12 | 2.09 | 2.09% |
| 2020-02-13 | 2.07 | 2.07% |
| 2020-02-14 | 2.04 | 2.04% |
| 2020-02-17 | 0 | |
| 2020-02-18 | 2.00 | 2.00% |
| 2020-02-19 | 2.01 | 2.01% |
| 2020-02-20 | 1.97 | 1.97% |
| 2020-02-21 | 1.90 | 1.90% |
| 2020-02-24 | 1.84 | 1.84% |
| 2020-02-25 | 1.80 | 1.80% |
| 2020-02-26 | 1.81 | 1.81% |
| 2020-02-27 | 1.79 | 1.79% |
| 2020-02-28 | 1.65 | 1.65% |
| 2020-03-02 | 1.66 | 1.66% |
| 2020-03-03 | 1.64 | 1.64% |
| 2020-03-04 | 1.67 | 1.67% |
| 2020-03-05 | 1.56 | 1.56% |
| 2020-03-06 | 1.25 | 1.25% |

DGS30 Market Yield on U.S. Treasury Securities at 30-Year Constant Maturity, Quoted on an Investment Basis, Percent, Daily, Not Seasonally Adjusted

Frequency: Daily

| observation_date | DGS30 | |
|------------------|-------|-------|
| 2020-03-09 | 0.99 | 0.99% |
| 2020-03-10 | 1.28 | 1.28% |
| 2020-03-11 | 1.30 | 1.30% |
| 2020-03-12 | 1.49 | 1.49% |
| 2020-03-13 | 1.56 | 1.56% |
| 2020-03-16 | 1.34 | 1.34% |
| 2020-03-17 | 1.63 | 1.63% |
| 2020-03-18 | 1.77 | 1.77% |
| 2020-03-19 | 1.78 | 1.78% |
| 2020-03-20 | 1.55 | 1.55% |
| 2020-03-23 | 1.33 | 1.33% |
| 2020-03-24 | 1.39 | 1.39% |
| 2020-03-25 | 1.45 | 1.45% |
| 2020-03-26 | 1.42 | 1.42% |
| 2020-03-27 | 1.29 | 1.29% |
| 2020-03-30 | 1.31 | 1.31% |
| 2020-03-31 | 1.35 | 1.35% |
| 2020-04-01 | 1.27 | 1.27% |
| 2020-04-02 | 1.26 | 1.26% |
| 2020-04-03 | 1.24 | 1.24% |
| 2020-04-06 | 1.27 | 1.27% |
| 2020-04-07 | 1.32 | 1.32% |
| 2020-04-08 | 1.37 | 1.37% |
| 2020-04-09 | 1.35 | 1.35% |
| 2020-04-10 | 0 | |
| 2020-04-13 | 1.39 | 1.39% |
| 2020-04-14 | 1.41 | 1.41% |
| 2020-04-15 | 1.27 | 1.27% |
| 2020-04-16 | 1.21 | 1.21% |
| 2020-04-17 | 1.27 | 1.27% |
| 2020-04-20 | 1.23 | 1.23% |
| 2020-04-21 | 1.17 | 1.17% |
| 2020-04-22 | 1.22 | 1.22% |
| 2020-04-23 | 1.18 | 1.18% |
| 2020-04-24 | 1.17 | 1.17% |
| 2020-04-27 | 1.25 | 1.25% |
| 2020-04-28 | 1.20 | 1.20% |
| 2020-04-29 | 1.24 | 1.24% |
| 2020-04-30 | 1.28 | 1.28% |
| 2020-05-01 | 1.27 | 1.27% |
| 2020-05-04 | 1.29 | 1.29% |
| 2020-05-05 | 1.32 | 1.32% |
| 2020-05-06 | 1.41 | 1.41% |
| 2020-05-07 | 1.31 | 1.31% |
| 2020-05-08 | 1.39 | 1.39% |
| 2020-05-11 | 1.43 | 1.43% |
| 2020-05-12 | 1.38 | 1.38% |
| 2020-05-13 | 1.35 | 1.35% |
| 2020-05-14 | 1.30 | 1.30% |
| 2020-05-15 | 1.32 | 1.32% |
| 2020-05-18 | 1.44 | 1.44% |
| 2020-05-19 | 1.43 | 1.43% |
| 2020-05-20 | 1.40 | 1.40% |
| 2020-05-21 | 1.40 | 1.40% |
| 2020-05-22 | 1.37 | 1.37% |
| 2020-05-25 | 0 | |
| 2020-05-26 | 1.43 | 1.43% |
| 2020-05-27 | 1.44 | 1.44% |
| 2020-05-28 | 1.47 | 1.47% |
| 2020-05-29 | 1.41 | 1.41% |
| 2020-06-01 | 1.46 | 1.46% |
| 2020-06-02 | 1.48 | 1.48% |
| 2020-06-03 | 1.56 | 1.56% |
| 2020-06-04 | 1.61 | 1.61% |
| 2020-06-05 | 1.68 | 1.68% |
| 2020-06-08 | 1.65 | 1.65% |
| 2020-06-09 | 1.59 | 1.59% |
| 2020-06-10 | 1.53 | 1.53% |
| 2020-06-11 | 1.41 | 1.41% |
| 2020-06-12 | 1.45 | 1.45% |
| 2020-06-15 | 1.45 | 1.45% |
| 2020-06-16 | 1.54 | 1.54% |
| 2020-06-17 | 1.52 | 1.52% |
| 2020-06-18 | 1.47 | 1.47% |
| 2020-06-19 | 1.47 | 1.47% |
| 2020-06-22 | 1.46 | 1.46% |

DGS30 Market Yield on U.S. Treasury Securities at 30-Year Constant Maturity, Quoted on an Investment Basis, Percent, Daily, Not Seasonally Adjusted

Frequency: Daily

| observation_date | DGS30 | |
|------------------|-------|-------|
| 2020-06-23 | 1.49 | 1.49% |
| 2020-06-24 | 1.44 | 1.44% |
| 2020-06-25 | 1.43 | 1.43% |
| 2020-06-26 | 1.37 | 1.37% |
| 2020-06-29 | 1.39 | 1.39% |
| 2020-06-30 | 1.41 | 1.41% |
| 2020-07-01 | 1.43 | 1.43% |
| 2020-07-02 | 1.43 | 1.43% |
| 2020-07-03 | 0 | |
| 2020-07-06 | 1.45 | 1.45% |
| 2020-07-07 | 1.38 | 1.38% |
| 2020-07-08 | 1.39 | 1.39% |
| 2020-07-09 | 1.32 | 1.32% |
| 2020-07-10 | 1.33 | 1.33% |
| 2020-07-13 | 1.33 | 1.33% |
| 2020-07-14 | 1.30 | 1.30% |
| 2020-07-15 | 1.33 | 1.33% |
| 2020-07-16 | 1.31 | 1.31% |
| 2020-07-17 | 1.33 | 1.33% |
| 2020-07-20 | 1.32 | 1.32% |
| 2020-07-21 | 1.31 | 1.31% |
| 2020-07-22 | 1.29 | 1.29% |
| 2020-07-23 | 1.24 | 1.24% |
| 2020-07-24 | 1.23 | 1.23% |
| 2020-07-27 | 1.25 | 1.25% |
| 2020-07-28 | 1.22 | 1.22% |
| 2020-07-29 | 1.24 | 1.24% |
| 2020-07-30 | 1.20 | 1.20% |
| 2020-07-31 | 1.20 | 1.20% |
| 2020-08-03 | 1.23 | 1.23% |
| 2020-08-04 | 1.19 | 1.19% |
| 2020-08-05 | 1.22 | 1.22% |
| 2020-08-06 | 1.20 | 1.20% |
| 2020-08-07 | 1.23 | 1.23% |
| 2020-08-10 | 1.25 | 1.25% |
| 2020-08-11 | 1.32 | 1.32% |
| 2020-08-12 | 1.37 | 1.37% |
| 2020-08-13 | 1.42 | 1.42% |
| 2020-08-14 | 1.45 | 1.45% |
| 2020-08-17 | 1.43 | 1.43% |
| 2020-08-18 | 1.40 | 1.40% |
| 2020-08-19 | 1.42 | 1.42% |
| 2020-08-20 | 1.38 | 1.38% |
| 2020-08-21 | 1.35 | 1.35% |
| 2020-08-24 | 1.35 | 1.35% |
| 2020-08-25 | 1.39 | 1.39% |
| 2020-08-26 | 1.41 | 1.41% |
| 2020-08-27 | 1.50 | 1.50% |
| 2020-08-28 | 1.52 | 1.52% |
| 2020-08-31 | 1.49 | 1.49% |
| 2020-09-01 | 1.43 | 1.43% |
| 2020-09-02 | 1.38 | 1.38% |
| 2020-09-03 | 1.34 | 1.34% |
| 2020-09-04 | 1.46 | 1.46% |
| 2020-09-07 | 0 | |
| 2020-09-08 | 1.43 | 1.43% |
| 2020-09-09 | 1.45 | 1.45% |
| 2020-09-10 | 1.43 | 1.43% |
| 2020-09-11 | 1.42 | 1.42% |
| 2020-09-14 | 1.42 | 1.42% |
| 2020-09-15 | 1.43 | 1.43% |
| 2020-09-16 | 1.45 | 1.45% |
| 2020-09-17 | 1.43 | 1.43% |
| 2020-09-18 | 1.45 | 1.45% |
| 2020-09-21 | 1.43 | 1.43% |
| 2020-09-22 | 1.42 | 1.42% |
| 2020-09-23 | 1.42 | 1.42% |
| 2020-09-24 | 1.40 | 1.40% |
| 2020-09-25 | 1.40 | 1.40% |
| 2020-09-28 | 1.42 | 1.42% |
| 2020-09-29 | 1.41 | 1.41% |
| 2020-09-30 | 1.46 | 1.46% |
| 2020-10-01 | 1.45 | 1.45% |
| 2020-10-02 | 1.48 | 1.48% |
| 2020-10-05 | 1.57 | 1.57% |
| 2020-10-06 | 1.56 | 1.56% |

DGS30 Market Yield on U.S. Treasury Securities at 30-Year Constant Maturity, Quoted on an Investment Basis, Percent, Daily, Not Seasonally Adjusted

Frequency: Daily

| observation_date | DGS30 | |
|------------------|-------|-------|
| 2020-10-07 | 1.60 | 1.60% |
| 2020-10-08 | 1.57 | 1.57% |
| 2020-10-09 | 1.58 | 1.58% |
| 2020-10-12 | 0 | |
| 2020-10-13 | 1.52 | 1.52% |
| 2020-10-14 | 1.50 | 1.50% |
| 2020-10-15 | 1.52 | 1.52% |
| 2020-10-16 | 1.52 | 1.52% |
| 2020-10-19 | 1.55 | 1.55% |
| 2020-10-20 | 1.60 | 1.60% |
| 2020-10-21 | 1.62 | 1.62% |
| 2020-10-22 | 1.67 | 1.67% |
| 2020-10-23 | 1.64 | 1.64% |
| 2020-10-26 | 1.59 | 1.59% |
| 2020-10-27 | 1.57 | 1.57% |
| 2020-10-28 | 1.56 | 1.56% |
| 2020-10-29 | 1.62 | 1.62% |
| 2020-10-30 | 1.65 | 1.65% |
| 2020-11-02 | 1.63 | 1.63% |
| 2020-11-03 | 1.66 | 1.66% |
| 2020-11-04 | 1.55 | 1.55% |
| 2020-11-05 | 1.54 | 1.54% |
| 2020-11-06 | 1.60 | 1.60% |
| 2020-11-09 | 1.73 | 1.73% |
| 2020-11-10 | 1.75 | 1.75% |
| 2020-11-11 | 0 | |
| 2020-11-12 | 1.64 | 1.64% |
| 2020-11-13 | 1.65 | 1.65% |
| 2020-11-16 | 1.66 | 1.66% |
| 2020-11-17 | 1.62 | 1.62% |
| 2020-11-18 | 1.62 | 1.62% |
| 2020-11-19 | 1.58 | 1.58% |
| 2020-11-20 | 1.53 | 1.53% |
| 2020-11-23 | 1.56 | 1.56% |
| 2020-11-24 | 1.60 | 1.60% |
| 2020-11-25 | 1.62 | 1.62% |
| 2020-11-26 | 0 | |
| 2020-11-27 | 1.57 | 1.57% |
| 2020-11-30 | 1.58 | 1.58% |
| 2020-12-01 | 1.66 | 1.66% |
| 2020-12-02 | 1.70 | 1.70% |
| 2020-12-03 | 1.67 | 1.67% |
| 2020-12-04 | 1.73 | 1.73% |
| 2020-12-07 | 1.69 | 1.69% |
| 2020-12-08 | 1.67 | 1.67% |
| 2020-12-09 | 1.69 | 1.69% |
| 2020-12-10 | 1.65 | 1.65% |
| 2020-12-11 | 1.63 | 1.63% |
| 2020-12-14 | 1.63 | 1.63% |
| 2020-12-15 | 1.65 | 1.65% |
| 2020-12-16 | 1.66 | 1.66% |
| 2020-12-17 | 1.68 | 1.68% |
| 2020-12-18 | 1.70 | 1.70% |
| 2020-12-21 | 1.68 | 1.68% |
| 2020-12-22 | 1.65 | 1.65% |
| 2020-12-23 | 1.70 | 1.70% |
| 2020-12-24 | 1.66 | 1.66% |
| 2020-12-25 | 0 | |
| 2020-12-28 | 1.67 | 1.67% |
| 2020-12-29 | 1.67 | 1.67% |
| 2020-12-30 | 1.66 | 1.66% |
| 2020-12-31 | 1.65 | 1.65% |
| 2021-01-01 | 0 | |
| 2021-01-04 | 1.66 | 1.66% |
| 2021-01-05 | 1.70 | 1.70% |
| 2021-01-06 | 1.81 | 1.81% |
| 2021-01-07 | 1.85 | 1.85% |
| 2021-01-08 | 1.87 | 1.87% |
| 2021-01-11 | 1.88 | 1.88% |
| 2021-01-12 | 1.88 | 1.88% |
| 2021-01-13 | 1.82 | 1.82% |
| 2021-01-14 | 1.88 | 1.88% |
| 2021-01-15 | 1.85 | 1.85% |
| 2021-01-18 | 0 | |
| 2021-01-19 | 1.84 | 1.84% |
| 2021-01-20 | 1.84 | 1.84% |

DGS30 Market Yield on U.S. Treasury Securities at 30-Year Constant Maturity, Quoted on an Investment Basis, Percent, Daily, Not Seasonally Adjusted

Frequency: Daily

| observation_date | DGS30 | |
|------------------|-------|-------|
| 2021-01-21 | 1.87 | 1.87% |
| 2021-01-22 | 1.85 | 1.85% |
| 2021-01-25 | 1.80 | 1.80% |
| 2021-01-26 | 1.80 | 1.80% |
| 2021-01-27 | 1.79 | 1.79% |
| 2021-01-28 | 1.81 | 1.81% |
| 2021-01-29 | 1.87 | 1.87% |
| 2021-02-01 | 1.84 | 1.84% |
| 2021-02-02 | 1.87 | 1.87% |
| 2021-02-03 | 1.92 | 1.92% |
| 2021-02-04 | 1.93 | 1.93% |
| 2021-02-05 | 1.97 | 1.97% |
| 2021-02-08 | 1.96 | 1.96% |
| 2021-02-09 | 1.95 | 1.95% |
| 2021-02-10 | 1.92 | 1.92% |
| 2021-02-11 | 1.94 | 1.94% |
| 2021-02-12 | 2.01 | 2.01% |
| 2021-02-15 | 0 | |
| 2021-02-16 | 2.08 | 2.08% |
| 2021-02-17 | 2.06 | 2.06% |
| 2021-02-18 | 2.08 | 2.08% |
| 2021-02-19 | 2.14 | 2.14% |
| 2021-02-22 | 2.19 | 2.19% |
| 2021-02-23 | 2.21 | 2.21% |
| 2021-02-24 | 2.24 | 2.24% |
| 2021-02-25 | 2.33 | 2.33% |
| 2021-02-26 | 2.17 | 2.17% |
| 2021-03-01 | 2.23 | 2.23% |
| 2021-03-02 | 2.21 | 2.21% |
| 2021-03-03 | 2.25 | 2.25% |
| 2021-03-04 | 2.30 | 2.30% |
| 2021-03-05 | 2.28 | 2.28% |
| 2021-03-08 | 2.31 | 2.31% |
| 2021-03-09 | 2.26 | 2.26% |
| 2021-03-10 | 2.24 | 2.24% |
| 2021-03-11 | 2.29 | 2.29% |
| 2021-03-12 | 2.40 | 2.40% |
| 2021-03-15 | 2.37 | 2.37% |
| 2021-03-16 | 2.38 | 2.38% |
| 2021-03-17 | 2.42 | 2.42% |
| 2021-03-18 | 2.45 | 2.45% |
| 2021-03-19 | 2.45 | 2.45% |
| 2021-03-22 | 2.38 | 2.38% |
| 2021-03-23 | 2.34 | 2.34% |
| 2021-03-24 | 2.31 | 2.31% |
| 2021-03-25 | 2.34 | 2.34% |
| 2021-03-26 | 2.37 | 2.37% |
| 2021-03-29 | 2.43 | 2.43% |
| 2021-03-30 | 2.38 | 2.38% |
| 2021-03-31 | 2.41 | 2.41% |
| 2021-04-01 | 2.34 | 2.34% |
| 2021-04-02 | 2.35 | 2.35% |
| 2021-04-05 | 2.36 | 2.36% |
| 2021-04-06 | 2.32 | 2.32% |
| 2021-04-07 | 2.35 | 2.35% |
| 2021-04-08 | 2.32 | 2.32% |
| 2021-04-09 | 2.34 | 2.34% |
| 2021-04-12 | 2.34 | 2.34% |
| 2021-04-13 | 2.32 | 2.32% |
| 2021-04-14 | 2.32 | 2.32% |
| 2021-04-15 | 2.23 | 2.23% |
| 2021-04-16 | 2.26 | 2.26% |
| 2021-04-19 | 2.29 | 2.29% |
| 2021-04-20 | 2.27 | 2.27% |
| 2021-04-21 | 2.26 | 2.26% |
| 2021-04-22 | 2.24 | 2.24% |
| 2021-04-23 | 2.25 | 2.25% |
| 2021-04-26 | 2.24 | 2.24% |
| 2021-04-27 | 2.29 | 2.29% |
| 2021-04-28 | 2.29 | 2.29% |
| 2021-04-29 | 2.31 | 2.31% |
| 2021-04-30 | 2.30 | 2.30% |
| 2021-05-03 | 2.30 | 2.30% |
| 2021-05-04 | 2.27 | 2.27% |
| 2021-05-05 | 2.25 | 2.25% |
| 2021-05-06 | 2.24 | 2.24% |

DGS30 Market Yield on U.S. Treasury Securities at 30-Year Constant Maturity, Quoted on an Investment Basis, Percent, Daily, Not Seasonally Adjusted

Frequency: Daily

| observation_date | DGS30 | |
|------------------|-------|-------|
| 2021-05-07 | 2.28 | 2.28% |
| 2021-05-10 | 2.32 | 2.32% |
| 2021-05-11 | 2.35 | 2.35% |
| 2021-05-12 | 2.40 | 2.40% |
| 2021-05-13 | 2.39 | 2.39% |
| 2021-05-14 | 2.35 | 2.35% |
| 2021-05-17 | 2.36 | 2.36% |
| 2021-05-18 | 2.37 | 2.37% |
| 2021-05-19 | 2.38 | 2.38% |
| 2021-05-20 | 2.34 | 2.34% |
| 2021-05-21 | 2.33 | 2.33% |
| 2021-05-24 | 2.31 | 2.31% |
| 2021-05-25 | 2.26 | 2.26% |
| 2021-05-26 | 2.27 | 2.27% |
| 2021-05-27 | 2.29 | 2.29% |
| 2021-05-28 | 2.26 | 2.26% |
| 2021-05-31 | 0 | |
| 2021-06-01 | 2.30 | 2.30% |
| 2021-06-02 | 2.28 | 2.28% |
| 2021-06-03 | 2.30 | 2.30% |
| 2021-06-04 | 2.24 | 2.24% |
| 2021-06-07 | 2.25 | 2.25% |
| 2021-06-08 | 2.21 | 2.21% |
| 2021-06-09 | 2.17 | 2.17% |
| 2021-06-10 | 2.15 | 2.15% |
| 2021-06-11 | 2.15 | 2.15% |
| 2021-06-14 | 2.19 | 2.19% |
| 2021-06-15 | 2.20 | 2.20% |
| 2021-06-16 | 2.20 | 2.20% |
| 2021-06-17 | 2.11 | 2.11% |
| 2021-06-18 | 2.01 | 2.01% |
| 2021-06-21 | 2.11 | 2.11% |
| 2021-06-22 | 2.10 | 2.10% |
| 2021-06-23 | 2.11 | 2.11% |
| 2021-06-24 | 2.10 | 2.10% |
| 2021-06-25 | 2.16 | 2.16% |
| 2021-06-28 | 2.10 | 2.10% |
| 2021-06-29 | 2.10 | 2.10% |
| 2021-06-30 | 2.06 | 2.06% |
| 2021-07-01 | 2.07 | 2.07% |
| 2021-07-02 | 2.05 | 2.05% |
| 2021-07-05 | 0 | |
| 2021-07-06 | 2.00 | 2.00% |
| 2021-07-07 | 1.94 | 1.94% |
| 2021-07-08 | 1.91 | 1.91% |
| 2021-07-09 | 1.99 | 1.99% |
| 2021-07-12 | 2.00 | 2.00% |
| 2021-07-13 | 2.04 | 2.04% |
| 2021-07-14 | 1.98 | 1.98% |
| 2021-07-15 | 1.92 | 1.92% |
| 2021-07-16 | 1.93 | 1.93% |
| 2021-07-19 | 1.81 | 1.81% |
| 2021-07-20 | 1.88 | 1.88% |
| 2021-07-21 | 1.94 | 1.94% |
| 2021-07-22 | 1.90 | 1.90% |
| 2021-07-23 | 1.92 | 1.92% |
| 2021-07-26 | 1.93 | 1.93% |
| 2021-07-27 | 1.89 | 1.89% |
| 2021-07-28 | 1.90 | 1.90% |
| 2021-07-29 | 1.91 | 1.91% |
| 2021-07-30 | 1.89 | 1.89% |
| 2021-08-02 | 1.86 | 1.86% |
| 2021-08-03 | 1.85 | 1.85% |
| 2021-08-04 | 1.83 | 1.83% |
| 2021-08-05 | 1.86 | 1.86% |
| 2021-08-06 | 1.94 | 1.94% |
| 2021-08-09 | 1.96 | 1.96% |
| 2021-08-10 | 1.99 | 1.99% |
| 2021-08-11 | 1.99 | 1.99% |
| 2021-08-12 | 2.03 | 2.03% |
| 2021-08-13 | 1.94 | 1.94% |
| 2021-08-16 | 1.92 | 1.92% |
| 2021-08-17 | 1.92 | 1.92% |
| 2021-08-18 | 1.91 | 1.91% |
| 2021-08-19 | 1.88 | 1.88% |
| 2021-08-20 | 1.87 | 1.87% |

DGS30 Market Yield on U.S. Treasury Securities at 30-Year Constant Maturity, Quoted on an Investment Basis, Percent, Daily, Not Seasonally Adjusted

Frequency: Daily

| observation_date | DGS30 | |
|------------------|-------|-------|
| 2021-08-23 | 1.87 | 1.87% |
| 2021-08-24 | 1.91 | 1.91% |
| 2021-08-25 | 1.96 | 1.96% |
| 2021-08-26 | 1.94 | 1.94% |
| 2021-08-27 | 1.91 | 1.91% |
| 2021-08-30 | 1.90 | 1.90% |
| 2021-08-31 | 1.92 | 1.92% |
| 2021-09-01 | 1.92 | 1.92% |
| 2021-09-02 | 1.90 | 1.90% |
| 2021-09-03 | 1.94 | 1.94% |
| 2021-09-06 | 0 | |
| 2021-09-07 | 1.99 | 1.99% |
| 2021-09-08 | 1.95 | 1.95% |
| 2021-09-09 | 1.90 | 1.90% |
| 2021-09-10 | 1.94 | 1.94% |
| 2021-09-13 | 1.91 | 1.91% |
| 2021-09-14 | 1.85 | 1.85% |
| 2021-09-15 | 1.87 | 1.87% |
| 2021-09-16 | 1.88 | 1.88% |
| 2021-09-17 | 1.91 | 1.91% |
| 2021-09-20 | 1.85 | 1.85% |
| 2021-09-21 | 1.86 | 1.86% |
| 2021-09-22 | 1.84 | 1.84% |
| 2021-09-23 | 1.92 | 1.92% |
| 2021-09-24 | 1.99 | 1.99% |
| 2021-09-27 | 1.99 | 1.99% |
| 2021-09-28 | 2.07 | 2.07% |
| 2021-09-29 | 2.09 | 2.09% |
| 2021-09-30 | 2.08 | 2.08% |
| 2021-10-01 | 2.04 | 2.04% |
| 2021-10-04 | 2.05 | 2.05% |
| 2021-10-05 | 2.10 | 2.10% |
| 2021-10-06 | 2.08 | 2.08% |
| 2021-10-07 | 2.13 | 2.13% |
| 2021-10-08 | 2.16 | 2.16% |
| 2021-10-11 | 0 | |
| 2021-10-12 | 2.10 | 2.10% |
| 2021-10-13 | 2.05 | 2.05% |
| 2021-10-14 | 2.02 | 2.02% |
| 2021-10-15 | 2.05 | 2.05% |
| 2021-10-18 | 2.01 | 2.01% |
| 2021-10-19 | 2.09 | 2.09% |
| 2021-10-20 | 2.12 | 2.12% |
| 2021-10-21 | 2.13 | 2.13% |
| 2021-10-22 | 2.08 | 2.08% |
| 2021-10-25 | 2.09 | 2.09% |
| 2021-10-26 | 2.05 | 2.05% |
| 2021-10-27 | 1.95 | 1.95% |
| 2021-10-28 | 1.96 | 1.96% |
| 2021-10-29 | 1.93 | 1.93% |
| 2021-11-01 | 1.98 | 1.98% |
| 2021-11-02 | 1.96 | 1.96% |
| 2021-11-03 | 2.00 | 2.00% |
| 2021-11-04 | 1.96 | 1.96% |
| 2021-11-05 | 1.87 | 1.87% |
| 2021-11-08 | 1.89 | 1.89% |
| 2021-11-09 | 1.83 | 1.83% |
| 2021-11-10 | 1.92 | 1.92% |
| 2021-11-11 | 0 | |
| 2021-11-12 | 1.95 | 1.95% |
| 2021-11-15 | 2.01 | 2.01% |
| 2021-11-16 | 2.02 | 2.02% |
| 2021-11-17 | 2.00 | 2.00% |
| 2021-11-18 | 1.97 | 1.97% |
| 2021-11-19 | 1.91 | 1.91% |
| 2021-11-22 | 1.98 | 1.98% |
| 2021-11-23 | 2.02 | 2.02% |
| 2021-11-24 | 1.96 | 1.96% |
| 2021-11-25 | 0 | |
| 2021-11-26 | 1.83 | 1.83% |
| 2021-11-29 | 1.87 | 1.87% |
| 2021-11-30 | 1.78 | 1.78% |
| 2021-12-01 | 1.77 | 1.77% |
| 2021-12-02 | 1.76 | 1.76% |
| 2021-12-03 | 1.69 | 1.69% |
| 2021-12-06 | 1.75 | 1.75% |

DGS30 Market Yield on U.S. Treasury Securities at 30-Year Constant Maturity, Quoted on an Investment Basis, Percent, Daily, Not Seasonally Adjusted

Frequency: Daily

| observation_date | DGS30 | |
|------------------|-------|-------|
| 2021-12-07 | 1.80 | 1.80% |
| 2021-12-08 | 1.87 | 1.87% |
| 2021-12-09 | 1.87 | 1.87% |
| 2021-12-10 | 1.88 | 1.88% |
| 2021-12-13 | 1.81 | 1.81% |
| 2021-12-14 | 1.82 | 1.82% |
| 2021-12-15 | 1.86 | 1.86% |
| 2021-12-16 | 1.87 | 1.87% |
| 2021-12-17 | 1.82 | 1.82% |
| 2021-12-20 | 1.85 | 1.85% |
| 2021-12-21 | 1.89 | 1.89% |
| 2021-12-22 | 1.86 | 1.86% |
| 2021-12-23 | 1.91 | 1.91% |
| 2021-12-24 | 0 | |
| 2021-12-27 | 1.88 | 1.88% |
| 2021-12-28 | 1.90 | 1.90% |
| 2021-12-29 | 1.96 | 1.96% |
| 2021-12-30 | 1.93 | 1.93% |
| 2021-12-31 | 1.90 | 1.90% |
| 2022-01-03 | 2.01 | 2.01% |
| 2022-01-04 | 2.07 | 2.07% |
| 2022-01-05 | 2.09 | 2.09% |
| 2022-01-06 | 2.09 | 2.09% |
| 2022-01-07 | 2.11 | 2.11% |
| 2022-01-10 | 2.11 | 2.11% |
| 2022-01-11 | 2.08 | 2.08% |
| 2022-01-12 | 2.08 | 2.08% |
| 2022-01-13 | 2.05 | 2.05% |
| 2022-01-14 | 2.12 | 2.12% |
| 2022-01-17 | 0 | |
| 2022-01-18 | 2.18 | 2.18% |
| 2022-01-19 | 2.14 | 2.14% |
| 2022-01-20 | 2.14 | 2.14% |
| 2022-01-21 | 2.07 | 2.07% |
| 2022-01-24 | 2.10 | 2.10% |
| 2022-01-25 | 2.12 | 2.12% |
| 2022-01-26 | 2.16 | 2.16% |
| 2022-01-27 | 2.09 | 2.09% |
| 2022-01-28 | 2.07 | 2.07% |
| 2022-01-31 | 2.11 | 2.11% |
| 2022-02-01 | 2.12 | 2.12% |
| 2022-02-02 | 2.11 | 2.11% |
| 2022-02-03 | 2.14 | 2.14% |
| 2022-02-04 | 2.23 | 2.23% |
| 2022-02-07 | 2.22 | 2.22% |
| 2022-02-08 | 2.25 | 2.25% |
| 2022-02-09 | 2.25 | 2.25% |
| 2022-02-10 | 2.30 | 2.30% |
| 2022-02-11 | 2.24 | 2.24% |
| 2022-02-14 | 2.29 | 2.29% |
| 2022-02-15 | 2.37 | 2.37% |
| 2022-02-16 | 2.34 | 2.34% |
| 2022-02-17 | 2.31 | 2.31% |
| 2022-02-18 | 2.24 | 2.24% |
| 2022-02-21 | 0 | |
| 2022-02-22 | 2.24 | 2.24% |
| 2022-02-23 | 2.29 | 2.29% |
| 2022-02-24 | 2.28 | 2.28% |
| 2022-02-25 | 2.29 | 2.29% |
| 2022-02-28 | 2.17 | 2.17% |
| 2022-03-01 | 2.11 | 2.11% |
| 2022-03-02 | 2.24 | 2.24% |
| 2022-03-03 | 2.24 | 2.24% |
| 2022-03-04 | 2.16 | 2.16% |
| 2022-03-07 | 2.19 | 2.19% |
| 2022-03-08 | 2.24 | 2.24% |
| 2022-03-09 | 2.29 | 2.29% |
| 2022-03-10 | 2.38 | 2.38% |
| 2022-03-11 | 2.36 | 2.36% |
| 2022-03-14 | 2.47 | 2.47% |
| 2022-03-15 | 2.49 | 2.49% |
| 2022-03-16 | 2.46 | 2.46% |
| 2022-03-17 | 2.50 | 2.50% |
| 2022-03-18 | 2.42 | 2.42% |

DGS30 Market Yield on U.S. Treasury Securities at 30-Year Constant Maturity, Quoted on an Investment Basis, Percent, Daily, Not Seasonally Adjusted

Frequency: Daily

| observation_date | DGS30 | |
|------------------|-------|-------|
| 2022-03-21 | 2.55 | 2.55% |
| 2022-03-22 | 2.60 | 2.60% |
| 2022-03-23 | 2.52 | 2.52% |
| 2022-03-24 | 2.51 | 2.51% |
| 2022-03-25 | 2.60 | 2.60% |
| 2022-03-28 | 2.57 | 2.57% |
| 2022-03-29 | 2.53 | 2.53% |
| 2022-03-30 | 2.48 | 2.48% |
| 2022-03-31 | 2.44 | 2.44% |
| 2022-04-01 | 2.44 | 2.44% |
| 2022-04-04 | 2.48 | 2.48% |
| 2022-04-05 | 2.57 | 2.57% |
| 2022-04-06 | 2.63 | 2.63% |
| 2022-04-07 | 2.69 | 2.69% |
| 2022-04-08 | 2.76 | 2.76% |
| 2022-04-11 | 2.84 | 2.84% |
| 2022-04-12 | 2.82 | 2.82% |
| 2022-04-13 | 2.81 | 2.81% |
| 2022-04-14 | 2.92 | 2.92% |
| 2022-04-15 | 0 | |
| 2022-04-18 | 2.95 | 2.95% |
| 2022-04-19 | 3.01 | 3.01% |
| 2022-04-20 | 2.90 | 2.90% |
| 2022-04-21 | 2.94 | 2.94% |
| 2022-04-22 | 2.95 | 2.95% |
| 2022-04-25 | 2.88 | 2.88% |
| 2022-04-26 | 2.86 | 2.86% |
| 2022-04-27 | 2.91 | 2.91% |
| 2022-04-28 | 2.92 | 2.92% |
| 2022-04-29 | 2.96 | 2.96% |
| 2022-05-02 | 3.07 | 3.07% |
| 2022-05-03 | 3.03 | 3.03% |
| 2022-05-04 | 3.01 | 3.01% |
| 2022-05-05 | 3.15 | 3.15% |
| 2022-05-06 | 3.23 | 3.23% |
| 2022-05-09 | 3.19 | 3.19% |
| 2022-05-10 | 3.12 | 3.12% |
| 2022-05-11 | 3.05 | 3.05% |
| 2022-05-12 | 3.00 | 3.00% |
| 2022-05-13 | 3.10 | 3.10% |
| 2022-05-16 | 3.09 | 3.09% |
| 2022-05-17 | 3.17 | 3.17% |
| 2022-05-18 | 3.07 | 3.07% |
| 2022-05-19 | 3.05 | 3.05% |
| 2022-05-20 | 2.99 | 2.99% |
| 2022-05-23 | 3.08 | 3.08% |
| 2022-05-24 | 2.98 | 2.98% |
| 2022-05-25 | 2.97 | 2.97% |
| 2022-05-26 | 2.99 | 2.99% |
| 2022-05-27 | 2.97 | 2.97% |
| 2022-05-30 | 0 | |
| 2022-05-31 | 3.07 | 3.07% |
| 2022-06-01 | 3.09 | 3.09% |
| 2022-06-02 | 3.09 | 3.09% |
| 2022-06-03 | 3.11 | 3.11% |
| 2022-06-06 | 3.19 | 3.19% |
| 2022-06-07 | 3.13 | 3.13% |
| 2022-06-08 | 3.18 | 3.18% |
| 2022-06-09 | 3.18 | 3.18% |
| 2022-06-10 | 3.20 | 3.20% |
| 2022-06-13 | 3.42 | 3.42% |
| 2022-06-14 | 3.45 | 3.45% |
| 2022-06-15 | 3.39 | 3.39% |
| 2022-06-16 | 3.35 | 3.35% |
| 2022-06-17 | 3.30 | 3.30% |
| 2022-06-20 | 0 | |
| 2022-06-21 | 3.39 | 3.39% |
| 2022-06-22 | 3.25 | 3.25% |
| 2022-06-23 | 3.21 | 3.21% |
| 2022-06-24 | 3.26 | 3.26% |
| 2022-06-27 | 3.31 | 3.31% |
| 2022-06-28 | 3.30 | 3.30% |
| 2022-06-29 | 3.22 | 3.22% |

DGS30 Market Yield on U.S. Treasury Securities at 30-Year Constant Maturity, Quoted on an Investment Basis, Percent, Daily, Not Seasonally Adjusted

Frequency: Daily

| observation_date | DGS30 | |
|------------------|-------|-------|
| 2022-06-30 | 3.14 | 3.14% |
| 2022-07-01 | 3.11 | 3.11% |
| 2022-07-04 | 0 | |
| 2022-07-05 | 3.05 | 3.05% |
| 2022-07-06 | 3.14 | 3.14% |
| 2022-07-07 | 3.20 | 3.20% |
| 2022-07-08 | 3.27 | 3.27% |
| 2022-07-11 | 3.18 | 3.18% |
| 2022-07-12 | 3.13 | 3.13% |
| 2022-07-13 | 3.08 | 3.08% |
| 2022-07-14 | 3.11 | 3.11% |
| 2022-07-15 | 3.10 | 3.10% |
| 2022-07-18 | 3.14 | 3.14% |
| 2022-07-19 | 3.17 | 3.17% |
| 2022-07-20 | 3.17 | 3.17% |
| 2022-07-21 | 3.08 | 3.08% |
| 2022-07-22 | 3.00 | 3.00% |
| 2022-07-25 | 3.04 | 3.04% |
| 2022-07-26 | 3.03 | 3.03% |
| 2022-07-27 | 3.03 | 3.03% |
| 2022-07-28 | 3.02 | 3.02% |
| 2022-07-29 | 3.00 | 3.00% |
| 2022-08-01 | 2.92 | 2.92% |
| 2022-08-02 | 3.00 | 3.00% |
| 2022-08-03 | 2.96 | 2.96% |
| 2022-08-04 | 2.97 | 2.97% |
| 2022-08-05 | 3.06 | 3.06% |
| 2022-08-08 | 3.00 | 3.00% |
| 2022-08-09 | 3.01 | 3.01% |
| 2022-08-10 | 3.04 | 3.04% |
| 2022-08-11 | 3.15 | 3.15% |
| 2022-08-12 | 3.12 | 3.12% |
| 2022-08-15 | 3.10 | 3.10% |
| 2022-08-16 | 3.11 | 3.11% |
| 2022-08-17 | 3.15 | 3.15% |
| 2022-08-18 | 3.14 | 3.14% |
| 2022-08-19 | 3.22 | 3.22% |
| 2022-08-22 | 3.24 | 3.24% |
| 2022-08-23 | 3.26 | 3.26% |
| 2022-08-24 | 3.32 | 3.32% |
| 2022-08-25 | 3.25 | 3.25% |
| 2022-08-26 | 3.21 | 3.21% |
| 2022-08-29 | 3.25 | 3.25% |
| 2022-08-30 | 3.23 | 3.23% |
| 2022-08-31 | 3.27 | 3.27% |
| 2022-09-01 | 3.37 | 3.37% |
| 2022-09-02 | 3.35 | 3.35% |
| 2022-09-05 | 0 | |
| 2022-09-06 | 3.49 | 3.49% |
| 2022-09-07 | 3.42 | 3.42% |
| 2022-09-08 | 3.45 | 3.45% |
| 2022-09-09 | 3.47 | 3.47% |
| 2022-09-12 | 3.53 | 3.53% |
| 2022-09-13 | 3.51 | 3.51% |
| 2022-09-14 | 3.47 | 3.47% |
| 2022-09-15 | 3.48 | 3.48% |
| 2022-09-16 | 3.52 | 3.52% |
| 2022-09-19 | 3.52 | 3.52% |
| 2022-09-20 | 3.59 | 3.59% |
| 2022-09-21 | 3.50 | 3.50% |
| 2022-09-22 | 3.65 | 3.65% |
| 2022-09-23 | 3.61 | 3.61% |
| 2022-09-26 | 3.72 | 3.72% |
| 2022-09-27 | 3.87 | 3.87% |
| 2022-09-28 | 3.70 | 3.70% |
| 2022-09-29 | 3.71 | 3.71% |
| 2022-09-30 | 3.79 | 3.79% |
| 2022-10-03 | 3.73 | 3.73% |
| 2022-10-04 | 3.70 | 3.70% |
| 2022-10-05 | 3.78 | 3.78% |
| 2022-10-06 | 3.81 | 3.81% |
| 2022-10-07 | 3.86 | 3.86% |
| 2022-10-10 | 0 | |

DGS30 Market Yield on U.S. Treasury Securities at 30-Year Constant Maturity, Quoted on an Investment Basis, Percent, Daily, Not Seasonally Adjusted

Frequency: Daily

| observation_date | DGS30 | |
|------------------|-------|-------|
| 2022-10-11 | 3.92 | 3.92% |
| 2022-10-12 | 3.90 | 3.90% |
| 2022-10-13 | 3.97 | 3.97% |
| 2022-10-14 | 3.99 | 3.99% |
| 2022-10-17 | 4.04 | 4.04% |
| 2022-10-18 | 4.04 | 4.04% |
| 2022-10-19 | 4.15 | 4.15% |
| 2022-10-20 | 4.24 | 4.24% |
| 2022-10-21 | 4.33 | 4.33% |
| 2022-10-24 | 4.40 | 4.40% |
| 2022-10-25 | 4.26 | 4.26% |
| 2022-10-26 | 4.19 | 4.19% |
| 2022-10-27 | 4.12 | 4.12% |
| 2022-10-28 | 4.15 | 4.15% |
| 2022-10-31 | 4.22 | 4.22% |
| 2022-11-01 | 4.14 | 4.14% |
| 2022-11-02 | 4.15 | 4.15% |
| 2022-11-03 | 4.18 | 4.18% |
| 2022-11-04 | 4.27 | 4.27% |
| 2022-11-07 | 4.34 | 4.34% |
| 2022-11-08 | 4.28 | 4.28% |
| 2022-11-09 | 4.31 | 4.31% |
| 2022-11-10 | 4.03 | 4.03% |
| 2022-11-11 | 0 | |
| 2022-11-14 | 4.07 | 4.07% |
| 2022-11-15 | 3.98 | 3.98% |
| 2022-11-16 | 3.85 | 3.85% |
| 2022-11-17 | 3.89 | 3.89% |
| 2022-11-18 | 3.92 | 3.92% |
| 2022-11-21 | 3.91 | 3.91% |
| 2022-11-22 | 3.83 | 3.83% |
| 2022-11-23 | 3.74 | 3.74% |
| 2022-11-24 | 0 | |
| 2022-11-25 | 3.74 | 3.74% |
| 2022-11-28 | 3.74 | 3.74% |
| 2022-11-29 | 3.81 | 3.81% |
| 2022-11-30 | 3.80 | 3.80% |
| 2022-12-01 | 3.64 | 3.64% |
| 2022-12-02 | 3.56 | 3.56% |
| 2022-12-05 | 3.62 | 3.62% |
| 2022-12-06 | 3.52 | 3.52% |
| 2022-12-07 | 3.42 | 3.42% |
| 2022-12-08 | 3.44 | 3.44% |
| 2022-12-09 | 3.56 | 3.56% |
| 2022-12-12 | 3.57 | 3.57% |
| 2022-12-13 | 3.53 | 3.53% |
| 2022-12-14 | 3.52 | 3.52% |
| 2022-12-15 | 3.48 | 3.48% |
| 2022-12-16 | 3.53 | 3.53% |
| 2022-12-19 | 3.62 | 3.62% |
| 2022-12-20 | 3.74 | 3.74% |
| 2022-12-21 | 3.74 | 3.74% |
| 2022-12-22 | 3.73 | 3.73% |
| 2022-12-23 | 3.82 | 3.82% |
| 2022-12-26 | 0 | |
| 2022-12-27 | 3.93 | 3.93% |
| 2022-12-28 | 3.98 | 3.98% |
| 2022-12-29 | 3.92 | 3.92% |
| 2022-12-30 | 3.97 | 3.97% |
| 2023-01-02 | 0 | |
| 2023-01-03 | 3.88 | 3.88% |
| 2023-01-04 | 3.81 | 3.81% |
| 2023-01-05 | 3.78 | 3.78% |
| 2023-01-06 | 3.67 | 3.67% |
| 2023-01-09 | 3.66 | 3.66% |
| 2023-01-10 | 3.74 | 3.74% |
| 2023-01-11 | 3.67 | 3.67% |
| 2023-01-12 | 3.56 | 3.56% |
| 2023-01-13 | 3.61 | 3.61% |
| 2023-01-16 | 0 | |
| 2023-01-17 | 3.64 | 3.64% |
| 2023-01-18 | 3.54 | 3.54% |
| 2023-01-19 | 3.57 | 3.57% |

DGS30 Market Yield on U.S. Treasury Securities at 30-Year Constant Maturity, Quoted on an Investment Basis, Percent, Daily, Not Seasonally Adjusted

Frequency: Daily

| observation_date | DGS30 | |
|------------------|-------|-------|
| 2023-01-20 | 3.66 | 3.66% |
| 2023-01-23 | 3.69 | 3.69% |
| 2023-01-24 | 3.62 | 3.62% |
| 2023-01-25 | 3.62 | 3.62% |
| 2023-01-26 | 3.62 | 3.62% |
| 2023-01-27 | 3.64 | 3.64% |
| 2023-01-30 | 3.66 | 3.66% |
| 2023-01-31 | 3.65 | 3.65% |
| 2023-02-01 | 3.55 | 3.55% |
| 2023-02-02 | 3.55 | 3.55% |
| 2023-02-03 | 3.63 | 3.63% |
| 2023-02-06 | 3.67 | 3.67% |
| 2023-02-07 | 3.72 | 3.72% |
| 2023-02-08 | 3.70 | 3.70% |
| 2023-02-09 | 3.75 | 3.75% |
| 2023-02-10 | 3.83 | 3.83% |
| 2023-02-13 | 3.79 | 3.79% |
| 2023-02-14 | 3.81 | 3.81% |
| 2023-02-15 | 3.85 | 3.85% |
| 2023-02-16 | 3.92 | 3.92% |
| 2023-02-17 | 3.88 | 3.88% |
| 2023-02-20 | 0 | |
| 2023-02-21 | 3.98 | 3.98% |
| 2023-02-22 | 3.94 | 3.94% |
| 2023-02-23 | 3.88 | 3.88% |
| 2023-02-24 | 3.93 | 3.93% |
| 2023-02-27 | 3.93 | 3.93% |
| 2023-02-28 | 3.93 | 3.93% |
| 2023-03-01 | 3.97 | 3.97% |
| 2023-03-02 | 4.03 | 4.03% |
| 2023-03-03 | 3.90 | 3.90% |
| 2023-03-06 | 3.92 | 3.92% |
| 2023-03-07 | 3.88 | 3.88% |
| 2023-03-08 | 3.88 | 3.88% |
| 2023-03-09 | 3.88 | 3.88% |
| 2023-03-10 | 3.70 | 3.70% |
| 2023-03-13 | 3.70 | 3.70% |
| 2023-03-14 | 3.77 | 3.77% |
| 2023-03-15 | 3.70 | 3.70% |
| 2023-03-16 | 3.71 | 3.71% |
| 2023-03-17 | 3.60 | 3.60% |
| 2023-03-20 | 3.65 | 3.65% |
| 2023-03-21 | 3.73 | 3.73% |
| 2023-03-22 | 3.68 | 3.68% |
| 2023-03-23 | 3.66 | 3.66% |
| 2023-03-24 | 3.64 | 3.64% |
| 2023-03-27 | 3.77 | 3.77% |
| 2023-03-28 | 3.77 | 3.77% |
| 2023-03-29 | 3.78 | 3.78% |
| 2023-03-30 | 3.74 | 3.74% |
| 2023-03-31 | 3.67 | 3.67% |
| 2023-04-03 | 3.64 | 3.64% |
| 2023-04-04 | 3.60 | 3.60% |
| 2023-04-05 | 3.56 | 3.56% |
| 2023-04-06 | 3.54 | 3.54% |
| 2023-04-07 | 3.61 | 3.61% |
| 2023-04-10 | 3.62 | 3.62% |
| 2023-04-11 | 3.62 | 3.62% |
| 2023-04-12 | 3.64 | 3.64% |
| 2023-04-13 | 3.69 | 3.69% |
| 2023-04-14 | 3.74 | 3.74% |
| 2023-04-17 | 3.81 | 3.81% |
| 2023-04-18 | 3.79 | 3.79% |
| 2023-04-19 | 3.79 | 3.79% |
| 2023-04-20 | 3.75 | 3.75% |
| 2023-04-21 | 3.78 | 3.78% |
| 2023-04-24 | 3.73 | 3.73% |
| 2023-04-25 | 3.65 | 3.65% |
| 2023-04-26 | 3.70 | 3.70% |
| 2023-04-27 | 3.76 | 3.76% |
| 2023-04-28 | 3.67 | 3.67% |
| 2023-05-01 | 3.84 | 3.84% |
| 2023-05-02 | 3.72 | 3.72% |

DGS30 Market Yield on U.S. Treasury Securities at 30-Year Constant Maturity, Quoted on an Investment Basis, Percent, Daily, Not Seasonally Adjusted

Frequency: Daily

| observation_date | DGS30 | |
|------------------|-------|-------|
| 2023-05-03 | 3.70 | 3.70% |
| 2023-05-04 | 3.73 | 3.73% |
| 2023-05-05 | 3.76 | 3.76% |
| 2023-05-08 | 3.84 | 3.84% |
| 2023-05-09 | 3.85 | 3.85% |
| 2023-05-10 | 3.80 | 3.80% |
| 2023-05-11 | 3.73 | 3.73% |
| 2023-05-12 | 3.78 | 3.78% |
| 2023-05-15 | 3.84 | 3.84% |
| 2023-05-16 | 3.87 | 3.87% |
| 2023-05-17 | 3.88 | 3.88% |
| 2023-05-18 | 3.91 | 3.91% |
| 2023-05-19 | 3.95 | 3.95% |
| 2023-05-22 | 3.97 | 3.97% |
| 2023-05-23 | 3.96 | 3.96% |
| 2023-05-24 | 3.97 | 3.97% |
| 2023-05-25 | 4.01 | 4.01% |
| 2023-05-26 | 3.96 | 3.96% |
| 2023-05-29 | 0 | |
| 2023-05-30 | 3.90 | 3.90% |
| 2023-05-31 | 3.85 | 3.85% |
| 2023-06-01 | 3.84 | 3.84% |
| 2023-06-02 | 3.88 | 3.88% |
| 2023-06-05 | 3.89 | 3.89% |
| 2023-06-06 | 3.87 | 3.87% |
| 2023-06-07 | 3.95 | 3.95% |
| 2023-06-08 | 3.89 | 3.89% |
| 2023-06-09 | 3.89 | 3.89% |
| 2023-06-12 | 3.87 | 3.87% |
| 2023-06-13 | 3.94 | 3.94% |
| 2023-06-14 | 3.90 | 3.90% |
| 2023-06-15 | 3.85 | 3.85% |
| 2023-06-16 | 3.86 | 3.86% |
| 2023-06-19 | 3.86 | 3.86% |
| 2023-06-20 | 3.83 | 3.83% |
| 2023-06-21 | 3.81 | 3.81% |
| 2023-06-22 | 3.88 | 3.88% |
| 2023-06-23 | 3.82 | 3.82% |
| 2023-06-26 | 3.83 | 3.83% |
| 2023-06-27 | 3.84 | 3.84% |
| 2023-06-28 | 3.81 | 3.81% |
| 2023-06-29 | 3.92 | 3.92% |
| 2023-06-30 | 3.85 | 3.85% |
| 2023-07-03 | 3.87 | 3.87% |
| 2023-07-04 | 3.87 | 3.87% |
| 2023-07-05 | 3.95 | 3.95% |
| 2023-07-06 | 4.01 | 4.01% |
| 2023-07-07 | 4.05 | 4.05% |
| 2023-07-10 | 4.05 | 4.05% |
| 2023-07-11 | 4.03 | 4.03% |
| 2023-07-12 | 3.96 | 3.96% |
| 2023-07-13 | 3.90 | 3.90% |
| 2023-07-14 | 3.93 | 3.93% |
| 2023-07-17 | 3.94 | 3.94% |
| 2023-07-18 | 3.91 | 3.91% |
| 2023-07-19 | 3.84 | 3.84% |
| 2023-07-20 | 3.91 | 3.91% |
| 2023-07-21 | 3.91 | 3.91% |
| 2023-07-24 | 3.92 | 3.92% |
| 2023-07-25 | 3.95 | 3.95% |
| 2023-07-26 | 3.94 | 3.94% |
| 2023-07-27 | 4.06 | 4.06% |
| 2023-07-28 | 4.03 | 4.03% |
| 2023-07-31 | 4.02 | 4.02% |

CPI for All Urban Consumers (CPI-U)
Original Data Value

Series Id: CUSR0000SA0L1E
 Seasonally Adjusted
 Series Title: All items less food and energy in U.S. city average, all
 Area: U.S. city average
 Item: All items less food and energy
 Base Period: 1982-84=100
 Years: 2006 to 2023

| Year | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | HALF1 | HALF2 |
|------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-------|-------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | | |
| 2006 | 203.2 | 203.6 | 204.3 | 204.8 | 205.4 | 205.9 | 206.3 | 206.8 | 207.2 | 207.6 | 207.8 | 208.1 | | |
| 2007 | 208.6 | 209.135 | 209.418 | 209.747 | 210.058 | 210.392 | 210.773 | 211.119 | 211.554 | 212.077 | 212.66 | 213.168 | | |
| 2008 | 213.771 | 213.939 | 214.42 | 214.56 | 214.936 | 215.424 | 215.965 | 216.393 | 216.713 | 216.788 | 216.947 | 216.925 | | |
| 2009 | 217.346 | 217.792 | 218.253 | 218.706 | 218.904 | 219.112 | 219.263 | 219.496 | 219.92 | 220.501 | 220.666 | 220.881 | | |
| 2010 | 220.633 | 220.731 | 220.783 | 220.822 | 220.962 | 221.194 | 221.363 | 221.509 | 221.711 | 221.83 | 222.149 | 222.343 | | |
| 2011 | 222.803 | 223.213 | 223.454 | 223.727 | 224.175 | 224.697 | 225.218 | 225.862 | 226.118 | 226.506 | 226.899 | 227.405 | | |
| 2012 | 227.877 | 228.034 | 228.478 | 228.905 | 229.224 | 229.623 | 229.97 | 230.233 | 230.659 | 231.024 | 231.33 | 231.725 | | |
| 2013 | 232.229 | 232.569 | 232.794 | 232.832 | 232.996 | 233.35 | 233.88 | 234.336 | 234.7 | 234.921 | 235.359 | 235.759 | | |
| 2014 | 235.961 | 236.185 | 236.625 | 237.072 | 237.529 | 237.837 | 238.195 | 238.405 | 238.786 | 239.191 | 239.458 | 239.584 | | |
| 2015 | 239.811 | 240.172 | 240.755 | 241.346 | 241.688 | 242.064 | 242.565 | 242.817 | 243.316 | 243.768 | 244.241 | 244.547 | | |
| 2016 | 244.955 | 245.51 | 245.913 | 246.551 | 247.137 | 247.54 | 247.829 | 248.423 | 248.842 | 249.142 | 249.481 | 249.92 | | |
| 2017 | 250.467 | 250.998 | 250.944 | 251.227 | 251.43 | 251.746 | 251.985 | 252.535 | 252.812 | 253.526 | 253.816 | 254.344 | | |
| 2018 | 255.204 | 255.711 | 256.271 | 256.63 | 257.145 | 257.399 | 257.699 | 257.891 | 258.368 | 258.917 | 259.439 | 260.063 | | |
| 2019 | 260.686 | 261.067 | 261.537 | 261.976 | 262.304 | 262.859 | 263.313 | 263.975 | 264.425 | 264.94 | 265.484 | 265.924 | | |
| 2020 | 266.626 | 267.283 | 267.09 | 265.771 | 265.574 | 265.952 | 267.352 | 268.469 | 268.938 | 269.236 | 269.901 | 270.267 | | |
| 2021 | 270.383 | 270.727 | 271.526 | 273.615 | 275.654 | 277.676 | 278.522 | 279.057 | 279.755 | 281.588 | 283.34 | 285.193 | | |
| 2022 | 286.792 | 288.147 | 289.046 | 290.41 | 292.251 | 294.017 | 294.925 | 296.639 | 298.339 | 299.333 | 300.261 | 301.46 | | |
| 2023 | 302.702 | 304.07 | 305.24 | 306.489 | 307.824 | 308.309 | 308.801 | | | | | | | |

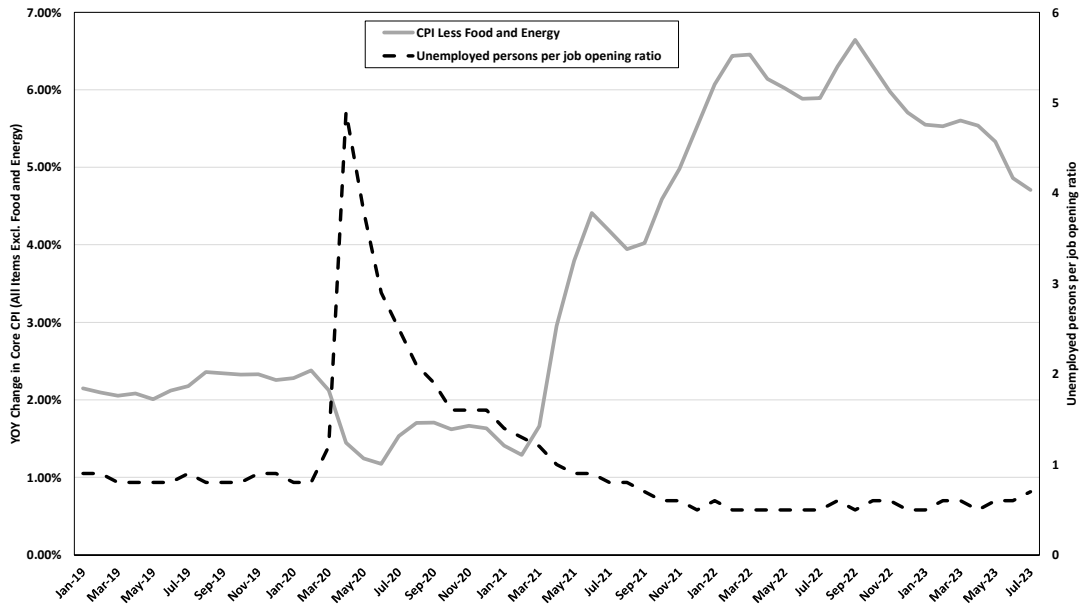
Job Openings and Labor Turnover Survey
Original Data Value

Series Id: JTS0000000000000000UOR
 Seasonally adjusted
 Industry: Total nonfarm
 State/Region: Total US
 Area: All areas
 Data Element: Unemployed persons per job opening ratio
 Size Class: All size classes
 Rate/Level: Rate
 Years: 2006 to 2023

| Year | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| 2006 | 1.6 | 1.7 | 1.5 | 1.5 | 1.6 | 1.5 | 1.6 | 1.5 | 1.4 | 1.5 | 1.5 | 1.5 |
| 2007 | 1.5 | 1.5 | 1.4 | 1.5 | 1.5 | 1.4 | 1.6 | 1.6 | 1.5 | 1.6 | 1.6 | 1.7 |
| 2008 | 1.7 | 1.8 | 1.9 | 1.9 | 2.0 | 2.2 | 2.4 | 2.6 | 2.9 | 3.0 | 3.3 | 3.6 |
| 2009 | 4.4 | 4.5 | 5.3 | 6.0 | 5.7 | 5.9 | 6.5 | 6.3 | 6.0 | 6.4 | 6.1 | 5.9 |
| 2010 | 5.3 | 5.7 | 5.7 | 4.9 | 5.0 | 5.2 | 4.7 | 4.9 | 5.0 | 4.5 | 4.7 | 4.7 |
| 2011 | 4.5 | 4.3 | 4.2 | 4.3 | 4.4 | 4.0 | 3.8 | 4.2 | 3.7 | 3.8 | 3.7 | 3.5 |
| 2012 | 3.3 | 3.5 | 3.2 | 3.3 | 3.3 | 3.2 | 3.4 | 3.3 | 3.1 | 3.2 | 3.1 | 3.1 |
| 2013 | 3.2 | 3.0 | 2.9 | 2.9 | 2.8 | 2.8 | 2.9 | 2.8 | 2.7 | 2.6 | 2.6 | 2.5 |
| 2014 | 2.5 | 2.4 | 2.4 | 2.1 | 2.1 | 1.9 | 2.0 | 1.8 | 1.9 | 1.8 | 1.9 | 1.7 |
| 2015 | 1.7 | 1.6 | 1.6 | 1.5 | 1.6 | 1.6 | 1.3 | 1.5 | 1.4 | 1.4 | 1.4 | 1.4 |
| 2016 | 1.3 | 1.3 | 1.3 | 1.4 | 1.3 | 1.3 | 1.3 | 1.4 | 1.4 | 1.4 | 1.3 | 1.3 |
| 2017 | 1.3 | 1.2 | 1.2 | 1.2 | 1.2 | 1.1 | 1.1 | 1.1 | 1.1 | 1.0 | 1.1 | 1.0 |
| 2018 | 1.0 | 1.0 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.8 | 0.9 | 0.8 | 0.9 |
| 2019 | 0.9 | 0.9 | 0.8 | 0.8 | 0.8 | 0.8 | 0.9 | 0.8 | 0.8 | 0.8 | 0.9 | 0.9 |
| 2020 | 0.8 | 0.8 | 1.2 | 4.9 | 3.8 | 2.9 | 2.5 | 2.1 | 1.9 | 1.6 | 1.6 | 1.6 |
| 2021 | 1.4 | 1.3 | 1.2 | 1.0 | 0.9 | 0.9 | 0.8 | 0.8 | 0.7 | 0.6 | 0.6 | 0.5 |
| 2022 | 0.6 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.6 | 0.5 | 0.6 | 0.6 | 0.5 |
| 2023 | 0.5 | 0.6 | 0.6 | 0.5 | 0.6 | 0.6 | 0.7 | | | | | |

| Date | Month | Year | Core CPI | YOY % Change | Unemployed persons per job opening ratio |
|--------|-------|------|----------|--------------|--|
| Jan-06 | 1 | 2006 | 203.2 | | 1.6 |
| Feb-06 | 2 | 2006 | 203.6 | | 1.7 |
| Mar-06 | 3 | 2006 | 204.3 | | 1.5 |
| Apr-06 | 4 | 2006 | 204.8 | | 1.5 |
| May-06 | 5 | 2006 | 205.4 | | 1.6 |
| Jun-06 | 6 | 2006 | 205.9 | | 1.5 |
| Jul-06 | 7 | 2006 | 206.3 | | 1.6 |
| Aug-06 | 8 | 2006 | 206.8 | | 1.5 |
| Sep-06 | 9 | 2006 | 207.2 | | 1.4 |
| Oct-06 | 10 | 2006 | 207.6 | | 1.5 |
| Nov-06 | 11 | 2006 | 207.8 | | 1.5 |
| Dec-06 | 12 | 2006 | 208.1 | | 1.5 |
| Jan-07 | 1 | 2007 | 208.6 | 2.66% | 1.5 |
| Feb-07 | 2 | 2007 | 209.135 | 2.72% | 1.5 |
| Mar-07 | 3 | 2007 | 209.418 | 2.51% | 1.4 |
| Apr-07 | 4 | 2007 | 209.747 | 2.42% | 1.5 |
| May-07 | 5 | 2007 | 210.058 | 2.27% | 1.5 |
| Jun-07 | 6 | 2007 | 210.392 | 2.18% | 1.4 |
| Jul-07 | 7 | 2007 | 210.773 | 2.17% | 1.6 |
| Aug-07 | 8 | 2007 | 211.119 | 2.09% | 1.6 |
| Sep-07 | 9 | 2007 | 211.554 | 2.10% | 1.5 |
| Oct-07 | 10 | 2007 | 212.077 | 2.16% | 1.6 |
| Nov-07 | 11 | 2007 | 212.66 | 2.34% | 1.6 |
| Dec-07 | 12 | 2007 | 213.168 | 2.44% | 1.7 |
| Jan-08 | 1 | 2008 | 213.771 | 2.48% | 1.7 |
| Feb-08 | 2 | 2008 | 213.939 | 2.30% | 1.8 |
| Mar-08 | 3 | 2008 | 214.42 | 2.39% | 1.9 |
| Apr-08 | 4 | 2008 | 214.56 | 2.29% | 1.9 |
| May-08 | 5 | 2008 | 214.936 | 2.32% | 2 |
| Jun-08 | 6 | 2008 | 215.424 | 2.39% | 2.2 |
| Jul-08 | 7 | 2008 | 215.965 | 2.46% | 2.4 |
| Aug-08 | 8 | 2008 | 216.393 | 2.50% | 2.6 |
| Sep-08 | 9 | 2008 | 216.713 | 2.44% | 2.9 |
| Oct-08 | 10 | 2008 | 216.788 | 2.22% | 3 |
| Nov-08 | 11 | 2008 | 216.947 | 2.02% | 3.3 |
| Dec-08 | 12 | 2008 | 216.925 | 1.76% | 3.6 |
| Jan-09 | 1 | 2009 | 217.346 | 1.67% | 4.4 |
| Feb-09 | 2 | 2009 | 217.792 | 1.80% | 4.5 |
| Mar-09 | 3 | 2009 | 218.253 | 1.79% | 5.3 |
| Apr-09 | 4 | 2009 | 218.706 | 1.93% | 6 |
| May-09 | 5 | 2009 | 218.904 | 1.85% | 5.7 |
| Jun-09 | 6 | 2009 | 219.112 | 1.71% | 5.9 |
| Jul-09 | 7 | 2009 | 219.263 | 1.53% | 6.5 |
| Aug-09 | 8 | 2009 | 219.496 | 1.43% | 6.3 |
| Sep-09 | 9 | 2009 | 219.92 | 1.48% | 6 |
| Oct-09 | 10 | 2009 | 220.501 | 1.71% | 6.4 |
| Nov-09 | 11 | 2009 | 220.666 | 1.71% | 6.1 |
| Dec-09 | 12 | 2009 | 220.881 | 1.82% | 5.9 |
| Jan-10 | 1 | 2010 | 220.633 | 1.51% | 5.3 |
| Feb-10 | 2 | 2010 | 220.731 | 1.35% | 5.7 |
| Mar-10 | 3 | 2010 | 220.783 | 1.16% | 5.7 |
| Apr-10 | 4 | 2010 | 220.822 | 0.97% | 4.9 |
| May-10 | 5 | 2010 | 220.962 | 0.94% | 5 |
| Jun-10 | 6 | 2010 | 221.194 | 0.95% | 5.2 |
| Jul-10 | 7 | 2010 | 221.363 | 0.96% | 4.7 |
| Aug-10 | 8 | 2010 | 221.509 | 0.92% | 4.9 |
| Sep-10 | 9 | 2010 | 221.711 | 0.81% | 5 |
| Oct-10 | 10 | 2010 | 221.83 | 0.60% | 4.5 |
| Nov-10 | 11 | 2010 | 222.149 | 0.67% | 4.7 |
| Dec-10 | 12 | 2010 | 222.343 | 0.66% | 4.7 |
| Jan-11 | 1 | 2011 | 222.803 | 0.98% | 4.5 |
| Feb-11 | 2 | 2011 | 223.213 | 1.12% | 4.3 |
| Mar-11 | 3 | 2011 | 223.454 | 1.21% | 4.2 |
| Apr-11 | 4 | 2011 | 223.727 | 1.32% | 4.3 |
| May-11 | 5 | 2011 | 224.175 | 1.45% | 4.4 |
| Jun-11 | 6 | 2011 | 224.697 | 1.58% | 4 |
| Jul-11 | 7 | 2011 | 225.218 | 1.74% | 3.8 |
| Aug-11 | 8 | 2011 | 225.862 | 1.97% | 4.2 |
| Sep-11 | 9 | 2011 | 226.118 | 1.99% | 3.7 |
| Oct-11 | 10 | 2011 | 226.506 | 2.11% | 3.8 |
| Nov-11 | 11 | 2011 | 226.899 | 2.14% | 3.7 |
| Dec-11 | 12 | 2011 | 227.405 | 2.28% | 3.5 |
| Jan-12 | 1 | 2012 | 227.877 | 2.28% | 3.3 |
| Feb-12 | 2 | 2012 | 228.034 | 2.16% | 3.5 |
| Mar-12 | 3 | 2012 | 228.478 | 2.25% | 3.2 |
| Apr-12 | 4 | 2012 | 228.905 | 2.31% | 3.3 |
| May-12 | 5 | 2012 | 229.224 | 2.25% | 3.3 |
| Jun-12 | 6 | 2012 | 229.623 | 2.19% | 3.2 |
| Jul-12 | 7 | 2012 | 229.97 | 2.11% | 3.4 |
| Aug-12 | 8 | 2012 | 230.233 | 1.94% | 3.3 |
| Sep-12 | 9 | 2012 | 230.659 | 2.01% | 3.1 |
| Oct-12 | 10 | 2012 | 231.024 | 1.99% | 3.2 |
| Nov-12 | 11 | 2012 | 231.33 | 1.95% | 3.1 |
| Dec-12 | 12 | 2012 | 231.725 | 1.90% | 3.1 |
| Jan-13 | 1 | 2013 | 232.229 | 1.91% | 3.2 |
| Feb-13 | 2 | 2013 | 232.569 | 1.99% | 3 |
| Mar-13 | 3 | 2013 | 232.794 | 1.89% | 2.9 |
| Apr-13 | 4 | 2013 | 232.832 | 1.72% | 2.9 |
| May-13 | 5 | 2013 | 232.996 | 1.65% | 2.8 |
| Jun-13 | 6 | 2013 | 233.35 | 1.62% | 2.8 |
| Jul-13 | 7 | 2013 | 233.88 | 1.70% | 2.9 |
| Aug-13 | 8 | 2013 | 234.336 | 1.78% | 2.8 |
| Sep-13 | 9 | 2013 | 234.7 | 1.75% | 2.7 |
| Oct-13 | 10 | 2013 | 234.921 | 1.69% | 2.6 |
| Nov-13 | 11 | 2013 | 235.359 | 1.74% | 2.6 |
| Dec-13 | 12 | 2013 | 235.759 | 1.74% | 2.5 |
| Jan-14 | 1 | 2014 | 235.961 | 1.61% | 2.5 |
| Feb-14 | 2 | 2014 | 236.185 | 1.55% | 2.4 |
| Mar-14 | 3 | 2014 | 236.625 | 1.65% | 2.4 |
| Apr-14 | 4 | 2014 | 237.072 | 1.82% | 2.1 |
| May-14 | 5 | 2014 | 237.529 | 1.95% | 2.1 |
| Jun-14 | 6 | 2014 | 237.837 | 1.92% | 1.9 |
| Jul-14 | 7 | 2014 | 238.195 | 1.84% | 2 |
| Aug-14 | 8 | 2014 | 238.405 | 1.74% | 1.8 |
| Sep-14 | 9 | 2014 | 238.786 | 1.74% | 1.9 |
| Oct-14 | 10 | 2014 | 239.191 | 1.82% | 1.8 |
| Nov-14 | 11 | 2014 | 239.458 | 1.74% | 1.9 |
| Dec-14 | 12 | 2014 | 239.584 | 1.62% | 1.7 |
| Jan-15 | 1 | 2015 | 239.811 | 1.63% | 1.7 |
| Feb-15 | 2 | 2015 | 240.172 | 1.69% | 1.6 |

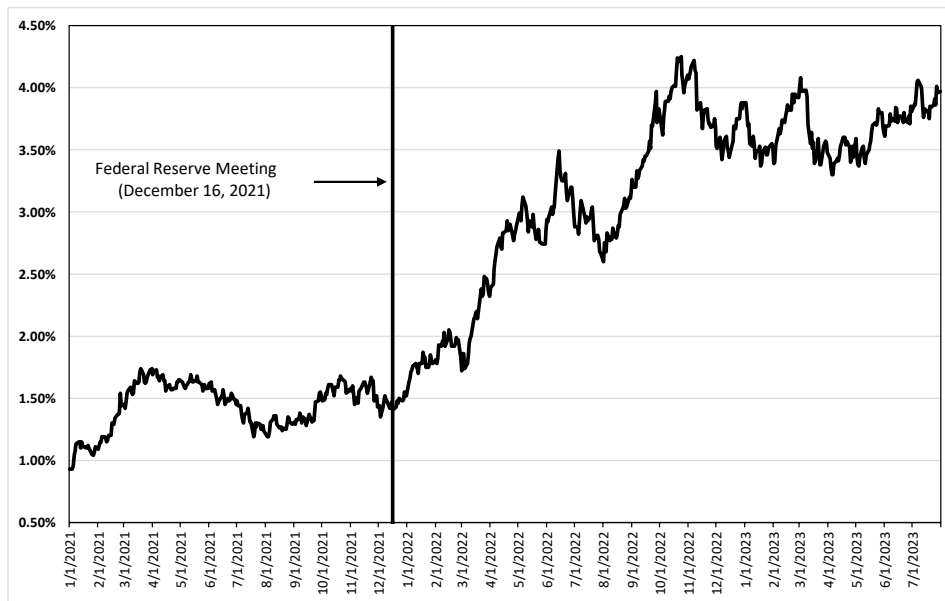
| Date | Month | Year | Core CPI | YOY % Change | Unemployed persons per job opening ratio |
|--------|-------|------|----------|--------------|--|
| Mar-15 | 3 | 2015 | 240.755 | 1.75% | 1.6 |
| Apr-15 | 4 | 2015 | 241.346 | 1.80% | 1.5 |
| May-15 | 5 | 2015 | 241.688 | 1.75% | 1.6 |
| Jun-15 | 6 | 2015 | 242.064 | 1.78% | 1.6 |
| Jul-15 | 7 | 2015 | 242.565 | 1.83% | 1.3 |
| Aug-15 | 8 | 2015 | 242.817 | 1.85% | 1.5 |
| Sep-15 | 9 | 2015 | 243.316 | 1.90% | 1.4 |
| Oct-15 | 10 | 2015 | 243.768 | 1.91% | 1.4 |
| Nov-15 | 11 | 2015 | 244.241 | 2.00% | 1.4 |
| Dec-15 | 12 | 2015 | 244.547 | 2.07% | 1.4 |
| Jan-16 | 1 | 2016 | 244.955 | 2.15% | 1.3 |
| Feb-16 | 2 | 2016 | 245.51 | 2.22% | 1.3 |
| Mar-16 | 3 | 2016 | 245.913 | 2.14% | 1.3 |
| Apr-16 | 4 | 2016 | 246.551 | 2.16% | 1.4 |
| May-16 | 5 | 2016 | 247.137 | 2.25% | 1.3 |
| Jun-16 | 6 | 2016 | 247.54 | 2.26% | 1.3 |
| Jul-16 | 7 | 2016 | 247.829 | 2.17% | 1.3 |
| Aug-16 | 8 | 2016 | 248.423 | 2.31% | 1.4 |
| Sep-16 | 9 | 2016 | 248.842 | 2.27% | 1.4 |
| Oct-16 | 10 | 2016 | 249.142 | 2.20% | 1.4 |
| Nov-16 | 11 | 2016 | 249.481 | 2.15% | 1.3 |
| Dec-16 | 12 | 2016 | 249.92 | 2.20% | 1.3 |
| Jan-17 | 1 | 2017 | 250.467 | 2.25% | 1.3 |
| Feb-17 | 2 | 2017 | 250.998 | 2.24% | 1.2 |
| Mar-17 | 3 | 2017 | 250.944 | 2.05% | 1.2 |
| Apr-17 | 4 | 2017 | 251.227 | 1.90% | 1.2 |
| May-17 | 5 | 2017 | 251.43 | 1.74% | 1.2 |
| Jun-17 | 6 | 2017 | 251.746 | 1.70% | 1.1 |
| Jul-17 | 7 | 2017 | 251.985 | 1.68% | 1.1 |
| Aug-17 | 8 | 2017 | 252.535 | 1.66% | 1.1 |
| Sep-17 | 9 | 2017 | 252.812 | 1.60% | 1.1 |
| Oct-17 | 10 | 2017 | 253.526 | 1.76% | 1 |
| Nov-17 | 11 | 2017 | 253.816 | 1.74% | 1.1 |
| Dec-17 | 12 | 2017 | 254.344 | 1.77% | 1 |
| Jan-18 | 1 | 2018 | 255.204 | 1.89% | 1 |
| Feb-18 | 2 | 2018 | 255.711 | 1.88% | 1 |
| Mar-18 | 3 | 2018 | 256.271 | 2.12% | 0.9 |
| Apr-18 | 4 | 2018 | 256.63 | 2.15% | 0.9 |
| May-18 | 5 | 2018 | 257.145 | 2.27% | 0.9 |
| Jun-18 | 6 | 2018 | 257.399 | 2.25% | 0.9 |
| Jul-18 | 7 | 2018 | 257.699 | 2.27% | 0.9 |
| Aug-18 | 8 | 2018 | 257.891 | 2.12% | 0.9 |
| Sep-18 | 9 | 2018 | 258.368 | 2.20% | 0.8 |
| Oct-18 | 10 | 2018 | 258.917 | 2.13% | 0.9 |
| Nov-18 | 11 | 2018 | 259.439 | 2.22% | 0.8 |
| Dec-18 | 12 | 2018 | 260.063 | 2.25% | 0.9 |
| Jan-19 | 1 | 2019 | 260.686 | 2.15% | 0.9 |
| Feb-19 | 2 | 2019 | 261.067 | 2.09% | 0.9 |
| Mar-19 | 3 | 2019 | 261.537 | 2.05% | 0.8 |
| Apr-19 | 4 | 2019 | 261.976 | 2.08% | 0.8 |
| May-19 | 5 | 2019 | 262.304 | 2.01% | 0.8 |
| Jun-19 | 6 | 2019 | 262.859 | 2.12% | 0.8 |
| Jul-19 | 7 | 2019 | 263.313 | 2.18% | 0.9 |
| Aug-19 | 8 | 2019 | 263.975 | 2.36% | 0.8 |
| Sep-19 | 9 | 2019 | 264.425 | 2.34% | 0.8 |
| Oct-19 | 10 | 2019 | 264.94 | 2.33% | 0.8 |
| Nov-19 | 11 | 2019 | 265.484 | 2.33% | 0.9 |
| Dec-19 | 12 | 2019 | 265.924 | 2.25% | 0.9 |
| Jan-20 | 1 | 2020 | 266.626 | 2.28% | 0.8 |
| Feb-20 | 2 | 2020 | 267.283 | 2.38% | 0.8 |
| Mar-20 | 3 | 2020 | 267.09 | 2.12% | 1.2 |
| Apr-20 | 4 | 2020 | 265.771 | 1.45% | 4.9 |
| May-20 | 5 | 2020 | 265.574 | 1.25% | 3.8 |
| Jun-20 | 6 | 2020 | 265.952 | 1.18% | 2.9 |
| Jul-20 | 7 | 2020 | 267.352 | 1.53% | 2.5 |
| Aug-20 | 8 | 2020 | 268.469 | 1.70% | 2.1 |
| Sep-20 | 9 | 2020 | 268.938 | 1.71% | 1.9 |
| Oct-20 | 10 | 2020 | 269.236 | 1.62% | 1.6 |
| Nov-20 | 11 | 2020 | 269.901 | 1.66% | 1.6 |
| Dec-20 | 12 | 2020 | 270.267 | 1.63% | 1.6 |
| Jan-21 | 1 | 2021 | 270.383 | 1.41% | 1.4 |
| Feb-21 | 2 | 2021 | 270.727 | 1.29% | 1.3 |
| Mar-21 | 3 | 2021 | 271.526 | 1.66% | 1.2 |
| Apr-21 | 4 | 2021 | 273.615 | 2.95% | 1 |
| May-21 | 5 | 2021 | 275.654 | 3.80% | 0.9 |
| Jun-21 | 6 | 2021 | 277.676 | 4.41% | 0.9 |
| Jul-21 | 7 | 2021 | 278.522 | 4.18% | 0.8 |
| Aug-21 | 8 | 2021 | 279.057 | 3.94% | 0.8 |
| Sep-21 | 9 | 2021 | 279.755 | 4.02% | 0.7 |
| Oct-21 | 10 | 2021 | 281.588 | 4.59% | 0.6 |
| Nov-21 | 11 | 2021 | 283.34 | 4.98% | 0.6 |
| Dec-21 | 12 | 2021 | 285.193 | 5.52% | 0.5 |
| Jan-22 | 1 | 2022 | 286.792 | 6.07% | 0.6 |
| Feb-22 | 2 | 2022 | 288.147 | 6.43% | 0.5 |
| Mar-22 | 3 | 2022 | 289.046 | 6.45% | 0.5 |
| Apr-22 | 4 | 2022 | 290.41 | 6.14% | 0.5 |
| May-22 | 5 | 2022 | 292.251 | 6.02% | 0.5 |
| Jun-22 | 6 | 2022 | 294.017 | 5.88% | 0.5 |
| Jul-22 | 7 | 2022 | 294.925 | 5.89% | 0.5 |
| Aug-22 | 8 | 2022 | 296.639 | 6.30% | 0.6 |
| Sep-22 | 9 | 2022 | 298.339 | 6.64% | 0.5 |
| Oct-22 | 10 | 2022 | 299.333 | 6.30% | 0.6 |
| Nov-22 | 11 | 2022 | 300.261 | 5.97% | 0.6 |
| Dec-22 | 12 | 2022 | 301.46 | 5.70% | 0.5 |
| Jan-23 | 1 | 2023 | 302.702 | 5.55% | 0.5 |
| Feb-23 | 2 | 2023 | 304.07 | 5.53% | 0.6 |
| Mar-23 | 3 | 2023 | 305.24 | 5.60% | 0.6 |
| Apr-23 | 4 | 2023 | 306.489 | 5.54% | 0.5 |
| May-23 | 5 | 2023 | 307.824 | 5.33% | 0.6 |
| Jun-23 | 6 | 2023 | 308.309 | 4.86% | 0.6 |
| Jul-23 | 7 | 2023 | 308.801 | 4.70% | 0.7 |



=SNL("Markets.Range", "\$B\$2:\$B\$3, "01/01/2021", "4/30/2023", "Options:Curr=USD,Mag=Standard,ConvMethod=Recommended,Pad=Off,Dates=Before,Sort=Asc")

10y US T-Note

| | YIELD | |
|-----------|-------|-------|
| 1/1/2021 | 0.93 | 0.93% |
| 1/4/2021 | 0.93 | 0.93% |
| 1/5/2021 | 0.96 | 0.96% |
| 1/6/2021 | 1.04 | 1.04% |
| 1/7/2021 | 1.08 | 1.08% |
| 1/8/2021 | 1.13 | 1.13% |
| 1/11/2021 | 1.15 | 1.15% |
| 1/12/2021 | 1.15 | 1.15% |
| 1/13/2021 | 1.10 | 1.10% |
| 1/14/2021 | 1.15 | 1.15% |
| 1/15/2021 | 1.11 | 1.11% |
| 1/18/2021 | 1.11 | 1.11% |
| 1/19/2021 | 1.10 | 1.10% |
| 1/20/2021 | 1.10 | 1.10% |
| 1/21/2021 | 1.12 | 1.12% |
| 1/22/2021 | 1.10 | 1.10% |
| 1/25/2021 | 1.05 | 1.05% |
| 1/26/2021 | 1.05 | 1.05% |
| 1/27/2021 | 1.04 | 1.04% |
| 1/28/2021 | 1.07 | 1.07% |
| 1/29/2021 | 1.11 | 1.11% |
| 2/1/2021 | 1.09 | 1.09% |
| 2/2/2021 | 1.12 | 1.12% |
| 2/3/2021 | 1.15 | 1.15% |
| 2/4/2021 | 1.15 | 1.15% |
| 2/5/2021 | 1.19 | 1.19% |
| 2/8/2021 | 1.19 | 1.19% |
| 2/9/2021 | 1.18 | 1.18% |
| 2/10/2021 | 1.15 | 1.15% |
| 2/11/2021 | 1.16 | 1.16% |
| 2/12/2021 | 1.20 | 1.20% |
| 2/15/2021 | 1.20 | 1.20% |
| 2/16/2021 | 1.30 | 1.30% |
| 2/17/2021 | 1.29 | 1.29% |
| 2/18/2021 | 1.29 | 1.29% |
| 2/19/2021 | 1.34 | 1.34% |
| 2/22/2021 | 1.37 | 1.37% |
| 2/23/2021 | 1.37 | 1.37% |
| 2/24/2021 | 1.38 | 1.38% |
| 2/25/2021 | 1.54 | 1.54% |
| 2/26/2021 | 1.44 | 1.44% |
| 3/1/2021 | 1.45 | 1.45% |
| 3/2/2021 | 1.42 | 1.42% |
| 3/3/2021 | 1.47 | 1.47% |
| 3/4/2021 | 1.54 | 1.54% |
| 3/5/2021 | 1.56 | 1.56% |
| 3/8/2021 | 1.59 | 1.59% |
| 3/9/2021 | 1.55 | 1.55% |
| 3/10/2021 | 1.53 | 1.53% |
| 3/11/2021 | 1.54 | 1.54% |
| 3/12/2021 | 1.64 | 1.64% |
| 3/15/2021 | 1.62 | 1.62% |
| 3/16/2021 | 1.62 | 1.62% |
| 3/17/2021 | 1.63 | 1.63% |
| 3/18/2021 | 1.71 | 1.71% |
| 3/19/2021 | 1.74 | 1.74% |
| 3/22/2021 | 1.69 | 1.69% |
| 3/23/2021 | 1.63 | 1.63% |
| 3/24/2021 | 1.62 | 1.62% |
| 3/25/2021 | 1.63 | 1.63% |
| 3/26/2021 | 1.67 | 1.67% |
| 3/29/2021 | 1.73 | 1.73% |
| 3/30/2021 | 1.73 | 1.73% |
| 3/31/2021 | 1.74 | 1.74% |
| 4/1/2021 | 1.69 | 1.69% |
| 4/2/2021 | 1.72 | 1.72% |
| 4/5/2021 | 1.73 | 1.73% |
| 4/6/2021 | 1.67 | 1.67% |
| 4/7/2021 | 1.68 | 1.68% |
| 4/8/2021 | 1.64 | 1.64% |
| 4/9/2021 | 1.67 | 1.67% |
| 4/12/2021 | 1.69 | 1.69% |
| 4/13/2021 | 1.64 | 1.64% |
| 4/14/2021 | 1.64 | 1.64% |
| 4/15/2021 | 1.56 | 1.56% |



| Date | Y-Axis |
|------------|--------|
| 12/16/2021 | 0% |
| 12/16/2021 | 5% |

| 10y US T-Note | | |
|---------------|-------|-------|
| | YIELD | |
| 4/16/2021 | 1.59 | 1.59% |
| 4/19/2021 | 1.61 | 1.61% |
| 4/20/2021 | 1.58 | 1.58% |
| 4/21/2021 | 1.57 | 1.57% |
| 4/22/2021 | 1.57 | 1.57% |
| 4/23/2021 | 1.58 | 1.58% |
| 4/26/2021 | 1.58 | 1.58% |
| 4/27/2021 | 1.63 | 1.63% |
| 4/28/2021 | 1.63 | 1.63% |
| 4/29/2021 | 1.65 | 1.65% |
| 4/30/2021 | 1.65 | 1.65% |
| 5/3/2021 | 1.63 | 1.63% |
| 5/4/2021 | 1.61 | 1.61% |
| 5/5/2021 | 1.59 | 1.59% |
| 5/6/2021 | 1.58 | 1.58% |
| 5/7/2021 | 1.60 | 1.60% |
| 5/10/2021 | 1.63 | 1.63% |
| 5/11/2021 | 1.64 | 1.64% |
| 5/12/2021 | 1.69 | 1.69% |
| 5/13/2021 | 1.66 | 1.66% |
| 5/14/2021 | 1.63 | 1.63% |
| 5/17/2021 | 1.64 | 1.64% |
| 5/18/2021 | 1.64 | 1.64% |
| 5/19/2021 | 1.68 | 1.68% |
| 5/20/2021 | 1.63 | 1.63% |
| 5/21/2021 | 1.63 | 1.63% |
| 5/24/2021 | 1.61 | 1.61% |
| 5/25/2021 | 1.56 | 1.56% |
| 5/26/2021 | 1.58 | 1.58% |
| 5/27/2021 | 1.61 | 1.61% |
| 5/28/2021 | 1.58 | 1.58% |
| 5/31/2021 | 1.58 | 1.58% |
| 6/1/2021 | 1.62 | 1.62% |
| 6/2/2021 | 1.59 | 1.59% |
| 6/3/2021 | 1.63 | 1.63% |
| 6/4/2021 | 1.56 | 1.56% |
| 6/7/2021 | 1.57 | 1.57% |
| 6/8/2021 | 1.53 | 1.53% |
| 6/9/2021 | 1.50 | 1.50% |
| 6/10/2021 | 1.45 | 1.45% |
| 6/11/2021 | 1.47 | 1.47% |
| 6/14/2021 | 1.51 | 1.51% |
| 6/15/2021 | 1.51 | 1.51% |
| 6/16/2021 | 1.57 | 1.57% |
| 6/17/2021 | 1.52 | 1.52% |
| 6/18/2021 | 1.45 | 1.45% |
| 6/21/2021 | 1.50 | 1.50% |
| 6/22/2021 | 1.48 | 1.48% |
| 6/23/2021 | 1.50 | 1.50% |
| 6/24/2021 | 1.49 | 1.49% |
| 6/25/2021 | 1.54 | 1.54% |
| 6/28/2021 | 1.49 | 1.49% |
| 6/29/2021 | 1.49 | 1.49% |
| 6/30/2021 | 1.45 | 1.45% |
| 7/1/2021 | 1.48 | 1.48% |
| 7/2/2021 | 1.44 | 1.44% |
| 7/5/2021 | 1.44 | 1.44% |
| 7/6/2021 | 1.37 | 1.37% |
| 7/7/2021 | 1.33 | 1.33% |
| 7/8/2021 | 1.30 | 1.30% |
| 7/9/2021 | 1.37 | 1.37% |
| 7/12/2021 | 1.38 | 1.38% |
| 7/13/2021 | 1.42 | 1.42% |
| 7/14/2021 | 1.37 | 1.37% |
| 7/15/2021 | 1.31 | 1.31% |
| 7/16/2021 | 1.31 | 1.31% |
| 7/19/2021 | 1.19 | 1.19% |
| 7/20/2021 | 1.23 | 1.23% |
| 7/21/2021 | 1.30 | 1.30% |
| 7/22/2021 | 1.27 | 1.27% |
| 7/23/2021 | 1.30 | 1.30% |
| 7/26/2021 | 1.29 | 1.29% |
| 7/27/2021 | 1.25 | 1.25% |
| 7/28/2021 | 1.26 | 1.26% |
| 7/29/2021 | 1.28 | 1.28% |
| 7/30/2021 | 1.24 | 1.24% |

10y US T-Note

| | YIELD | |
|------------|-------|-------|
| 8/2/2021 | 1.20 | 1.20% |
| 8/3/2021 | 1.19 | 1.19% |
| 8/4/2021 | 1.19 | 1.19% |
| 8/5/2021 | 1.23 | 1.23% |
| 8/6/2021 | 1.31 | 1.31% |
| 8/9/2021 | 1.33 | 1.33% |
| 8/10/2021 | 1.36 | 1.36% |
| 8/11/2021 | 1.35 | 1.35% |
| 8/12/2021 | 1.36 | 1.36% |
| 8/13/2021 | 1.29 | 1.29% |
| 8/16/2021 | 1.26 | 1.26% |
| 8/17/2021 | 1.26 | 1.26% |
| 8/18/2021 | 1.27 | 1.27% |
| 8/19/2021 | 1.24 | 1.24% |
| 8/20/2021 | 1.26 | 1.26% |
| 8/23/2021 | 1.25 | 1.25% |
| 8/24/2021 | 1.29 | 1.29% |
| 8/25/2021 | 1.35 | 1.35% |
| 8/26/2021 | 1.34 | 1.34% |
| 8/27/2021 | 1.31 | 1.31% |
| 8/30/2021 | 1.29 | 1.29% |
| 8/31/2021 | 1.30 | 1.30% |
| 9/1/2021 | 1.31 | 1.31% |
| 9/2/2021 | 1.29 | 1.29% |
| 9/3/2021 | 1.33 | 1.33% |
| 9/6/2021 | 1.33 | 1.33% |
| 9/7/2021 | 1.38 | 1.38% |
| 9/8/2021 | 1.35 | 1.35% |
| 9/9/2021 | 1.30 | 1.30% |
| 9/10/2021 | 1.35 | 1.35% |
| 9/13/2021 | 1.33 | 1.33% |
| 9/14/2021 | 1.28 | 1.28% |
| 9/15/2021 | 1.31 | 1.31% |
| 9/16/2021 | 1.34 | 1.34% |
| 9/17/2021 | 1.37 | 1.37% |
| 9/20/2021 | 1.31 | 1.31% |
| 9/21/2021 | 1.33 | 1.33% |
| 9/22/2021 | 1.32 | 1.32% |
| 9/23/2021 | 1.41 | 1.41% |
| 9/24/2021 | 1.47 | 1.47% |
| 9/27/2021 | 1.48 | 1.48% |
| 9/28/2021 | 1.54 | 1.54% |
| 9/29/2021 | 1.55 | 1.55% |
| 9/30/2021 | 1.52 | 1.52% |
| 10/1/2021 | 1.48 | 1.48% |
| 10/4/2021 | 1.49 | 1.49% |
| 10/5/2021 | 1.54 | 1.54% |
| 10/6/2021 | 1.53 | 1.53% |
| 10/7/2021 | 1.58 | 1.58% |
| 10/8/2021 | 1.61 | 1.61% |
| 10/11/2021 | 1.61 | 1.61% |
| 10/12/2021 | 1.59 | 1.59% |
| 10/13/2021 | 1.56 | 1.56% |
| 10/14/2021 | 1.52 | 1.52% |
| 10/15/2021 | 1.59 | 1.59% |
| 10/18/2021 | 1.59 | 1.59% |
| 10/19/2021 | 1.65 | 1.65% |
| 10/20/2021 | 1.65 | 1.65% |
| 10/21/2021 | 1.68 | 1.68% |
| 10/22/2021 | 1.66 | 1.66% |
| 10/25/2021 | 1.64 | 1.64% |
| 10/26/2021 | 1.63 | 1.63% |
| 10/27/2021 | 1.54 | 1.54% |
| 10/28/2021 | 1.57 | 1.57% |
| 10/29/2021 | 1.55 | 1.55% |
| 11/1/2021 | 1.58 | 1.58% |
| 11/2/2021 | 1.56 | 1.56% |
| 11/3/2021 | 1.60 | 1.60% |
| 11/4/2021 | 1.53 | 1.53% |
| 11/5/2021 | 1.45 | 1.45% |
| 11/8/2021 | 1.51 | 1.51% |
| 11/9/2021 | 1.46 | 1.46% |
| 11/10/2021 | 1.56 | 1.56% |
| 11/12/2021 | 1.58 | 1.58% |
| 11/15/2021 | 1.63 | 1.63% |
| 11/16/2021 | 1.63 | 1.63% |

10y US T-Note
YIELD

| | | |
|------------|------|-------|
| 11/17/2021 | 1.60 | 1.60% |
| 11/18/2021 | 1.59 | 1.59% |
| 11/19/2021 | 1.54 | 1.54% |
| 11/22/2021 | 1.63 | 1.63% |
| 11/23/2021 | 1.67 | 1.67% |
| 11/24/2021 | 1.64 | 1.64% |
| 11/25/2021 | 1.64 | 1.64% |
| 11/26/2021 | 1.48 | 1.48% |
| 11/29/2021 | 1.52 | 1.52% |
| 11/30/2021 | 1.43 | 1.43% |
| 12/1/2021 | 1.43 | 1.43% |
| 12/2/2021 | 1.44 | 1.44% |
| 12/3/2021 | 1.35 | 1.35% |
| 12/6/2021 | 1.43 | 1.43% |
| 12/7/2021 | 1.48 | 1.48% |
| 12/8/2021 | 1.52 | 1.52% |
| 12/9/2021 | 1.49 | 1.49% |
| 12/10/2021 | 1.48 | 1.48% |
| 12/13/2021 | 1.42 | 1.42% |
| 12/14/2021 | 1.44 | 1.44% |
| 12/15/2021 | 1.47 | 1.47% |
| 12/16/2021 | 1.44 | 1.44% |
| 12/17/2021 | 1.41 | 1.41% |
| 12/20/2021 | 1.43 | 1.43% |
| 12/21/2021 | 1.48 | 1.48% |
| 12/22/2021 | 1.46 | 1.46% |
| 12/23/2021 | 1.50 | 1.50% |
| 12/27/2021 | 1.48 | 1.48% |
| 12/28/2021 | 1.49 | 1.49% |
| 12/29/2021 | 1.55 | 1.55% |
| 12/30/2021 | 1.52 | 1.52% |
| 12/31/2021 | 1.52 | 1.52% |
| 1/3/2022 | 1.63 | 1.63% |
| 1/4/2022 | 1.66 | 1.66% |
| 1/5/2022 | 1.71 | 1.71% |
| 1/6/2022 | 1.73 | 1.73% |
| 1/7/2022 | 1.76 | 1.76% |
| 1/10/2022 | 1.78 | 1.78% |
| 1/11/2022 | 1.75 | 1.75% |
| 1/12/2022 | 1.74 | 1.74% |
| 1/13/2022 | 1.70 | 1.70% |
| 1/14/2022 | 1.78 | 1.78% |
| 1/17/2022 | 1.78 | 1.78% |
| 1/18/2022 | 1.87 | 1.87% |
| 1/19/2022 | 1.83 | 1.83% |
| 1/20/2022 | 1.83 | 1.83% |
| 1/21/2022 | 1.75 | 1.75% |
| 1/24/2022 | 1.75 | 1.75% |
| 1/25/2022 | 1.78 | 1.78% |
| 1/26/2022 | 1.85 | 1.85% |
| 1/27/2022 | 1.81 | 1.81% |
| 1/28/2022 | 1.78 | 1.78% |
| 1/31/2022 | 1.79 | 1.79% |
| 2/1/2022 | 1.81 | 1.81% |
| 2/2/2022 | 1.78 | 1.78% |
| 2/3/2022 | 1.82 | 1.82% |
| 2/4/2022 | 1.93 | 1.93% |
| 2/7/2022 | 1.92 | 1.92% |
| 2/8/2022 | 1.96 | 1.96% |
| 2/9/2022 | 1.94 | 1.94% |
| 2/10/2022 | 2.03 | 2.03% |
| 2/11/2022 | 1.92 | 1.92% |
| 2/14/2022 | 1.98 | 1.98% |
| 2/15/2022 | 2.05 | 2.05% |
| 2/16/2022 | 2.03 | 2.03% |
| 2/17/2022 | 1.97 | 1.97% |
| 2/18/2022 | 1.92 | 1.92% |
| 2/21/2022 | 1.92 | 1.92% |
| 2/22/2022 | 1.94 | 1.94% |
| 2/23/2022 | 1.99 | 1.99% |
| 2/24/2022 | 1.96 | 1.96% |
| 2/25/2022 | 1.97 | 1.97% |
| 2/28/2022 | 1.83 | 1.83% |
| 3/1/2022 | 1.72 | 1.72% |
| 3/2/2022 | 1.86 | 1.86% |
| 3/3/2022 | 1.86 | 1.86% |

| 10y US T-Note | | |
|---------------|-------|-------|
| | YIELD | |
| 3/4/2022 | 1.74 | 1.74% |
| 3/7/2022 | 1.78 | 1.78% |
| 3/8/2022 | 1.86 | 1.86% |
| 3/9/2022 | 1.94 | 1.94% |
| 3/10/2022 | 1.98 | 1.98% |
| 3/11/2022 | 2.00 | 2.00% |
| 3/14/2022 | 2.14 | 2.14% |
| 3/15/2022 | 2.15 | 2.15% |
| 3/16/2022 | 2.19 | 2.19% |
| 3/17/2022 | 2.20 | 2.20% |
| 3/18/2022 | 2.14 | 2.14% |
| 3/21/2022 | 2.32 | 2.32% |
| 3/22/2022 | 2.38 | 2.38% |
| 3/23/2022 | 2.32 | 2.32% |
| 3/24/2022 | 2.34 | 2.34% |
| 3/25/2022 | 2.48 | 2.48% |
| 3/28/2022 | 2.46 | 2.46% |
| 3/29/2022 | 2.41 | 2.41% |
| 3/30/2022 | 2.35 | 2.35% |
| 3/31/2022 | 2.32 | 2.32% |
| 4/1/2022 | 2.39 | 2.39% |
| 4/4/2022 | 2.42 | 2.42% |
| 4/5/2022 | 2.54 | 2.54% |
| 4/6/2022 | 2.61 | 2.61% |
| 4/7/2022 | 2.66 | 2.66% |
| 4/8/2022 | 2.72 | 2.72% |
| 4/11/2022 | 2.79 | 2.79% |
| 4/12/2022 | 2.72 | 2.72% |
| 4/13/2022 | 2.70 | 2.70% |
| 4/14/2022 | 2.83 | 2.83% |
| 4/15/2022 | 2.83 | 2.83% |
| 4/18/2022 | 2.85 | 2.85% |
| 4/19/2022 | 2.93 | 2.93% |
| 4/20/2022 | 2.85 | 2.85% |
| 4/21/2022 | 2.90 | 2.90% |
| 4/22/2022 | 2.90 | 2.90% |
| 4/25/2022 | 2.81 | 2.81% |
| 4/26/2022 | 2.77 | 2.77% |
| 4/27/2022 | 2.82 | 2.82% |
| 4/28/2022 | 2.85 | 2.85% |
| 4/29/2022 | 2.89 | 2.89% |
| 5/2/2022 | 2.99 | 2.99% |
| 5/3/2022 | 2.97 | 2.97% |
| 5/4/2022 | 2.93 | 2.93% |
| 5/5/2022 | 3.05 | 3.05% |
| 5/6/2022 | 3.12 | 3.12% |
| 5/9/2022 | 3.05 | 3.05% |
| 5/10/2022 | 2.99 | 2.99% |
| 5/11/2022 | 2.91 | 2.91% |
| 5/12/2022 | 2.84 | 2.84% |
| 5/13/2022 | 2.93 | 2.93% |
| 5/16/2022 | 2.88 | 2.88% |
| 5/17/2022 | 2.98 | 2.98% |
| 5/18/2022 | 2.88 | 2.88% |
| 5/19/2022 | 2.84 | 2.84% |
| 5/20/2022 | 2.78 | 2.78% |
| 5/23/2022 | 2.86 | 2.86% |
| 5/24/2022 | 2.76 | 2.76% |
| 5/25/2022 | 2.75 | 2.75% |
| 5/26/2022 | 2.75 | 2.75% |
| 5/27/2022 | 2.74 | 2.74% |
| 5/30/2022 | 2.74 | 2.74% |
| 5/31/2022 | 2.85 | 2.85% |
| 6/1/2022 | 2.94 | 2.94% |
| 6/2/2022 | 2.92 | 2.92% |
| 6/3/2022 | 2.96 | 2.96% |
| 6/6/2022 | 3.04 | 3.04% |
| 6/7/2022 | 2.98 | 2.98% |
| 6/8/2022 | 3.03 | 3.03% |
| 6/9/2022 | 3.04 | 3.04% |
| 6/10/2022 | 3.15 | 3.15% |
| 6/13/2022 | 3.43 | 3.43% |
| 6/14/2022 | 3.49 | 3.49% |
| 6/15/2022 | 3.33 | 3.33% |
| 6/16/2022 | 3.28 | 3.28% |
| 6/17/2022 | 3.25 | 3.25% |

| 10y US T-Note | | |
|---------------|-------|-------|
| | YIELD | |
| 6/20/2022 | 3.25 | 3.25% |
| 6/21/2022 | 3.31 | 3.31% |
| 6/22/2022 | 3.16 | 3.16% |
| 6/23/2022 | 3.09 | 3.09% |
| 6/24/2022 | 3.13 | 3.13% |
| 6/27/2022 | 3.20 | 3.20% |
| 6/28/2022 | 3.20 | 3.20% |
| 6/29/2022 | 3.10 | 3.10% |
| 6/30/2022 | 2.98 | 2.98% |
| 7/1/2022 | 2.88 | 2.88% |
| 7/4/2022 | 2.88 | 2.88% |
| 7/5/2022 | 2.82 | 2.82% |
| 7/6/2022 | 2.93 | 2.93% |
| 7/7/2022 | 3.01 | 3.01% |
| 7/8/2022 | 3.09 | 3.09% |
| 7/11/2022 | 2.99 | 2.99% |
| 7/12/2022 | 2.96 | 2.96% |
| 7/13/2022 | 2.91 | 2.91% |
| 7/14/2022 | 2.96 | 2.96% |
| 7/15/2022 | 2.93 | 2.93% |
| 7/18/2022 | 2.96 | 2.96% |
| 7/19/2022 | 3.01 | 3.01% |
| 7/20/2022 | 3.04 | 3.04% |
| 7/21/2022 | 2.91 | 2.91% |
| 7/22/2022 | 2.77 | 2.77% |
| 7/25/2022 | 2.81 | 2.81% |
| 7/26/2022 | 2.81 | 2.81% |
| 7/27/2022 | 2.78 | 2.78% |
| 7/28/2022 | 2.68 | 2.68% |
| 7/29/2022 | 2.67 | 2.67% |
| 8/1/2022 | 2.60 | 2.60% |
| 8/2/2022 | 2.75 | 2.75% |
| 8/3/2022 | 2.73 | 2.73% |
| 8/4/2022 | 2.68 | 2.68% |
| 8/5/2022 | 2.83 | 2.83% |
| 8/8/2022 | 2.77 | 2.77% |
| 8/9/2022 | 2.80 | 2.80% |
| 8/10/2022 | 2.78 | 2.78% |
| 8/11/2022 | 2.87 | 2.87% |
| 8/12/2022 | 2.84 | 2.84% |
| 8/15/2022 | 2.79 | 2.79% |
| 8/16/2022 | 2.82 | 2.82% |
| 8/17/2022 | 2.89 | 2.89% |
| 8/18/2022 | 2.88 | 2.88% |
| 8/19/2022 | 2.98 | 2.98% |
| 8/22/2022 | 3.03 | 3.03% |
| 8/23/2022 | 3.05 | 3.05% |
| 8/24/2022 | 3.11 | 3.11% |
| 8/25/2022 | 3.03 | 3.03% |
| 8/26/2022 | 3.04 | 3.04% |
| 8/29/2022 | 3.12 | 3.12% |
| 8/30/2022 | 3.11 | 3.11% |
| 8/31/2022 | 3.15 | 3.15% |
| 9/1/2022 | 3.26 | 3.26% |
| 9/2/2022 | 3.20 | 3.20% |
| 9/5/2022 | 3.20 | 3.20% |
| 9/6/2022 | 3.33 | 3.33% |
| 9/7/2022 | 3.27 | 3.27% |
| 9/8/2022 | 3.29 | 3.29% |
| 9/9/2022 | 3.33 | 3.33% |
| 9/12/2022 | 3.37 | 3.37% |
| 9/13/2022 | 3.42 | 3.42% |
| 9/14/2022 | 3.41 | 3.41% |
| 9/15/2022 | 3.45 | 3.45% |
| 9/16/2022 | 3.45 | 3.45% |
| 9/19/2022 | 3.49 | 3.49% |
| 9/20/2022 | 3.57 | 3.57% |
| 9/21/2022 | 3.51 | 3.51% |
| 9/22/2022 | 3.70 | 3.70% |
| 9/23/2022 | 3.69 | 3.69% |
| 9/26/2022 | 3.88 | 3.88% |
| 9/27/2022 | 3.97 | 3.97% |
| 9/28/2022 | 3.72 | 3.72% |
| 9/29/2022 | 3.76 | 3.76% |
| 9/30/2022 | 3.83 | 3.83% |
| 10/3/2022 | 3.67 | 3.67% |

10y US T-Note

YIELD

| | | |
|------------|------|-------|
| 10/4/2022 | 3.62 | 3.62% |
| 10/5/2022 | 3.76 | 3.76% |
| 10/6/2022 | 3.83 | 3.83% |
| 10/7/2022 | 3.89 | 3.89% |
| 10/10/2022 | 3.89 | 3.89% |
| 10/11/2022 | 3.93 | 3.93% |
| 10/12/2022 | 3.91 | 3.91% |
| 10/13/2022 | 3.97 | 3.97% |
| 10/14/2022 | 4.00 | 4.00% |
| 10/17/2022 | 4.02 | 4.02% |
| 10/18/2022 | 4.01 | 4.01% |
| 10/19/2022 | 4.14 | 4.14% |
| 10/20/2022 | 4.24 | 4.24% |
| 10/21/2022 | 4.21 | 4.21% |
| 10/24/2022 | 4.25 | 4.25% |
| 10/25/2022 | 4.10 | 4.10% |
| 10/26/2022 | 4.04 | 4.04% |
| 10/27/2022 | 3.96 | 3.96% |
| 10/28/2022 | 4.02 | 4.02% |
| 10/31/2022 | 4.10 | 4.10% |
| 11/1/2022 | 4.07 | 4.07% |
| 11/2/2022 | 4.10 | 4.10% |
| 11/3/2022 | 4.14 | 4.14% |
| 11/4/2022 | 4.17 | 4.17% |
| 11/7/2022 | 4.22 | 4.22% |
| 11/8/2022 | 4.14 | 4.14% |
| 11/9/2022 | 4.12 | 4.12% |
| 11/10/2022 | 3.82 | 3.82% |
| 11/14/2022 | 3.88 | 3.88% |
| 11/15/2022 | 3.80 | 3.80% |
| 11/16/2022 | 3.67 | 3.67% |
| 11/17/2022 | 3.77 | 3.77% |
| 11/18/2022 | 3.82 | 3.82% |
| 11/21/2022 | 3.83 | 3.83% |
| 11/22/2022 | 3.76 | 3.76% |
| 11/23/2022 | 3.71 | 3.71% |
| 11/24/2022 | 3.71 | 3.71% |
| 11/25/2022 | 3.68 | 3.68% |
| 11/28/2022 | 3.69 | 3.69% |
| 11/29/2022 | 3.75 | 3.75% |
| 11/30/2022 | 3.68 | 3.68% |
| 12/1/2022 | 3.53 | 3.53% |
| 12/2/2022 | 3.51 | 3.51% |
| 12/5/2022 | 3.60 | 3.60% |
| 12/6/2022 | 3.51 | 3.51% |
| 12/7/2022 | 3.42 | 3.42% |
| 12/8/2022 | 3.48 | 3.48% |
| 12/9/2022 | 3.57 | 3.57% |
| 12/12/2022 | 3.61 | 3.61% |
| 12/13/2022 | 3.51 | 3.51% |
| 12/14/2022 | 3.49 | 3.49% |
| 12/15/2022 | 3.44 | 3.44% |
| 12/16/2022 | 3.48 | 3.48% |
| 12/19/2022 | 3.57 | 3.57% |
| 12/20/2022 | 3.69 | 3.69% |
| 12/21/2022 | 3.68 | 3.68% |
| 12/22/2022 | 3.67 | 3.67% |
| 12/23/2022 | 3.75 | 3.75% |
| 12/26/2022 | 3.75 | 3.75% |
| 12/27/2022 | 3.84 | 3.84% |
| 12/28/2022 | 3.88 | 3.88% |
| 12/29/2022 | 3.83 | 3.83% |
| 12/30/2022 | 3.88 | 3.88% |
| 1/2/2023 | 3.88 | 3.88% |
| 1/3/2023 | 3.79 | 3.79% |
| 1/4/2023 | 3.69 | 3.69% |
| 1/5/2023 | 3.71 | 3.71% |
| 1/6/2023 | 3.55 | 3.55% |
| 1/9/2023 | 3.53 | 3.53% |
| 1/10/2023 | 3.61 | 3.61% |
| 1/11/2023 | 3.54 | 3.54% |
| 1/12/2023 | 3.43 | 3.43% |
| 1/13/2023 | 3.49 | 3.49% |
| 1/16/2023 | 3.49 | 3.49% |
| 1/17/2023 | 3.53 | 3.53% |
| 1/18/2023 | 3.37 | 3.37% |

| 10y US T-Note | | |
|---------------|-------|-------|
| | YIELD | |
| 1/19/2023 | 3.39 | 3.39% |
| 1/20/2023 | 3.48 | 3.48% |
| 1/23/2023 | 3.52 | 3.52% |
| 1/24/2023 | 3.46 | 3.46% |
| 1/25/2023 | 3.46 | 3.46% |
| 1/26/2023 | 3.49 | 3.49% |
| 1/27/2023 | 3.52 | 3.52% |
| 1/30/2023 | 3.55 | 3.55% |
| 1/31/2023 | 3.52 | 3.52% |
| 2/1/2023 | 3.39 | 3.39% |
| 2/2/2023 | 3.40 | 3.40% |
| 2/3/2023 | 3.53 | 3.53% |
| 2/6/2023 | 3.63 | 3.63% |
| 2/7/2023 | 3.67 | 3.67% |
| 2/8/2023 | 3.63 | 3.63% |
| 2/9/2023 | 3.67 | 3.67% |
| 2/10/2023 | 3.74 | 3.74% |
| 2/13/2023 | 3.72 | 3.72% |
| 2/14/2023 | 3.77 | 3.77% |
| 2/15/2023 | 3.81 | 3.81% |
| 2/16/2023 | 3.86 | 3.86% |
| 2/17/2023 | 3.82 | 3.82% |
| 2/20/2023 | 3.82 | 3.82% |
| 2/21/2023 | 3.95 | 3.95% |
| 2/22/2023 | 3.93 | 3.93% |
| 2/23/2023 | 3.88 | 3.88% |
| 2/24/2023 | 3.95 | 3.95% |
| 2/27/2023 | 3.92 | 3.92% |
| 2/28/2023 | 3.92 | 3.92% |
| 3/1/2023 | 4.01 | 4.01% |
| 3/2/2023 | 4.08 | 4.08% |
| 3/3/2023 | 3.97 | 3.97% |
| 3/6/2023 | 3.98 | 3.98% |
| 3/7/2023 | 3.97 | 3.97% |
| 3/8/2023 | 3.98 | 3.98% |
| 3/9/2023 | 3.93 | 3.93% |
| 3/10/2023 | 3.70 | 3.70% |
| 3/13/2023 | 3.55 | 3.55% |
| 3/14/2023 | 3.64 | 3.64% |
| 3/15/2023 | 3.51 | 3.51% |
| 3/16/2023 | 3.56 | 3.56% |
| 3/17/2023 | 3.39 | 3.39% |
| 3/20/2023 | 3.47 | 3.47% |
| 3/21/2023 | 3.59 | 3.59% |
| 3/22/2023 | 3.48 | 3.48% |
| 3/23/2023 | 3.38 | 3.38% |
| 3/24/2023 | 3.38 | 3.38% |
| 3/27/2023 | 3.53 | 3.53% |
| 3/28/2023 | 3.55 | 3.55% |
| 3/29/2023 | 3.57 | 3.57% |
| 3/30/2023 | 3.55 | 3.55% |
| 3/31/2023 | 3.48 | 3.48% |
| 4/3/2023 | 3.43 | 3.43% |
| 4/4/2023 | 3.35 | 3.35% |
| 4/5/2023 | 3.30 | 3.30% |
| 4/6/2023 | 3.30 | 3.30% |
| 4/7/2023 | 3.39 | 3.39% |
| 4/10/2023 | 3.41 | 3.41% |
| 4/11/2023 | 3.43 | 3.43% |
| 4/12/2023 | 3.41 | 3.41% |
| 4/13/2023 | 3.45 | 3.45% |
| 4/14/2023 | 3.52 | 3.52% |
| 4/17/2023 | 3.60 | 3.60% |
| 4/18/2023 | 3.58 | 3.58% |
| 4/19/2023 | 3.60 | 3.60% |
| 4/20/2023 | 3.54 | 3.54% |
| 4/21/2023 | 3.57 | 3.57% |
| 4/24/2023 | 3.52 | 3.52% |
| 4/25/2023 | 3.40 | 3.40% |
| 4/26/2023 | 3.43 | 3.43% |
| 4/27/2023 | 3.53 | 3.53% |
| 4/28/2023 | 3.44 | 3.44% |
| 5/1/2023 | 3.59 | 3.59% |
| 5/2/2023 | 3.44 | 3.44% |
| 5/3/2023 | 3.38 | 3.38% |
| 5/4/2023 | 3.37 | 3.37% |

| 10y US T-Note | | |
|---------------|-------|-------|
| | YIELD | |
| 5/5/2023 | 3.44 | 3.44% |
| 5/8/2023 | 3.52 | 3.52% |
| 5/9/2023 | 3.53 | 3.53% |
| 5/10/2023 | 3.43 | 3.43% |
| 5/11/2023 | 3.39 | 3.39% |
| 5/12/2023 | 3.46 | 3.46% |
| 5/15/2023 | 3.50 | 3.50% |
| 5/16/2023 | 3.54 | 3.54% |
| 5/17/2023 | 3.57 | 3.57% |
| 5/18/2023 | 3.65 | 3.65% |
| 5/19/2023 | 3.70 | 3.70% |
| 5/22/2023 | 3.72 | 3.72% |
| 5/23/2023 | 3.70 | 3.70% |
| 5/24/2023 | 3.73 | 3.73% |
| 5/25/2023 | 3.83 | 3.83% |
| 5/26/2023 | 3.80 | 3.80% |
| 5/29/2023 | 3.80 | 3.80% |
| 5/30/2023 | 3.69 | 3.69% |
| 5/31/2023 | 3.64 | 3.64% |
| 6/1/2023 | 3.61 | 3.61% |
| 6/2/2023 | 3.69 | 3.69% |
| 6/5/2023 | 3.69 | 3.69% |
| 6/6/2023 | 3.70 | 3.70% |
| 6/7/2023 | 3.79 | 3.79% |
| 6/8/2023 | 3.73 | 3.73% |
| 6/9/2023 | 3.75 | 3.75% |
| 6/12/2023 | 3.73 | 3.73% |
| 6/13/2023 | 3.84 | 3.84% |
| 6/14/2023 | 3.83 | 3.83% |
| 6/15/2023 | 3.72 | 3.72% |
| 6/16/2023 | 3.77 | 3.77% |
| 6/19/2023 | 3.77 | 3.77% |
| 6/20/2023 | 3.74 | 3.74% |
| 6/21/2023 | 3.72 | 3.72% |
| 6/22/2023 | 3.80 | 3.80% |
| 6/23/2023 | 3.74 | 3.74% |
| 6/26/2023 | 3.72 | 3.72% |
| 6/27/2023 | 3.77 | 3.77% |
| 6/28/2023 | 3.71 | 3.71% |
| 6/29/2023 | 3.85 | 3.85% |
| 6/30/2023 | 3.81 | 3.81% |
| 7/3/2023 | 3.86 | 3.86% |
| 7/4/2023 | 3.86 | 3.86% |
| 7/5/2023 | 3.95 | 3.95% |
| 7/6/2023 | 4.05 | 4.05% |
| 7/7/2023 | 4.06 | 4.06% |
| 7/10/2023 | 4.01 | 4.01% |
| 7/11/2023 | 3.99 | 3.99% |
| 7/12/2023 | 3.86 | 3.86% |
| 7/13/2023 | 3.76 | 3.76% |
| 7/14/2023 | 3.83 | 3.83% |
| 7/17/2023 | 3.81 | 3.81% |
| 7/18/2023 | 3.80 | 3.80% |
| 7/19/2023 | 3.75 | 3.75% |
| 7/20/2023 | 3.85 | 3.85% |
| 7/21/2023 | 3.84 | 3.84% |
| 7/24/2023 | 3.86 | 3.86% |
| 7/25/2023 | 3.91 | 3.91% |
| 7/26/2023 | 3.86 | 3.86% |
| 7/27/2023 | 4.01 | 4.01% |
| 7/28/2023 | 3.96 | 3.96% |
| 7/31/2023 | 3.97 | 3.97% |

=SNL("Markets.Range", \$G\$2:\$G\$3, "01/01/2010", "1/31/2023",
"Options:Curr=USD, Mag=Standard, ConvMethod=Recommended, P
ad=Off, Dates=Before, Sort=Asc")

| Bloomberg | | 10y US T-Note | |
|----------------------------------|------------------------------------|---------------|------|
| S&P 500 Utilities (S5UTIL Index) | | YIELD | |
| | Dividend Yield (NET_AGGTE_DVD_YLD) | | |
| 1/4/2010 | 4.22 | 1/1/2010 | 3.85 |
| 1/5/2010 | 4.27 | 1/4/2010 | 3.85 |
| 1/6/2010 | 4.25 | 1/5/2010 | 3.77 |
| 1/7/2010 | 4.27 | 1/6/2010 | 3.85 |
| 1/8/2010 | 4.28 | 1/7/2010 | 3.85 |
| 1/11/2010 | 4.23 | 1/8/2010 | 3.83 |
| 1/12/2010 | 4.25 | 1/11/2010 | 3.85 |
| 1/13/2010 | 4.21 | 1/12/2010 | 3.74 |
| 1/14/2010 | 4.22 | 1/13/2010 | 3.80 |
| 1/15/2010 | 4.25 | 1/14/2010 | 3.76 |
| 1/19/2010 | 4.20 | 1/15/2010 | 3.70 |
| 1/20/2010 | 4.25 | 1/18/2010 | 3.70 |
| 1/21/2010 | 4.31 | 1/19/2010 | 3.73 |
| 1/22/2010 | 4.40 | 1/20/2010 | 3.68 |
| 1/25/2010 | 4.38 | 1/21/2010 | 3.62 |
| 1/26/2010 | 4.36 | 1/22/2010 | 3.62 |
| 1/27/2010 | 4.38 | 1/25/2010 | 3.66 |
| 1/28/2010 | 4.44 | 1/26/2010 | 3.65 |
| 1/29/2010 | 4.38 | 1/27/2010 | 3.66 |
| 2/1/2010 | 4.35 | 1/28/2010 | 3.68 |
| 2/2/2010 | 4.31 | 1/29/2010 | 3.63 |
| 2/3/2010 | 4.35 | 2/1/2010 | 3.68 |
| 2/4/2010 | 4.47 | 2/2/2010 | 3.67 |
| 2/5/2010 | 4.48 | 2/3/2010 | 3.73 |
| 2/8/2010 | 4.53 | 2/4/2010 | 3.62 |
| 2/9/2010 | 4.49 | 2/5/2010 | 3.59 |
| 2/10/2010 | 4.52 | 2/8/2010 | 3.62 |
| 2/11/2010 | 4.50 | 2/9/2010 | 3.67 |
| 2/12/2010 | 4.53 | 2/10/2010 | 3.72 |
| 2/16/2010 | 4.44 | 2/11/2010 | 3.73 |
| 2/17/2010 | 4.45 | 2/12/2010 | 3.69 |
| 2/18/2010 | 4.43 | 2/15/2010 | 3.69 |
| 2/19/2010 | 4.37 | 2/16/2010 | 3.66 |
| 2/22/2010 | 4.40 | 2/17/2010 | 3.74 |
| 2/23/2010 | 4.43 | 2/18/2010 | 3.79 |
| 2/24/2010 | 4.44 | 2/19/2010 | 3.78 |
| 2/25/2010 | 4.45 | 2/22/2010 | 3.80 |
| 2/26/2010 | 4.48 | 2/23/2010 | 3.69 |
| 3/1/2010 | 4.42 | 2/24/2010 | 3.70 |
| 3/2/2010 | 4.40 | 2/25/2010 | 3.64 |
| 3/3/2010 | 4.41 | 2/26/2010 | 3.61 |
| 3/4/2010 | 4.40 | 3/1/2010 | 3.61 |
| 3/5/2010 | 4.36 | 3/2/2010 | 3.62 |
| 3/8/2010 | 4.36 | 3/3/2010 | 3.63 |
| 3/9/2010 | 4.37 | 3/4/2010 | 3.61 |
| 3/10/2010 | 4.37 | 3/5/2010 | 3.69 |
| 3/11/2010 | 4.36 | 3/8/2010 | 3.72 |
| 3/12/2010 | 4.39 | 3/9/2010 | 3.71 |
| 3/15/2010 | 4.36 | 3/10/2010 | 3.73 |
| 3/16/2010 | 4.31 | 3/11/2010 | 3.73 |
| 3/17/2010 | 4.30 | 3/12/2010 | 3.71 |
| 3/18/2010 | 4.31 | 3/15/2010 | 3.71 |
| 3/19/2010 | 4.32 | 3/16/2010 | 3.66 |
| 3/22/2010 | 4.35 | 3/17/2010 | 3.65 |
| 3/23/2010 | 4.34 | 3/18/2010 | 3.68 |
| 3/24/2010 | 4.38 | 3/19/2010 | 3.70 |
| 3/25/2010 | 4.41 | 3/22/2010 | 3.67 |
| 3/26/2010 | 4.40 | 3/23/2010 | 3.69 |
| 3/29/2010 | 4.35 | 3/24/2010 | 3.84 |
| 3/30/2010 | 4.36 | 3/25/2010 | 3.91 |
| 3/31/2010 | 4.37 | 3/26/2010 | 3.86 |
| 4/1/2010 | 4.32 | 3/29/2010 | 3.88 |
| 4/5/2010 | 4.29 | 3/30/2010 | 3.88 |
| 4/6/2010 | 4.25 | 3/31/2010 | 3.84 |
| 4/7/2010 | 4.29 | 4/1/2010 | 3.89 |
| 4/8/2010 | 4.32 | 4/2/2010 | 3.96 |
| 4/9/2010 | 4.30 | 4/5/2010 | 4.01 |
| 4/12/2010 | 4.28 | 4/6/2010 | 3.98 |
| 4/13/2010 | 4.30 | 4/7/2010 | 3.89 |
| 4/14/2010 | 4.29 | 4/8/2010 | 3.91 |
| 4/15/2010 | 4.30 | 4/9/2010 | 3.90 |
| 4/16/2010 | 4.35 | 4/12/2010 | 3.87 |
| 4/19/2010 | 4.34 | 4/13/2010 | 3.84 |
| 4/20/2010 | 4.29 | 4/14/2010 | 3.88 |

| S&P 500 Utilities (S5UTIL Index)
Dividend Yield (NET_AGGTE_DVD_YLD) | | 10y US T-Note
YIELD | |
|--|------|------------------------|------|
| 4/21/2010 | 4.29 | 4/15/2010 | 3.86 |
| 4/22/2010 | 4.27 | 4/16/2010 | 3.79 |
| 4/23/2010 | 4.24 | 4/19/2010 | 3.83 |
| 4/26/2010 | 4.25 | 4/20/2010 | 3.82 |
| 4/27/2010 | 4.33 | 4/21/2010 | 3.77 |
| 4/28/2010 | 4.29 | 4/22/2010 | 3.80 |
| 4/29/2010 | 4.29 | 4/23/2010 | 3.84 |
| 4/30/2010 | 4.27 | 4/26/2010 | 3.83 |
| 5/3/2010 | 4.22 | 4/27/2010 | 3.71 |
| 5/4/2010 | 4.30 | 4/28/2010 | 3.80 |
| 5/5/2010 | 4.33 | 4/29/2010 | 3.76 |
| 5/6/2010 | 4.45 | 4/30/2010 | 3.69 |
| 5/7/2010 | 4.48 | 5/3/2010 | 3.72 |
| 5/10/2010 | 4.35 | 5/4/2010 | 3.63 |
| 5/11/2010 | 4.34 | 5/5/2010 | 3.58 |
| 5/12/2010 | 4.31 | 5/6/2010 | 3.41 |
| 5/13/2010 | 4.33 | 5/7/2010 | 3.45 |
| 5/14/2010 | 4.37 | 5/10/2010 | 3.57 |
| 5/17/2010 | 4.37 | 5/11/2010 | 3.56 |
| 5/18/2010 | 4.41 | 5/12/2010 | 3.56 |
| 5/19/2010 | 4.46 | 5/13/2010 | 3.55 |
| 5/20/2010 | 4.60 | 5/14/2010 | 3.44 |
| 5/21/2010 | 4.58 | 5/17/2010 | 3.47 |
| 5/24/2010 | 4.62 | 5/18/2010 | 3.38 |
| 5/25/2010 | 4.65 | 5/19/2010 | 3.36 |
| 5/26/2010 | 4.66 | 5/20/2010 | 3.25 |
| 5/27/2010 | 4.57 | 5/21/2010 | 3.20 |
| 5/28/2010 | 4.57 | 5/24/2010 | 3.23 |
| 6/1/2010 | 4.68 | 5/25/2010 | 3.18 |
| 6/2/2010 | 4.58 | 5/26/2010 | 3.21 |
| 6/3/2010 | 4.54 | 5/27/2010 | 3.34 |
| 6/4/2010 | 4.68 | 5/28/2010 | 3.31 |
| 6/7/2010 | 4.65 | 5/31/2010 | 3.31 |
| 6/8/2010 | 4.59 | 6/1/2010 | 3.29 |
| 6/9/2010 | 4.63 | 6/2/2010 | 3.35 |
| 6/10/2010 | 4.50 | 6/3/2010 | 3.39 |
| 6/11/2010 | 4.51 | 6/4/2010 | 3.20 |
| 6/14/2010 | 4.49 | 6/7/2010 | 3.17 |
| 6/15/2010 | 4.40 | 6/8/2010 | 3.18 |
| 6/16/2010 | 4.37 | 6/9/2010 | 3.20 |
| 6/17/2010 | 4.34 | 6/10/2010 | 3.33 |
| 6/18/2010 | 4.34 | 6/11/2010 | 3.24 |
| 6/21/2010 | 4.37 | 6/14/2010 | 3.28 |
| 6/22/2010 | 4.48 | 6/15/2010 | 3.32 |
| 6/23/2010 | 4.53 | 6/16/2010 | 3.27 |
| 6/24/2010 | 4.55 | 6/17/2010 | 3.21 |
| 6/25/2010 | 4.54 | 6/18/2010 | 3.24 |
| 6/28/2010 | 4.51 | 6/21/2010 | 3.26 |
| 6/29/2010 | 4.61 | 6/22/2010 | 3.18 |
| 6/30/2010 | 4.64 | 6/23/2010 | 3.13 |
| 7/1/2010 | 4.74 | 6/24/2010 | 3.14 |
| 7/2/2010 | 4.73 | 6/25/2010 | 3.12 |
| 7/6/2010 | 4.68 | 6/28/2010 | 3.05 |
| 7/7/2010 | 4.54 | 6/29/2010 | 2.97 |
| 7/8/2010 | 4.50 | 6/30/2010 | 2.97 |
| 7/9/2010 | 4.48 | 7/1/2010 | 2.96 |
| 7/12/2010 | 4.46 | 7/2/2010 | 3.00 |
| 7/13/2010 | 4.45 | 7/5/2010 | 3.00 |
| 7/14/2010 | 4.44 | 7/6/2010 | 2.95 |
| 7/15/2010 | 4.42 | 7/7/2010 | 3.00 |
| 7/16/2010 | 4.49 | 7/8/2010 | 3.04 |
| 7/19/2010 | 4.42 | 7/9/2010 | 3.07 |
| 7/20/2010 | 4.39 | 7/12/2010 | 3.08 |
| 7/21/2010 | 4.45 | 7/13/2010 | 3.15 |
| 7/22/2010 | 4.38 | 7/14/2010 | 3.07 |
| 7/23/2010 | 4.37 | 7/15/2010 | 3.00 |
| 7/26/2010 | 4.35 | 7/16/2010 | 2.96 |
| 7/27/2010 | 4.28 | 7/19/2010 | 2.99 |
| 7/28/2010 | 4.30 | 7/20/2010 | 2.98 |
| 7/29/2010 | 4.38 | 7/21/2010 | 2.90 |
| 7/30/2010 | 4.40 | 7/22/2010 | 2.96 |
| 8/2/2010 | 4.32 | 7/23/2010 | 3.02 |
| 8/3/2010 | 4.33 | 7/26/2010 | 3.03 |
| 8/4/2010 | 4.33 | 7/27/2010 | 3.08 |
| 8/5/2010 | 4.33 | 7/28/2010 | 3.03 |
| 8/6/2010 | 4.32 | 7/29/2010 | 3.03 |
| 8/9/2010 | 4.30 | 7/30/2010 | 2.94 |

| S&P 500 Utilities (\$\$UTIL Index) | | 10y US T-Note | |
|------------------------------------|------------------------------------|---------------|-------|
| | Dividend Yield (NET_AGGTE_DVD_YLD) | | YIELD |
| 8/10/2010 | 4.29 | 8/2/2010 | 2.99 |
| 8/11/2010 | 4.38 | 8/3/2010 | 2.94 |
| 8/12/2010 | 4.40 | 8/4/2010 | 2.98 |
| 8/13/2010 | 4.39 | 8/5/2010 | 2.94 |
| 8/16/2010 | 4.38 | 8/6/2010 | 2.86 |
| 8/17/2010 | 4.35 | 8/9/2010 | 2.86 |
| 8/18/2010 | 4.37 | 8/10/2010 | 2.79 |
| 8/19/2010 | 4.43 | 8/11/2010 | 2.72 |
| 8/20/2010 | 4.42 | 8/12/2010 | 2.74 |
| 8/23/2010 | 4.40 | 8/13/2010 | 2.68 |
| 8/24/2010 | 4.38 | 8/16/2010 | 2.58 |
| 8/25/2010 | 4.40 | 8/17/2010 | 2.64 |
| 8/26/2010 | 4.42 | 8/18/2010 | 2.64 |
| 8/27/2010 | 4.34 | 8/19/2010 | 2.58 |
| 8/30/2010 | 4.40 | 8/20/2010 | 2.62 |
| 8/31/2010 | 4.38 | 8/23/2010 | 2.60 |
| 9/1/2010 | 4.31 | 8/24/2010 | 2.50 |
| 9/2/2010 | 4.32 | 8/25/2010 | 2.54 |
| 9/3/2010 | 4.29 | 8/26/2010 | 2.50 |
| 9/7/2010 | 4.32 | 8/27/2010 | 2.66 |
| 9/8/2010 | 4.34 | 8/30/2010 | 2.54 |
| 9/9/2010 | 4.31 | 8/31/2010 | 2.47 |
| 9/10/2010 | 4.33 | 9/1/2010 | 2.58 |
| 9/13/2010 | 4.31 | 9/2/2010 | 2.63 |
| 9/14/2010 | 4.32 | 9/3/2010 | 2.72 |
| 9/15/2010 | 4.34 | 9/6/2010 | 2.72 |
| 9/16/2010 | 4.36 | 9/7/2010 | 2.61 |
| 9/17/2010 | 4.37 | 9/8/2010 | 2.66 |
| 9/20/2010 | 4.31 | 9/9/2010 | 2.77 |
| 9/21/2010 | 4.34 | 9/10/2010 | 2.81 |
| 9/22/2010 | 4.31 | 9/13/2010 | 2.74 |
| 9/23/2010 | 4.35 | 9/14/2010 | 2.68 |
| 9/24/2010 | 4.28 | 9/15/2010 | 2.74 |
| 9/27/2010 | 4.28 | 9/16/2010 | 2.77 |
| 9/28/2010 | 4.27 | 9/17/2010 | 2.75 |
| 9/29/2010 | 4.29 | 9/20/2010 | 2.72 |
| 9/30/2010 | 4.31 | 9/21/2010 | 2.61 |
| 10/1/2010 | 4.28 | 9/22/2010 | 2.56 |
| 10/4/2010 | 4.29 | 9/23/2010 | 2.56 |
| 10/5/2010 | 4.24 | 9/24/2010 | 2.62 |
| 10/6/2010 | 4.26 | 9/27/2010 | 2.54 |
| 10/7/2010 | 4.26 | 9/28/2010 | 2.48 |
| 10/8/2010 | 4.25 | 9/29/2010 | 2.52 |
| 10/11/2010 | 4.25 | 9/30/2010 | 2.53 |
| 10/12/2010 | 4.26 | 10/1/2010 | 2.54 |
| 10/13/2010 | 4.25 | 10/4/2010 | 2.50 |
| 10/14/2010 | 4.25 | 10/5/2010 | 2.50 |
| 10/15/2010 | 4.24 | 10/6/2010 | 2.41 |
| 10/18/2010 | 4.20 | 10/7/2010 | 2.41 |
| 10/19/2010 | 4.23 | 10/8/2010 | 2.41 |
| 10/20/2010 | 4.19 | 10/12/2010 | 2.44 |
| 10/21/2010 | 4.22 | 10/13/2010 | 2.46 |
| 10/22/2010 | 4.24 | 10/14/2010 | 2.52 |
| 10/25/2010 | 4.25 | 10/15/2010 | 2.59 |
| 10/26/2010 | 4.26 | 10/18/2010 | 2.52 |
| 10/27/2010 | 4.28 | 10/19/2010 | 2.50 |
| 10/28/2010 | 4.28 | 10/20/2010 | 2.51 |
| 10/29/2010 | 4.27 | 10/21/2010 | 2.57 |
| 11/1/2010 | 4.31 | 10/22/2010 | 2.59 |
| 11/2/2010 | 4.26 | 10/25/2010 | 2.59 |
| 11/3/2010 | 4.27 | 10/26/2010 | 2.67 |
| 11/4/2010 | 4.23 | 10/27/2010 | 2.75 |
| 11/5/2010 | 4.23 | 10/28/2010 | 2.69 |
| 11/8/2010 | 4.26 | 10/29/2010 | 2.63 |
| 11/9/2010 | 4.30 | 11/1/2010 | 2.66 |
| 11/10/2010 | 4.32 | 11/2/2010 | 2.63 |
| 11/11/2010 | 4.32 | 11/3/2010 | 2.67 |
| 11/12/2010 | 4.36 | 11/4/2010 | 2.53 |
| 11/15/2010 | 4.35 | 11/5/2010 | 2.58 |
| 11/16/2010 | 4.40 | 11/8/2010 | 2.60 |
| 11/17/2010 | 4.40 | 11/9/2010 | 2.72 |
| 11/18/2010 | 4.38 | 11/10/2010 | 2.65 |
| 11/19/2010 | 4.39 | 11/11/2010 | 2.65 |
| 11/22/2010 | 4.38 | 11/12/2010 | 2.76 |
| 11/23/2010 | 4.43 | 11/15/2010 | 2.92 |
| 11/24/2010 | 4.41 | 11/16/2010 | 2.85 |
| 11/26/2010 | 4.44 | 11/17/2010 | 2.89 |

| S&P 500 Utilities (\$\$UTIL Index) | | 10y US T-Note | |
|------------------------------------|------|---------------|------|
| Dividend Yield (NET_AGGTE_DVD_YLD) | | YIELD | |
| 11/29/2010 | 4.46 | 11/18/2010 | 2.90 |
| 11/30/2010 | 4.46 | 11/19/2010 | 2.88 |
| 12/1/2010 | 4.41 | 11/22/2010 | 2.80 |
| 12/2/2010 | 4.40 | 11/23/2010 | 2.77 |
| 12/3/2010 | 4.38 | 11/24/2010 | 2.93 |
| 12/6/2010 | 4.41 | 11/25/2010 | 2.93 |
| 12/7/2010 | 4.43 | 11/26/2010 | 2.87 |
| 12/8/2010 | 4.45 | 11/29/2010 | 2.84 |
| 12/9/2010 | 4.43 | 11/30/2010 | 2.81 |
| 12/10/2010 | 4.42 | 12/1/2010 | 2.97 |
| 12/13/2010 | 4.40 | 12/2/2010 | 3.01 |
| 12/14/2010 | 4.38 | 12/3/2010 | 3.03 |
| 12/15/2010 | 4.42 | 12/6/2010 | 2.95 |
| 12/16/2010 | 4.38 | 12/7/2010 | 3.15 |
| 12/17/2010 | 4.37 | 12/8/2010 | 3.26 |
| 12/20/2010 | 4.36 | 12/9/2010 | 3.23 |
| 12/21/2010 | 4.36 | 12/10/2010 | 3.32 |
| 12/22/2010 | 4.34 | 12/13/2010 | 3.29 |
| 12/23/2010 | 4.34 | 12/14/2010 | 3.49 |
| 12/27/2010 | 4.34 | 12/15/2010 | 3.53 |
| 12/28/2010 | 4.33 | 12/16/2010 | 3.47 |
| 12/29/2010 | 4.34 | 12/17/2010 | 3.33 |
| 12/30/2010 | 4.35 | 12/20/2010 | 3.36 |
| 12/31/2010 | 4.35 | 12/21/2010 | 3.35 |
| 1/3/2011 | 4.33 | 12/22/2010 | 3.36 |
| 1/4/2011 | 4.31 | 12/23/2010 | 3.41 |
| 1/5/2011 | 4.34 | 12/24/2010 | 3.41 |
| 1/6/2011 | 4.34 | 12/27/2010 | 3.36 |
| 1/7/2011 | 4.32 | 12/28/2010 | 3.50 |
| 1/10/2011 | 4.34 | 12/29/2010 | 3.35 |
| 1/11/2011 | 4.34 | 12/30/2010 | 3.38 |
| 1/12/2011 | 4.32 | 12/31/2010 | 3.30 |
| 1/13/2011 | 4.32 | 1/3/2011 | 3.36 |
| 1/14/2011 | 4.30 | 1/4/2011 | 3.36 |
| 1/18/2011 | 4.29 | 1/5/2011 | 3.50 |
| 1/19/2011 | 4.29 | 1/6/2011 | 3.44 |
| 1/20/2011 | 4.27 | 1/7/2011 | 3.34 |
| 1/21/2011 | 4.27 | 1/10/2011 | 3.32 |
| 1/24/2011 | 4.25 | 1/11/2011 | 3.37 |
| 1/25/2011 | 4.25 | 1/12/2011 | 3.40 |
| 1/26/2011 | 4.27 | 1/13/2011 | 3.34 |
| 1/27/2011 | 4.26 | 1/14/2011 | 3.35 |
| 1/28/2011 | 4.31 | 1/17/2011 | 3.35 |
| 1/31/2011 | 4.31 | 1/18/2011 | 3.39 |
| 2/1/2011 | 4.26 | 1/19/2011 | 3.37 |
| 2/2/2011 | 4.28 | 1/20/2011 | 3.47 |
| 2/3/2011 | 4.28 | 1/21/2011 | 3.44 |
| 2/4/2011 | 4.31 | 1/24/2011 | 3.43 |
| 2/7/2011 | 4.28 | 1/25/2011 | 3.35 |
| 2/8/2011 | 4.29 | 1/26/2011 | 3.45 |
| 2/9/2011 | 4.30 | 1/27/2011 | 3.42 |
| 2/10/2011 | 4.30 | 1/28/2011 | 3.36 |
| 2/11/2011 | 4.30 | 1/31/2011 | 3.42 |
| 2/14/2011 | 4.34 | 2/1/2011 | 3.48 |
| 2/15/2011 | 4.32 | 2/2/2011 | 3.52 |
| 2/16/2011 | 4.34 | 2/3/2011 | 3.58 |
| 2/17/2011 | 4.33 | 2/4/2011 | 3.68 |
| 2/18/2011 | 4.33 | 2/7/2011 | 3.68 |
| 2/22/2011 | 4.34 | 2/8/2011 | 3.75 |
| 2/23/2011 | 4.36 | 2/9/2011 | 3.65 |
| 2/24/2011 | 4.37 | 2/10/2011 | 3.70 |
| 2/25/2011 | 4.35 | 2/11/2011 | 3.64 |
| 2/28/2011 | 4.34 | 2/14/2011 | 3.62 |
| 3/1/2011 | 4.32 | 2/15/2011 | 3.61 |
| 3/2/2011 | 4.32 | 2/16/2011 | 3.62 |
| 3/3/2011 | 4.28 | 2/17/2011 | 3.58 |
| 3/4/2011 | 4.31 | 2/18/2011 | 3.59 |
| 3/7/2011 | 4.29 | 2/21/2011 | 3.59 |
| 3/8/2011 | 4.25 | 2/22/2011 | 3.46 |
| 3/9/2011 | 4.20 | 2/23/2011 | 3.49 |
| 3/10/2011 | 4.26 | 2/24/2011 | 3.46 |
| 3/11/2011 | 4.24 | 2/25/2011 | 3.42 |
| 3/14/2011 | 4.30 | 2/28/2011 | 3.42 |
| 3/15/2011 | 4.39 | 3/1/2011 | 3.41 |
| 3/16/2011 | 4.47 | 3/2/2011 | 3.46 |
| 3/17/2011 | 4.46 | 3/3/2011 | 3.58 |
| 3/18/2011 | 4.44 | 3/4/2011 | 3.49 |

| S&P 500 Utilities (\$SUTIL Index)
Dividend Yield (NET_AGGTE_DVD_YLD) | | 10y US T-Note
YIELD | |
|---|------|------------------------|------|
| 3/21/2011 | 4.39 | 3/7/2011 | 3.51 |
| 3/22/2011 | 4.38 | 3/8/2011 | 3.56 |
| 3/23/2011 | 4.39 | 3/9/2011 | 3.48 |
| 3/24/2011 | 4.37 | 3/10/2011 | 3.37 |
| 3/25/2011 | 4.37 | 3/11/2011 | 3.40 |
| 3/28/2011 | 4.38 | 3/14/2011 | 3.36 |
| 3/29/2011 | 4.35 | 3/15/2011 | 3.33 |
| 3/30/2011 | 4.29 | 3/16/2011 | 3.22 |
| 3/31/2011 | 4.31 | 3/17/2011 | 3.25 |
| 4/1/2011 | 4.28 | 3/18/2011 | 3.28 |
| 4/4/2011 | 4.28 | 3/21/2011 | 3.34 |
| 4/5/2011 | 4.29 | 3/22/2011 | 3.34 |
| 4/6/2011 | 4.26 | 3/23/2011 | 3.36 |
| 4/7/2011 | 4.28 | 3/24/2011 | 3.42 |
| 4/8/2011 | 4.29 | 3/25/2011 | 3.46 |
| 4/11/2011 | 4.35 | 3/28/2011 | 3.47 |
| 4/12/2011 | 4.36 | 3/29/2011 | 3.50 |
| 4/13/2011 | 4.35 | 3/30/2011 | 3.47 |
| 4/14/2011 | 4.33 | 3/31/2011 | 3.47 |
| 4/15/2011 | 4.28 | 4/1/2011 | 3.46 |
| 4/18/2011 | 4.32 | 4/4/2011 | 3.45 |
| 4/19/2011 | 4.32 | 4/5/2011 | 3.50 |
| 4/20/2011 | 4.27 | 4/6/2011 | 3.56 |
| 4/21/2011 | 4.26 | 4/7/2011 | 3.58 |
| 4/25/2011 | 4.26 | 4/8/2011 | 3.59 |
| 4/26/2011 | 4.22 | 4/11/2011 | 3.59 |
| 4/27/2011 | 4.19 | 4/12/2011 | 3.52 |
| 4/28/2011 | 4.17 | 4/13/2011 | 3.49 |
| 4/29/2011 | 4.16 | 4/14/2011 | 3.51 |
| 5/2/2011 | 4.16 | 4/15/2011 | 3.43 |
| 5/3/2011 | 4.13 | 4/18/2011 | 3.40 |
| 5/4/2011 | 4.14 | 4/19/2011 | 3.39 |
| 5/5/2011 | 4.17 | 4/20/2011 | 3.43 |
| 5/6/2011 | 4.16 | 4/21/2011 | 3.42 |
| 5/9/2011 | 4.15 | 4/22/2011 | 3.42 |
| 5/10/2011 | 4.09 | 4/25/2011 | 3.39 |
| 5/11/2011 | 4.10 | 4/26/2011 | 3.34 |
| 5/12/2011 | 4.07 | 4/27/2011 | 3.39 |
| 5/13/2011 | 4.09 | 4/28/2011 | 3.34 |
| 5/16/2011 | 4.09 | 4/29/2011 | 3.32 |
| 5/17/2011 | 4.06 | 5/2/2011 | 3.31 |
| 5/18/2011 | 4.07 | 5/3/2011 | 3.28 |
| 5/19/2011 | 4.07 | 5/4/2011 | 3.25 |
| 5/20/2011 | 4.07 | 5/5/2011 | 3.18 |
| 5/23/2011 | 4.12 | 5/6/2011 | 3.19 |
| 5/24/2011 | 4.12 | 5/9/2011 | 3.17 |
| 5/25/2011 | 4.14 | 5/10/2011 | 3.23 |
| 5/26/2011 | 4.14 | 5/11/2011 | 3.19 |
| 5/27/2011 | 4.14 | 5/12/2011 | 3.22 |
| 5/31/2011 | 4.11 | 5/13/2011 | 3.18 |
| 6/1/2011 | 4.16 | 5/16/2011 | 3.15 |
| 6/2/2011 | 4.17 | 5/17/2011 | 3.12 |
| 6/3/2011 | 4.20 | 5/18/2011 | 3.18 |
| 6/6/2011 | 4.22 | 5/19/2011 | 3.17 |
| 6/7/2011 | 4.22 | 5/20/2011 | 3.15 |
| 6/8/2011 | 4.21 | 5/23/2011 | 3.13 |
| 6/9/2011 | 4.21 | 5/24/2011 | 3.12 |
| 6/10/2011 | 4.24 | 5/25/2011 | 3.13 |
| 6/13/2011 | 4.22 | 5/26/2011 | 3.07 |
| 6/14/2011 | 4.20 | 5/27/2011 | 3.07 |
| 6/15/2011 | 4.25 | 5/30/2011 | 3.07 |
| 6/16/2011 | 4.22 | 5/31/2011 | 3.05 |
| 6/17/2011 | 4.20 | 6/1/2011 | 2.96 |
| 6/20/2011 | 4.18 | 6/2/2011 | 3.04 |
| 6/21/2011 | 4.17 | 6/3/2011 | 2.99 |
| 6/22/2011 | 4.21 | 6/6/2011 | 3.01 |
| 6/23/2011 | 4.24 | 6/7/2011 | 3.01 |
| 6/24/2011 | 4.24 | 6/8/2011 | 2.98 |
| 6/27/2011 | 4.20 | 6/9/2011 | 3.01 |
| 6/28/2011 | 4.18 | 6/10/2011 | 2.99 |
| 6/29/2011 | 4.17 | 6/13/2011 | 3.00 |
| 6/30/2011 | 4.15 | 6/14/2011 | 3.11 |
| 7/1/2011 | 4.10 | 6/15/2011 | 2.98 |
| 7/5/2011 | 4.12 | 6/16/2011 | 2.93 |
| 7/6/2011 | 4.12 | 6/17/2011 | 2.94 |
| 7/7/2011 | 4.10 | 6/20/2011 | 2.97 |
| 7/8/2011 | 4.12 | 6/21/2011 | 2.99 |

| S&P 500 Utilities (\$\$UTIL Index)
Dividend Yield (NET_AGGTE_DVD_YLD) | | 10y US T-Note
YIELD | |
|--|------|------------------------|------|
| 7/11/2011 | 4.16 | 6/22/2011 | 3.01 |
| 7/12/2011 | 4.14 | 6/23/2011 | 2.93 |
| 7/13/2011 | 4.15 | 6/24/2011 | 2.88 |
| 7/14/2011 | 4.17 | 6/27/2011 | 2.95 |
| 7/15/2011 | 4.17 | 6/28/2011 | 3.05 |
| 7/18/2011 | 4.21 | 6/29/2011 | 3.14 |
| 7/19/2011 | 4.17 | 6/30/2011 | 3.18 |
| 7/20/2011 | 4.15 | 7/1/2011 | 3.22 |
| 7/21/2011 | 4.08 | 7/4/2011 | 3.22 |
| 7/22/2011 | 4.11 | 7/5/2011 | 3.16 |
| 7/25/2011 | 4.10 | 7/6/2011 | 3.12 |
| 7/26/2011 | 4.11 | 7/7/2011 | 3.17 |
| 7/27/2011 | 4.13 | 7/8/2011 | 3.03 |
| 7/28/2011 | 4.16 | 7/11/2011 | 2.94 |
| 7/29/2011 | 4.20 | 7/12/2011 | 2.92 |
| 8/1/2011 | 4.19 | 7/13/2011 | 2.92 |
| 8/2/2011 | 4.26 | 7/14/2011 | 2.98 |
| 8/3/2011 | 4.27 | 7/15/2011 | 2.94 |
| 8/4/2011 | 4.41 | 7/18/2011 | 2.94 |
| 8/5/2011 | 4.37 | 7/19/2011 | 2.91 |
| 8/8/2011 | 4.63 | 7/20/2011 | 2.96 |
| 8/9/2011 | 4.49 | 7/21/2011 | 3.03 |
| 8/10/2011 | 4.59 | 7/22/2011 | 2.99 |
| 8/11/2011 | 4.4 | 7/25/2011 | 3.03 |
| 8/12/2011 | 4.43 | 7/26/2011 | 2.99 |
| 8/15/2011 | 4.28 | 7/27/2011 | 3.01 |
| 8/16/2011 | 4.29 | 7/28/2011 | 2.98 |
| 8/17/2011 | 4.26 | 7/29/2011 | 2.82 |
| 8/18/2011 | 4.31 | 8/1/2011 | 2.77 |
| 8/19/2011 | 4.35 | 8/2/2011 | 2.66 |
| 8/22/2011 | 4.35 | 8/3/2011 | 2.64 |
| 8/23/2011 | 4.27 | 8/4/2011 | 2.47 |
| 8/24/2011 | 4.2 | 8/5/2011 | 2.58 |
| 8/25/2011 | 4.26 | 8/8/2011 | 2.40 |
| 8/26/2011 | 4.27 | 8/9/2011 | 2.20 |
| 8/29/2011 | 4.19 | 8/10/2011 | 2.17 |
| 8/30/2011 | 4.19 | 8/11/2011 | 2.34 |
| 8/31/2011 | 4.16 | 8/12/2011 | 2.24 |
| 9/1/2011 | 4.18 | 8/15/2011 | 2.29 |
| 9/2/2011 | 4.23 | 8/16/2011 | 2.23 |
| 9/6/2011 | 4.26 | 8/17/2011 | 2.17 |
| 9/7/2011 | 4.22 | 8/18/2011 | 2.08 |
| 9/8/2011 | 4.22 | 8/19/2011 | 2.07 |
| 9/9/2011 | 4.31 | 8/22/2011 | 2.10 |
| 9/12/2011 | 4.27 | 8/23/2011 | 2.15 |
| 9/13/2011 | 4.25 | 8/24/2011 | 2.29 |
| 9/14/2011 | 4.22 | 8/25/2011 | 2.23 |
| 9/15/2011 | 4.16 | 8/26/2011 | 2.19 |
| 9/16/2011 | 4.12 | 8/29/2011 | 2.28 |
| 9/19/2011 | 4.14 | 8/30/2011 | 2.19 |
| 9/20/2011 | 4.08 | 8/31/2011 | 2.23 |
| 9/21/2011 | 4.16 | 9/1/2011 | 2.15 |
| 9/22/2011 | 4.23 | 9/2/2011 | 2.02 |
| 9/23/2011 | 4.19 | 9/5/2011 | 2.02 |
| 9/26/2011 | 4.16 | 9/6/2011 | 1.98 |
| 9/27/2011 | 4.15 | 9/7/2011 | 2.05 |
| 9/28/2011 | 4.19 | 9/8/2011 | 2.00 |
| 9/29/2011 | 4.13 | 9/9/2011 | 1.93 |
| 9/30/2011 | 4.17 | 9/12/2011 | 1.94 |
| 10/3/2011 | 4.27 | 9/13/2011 | 2.00 |
| 10/4/2011 | 4.29 | 9/14/2011 | 2.03 |
| 10/5/2011 | 4.29 | 9/15/2011 | 2.09 |
| 10/6/2011 | 4.22 | 9/16/2011 | 2.08 |
| 10/7/2011 | 4.21 | 9/19/2011 | 1.97 |
| 10/10/2011 | 4.12 | 9/20/2011 | 1.95 |
| 10/11/2011 | 4.17 | 9/21/2011 | 1.88 |
| 10/12/2011 | 4.17 | 9/22/2011 | 1.72 |
| 10/13/2011 | 4.17 | 9/23/2011 | 1.84 |
| 10/14/2011 | 4.14 | 9/26/2011 | 1.91 |
| 10/17/2011 | 4.15 | 9/27/2011 | 2.00 |
| 10/18/2011 | 4.12 | 9/28/2011 | 2.03 |
| 10/19/2011 | 4.11 | 9/29/2011 | 1.99 |
| 10/20/2011 | 4.09 | 9/30/2011 | 1.92 |
| 10/21/2011 | 4.02 | 10/3/2011 | 1.80 |
| 10/24/2011 | 4.04 | 10/4/2011 | 1.81 |
| 10/25/2011 | 4.09 | 10/5/2011 | 1.92 |
| 10/26/2011 | 4.06 | 10/6/2011 | 2.01 |

| S&P 500 Utilities (\$\$UTIL Index) | | 10y US T-Note | |
|------------------------------------|------|---------------|------|
| Dividend Yield (NET_AGGTE_DVD_YLD) | | YIELD | |
| 10/27/2011 | 3.98 | 10/7/2011 | 2.10 |
| 10/28/2011 | 4.01 | 10/11/2011 | 2.18 |
| 10/31/2011 | 4.03 | 10/12/2011 | 2.24 |
| 11/1/2011 | 4.11 | 10/13/2011 | 2.19 |
| 11/2/2011 | 4.05 | 10/14/2011 | 2.26 |
| 11/3/2011 | 4.01 | 10/17/2011 | 2.18 |
| 11/4/2011 | 4.03 | 10/18/2011 | 2.19 |
| 11/7/2011 | 4 | 10/19/2011 | 2.18 |
| 11/8/2011 | 3.99 | 10/20/2011 | 2.20 |
| 11/9/2011 | 4.08 | 10/21/2011 | 2.23 |
| 11/10/2011 | 4.05 | 10/24/2011 | 2.25 |
| 11/11/2011 | 4 | 10/25/2011 | 2.14 |
| 11/14/2011 | 4.05 | 10/26/2011 | 2.23 |
| 11/15/2011 | 4.04 | 10/27/2011 | 2.42 |
| 11/16/2011 | 4.09 | 10/28/2011 | 2.34 |
| 11/17/2011 | 4.12 | 10/31/2011 | 2.17 |
| 11/18/2011 | 4.09 | 11/1/2011 | 2.01 |
| 11/21/2011 | 4.14 | 11/2/2011 | 2.03 |
| 11/22/2011 | 4.2 | 11/3/2011 | 2.09 |
| 11/23/2011 | 4.27 | 11/4/2011 | 2.06 |
| 11/25/2011 | 4.25 | 11/7/2011 | 2.04 |
| 11/28/2011 | 4.19 | 11/8/2011 | 2.10 |
| 11/29/2011 | 4.14 | 11/9/2011 | 2.00 |
| 11/30/2011 | 4.04 | 11/10/2011 | 2.04 |
| 12/1/2011 | 4.05 | 11/14/2011 | 2.04 |
| 12/2/2011 | 4.09 | 11/15/2011 | 2.06 |
| 12/5/2011 | 4.06 | 11/16/2011 | 2.01 |
| 12/6/2011 | 4.05 | 11/17/2011 | 1.96 |
| 12/7/2011 | 4.06 | 11/18/2011 | 2.01 |
| 12/8/2011 | 4.12 | 11/21/2011 | 1.97 |
| 12/9/2011 | 4.06 | 11/22/2011 | 1.94 |
| 12/12/2011 | 4.1 | 11/23/2011 | 1.89 |
| 12/13/2011 | 4.08 | 11/24/2011 | 1.89 |
| 12/14/2011 | 4.12 | 11/25/2011 | 1.97 |
| 12/15/2011 | 4.06 | 11/28/2011 | 1.97 |
| 12/16/2011 | 4.07 | 11/29/2011 | 2.00 |
| 12/19/2011 | 4.11 | 11/30/2011 | 2.08 |
| 12/20/2011 | 4.03 | 12/1/2011 | 2.11 |
| 12/21/2011 | 3.97 | 12/2/2011 | 2.05 |
| 12/22/2011 | 3.97 | 12/5/2011 | 2.04 |
| 12/23/2011 | 3.92 | 12/6/2011 | 2.08 |
| 12/27/2011 | 3.89 | 12/7/2011 | 2.02 |
| 12/28/2011 | 3.91 | 12/8/2011 | 1.99 |
| 12/29/2011 | 3.88 | 12/9/2011 | 2.07 |
| 12/30/2011 | 3.91 | 12/12/2011 | 2.03 |
| 1/3/2012 | 3.97 | 12/13/2011 | 1.96 |
| 1/4/2012 | 4 | 12/14/2011 | 1.92 |
| 1/5/2012 | 3.99 | 12/15/2011 | 1.92 |
| 1/6/2012 | 4.01 | 12/16/2011 | 1.86 |
| 1/9/2012 | 4.01 | 12/19/2011 | 1.82 |
| 1/10/2012 | 4 | 12/20/2011 | 1.94 |
| 1/11/2012 | 4.02 | 12/21/2011 | 1.98 |
| 1/12/2012 | 4.03 | 12/22/2011 | 1.97 |
| 1/13/2012 | 4.03 | 12/23/2011 | 2.03 |
| 1/17/2012 | 4.03 | 12/26/2011 | 2.03 |
| 1/18/2012 | 4.03 | 12/27/2011 | 2.02 |
| 1/19/2012 | 4.07 | 12/28/2011 | 1.93 |
| 1/20/2012 | 4.06 | 12/29/2011 | 1.91 |
| 1/23/2012 | 4.04 | 12/30/2011 | 1.89 |
| 1/24/2012 | 4.08 | 1/2/2012 | 1.89 |
| 1/25/2012 | 4.01 | 1/3/2012 | 1.97 |
| 1/26/2012 | 4 | 1/4/2012 | 2.00 |
| 1/27/2012 | 4.06 | 1/5/2012 | 2.02 |
| 1/30/2012 | 4.08 | 1/6/2012 | 1.98 |
| 1/31/2012 | 4.06 | 1/9/2012 | 1.98 |
| 2/1/2012 | 4.04 | 1/10/2012 | 2.00 |
| 2/2/2012 | 4.06 | 1/11/2012 | 1.93 |
| 2/3/2012 | 4.1 | 1/12/2012 | 1.94 |
| 2/6/2012 | 4.12 | 1/13/2012 | 1.89 |
| 2/7/2012 | 4.09 | 1/16/2012 | 1.89 |
| 2/8/2012 | 4.09 | 1/17/2012 | 1.87 |
| 2/9/2012 | 4.1 | 1/18/2012 | 1.92 |
| 2/10/2012 | 4.11 | 1/19/2012 | 2.01 |
| 2/13/2012 | 4.12 | 1/20/2012 | 2.05 |
| 2/14/2012 | 4.12 | 1/23/2012 | 2.09 |
| 2/15/2012 | 4.14 | 1/24/2012 | 2.08 |
| 2/16/2012 | 4.09 | 1/25/2012 | 2.01 |

| S&P 500 Utilities (S5UTIL Index)
Dividend Yield (NET_AGGTE_DVD_YLD) | | 10y US T-Note
YIELD | |
|--|------|------------------------|------|
| 2/17/2012 | 4.1 | 1/26/2012 | 1.96 |
| 2/21/2012 | 4.11 | 1/27/2012 | 1.93 |
| 2/22/2012 | 4.1 | 1/30/2012 | 1.87 |
| 2/23/2012 | 4.11 | 1/31/2012 | 1.83 |
| 2/24/2012 | 4.09 | 2/1/2012 | 1.87 |
| 2/27/2012 | 4.1 | 2/2/2012 | 1.86 |
| 2/28/2012 | 4.12 | 2/3/2012 | 1.97 |
| 2/29/2012 | 4.13 | 2/6/2012 | 1.93 |
| 3/1/2012 | 4.12 | 2/7/2012 | 2.00 |
| 3/2/2012 | 4.12 | 2/8/2012 | 2.01 |
| 3/5/2012 | 4.11 | 2/9/2012 | 2.04 |
| 3/6/2012 | 4.13 | 2/10/2012 | 1.96 |
| 3/7/2012 | 4.14 | 2/13/2012 | 1.99 |
| 3/8/2012 | 4.12 | 2/14/2012 | 1.92 |
| 3/9/2012 | 4.1 | 2/15/2012 | 1.93 |
| 3/12/2012 | 4.06 | 2/16/2012 | 1.99 |
| 3/13/2012 | 3.99 | 2/17/2012 | 2.01 |
| 3/14/2012 | 4.08 | 2/20/2012 | 2.01 |
| 3/15/2012 | 4.09 | 2/21/2012 | 2.05 |
| 3/16/2012 | 4.1 | 2/22/2012 | 2.01 |
| 3/19/2012 | 4.12 | 2/23/2012 | 1.99 |
| 3/20/2012 | 4.11 | 2/24/2012 | 1.98 |
| 3/21/2012 | 4.12 | 2/27/2012 | 1.92 |
| 3/22/2012 | 4.13 | 2/28/2012 | 1.94 |
| 3/23/2012 | 4.13 | 2/29/2012 | 1.98 |
| 3/26/2012 | 4.09 | 3/1/2012 | 2.03 |
| 3/27/2012 | 4.08 | 3/2/2012 | 1.99 |
| 3/28/2012 | 4.11 | 3/5/2012 | 2.00 |
| 3/29/2012 | 4.1 | 3/6/2012 | 1.96 |
| 3/30/2012 | 4.07 | 3/7/2012 | 1.98 |
| 4/2/2012 | 4.06 | 3/8/2012 | 2.03 |
| 4/3/2012 | 4.05 | 3/9/2012 | 2.04 |
| 4/4/2012 | 4.06 | 3/12/2012 | 2.04 |
| 4/5/2012 | 4.09 | 3/13/2012 | 2.14 |
| 4/9/2012 | 4.11 | 3/14/2012 | 2.29 |
| 4/10/2012 | 4.16 | 3/15/2012 | 2.29 |
| 4/11/2012 | 4.15 | 3/16/2012 | 2.31 |
| 4/12/2012 | 4.13 | 3/19/2012 | 2.39 |
| 4/13/2012 | 4.15 | 3/20/2012 | 2.38 |
| 4/16/2012 | 4.11 | 3/21/2012 | 2.31 |
| 4/17/2012 | 4.08 | 3/22/2012 | 2.29 |
| 4/18/2012 | 4.09 | 3/23/2012 | 2.25 |
| 4/19/2012 | 4.11 | 3/26/2012 | 2.26 |
| 4/20/2012 | 4.06 | 3/27/2012 | 2.20 |
| 4/23/2012 | 4.09 | 3/28/2012 | 2.21 |
| 4/24/2012 | 4.06 | 3/29/2012 | 2.18 |
| 4/25/2012 | 4.04 | 3/30/2012 | 2.23 |
| 4/26/2012 | 4.01 | 4/2/2012 | 2.22 |
| 4/27/2012 | 4 | 4/3/2012 | 2.30 |
| 4/30/2012 | 3.99 | 4/4/2012 | 2.25 |
| 5/1/2012 | 3.97 | 4/5/2012 | 2.19 |
| 5/2/2012 | 4 | 4/6/2012 | 2.07 |
| 5/3/2012 | 4.02 | 4/9/2012 | 2.06 |
| 5/4/2012 | 4.02 | 4/10/2012 | 2.01 |
| 5/7/2012 | 4.03 | 4/11/2012 | 2.05 |
| 5/8/2012 | 4.02 | 4/12/2012 | 2.08 |
| 5/9/2012 | 4.02 | 4/13/2012 | 2.02 |
| 5/10/2012 | 3.98 | 4/16/2012 | 2.00 |
| 5/11/2012 | 3.96 | 4/17/2012 | 2.03 |
| 5/14/2012 | 3.97 | 4/18/2012 | 2.00 |
| 5/15/2012 | 3.99 | 4/19/2012 | 1.98 |
| 5/16/2012 | 4 | 4/20/2012 | 1.99 |
| 5/17/2012 | 4.02 | 4/23/2012 | 1.96 |
| 5/18/2012 | 4.02 | 4/24/2012 | 2.00 |
| 5/21/2012 | 4.02 | 4/25/2012 | 2.01 |
| 5/22/2012 | 3.99 | 4/26/2012 | 1.98 |
| 5/23/2012 | 4.02 | 4/27/2012 | 1.96 |
| 5/24/2012 | 4 | 4/30/2012 | 1.95 |
| 5/25/2012 | 3.99 | 5/1/2012 | 1.98 |
| 5/29/2012 | 3.97 | 5/2/2012 | 1.96 |
| 5/30/2012 | 4.01 | 5/3/2012 | 1.96 |
| 5/31/2012 | 3.99 | 5/4/2012 | 1.91 |
| 6/1/2012 | 4.01 | 5/7/2012 | 1.92 |
| 6/4/2012 | 4 | 5/8/2012 | 1.88 |
| 6/5/2012 | 3.98 | 5/9/2012 | 1.87 |
| 6/6/2012 | 3.94 | 5/10/2012 | 1.89 |
| 6/7/2012 | 3.91 | 5/11/2012 | 1.84 |

| S&P 500 Utilities (S5UTIL Index)
Dividend Yield (NET_AGGTE_DVD_YLD) | | 10y US T-Note
YIELD | |
|--|------|------------------------|------|
| 6/8/2012 | 3.89 | 5/14/2012 | 1.78 |
| 6/11/2012 | 3.9 | 5/15/2012 | 1.76 |
| 6/12/2012 | 3.9 | 5/16/2012 | 1.76 |
| 6/13/2012 | 3.9 | 5/17/2012 | 1.70 |
| 6/14/2012 | 3.87 | 5/18/2012 | 1.71 |
| 6/15/2012 | 3.85 | 5/21/2012 | 1.75 |
| 6/18/2012 | 3.84 | 5/22/2012 | 1.79 |
| 6/19/2012 | 3.85 | 5/23/2012 | 1.73 |
| 6/20/2012 | 3.89 | 5/24/2012 | 1.77 |
| 6/21/2012 | 3.93 | 5/25/2012 | 1.75 |
| 6/22/2012 | 3.92 | 5/28/2012 | 1.75 |
| 6/25/2012 | 3.94 | 5/29/2012 | 1.74 |
| 6/26/2012 | 3.93 | 5/30/2012 | 1.63 |
| 6/27/2012 | 3.89 | 5/31/2012 | 1.59 |
| 6/28/2012 | 3.88 | 6/1/2012 | 1.47 |
| 6/29/2012 | 3.86 | 6/4/2012 | 1.53 |
| 7/2/2012 | 3.87 | 6/5/2012 | 1.57 |
| 7/3/2012 | 3.88 | 6/6/2012 | 1.66 |
| 7/5/2012 | 3.9 | 6/7/2012 | 1.66 |
| 7/6/2012 | 3.91 | 6/8/2012 | 1.65 |
| 7/9/2012 | 3.92 | 6/11/2012 | 1.60 |
| 7/10/2012 | 3.91 | 6/12/2012 | 1.67 |
| 7/11/2012 | 3.89 | 6/13/2012 | 1.61 |
| 7/12/2012 | 3.89 | 6/14/2012 | 1.64 |
| 7/13/2012 | 3.85 | 6/15/2012 | 1.60 |
| 7/16/2012 | 3.86 | 6/18/2012 | 1.59 |
| 7/17/2012 | 3.85 | 6/19/2012 | 1.64 |
| 7/18/2012 | 3.83 | 6/20/2012 | 1.65 |
| 7/19/2012 | 3.83 | 6/21/2012 | 1.63 |
| 7/20/2012 | 3.82 | 6/22/2012 | 1.69 |
| 7/23/2012 | 3.85 | 6/25/2012 | 1.63 |
| 7/24/2012 | 3.88 | 6/26/2012 | 1.66 |
| 7/25/2012 | 3.89 | 6/27/2012 | 1.65 |
| 7/26/2012 | 3.82 | 6/28/2012 | 1.60 |
| 7/27/2012 | 3.78 | 6/29/2012 | 1.67 |
| 7/30/2012 | 3.77 | 7/2/2012 | 1.61 |
| 7/31/2012 | 3.8 | 7/3/2012 | 1.65 |
| 8/1/2012 | 3.83 | 7/4/2012 | 1.65 |
| 8/2/2012 | 3.87 | 7/5/2012 | 1.62 |
| 8/3/2012 | 3.82 | 7/6/2012 | 1.57 |
| 8/6/2012 | 3.83 | 7/9/2012 | 1.53 |
| 8/7/2012 | 3.87 | 7/10/2012 | 1.53 |
| 8/8/2012 | 3.87 | 7/11/2012 | 1.54 |
| 8/9/2012 | 3.87 | 7/12/2012 | 1.50 |
| 8/10/2012 | 3.86 | 7/13/2012 | 1.52 |
| 8/13/2012 | 3.87 | 7/16/2012 | 1.50 |
| 8/14/2012 | 3.88 | 7/17/2012 | 1.53 |
| 8/15/2012 | 3.9 | 7/18/2012 | 1.52 |
| 8/16/2012 | 3.91 | 7/19/2012 | 1.54 |
| 8/17/2012 | 3.92 | 7/20/2012 | 1.49 |
| 8/20/2012 | 3.92 | 7/23/2012 | 1.47 |
| 8/21/2012 | 3.94 | 7/24/2012 | 1.44 |
| 8/22/2012 | 3.95 | 7/25/2012 | 1.43 |
| 8/23/2012 | 3.99 | 7/26/2012 | 1.45 |
| 8/24/2012 | 3.97 | 7/27/2012 | 1.58 |
| 8/27/2012 | 3.97 | 7/30/2012 | 1.53 |
| 8/28/2012 | 3.97 | 7/31/2012 | 1.51 |
| 8/29/2012 | 4 | 8/1/2012 | 1.56 |
| 8/30/2012 | 4.02 | 8/2/2012 | 1.51 |
| 8/31/2012 | 4.02 | 8/3/2012 | 1.60 |
| 9/4/2012 | 4.01 | 8/6/2012 | 1.59 |
| 9/5/2012 | 4.03 | 8/7/2012 | 1.66 |
| 9/6/2012 | 3.99 | 8/8/2012 | 1.68 |
| 9/7/2012 | 4 | 8/9/2012 | 1.69 |
| 9/10/2012 | 4.01 | 8/10/2012 | 1.65 |
| 9/11/2012 | 4.02 | 8/13/2012 | 1.65 |
| 9/12/2012 | 4.04 | 8/14/2012 | 1.73 |
| 9/13/2012 | 3.98 | 8/15/2012 | 1.80 |
| 9/14/2012 | 4.01 | 8/16/2012 | 1.83 |
| 9/17/2012 | 4.04 | 8/17/2012 | 1.81 |
| 9/18/2012 | 4.06 | 8/20/2012 | 1.82 |
| 9/19/2012 | 4.05 | 8/21/2012 | 1.80 |
| 9/20/2012 | 4.03 | 8/22/2012 | 1.71 |
| 9/21/2012 | 4.03 | 8/23/2012 | 1.68 |
| 9/24/2012 | 4 | 8/24/2012 | 1.68 |
| 9/25/2012 | 4.01 | 8/27/2012 | 1.65 |
| 9/26/2012 | 4 | 8/28/2012 | 1.64 |

| S&P 500 Utilities (\$\$UTIL Index)
Dividend Yield (NET_AGGTE_DVD_YLD) | | 10y US T-Note
YIELD | |
|--|------|------------------------|------|
| 9/27/2012 | 4.02 | 8/29/2012 | 1.66 |
| 9/28/2012 | 4 | 8/30/2012 | 1.63 |
| 10/1/2012 | 4.02 | 8/31/2012 | 1.57 |
| 10/2/2012 | 4 | 9/3/2012 | 1.57 |
| 10/3/2012 | 3.98 | 9/4/2012 | 1.59 |
| 10/4/2012 | 3.96 | 9/5/2012 | 1.60 |
| 10/5/2012 | 3.96 | 9/6/2012 | 1.68 |
| 10/8/2012 | 3.96 | 9/7/2012 | 1.67 |
| 10/9/2012 | 3.96 | 9/10/2012 | 1.68 |
| 10/10/2012 | 3.97 | 9/11/2012 | 1.70 |
| 10/11/2012 | 3.97 | 9/12/2012 | 1.77 |
| 10/12/2012 | 3.99 | 9/13/2012 | 1.75 |
| 10/15/2012 | 3.97 | 9/14/2012 | 1.88 |
| 10/16/2012 | 3.96 | 9/17/2012 | 1.85 |
| 10/17/2012 | 3.91 | 9/18/2012 | 1.82 |
| 10/18/2012 | 3.9 | 9/19/2012 | 1.79 |
| 10/19/2012 | 3.92 | 9/20/2012 | 1.80 |
| 10/22/2012 | 3.94 | 9/21/2012 | 1.77 |
| 10/23/2012 | 3.97 | 9/24/2012 | 1.74 |
| 10/24/2012 | 4 | 9/25/2012 | 1.70 |
| 10/25/2012 | 3.98 | 9/26/2012 | 1.64 |
| 10/26/2012 | 3.99 | 9/27/2012 | 1.66 |
| 10/31/2012 | 3.96 | 9/28/2012 | 1.65 |
| 11/1/2012 | 4.01 | 10/1/2012 | 1.64 |
| 11/2/2012 | 4.04 | 10/2/2012 | 1.64 |
| 11/5/2012 | 4.11 | 10/3/2012 | 1.64 |
| 11/6/2012 | 4.11 | 10/4/2012 | 1.70 |
| 11/7/2012 | 4.2 | 10/5/2012 | 1.75 |
| 11/8/2012 | 4.21 | 10/9/2012 | 1.74 |
| 11/9/2012 | 4.24 | 10/10/2012 | 1.72 |
| 11/12/2012 | 4.28 | 10/11/2012 | 1.70 |
| 11/13/2012 | 4.26 | 10/12/2012 | 1.69 |
| 11/14/2012 | 4.32 | 10/15/2012 | 1.70 |
| 11/15/2012 | 4.34 | 10/16/2012 | 1.75 |
| 11/16/2012 | 4.3 | 10/17/2012 | 1.83 |
| 11/19/2012 | 4.3 | 10/18/2012 | 1.86 |
| 11/20/2012 | 4.31 | 10/19/2012 | 1.79 |
| 11/21/2012 | 4.33 | 10/22/2012 | 1.83 |
| 11/23/2012 | 4.34 | 10/23/2012 | 1.79 |
| 11/26/2012 | 4.28 | 10/24/2012 | 1.80 |
| 11/27/2012 | 4.27 | 10/25/2012 | 1.86 |
| 11/28/2012 | 4.27 | 10/26/2012 | 1.78 |
| 11/29/2012 | 4.25 | 10/29/2012 | 1.74 |
| 11/30/2012 | 4.2 | 10/30/2012 | 1.74 |
| 12/3/2012 | 4.23 | 10/31/2012 | 1.72 |
| 12/4/2012 | 4.25 | 11/1/2012 | 1.75 |
| 12/5/2012 | 4.19 | 11/2/2012 | 1.75 |
| 12/6/2012 | 4.2 | 11/5/2012 | 1.72 |
| 12/7/2012 | 4.2 | 11/6/2012 | 1.78 |
| 12/10/2012 | 4.2 | 11/7/2012 | 1.68 |
| 12/11/2012 | 4.19 | 11/8/2012 | 1.62 |
| 12/12/2012 | 4.19 | 11/9/2012 | 1.61 |
| 12/13/2012 | 4.21 | 11/13/2012 | 1.59 |
| 12/14/2012 | 4.23 | 11/14/2012 | 1.59 |
| 12/17/2012 | 4.17 | 11/15/2012 | 1.58 |
| 12/18/2012 | 4.12 | 11/16/2012 | 1.58 |
| 12/19/2012 | 4.15 | 11/19/2012 | 1.61 |
| 12/20/2012 | 4.13 | 11/20/2012 | 1.66 |
| 12/21/2012 | 4.16 | 11/21/2012 | 1.69 |
| 12/24/2012 | 4.17 | 11/22/2012 | 1.69 |
| 12/26/2012 | 4.22 | 11/23/2012 | 1.70 |
| 12/27/2012 | 4.23 | 11/26/2012 | 1.66 |
| 12/28/2012 | 4.27 | 11/27/2012 | 1.64 |
| 12/31/2012 | 4.21 | 11/28/2012 | 1.63 |
| 1/2/2013 | 4.14 | 11/29/2012 | 1.62 |
| 1/3/2013 | 4.14 | 11/30/2012 | 1.62 |
| 1/4/2013 | 4.11 | 12/3/2012 | 1.63 |
| 1/7/2013 | 4.16 | 12/4/2012 | 1.62 |
| 1/8/2013 | 4.17 | 12/5/2012 | 1.60 |
| 1/9/2013 | 4.18 | 12/6/2012 | 1.59 |
| 1/10/2013 | 4.16 | 12/7/2012 | 1.64 |
| 1/11/2013 | 4.16 | 12/10/2012 | 1.63 |
| 1/14/2013 | 4.16 | 12/11/2012 | 1.66 |
| 1/15/2013 | 4.15 | 12/12/2012 | 1.72 |
| 1/16/2013 | 4.17 | 12/13/2012 | 1.74 |
| 1/17/2013 | 4.15 | 12/14/2012 | 1.72 |
| 1/18/2013 | 4.12 | 12/17/2012 | 1.78 |

| S&P 500 Utilities (S5UTIL Index)
Dividend Yield (NET_AGGTE_DVD_YLD) | | 10y US T-Note
YIELD | |
|--|------|------------------------|------|
| 1/22/2013 | 4.09 | 12/18/2012 | 1.84 |
| 1/23/2013 | 4.1 | 12/19/2012 | 1.82 |
| 1/24/2013 | 4.08 | 12/20/2012 | 1.81 |
| 1/25/2013 | 4.06 | 12/21/2012 | 1.77 |
| 1/28/2013 | 4.06 | 12/24/2012 | 1.79 |
| 1/29/2013 | 4.03 | 12/25/2012 | 1.79 |
| 1/30/2013 | 4.05 | 12/26/2012 | 1.77 |
| 1/31/2013 | 4.04 | 12/27/2012 | 1.74 |
| 2/1/2013 | 4.03 | 12/28/2012 | 1.73 |
| 2/4/2013 | 4.06 | 12/31/2012 | 1.78 |
| 2/5/2013 | 4.05 | 1/1/2013 | 1.78 |
| 2/6/2013 | 4.04 | 1/2/2013 | 1.86 |
| 2/7/2013 | 4.04 | 1/3/2013 | 1.92 |
| 2/8/2013 | 4.04 | 1/4/2013 | 1.93 |
| 2/11/2013 | 4.03 | 1/7/2013 | 1.92 |
| 2/12/2013 | 4.02 | 1/8/2013 | 1.89 |
| 2/13/2013 | 4.03 | 1/9/2013 | 1.88 |
| 2/14/2013 | 4.14 | 1/10/2013 | 1.91 |
| 2/15/2013 | 4.13 | 1/11/2013 | 1.89 |
| 2/19/2013 | 4.09 | 1/14/2013 | 1.89 |
| 2/20/2013 | 4.1 | 1/15/2013 | 1.86 |
| 2/21/2013 | 4.12 | 1/16/2013 | 1.84 |
| 2/22/2013 | 4.07 | 1/17/2013 | 1.89 |
| 2/25/2013 | 4.12 | 1/18/2013 | 1.87 |
| 2/26/2013 | 4.11 | 1/21/2013 | 1.87 |
| 2/27/2013 | 4.08 | 1/22/2013 | 1.86 |
| 2/28/2013 | 4.07 | 1/23/2013 | 1.86 |
| 3/1/2013 | 4.06 | 1/24/2013 | 1.88 |
| 3/4/2013 | 4.02 | 1/25/2013 | 1.98 |
| 3/5/2013 | 4 | 1/28/2013 | 2.00 |
| 3/6/2013 | 4.01 | 1/29/2013 | 2.03 |
| 3/7/2013 | 4.03 | 1/30/2013 | 2.03 |
| 3/8/2013 | 4.02 | 1/31/2013 | 2.02 |
| 3/11/2013 | 4 | 2/1/2013 | 2.04 |
| 3/12/2013 | 4.02 | 2/4/2013 | 2.00 |
| 3/13/2013 | 4 | 2/5/2013 | 2.04 |
| 3/14/2013 | 4 | 2/6/2013 | 2.00 |
| 3/15/2013 | 3.97 | 2/7/2013 | 1.99 |
| 3/18/2013 | 3.99 | 2/8/2013 | 1.99 |
| 3/19/2013 | 3.98 | 2/11/2013 | 1.99 |
| 3/20/2013 | 3.95 | 2/12/2013 | 2.02 |
| 3/21/2013 | 3.97 | 2/13/2013 | 2.05 |
| 3/22/2013 | 3.97 | 2/14/2013 | 2.00 |
| 3/25/2013 | 3.98 | 2/15/2013 | 2.01 |
| 3/26/2013 | 3.94 | 2/18/2013 | 2.01 |
| 3/27/2013 | 3.93 | 2/19/2013 | 2.03 |
| 3/28/2013 | 3.88 | 2/20/2013 | 2.02 |
| 4/1/2013 | 3.89 | 2/21/2013 | 1.99 |
| 4/2/2013 | 3.87 | 2/22/2013 | 1.97 |
| 4/3/2013 | 3.88 | 2/25/2013 | 1.88 |
| 4/4/2013 | 3.85 | 2/26/2013 | 1.88 |
| 4/5/2013 | 3.83 | 2/27/2013 | 1.91 |
| 4/8/2013 | 3.8 | 2/28/2013 | 1.89 |
| 4/9/2013 | 3.81 | 3/1/2013 | 1.86 |
| 4/10/2013 | 3.78 | 3/4/2013 | 1.88 |
| 4/11/2013 | 3.77 | 3/5/2013 | 1.90 |
| 4/12/2013 | 3.76 | 3/6/2013 | 1.95 |
| 4/15/2013 | 3.82 | 3/7/2013 | 2.00 |
| 4/16/2013 | 3.77 | 3/8/2013 | 2.06 |
| 4/17/2013 | 3.79 | 3/11/2013 | 2.07 |
| 4/18/2013 | 3.78 | 3/12/2013 | 2.03 |
| 4/19/2013 | 3.72 | 3/13/2013 | 2.04 |
| 4/22/2013 | 3.73 | 3/14/2013 | 2.04 |
| 4/23/2013 | 3.72 | 3/15/2013 | 2.01 |
| 4/24/2013 | 3.71 | 3/18/2013 | 1.96 |
| 4/25/2013 | 3.7 | 3/19/2013 | 1.92 |
| 4/26/2013 | 3.71 | 3/20/2013 | 1.96 |
| 4/29/2013 | 3.69 | 3/21/2013 | 1.95 |
| 4/30/2013 | 3.68 | 3/22/2013 | 1.93 |
| 5/1/2013 | 3.71 | 3/25/2013 | 1.93 |
| 5/2/2013 | 3.73 | 3/26/2013 | 1.92 |
| 5/3/2013 | 3.73 | 3/27/2013 | 1.87 |
| 5/6/2013 | 3.79 | 3/28/2013 | 1.87 |
| 5/7/2013 | 3.75 | 3/29/2013 | 1.87 |
| 5/8/2013 | 3.79 | 4/1/2013 | 1.86 |
| 5/9/2013 | 3.85 | 4/2/2013 | 1.88 |
| 5/10/2013 | 3.84 | 4/3/2013 | 1.83 |

| S&P 500 Utilities (S5UTIL Index)
Dividend Yield (NET_AGGTE_DVD_YLD) | | 10y US T-Note
YIELD | |
|--|------|------------------------|------|
| 5/13/2013 | 3.85 | 4/4/2013 | 1.78 |
| 5/14/2013 | 3.83 | 4/5/2013 | 1.72 |
| 5/15/2013 | 3.8 | 4/8/2013 | 1.76 |
| 5/16/2013 | 3.83 | 4/9/2013 | 1.78 |
| 5/17/2013 | 3.79 | 4/10/2013 | 1.84 |
| 5/20/2013 | 3.81 | 4/11/2013 | 1.82 |
| 5/21/2013 | 3.81 | 4/12/2013 | 1.75 |
| 5/22/2013 | 3.87 | 4/15/2013 | 1.72 |
| 5/23/2013 | 3.9 | 4/16/2013 | 1.75 |
| 5/24/2013 | 3.94 | 4/17/2013 | 1.73 |
| 5/28/2013 | 3.99 | 4/18/2013 | 1.72 |
| 5/29/2013 | 4.05 | 4/19/2013 | 1.73 |
| 5/30/2013 | 4.05 | 4/22/2013 | 1.72 |
| 5/31/2013 | 4.07 | 4/23/2013 | 1.74 |
| 6/3/2013 | 4.07 | 4/24/2013 | 1.73 |
| 6/4/2013 | 4.08 | 4/25/2013 | 1.74 |
| 6/5/2013 | 4.13 | 4/26/2013 | 1.70 |
| 6/6/2013 | 4.08 | 4/29/2013 | 1.70 |
| 6/7/2013 | 4.05 | 4/30/2013 | 1.70 |
| 6/10/2013 | 4.06 | 5/1/2013 | 1.66 |
| 6/11/2013 | 4.08 | 5/2/2013 | 1.66 |
| 6/12/2013 | 4.13 | 5/3/2013 | 1.78 |
| 6/13/2013 | 4.06 | 5/6/2013 | 1.80 |
| 6/14/2013 | 4.06 | 5/7/2013 | 1.82 |
| 6/17/2013 | 4.05 | 5/8/2013 | 1.81 |
| 6/18/2013 | 4.02 | 5/9/2013 | 1.81 |
| 6/19/2013 | 4.11 | 5/10/2013 | 1.90 |
| 6/20/2013 | 4.23 | 5/13/2013 | 1.92 |
| 6/21/2013 | 4.18 | 5/14/2013 | 1.96 |
| 6/24/2013 | 4.18 | 5/15/2013 | 1.94 |
| 6/25/2013 | 4.13 | 5/16/2013 | 1.87 |
| 6/26/2013 | 4.08 | 5/17/2013 | 1.95 |
| 6/27/2013 | 4.08 | 5/20/2013 | 1.97 |
| 6/28/2013 | 4.06 | 5/21/2013 | 1.94 |
| 7/1/2013 | 4.12 | 5/22/2013 | 2.03 |
| 7/2/2013 | 4.12 | 5/23/2013 | 2.02 |
| 7/3/2013 | 4.12 | 5/24/2013 | 2.01 |
| 7/5/2013 | 4.14 | 5/27/2013 | 2.01 |
| 7/8/2013 | 4.09 | 5/28/2013 | 2.15 |
| 7/9/2013 | 4.06 | 5/29/2013 | 2.13 |
| 7/10/2013 | 4.04 | 5/30/2013 | 2.13 |
| 7/11/2013 | 3.97 | 5/31/2013 | 2.16 |
| 7/12/2013 | 3.96 | 6/3/2013 | 2.13 |
| 7/15/2013 | 3.9 | 6/4/2013 | 2.14 |
| 7/16/2013 | 3.92 | 6/5/2013 | 2.10 |
| 7/17/2013 | 3.92 | 6/6/2013 | 2.08 |
| 7/18/2013 | 3.88 | 6/7/2013 | 2.17 |
| 7/19/2013 | 3.89 | 6/10/2013 | 2.22 |
| 7/22/2013 | 3.89 | 6/11/2013 | 2.20 |
| 7/23/2013 | 3.88 | 6/12/2013 | 2.25 |
| 7/24/2013 | 3.94 | 6/13/2013 | 2.19 |
| 7/25/2013 | 3.9 | 6/14/2013 | 2.14 |
| 7/26/2013 | 3.89 | 6/17/2013 | 2.19 |
| 7/29/2013 | 3.88 | 6/18/2013 | 2.20 |
| 7/30/2013 | 3.88 | 6/19/2013 | 2.33 |
| 7/31/2013 | 3.91 | 6/20/2013 | 2.41 |
| 8/1/2013 | 3.88 | 6/21/2013 | 2.52 |
| 8/2/2013 | 3.89 | 6/24/2013 | 2.57 |
| 8/5/2013 | 3.92 | 6/25/2013 | 2.60 |
| 8/6/2013 | 3.94 | 6/26/2013 | 2.55 |
| 8/7/2013 | 3.92 | 6/27/2013 | 2.49 |
| 8/8/2013 | 3.91 | 6/28/2013 | 2.52 |
| 8/9/2013 | 3.93 | 7/1/2013 | 2.50 |
| 8/12/2013 | 3.96 | 7/2/2013 | 2.48 |
| 8/13/2013 | 3.95 | 7/3/2013 | 2.52 |
| 8/14/2013 | 3.98 | 7/4/2013 | 2.52 |
| 8/15/2013 | 4.04 | 7/5/2013 | 2.73 |
| 8/16/2013 | 4.08 | 7/8/2013 | 2.65 |
| 8/19/2013 | 4.12 | 7/9/2013 | 2.65 |
| 8/20/2013 | 4.08 | 7/10/2013 | 2.70 |
| 8/21/2013 | 4.13 | 7/11/2013 | 2.60 |
| 8/22/2013 | 4.1 | 7/12/2013 | 2.61 |
| 8/23/2013 | 4.07 | 7/15/2013 | 2.57 |
| 8/26/2013 | 4.1 | 7/16/2013 | 2.55 |
| 8/27/2013 | 4.1 | 7/17/2013 | 2.52 |
| 8/28/2013 | 4.1 | 7/18/2013 | 2.56 |
| 8/29/2013 | 4.12 | 7/19/2013 | 2.50 |

| S&P 500 Utilities (\$\$UTIL Index) | | 10y US T-Note | |
|------------------------------------|------|---------------|------|
| Dividend Yield (NET_AGGTE_DVD_YLD) | | YIELD | |
| 8/30/2013 | 4.12 | 7/22/2013 | 2.50 |
| 9/3/2013 | 4.17 | 7/23/2013 | 2.53 |
| 9/4/2013 | 4.18 | 7/24/2013 | 2.61 |
| 9/5/2013 | 4.19 | 7/25/2013 | 2.61 |
| 9/6/2013 | 4.17 | 7/26/2013 | 2.58 |
| 9/9/2013 | 4.15 | 7/29/2013 | 2.61 |
| 9/10/2013 | 4.12 | 7/30/2013 | 2.63 |
| 9/11/2013 | 4.16 | 7/31/2013 | 2.60 |
| 9/12/2013 | 4.18 | 8/1/2013 | 2.74 |
| 9/13/2013 | 4.15 | 8/2/2013 | 2.63 |
| 9/16/2013 | 4.14 | 8/5/2013 | 2.67 |
| 9/17/2013 | 4.12 | 8/6/2013 | 2.67 |
| 9/18/2013 | 4 | 8/7/2013 | 2.61 |
| 9/19/2013 | 4.01 | 8/8/2013 | 2.58 |
| 9/20/2013 | 4.07 | 8/9/2013 | 2.57 |
| 9/23/2013 | 4.03 | 8/12/2013 | 2.61 |
| 9/24/2013 | 4.03 | 8/13/2013 | 2.71 |
| 9/25/2013 | 4.06 | 8/14/2013 | 2.71 |
| 9/26/2013 | 4.07 | 8/15/2013 | 2.77 |
| 9/27/2013 | 4.1 | 8/16/2013 | 2.84 |
| 9/30/2013 | 4.1 | 8/19/2013 | 2.88 |
| 10/1/2013 | 4.09 | 8/20/2013 | 2.82 |
| 10/2/2013 | 4.08 | 8/21/2013 | 2.87 |
| 10/3/2013 | 4.13 | 8/22/2013 | 2.90 |
| 10/4/2013 | 4.12 | 8/23/2013 | 2.82 |
| 10/7/2013 | 4.14 | 8/26/2013 | 2.79 |
| 10/8/2013 | 4.11 | 8/27/2013 | 2.72 |
| 10/9/2013 | 4.1 | 8/28/2013 | 2.78 |
| 10/10/2013 | 4.04 | 8/29/2013 | 2.75 |
| 10/11/2013 | 4.02 | 8/30/2013 | 2.78 |
| 10/14/2013 | 4.04 | 9/2/2013 | 2.78 |
| 10/15/2013 | 4.1 | 9/3/2013 | 2.86 |
| 10/16/2013 | 4.06 | 9/4/2013 | 2.90 |
| 10/17/2013 | 3.99 | 9/5/2013 | 2.98 |
| 10/18/2013 | 3.98 | 9/6/2013 | 2.94 |
| 10/21/2013 | 3.99 | 9/9/2013 | 2.90 |
| 10/22/2013 | 3.94 | 9/10/2013 | 2.96 |
| 10/23/2013 | 3.94 | 9/11/2013 | 2.93 |
| 10/24/2013 | 3.95 | 9/12/2013 | 2.92 |
| 10/25/2013 | 3.9 | 9/13/2013 | 2.90 |
| 10/28/2013 | 3.91 | 9/16/2013 | 2.88 |
| 10/29/2013 | 3.91 | 9/17/2013 | 2.86 |
| 10/30/2013 | 3.94 | 9/18/2013 | 2.69 |
| 10/31/2013 | 3.96 | 9/19/2013 | 2.76 |
| 11/1/2013 | 3.94 | 9/20/2013 | 2.75 |
| 11/4/2013 | 3.93 | 9/23/2013 | 2.72 |
| 11/5/2013 | 3.96 | 9/24/2013 | 2.67 |
| 11/6/2013 | 3.91 | 9/25/2013 | 2.63 |
| 11/7/2013 | 3.95 | 9/26/2013 | 2.66 |
| 11/8/2013 | 3.96 | 9/27/2013 | 2.64 |
| 11/11/2013 | 3.95 | 9/30/2013 | 2.64 |
| 11/12/2013 | 4 | 10/1/2013 | 2.66 |
| 11/13/2013 | 3.95 | 10/2/2013 | 2.63 |
| 11/14/2013 | 3.92 | 10/3/2013 | 2.62 |
| 11/15/2013 | 3.89 | 10/4/2013 | 2.66 |
| 11/18/2013 | 3.9 | 10/7/2013 | 2.65 |
| 11/19/2013 | 3.92 | 10/8/2013 | 2.66 |
| 11/20/2013 | 3.97 | 10/9/2013 | 2.68 |
| 11/21/2013 | 3.96 | 10/10/2013 | 2.71 |
| 11/22/2013 | 3.96 | 10/11/2013 | 2.70 |
| 11/25/2013 | 3.98 | 10/15/2013 | 2.75 |
| 11/26/2013 | 4.02 | 10/16/2013 | 2.69 |
| 11/27/2013 | 4.04 | 10/17/2013 | 2.61 |
| 11/29/2013 | 4.04 | 10/18/2013 | 2.60 |
| 12/2/2013 | 4.05 | 10/21/2013 | 2.63 |
| 12/3/2013 | 4.03 | 10/22/2013 | 2.54 |
| 12/4/2013 | 4.03 | 10/23/2013 | 2.51 |
| 12/5/2013 | 4.06 | 10/24/2013 | 2.53 |
| 12/6/2013 | 4.01 | 10/25/2013 | 2.53 |
| 12/9/2013 | 4.03 | 10/28/2013 | 2.54 |
| 12/10/2013 | 4.07 | 10/29/2013 | 2.53 |
| 12/11/2013 | 4.11 | 10/30/2013 | 2.55 |
| 12/12/2013 | 4.11 | 10/31/2013 | 2.57 |
| 12/13/2013 | 4.11 | 11/1/2013 | 2.65 |
| 12/16/2013 | 4.08 | 11/4/2013 | 2.63 |
| 12/17/2013 | 4.09 | 11/5/2013 | 2.69 |
| 12/18/2013 | 4.04 | 11/6/2013 | 2.67 |

| S&P 500 Utilities (\$SUTIL Index)
Dividend Yield (NET_AGGTE_DVD_YLD) | | 10y US T-Note
YIELD | |
|---|------|------------------------|------|
| 12/19/2013 | 4.07 | 11/7/2013 | 2.63 |
| 12/20/2013 | 4.03 | 11/8/2013 | 2.77 |
| 12/23/2013 | 4.05 | 11/12/2013 | 2.80 |
| 12/24/2013 | 4.03 | 11/13/2013 | 2.75 |
| 12/26/2013 | 4.05 | 11/14/2013 | 2.69 |
| 12/27/2013 | 4.04 | 11/15/2013 | 2.71 |
| 12/30/2013 | 4.03 | 11/18/2013 | 2.67 |
| 12/31/2013 | 4.02 | 11/19/2013 | 2.71 |
| 1/2/2014 | 4.09 | 11/20/2013 | 2.80 |
| 1/3/2014 | 4.1 | 11/21/2013 | 2.79 |
| 1/6/2014 | 4.1 | 11/22/2013 | 2.75 |
| 1/7/2014 | 4.06 | 11/25/2013 | 2.74 |
| 1/8/2014 | 4.08 | 11/26/2013 | 2.71 |
| 1/9/2014 | 4.06 | 11/27/2013 | 2.74 |
| 1/10/2014 | 4 | 11/28/2013 | 2.74 |
| 1/13/2014 | 4.04 | 11/29/2013 | 2.75 |
| 1/14/2014 | 4.03 | 12/2/2013 | 2.81 |
| 1/15/2014 | 4.04 | 12/3/2013 | 2.79 |
| 1/16/2014 | 4.02 | 12/4/2013 | 2.84 |
| 1/17/2014 | 4.02 | 12/5/2013 | 2.88 |
| 1/21/2014 | 3.97 | 12/6/2013 | 2.88 |
| 1/22/2014 | 3.97 | 12/9/2013 | 2.86 |
| 1/23/2014 | 3.98 | 12/10/2013 | 2.81 |
| 1/24/2014 | 4.02 | 12/11/2013 | 2.86 |
| 1/27/2014 | 4.02 | 12/12/2013 | 2.89 |
| 1/28/2014 | 4 | 12/13/2013 | 2.88 |
| 1/29/2014 | 4 | 12/16/2013 | 2.89 |
| 1/30/2014 | 3.95 | 12/17/2013 | 2.85 |
| 1/31/2014 | 3.92 | 12/18/2013 | 2.89 |
| 2/3/2014 | 4 | 12/19/2013 | 2.94 |
| 2/4/2014 | 4.03 | 12/20/2013 | 2.89 |
| 2/5/2014 | 4.03 | 12/23/2013 | 2.94 |
| 2/6/2014 | 4.01 | 12/24/2013 | 2.99 |
| 2/7/2014 | 3.99 | 12/25/2013 | 2.99 |
| 2/10/2014 | 3.96 | 12/26/2013 | 3.00 |
| 2/11/2014 | 3.92 | 12/27/2013 | 3.02 |
| 2/12/2014 | 3.9 | 12/30/2013 | 2.99 |
| 2/13/2014 | 3.85 | 12/31/2013 | 3.04 |
| 2/14/2014 | 3.83 | 1/1/2014 | 3.04 |
| 2/18/2014 | 3.82 | 1/2/2014 | 3.00 |
| 2/19/2014 | 3.84 | 1/3/2014 | 3.01 |
| 2/20/2014 | 3.81 | 1/6/2014 | 2.98 |
| 2/21/2014 | 3.8 | 1/7/2014 | 2.96 |
| 2/24/2014 | 3.81 | 1/8/2014 | 3.01 |
| 2/25/2014 | 3.82 | 1/9/2014 | 2.97 |
| 2/26/2014 | 3.85 | 1/10/2014 | 2.88 |
| 2/27/2014 | 3.86 | 1/13/2014 | 2.84 |
| 2/28/2014 | 3.83 | 1/14/2014 | 2.77 |
| 3/3/2014 | 3.87 | 1/15/2014 | 2.90 |
| 3/4/2014 | 3.84 | 1/16/2014 | 2.86 |
| 3/5/2014 | 3.87 | 1/17/2014 | 2.84 |
| 3/6/2014 | 3.89 | 1/20/2014 | 2.84 |
| 3/7/2014 | 3.88 | 1/21/2014 | 2.85 |
| 3/10/2014 | 3.89 | 1/22/2014 | 2.87 |
| 3/11/2014 | 3.9 | 1/23/2014 | 2.79 |
| 3/12/2014 | 3.85 | 1/24/2014 | 2.75 |
| 3/13/2014 | 3.82 | 1/27/2014 | 2.78 |
| 3/14/2014 | 3.8 | 1/28/2014 | 2.77 |
| 3/17/2014 | 3.78 | 1/29/2014 | 2.69 |
| 3/18/2014 | 3.79 | 1/30/2014 | 2.72 |
| 3/19/2014 | 3.84 | 1/31/2014 | 2.67 |
| 3/20/2014 | 3.84 | 2/3/2014 | 2.61 |
| 3/21/2014 | 3.81 | 2/4/2014 | 2.64 |
| 3/24/2014 | 3.8 | 2/5/2014 | 2.70 |
| 3/25/2014 | 3.79 | 2/6/2014 | 2.73 |
| 3/26/2014 | 3.8 | 2/7/2014 | 2.71 |
| 3/27/2014 | 3.77 | 2/10/2014 | 2.70 |
| 3/28/2014 | 3.77 | 2/11/2014 | 2.75 |
| 3/31/2014 | 3.73 | 2/12/2014 | 2.80 |
| 4/1/2014 | 3.75 | 2/13/2014 | 2.73 |
| 4/2/2014 | 3.76 | 2/14/2014 | 2.75 |
| 4/3/2014 | 3.75 | 2/17/2014 | 2.75 |
| 4/4/2014 | 3.73 | 2/18/2014 | 2.71 |
| 4/7/2014 | 3.73 | 2/19/2014 | 2.73 |
| 4/8/2014 | 3.68 | 2/20/2014 | 2.76 |
| 4/9/2014 | 3.69 | 2/21/2014 | 2.73 |
| 4/10/2014 | 3.7 | 2/24/2014 | 2.75 |

| S&P 500 Utilities (S5UTIL Index)
Dividend Yield (NET_AGGTE_DVD_YLD) | | 10y US T-Note
YIELD | |
|--|------|------------------------|------|
| 4/11/2014 | 3.71 | 2/25/2014 | 2.70 |
| 4/14/2014 | 3.68 | 2/26/2014 | 2.67 |
| 4/15/2014 | 3.63 | 2/27/2014 | 2.65 |
| 4/16/2014 | 3.61 | 2/28/2014 | 2.66 |
| 4/17/2014 | 3.65 | 3/3/2014 | 2.60 |
| 4/21/2014 | 3.65 | 3/4/2014 | 2.70 |
| 4/22/2014 | 3.65 | 3/5/2014 | 2.70 |
| 4/23/2014 | 3.65 | 3/6/2014 | 2.74 |
| 4/24/2014 | 3.63 | 3/7/2014 | 2.80 |
| 4/25/2014 | 3.58 | 3/10/2014 | 2.79 |
| 4/28/2014 | 3.57 | 3/11/2014 | 2.77 |
| 4/29/2014 | 3.59 | 3/12/2014 | 2.73 |
| 4/30/2014 | 3.58 | 3/13/2014 | 2.66 |
| 5/1/2014 | 3.57 | 3/14/2014 | 2.65 |
| 5/2/2014 | 3.64 | 3/17/2014 | 2.70 |
| 5/5/2014 | 3.6 | 3/18/2014 | 2.68 |
| 5/6/2014 | 3.62 | 3/19/2014 | 2.78 |
| 5/7/2014 | 3.56 | 3/20/2014 | 2.79 |
| 5/8/2014 | 3.6 | 3/21/2014 | 2.75 |
| 5/9/2014 | 3.66 | 3/24/2014 | 2.74 |
| 5/12/2014 | 3.69 | 3/25/2014 | 2.75 |
| 5/13/2014 | 3.69 | 3/26/2014 | 2.71 |
| 5/14/2014 | 3.68 | 3/27/2014 | 2.69 |
| 5/15/2014 | 3.69 | 3/28/2014 | 2.73 |
| 5/16/2014 | 3.68 | 3/31/2014 | 2.73 |
| 5/19/2014 | 3.74 | 4/1/2014 | 2.77 |
| 5/20/2014 | 3.74 | 4/2/2014 | 2.82 |
| 5/21/2014 | 3.74 | 4/3/2014 | 2.80 |
| 5/22/2014 | 3.71 | 4/4/2014 | 2.74 |
| 5/23/2014 | 3.72 | 4/7/2014 | 2.71 |
| 5/27/2014 | 3.69 | 4/8/2014 | 2.69 |
| 5/28/2014 | 3.68 | 4/9/2014 | 2.71 |
| 5/29/2014 | 3.68 | 4/10/2014 | 2.65 |
| 5/30/2014 | 3.65 | 4/11/2014 | 2.63 |
| 6/2/2014 | 3.65 | 4/14/2014 | 2.65 |
| 6/3/2014 | 3.64 | 4/15/2014 | 2.64 |
| 6/4/2014 | 3.64 | 4/16/2014 | 2.65 |
| 6/5/2014 | 3.61 | 4/17/2014 | 2.73 |
| 6/6/2014 | 3.62 | 4/18/2014 | 2.73 |
| 6/9/2014 | 3.65 | 4/21/2014 | 2.73 |
| 6/10/2014 | 3.66 | 4/22/2014 | 2.73 |
| 6/11/2014 | 3.71 | 4/23/2014 | 2.70 |
| 6/12/2014 | 3.7 | 4/24/2014 | 2.70 |
| 6/13/2014 | 3.67 | 4/25/2014 | 2.68 |
| 6/16/2014 | 3.65 | 4/28/2014 | 2.70 |
| 6/17/2014 | 3.66 | 4/29/2014 | 2.71 |
| 6/18/2014 | 3.58 | 4/30/2014 | 2.67 |
| 6/19/2014 | 3.55 | 5/1/2014 | 2.63 |
| 6/20/2014 | 3.57 | 5/2/2014 | 2.60 |
| 6/23/2014 | 3.58 | 5/5/2014 | 2.63 |
| 6/24/2014 | 3.57 | 5/6/2014 | 2.61 |
| 6/25/2014 | 3.55 | 5/7/2014 | 2.62 |
| 6/26/2014 | 3.55 | 5/8/2014 | 2.61 |
| 6/27/2014 | 3.53 | 5/9/2014 | 2.62 |
| 6/30/2014 | 3.51 | 5/12/2014 | 2.66 |
| 7/1/2014 | 3.54 | 5/13/2014 | 2.61 |
| 7/2/2014 | 3.61 | 5/14/2014 | 2.54 |
| 7/3/2014 | 3.65 | 5/15/2014 | 2.50 |
| 7/7/2014 | 3.64 | 5/16/2014 | 2.52 |
| 7/8/2014 | 3.61 | 5/19/2014 | 2.54 |
| 7/9/2014 | 3.62 | 5/20/2014 | 2.52 |
| 7/10/2014 | 3.6 | 5/21/2014 | 2.54 |
| 7/11/2014 | 3.62 | 5/22/2014 | 2.56 |
| 7/14/2014 | 3.67 | 5/23/2014 | 2.54 |
| 7/15/2014 | 3.65 | 5/26/2014 | 2.54 |
| 7/16/2014 | 3.63 | 5/27/2014 | 2.52 |
| 7/17/2014 | 3.67 | 5/28/2014 | 2.44 |
| 7/18/2014 | 3.63 | 5/29/2014 | 2.45 |
| 7/21/2014 | 3.64 | 5/30/2014 | 2.48 |
| 7/22/2014 | 3.64 | 6/2/2014 | 2.54 |
| 7/23/2014 | 3.64 | 6/3/2014 | 2.60 |
| 7/24/2014 | 3.63 | 6/4/2014 | 2.61 |
| 7/25/2014 | 3.66 | 6/5/2014 | 2.59 |
| 7/28/2014 | 3.6 | 6/6/2014 | 2.60 |
| 7/29/2014 | 3.64 | 6/9/2014 | 2.62 |
| 7/30/2014 | 3.71 | 6/10/2014 | 2.64 |
| 7/31/2014 | 3.78 | 6/11/2014 | 2.65 |

| S&P 500 Utilities (\$\$UTIL Index) | | 10y US T-Note | |
|------------------------------------|------|---------------|------|
| Dividend Yield (NET_AGGTE_DVD_YLD) | | YIELD | |
| 8/1/2014 | 3.76 | 6/12/2014 | 2.58 |
| 8/4/2014 | 3.78 | 6/13/2014 | 2.60 |
| 8/5/2014 | 3.81 | 6/16/2014 | 2.61 |
| 8/6/2014 | 3.87 | 6/17/2014 | 2.66 |
| 8/7/2014 | 3.82 | 6/18/2014 | 2.61 |
| 8/8/2014 | 3.75 | 6/19/2014 | 2.64 |
| 8/11/2014 | 3.76 | 6/20/2014 | 2.63 |
| 8/12/2014 | 3.77 | 6/23/2014 | 2.63 |
| 8/13/2014 | 3.77 | 6/24/2014 | 2.59 |
| 8/14/2014 | 3.73 | 6/25/2014 | 2.57 |
| 8/15/2014 | 3.72 | 6/26/2014 | 2.53 |
| 8/18/2014 | 3.73 | 6/27/2014 | 2.54 |
| 8/19/2014 | 3.68 | 6/30/2014 | 2.53 |
| 8/20/2014 | 3.67 | 7/1/2014 | 2.58 |
| 8/21/2014 | 3.66 | 7/2/2014 | 2.64 |
| 8/22/2014 | 3.67 | 7/3/2014 | 2.65 |
| 8/25/2014 | 3.65 | 7/4/2014 | 2.65 |
| 8/26/2014 | 3.69 | 7/7/2014 | 2.63 |
| 8/27/2014 | 3.67 | 7/8/2014 | 2.58 |
| 8/28/2014 | 3.64 | 7/9/2014 | 2.57 |
| 8/29/2014 | 3.62 | 7/10/2014 | 2.55 |
| 9/2/2014 | 3.65 | 7/11/2014 | 2.53 |
| 9/3/2014 | 3.64 | 7/14/2014 | 2.55 |
| 9/4/2014 | 3.64 | 7/15/2014 | 2.56 |
| 9/5/2014 | 3.59 | 7/16/2014 | 2.55 |
| 9/8/2014 | 3.62 | 7/17/2014 | 2.47 |
| 9/9/2014 | 3.66 | 7/18/2014 | 2.50 |
| 9/10/2014 | 3.68 | 7/21/2014 | 2.49 |
| 9/11/2014 | 3.65 | 7/22/2014 | 2.48 |
| 9/12/2014 | 3.72 | 7/23/2014 | 2.48 |
| 9/15/2014 | 3.7 | 7/24/2014 | 2.52 |
| 9/16/2014 | 3.66 | 7/25/2014 | 2.48 |
| 9/17/2014 | 3.67 | 7/28/2014 | 2.50 |
| 9/18/2014 | 3.69 | 7/29/2014 | 2.47 |
| 9/19/2014 | 3.66 | 7/30/2014 | 2.57 |
| 9/22/2014 | 3.69 | 7/31/2014 | 2.58 |
| 9/23/2014 | 3.7 | 8/1/2014 | 2.52 |
| 9/24/2014 | 3.72 | 8/4/2014 | 2.51 |
| 9/25/2014 | 3.74 | 8/5/2014 | 2.49 |
| 9/26/2014 | 3.73 | 8/6/2014 | 2.49 |
| 9/29/2014 | 3.71 | 8/7/2014 | 2.43 |
| 9/30/2014 | 3.71 | 8/8/2014 | 2.44 |
| 10/1/2014 | 3.69 | 8/11/2014 | 2.44 |
| 10/2/2014 | 3.69 | 8/12/2014 | 2.46 |
| 10/3/2014 | 3.67 | 8/13/2014 | 2.43 |
| 10/6/2014 | 3.67 | 8/14/2014 | 2.40 |
| 10/7/2014 | 3.67 | 8/15/2014 | 2.34 |
| 10/8/2014 | 3.59 | 8/18/2014 | 2.39 |
| 10/9/2014 | 3.65 | 8/19/2014 | 2.40 |
| 10/10/2014 | 3.63 | 8/20/2014 | 2.43 |
| 10/13/2014 | 3.64 | 8/21/2014 | 2.41 |
| 10/14/2014 | 3.6 | 8/22/2014 | 2.40 |
| 10/15/2014 | 3.65 | 8/25/2014 | 2.39 |
| 10/16/2014 | 3.65 | 8/26/2014 | 2.39 |
| 10/17/2014 | 3.63 | 8/27/2014 | 2.37 |
| 10/20/2014 | 3.58 | 8/28/2014 | 2.34 |
| 10/21/2014 | 3.56 | 8/29/2014 | 2.35 |
| 10/22/2014 | 3.54 | 9/1/2014 | 2.35 |
| 10/23/2014 | 3.54 | 9/2/2014 | 2.42 |
| 10/24/2014 | 3.5 | 9/3/2014 | 2.41 |
| 10/27/2014 | 3.51 | 9/4/2014 | 2.45 |
| 10/28/2014 | 3.48 | 9/5/2014 | 2.46 |
| 10/29/2014 | 3.51 | 9/8/2014 | 2.48 |
| 10/30/2014 | 3.44 | 9/9/2014 | 2.50 |
| 10/31/2014 | 3.44 | 9/10/2014 | 2.54 |
| 11/3/2014 | 3.42 | 9/11/2014 | 2.54 |
| 11/4/2014 | 3.44 | 9/12/2014 | 2.62 |
| 11/5/2014 | 3.35 | 9/15/2014 | 2.60 |
| 11/6/2014 | 3.41 | 9/16/2014 | 2.60 |
| 11/7/2014 | 3.38 | 9/17/2014 | 2.62 |
| 11/10/2014 | 3.36 | 9/18/2014 | 2.63 |
| 11/11/2014 | 3.37 | 9/19/2014 | 2.59 |
| 11/12/2014 | 3.45 | 9/22/2014 | 2.57 |
| 11/13/2014 | 3.47 | 9/23/2014 | 2.54 |
| 11/14/2014 | 3.49 | 9/24/2014 | 2.57 |
| 11/17/2014 | 3.44 | 9/25/2014 | 2.52 |
| 11/18/2014 | 3.43 | 9/26/2014 | 2.54 |

| S&P 500 Utilities (\$\$UTIL Index) | | 10y US T-Note | |
|------------------------------------|------|---------------|------|
| Dividend Yield (NET_AGGTE_DVD_YLD) | | YIELD | |
| 11/19/2014 | 3.43 | 9/29/2014 | 2.50 |
| 11/20/2014 | 3.44 | 9/30/2014 | 2.52 |
| 11/21/2014 | 3.43 | 10/1/2014 | 2.42 |
| 11/24/2014 | 3.46 | 10/2/2014 | 2.44 |
| 11/25/2014 | 3.47 | 10/3/2014 | 2.45 |
| 11/26/2014 | 3.45 | 10/6/2014 | 2.43 |
| 11/28/2014 | 3.42 | 10/7/2014 | 2.36 |
| 12/1/2014 | 3.41 | 10/8/2014 | 2.35 |
| 12/2/2014 | 3.39 | 10/9/2014 | 2.34 |
| 12/3/2014 | 3.4 | 10/10/2014 | 2.31 |
| 12/4/2014 | 3.4 | 10/14/2014 | 2.21 |
| 12/5/2014 | 3.43 | 10/15/2014 | 2.15 |
| 12/8/2014 | 3.41 | 10/16/2014 | 2.17 |
| 12/9/2014 | 3.39 | 10/17/2014 | 2.22 |
| 12/10/2014 | 3.43 | 10/20/2014 | 2.20 |
| 12/11/2014 | 3.4 | 10/21/2014 | 2.23 |
| 12/12/2014 | 3.43 | 10/22/2014 | 2.25 |
| 12/15/2014 | 3.47 | 10/23/2014 | 2.29 |
| 12/16/2014 | 3.47 | 10/24/2014 | 2.29 |
| 12/17/2014 | 3.41 | 10/27/2014 | 2.27 |
| 12/18/2014 | 3.34 | 10/28/2014 | 2.30 |
| 12/19/2014 | 3.34 | 10/29/2014 | 2.34 |
| 12/22/2014 | 3.33 | 10/30/2014 | 2.32 |
| 12/23/2014 | 3.32 | 10/31/2014 | 2.35 |
| 12/24/2014 | 3.26 | 11/3/2014 | 2.36 |
| 12/26/2014 | 3.23 | 11/4/2014 | 2.35 |
| 12/29/2014 | 3.19 | 11/5/2014 | 2.36 |
| 12/30/2014 | 3.26 | 11/6/2014 | 2.39 |
| 12/31/2014 | 3.32 | 11/7/2014 | 2.32 |
| 1/2/2015 | 3.3 | 11/10/2014 | 2.38 |
| 1/5/2015 | 3.35 | 11/12/2014 | 2.37 |
| 1/6/2015 | 3.34 | 11/13/2014 | 2.35 |
| 1/7/2015 | 3.31 | 11/14/2014 | 2.32 |
| 1/8/2015 | 3.29 | 11/17/2014 | 2.34 |
| 1/9/2015 | 3.31 | 11/18/2014 | 2.32 |
| 1/12/2015 | 3.32 | 11/19/2014 | 2.36 |
| 1/13/2015 | 3.31 | 11/20/2014 | 2.34 |
| 1/14/2015 | 3.28 | 11/21/2014 | 2.31 |
| 1/15/2015 | 3.25 | 11/24/2014 | 2.30 |
| 1/16/2015 | 3.23 | 11/25/2014 | 2.27 |
| 1/20/2015 | 3.22 | 11/26/2014 | 2.24 |
| 1/21/2015 | 3.19 | 11/27/2014 | 2.24 |
| 1/22/2015 | 3.2 | 11/28/2014 | 2.18 |
| 1/23/2015 | 3.19 | 12/1/2014 | 2.22 |
| 1/26/2015 | 3.19 | 12/2/2014 | 2.28 |
| 1/27/2015 | 3.19 | 12/3/2014 | 2.29 |
| 1/28/2015 | 3.22 | 12/4/2014 | 2.25 |
| 1/29/2015 | 3.18 | 12/5/2014 | 2.31 |
| 1/30/2015 | 3.25 | 12/8/2014 | 2.26 |
| 2/2/2015 | 3.24 | 12/9/2014 | 2.22 |
| 2/3/2015 | 3.23 | 12/10/2014 | 2.18 |
| 2/4/2015 | 3.27 | 12/11/2014 | 2.19 |
| 2/5/2015 | 3.24 | 12/12/2014 | 2.10 |
| 2/6/2015 | 3.38 | 12/15/2014 | 2.12 |
| 2/9/2015 | 3.42 | 12/16/2014 | 2.07 |
| 2/10/2015 | 3.35 | 12/17/2014 | 2.14 |
| 2/11/2015 | 3.43 | 12/18/2014 | 2.22 |
| 2/12/2015 | 3.45 | 12/19/2014 | 2.17 |
| 2/13/2015 | 3.51 | 12/22/2014 | 2.17 |
| 2/17/2015 | 3.51 | 12/23/2014 | 2.26 |
| 2/18/2015 | 3.43 | 12/24/2014 | 2.27 |
| 2/19/2015 | 3.47 | 12/25/2014 | 2.27 |
| 2/20/2015 | 3.47 | 12/26/2014 | 2.25 |
| 2/23/2015 | 3.44 | 12/29/2014 | 2.22 |
| 2/24/2015 | 3.42 | 12/30/2014 | 2.20 |
| 2/25/2015 | 3.49 | 12/31/2014 | 2.17 |
| 2/26/2015 | 3.52 | 1/1/2015 | 2.17 |
| 2/27/2015 | 3.52 | 1/2/2015 | 2.12 |
| 3/2/2015 | 3.59 | 1/5/2015 | 2.04 |
| 3/3/2015 | 3.56 | 1/6/2015 | 1.97 |
| 3/4/2015 | 3.59 | 1/7/2015 | 1.96 |
| 3/5/2015 | 3.56 | 1/8/2015 | 2.03 |
| 3/6/2015 | 3.68 | 1/9/2015 | 1.98 |
| 3/9/2015 | 3.67 | 1/12/2015 | 1.92 |
| 3/10/2015 | 3.68 | 1/13/2015 | 1.91 |
| 3/11/2015 | 3.7 | 1/14/2015 | 1.86 |
| 3/12/2015 | 3.63 | 1/15/2015 | 1.77 |

| S&P 500 Utilities (S5UTIL Index)
Dividend Yield (NET_AGGTE_DVD_YLD) | | 10y US T-Note
YIELD | |
|--|------|------------------------|------|
| 3/13/2015 | 3.67 | 1/16/2015 | 1.83 |
| 3/16/2015 | 3.61 | 1/19/2015 | 1.83 |
| 3/17/2015 | 3.62 | 1/20/2015 | 1.82 |
| 3/18/2015 | 3.52 | 1/21/2015 | 1.87 |
| 3/19/2015 | 3.56 | 1/22/2015 | 1.90 |
| 3/20/2015 | 3.53 | 1/23/2015 | 1.81 |
| 3/23/2015 | 3.52 | 1/26/2015 | 1.83 |
| 3/24/2015 | 3.56 | 1/27/2015 | 1.83 |
| 3/25/2015 | 3.61 | 1/28/2015 | 1.73 |
| 3/26/2015 | 3.64 | 1/29/2015 | 1.77 |
| 3/27/2015 | 3.62 | 1/30/2015 | 1.68 |
| 3/30/2015 | 3.58 | 2/2/2015 | 1.68 |
| 3/31/2015 | 3.58 | 2/3/2015 | 1.79 |
| 4/1/2015 | 3.57 | 2/4/2015 | 1.81 |
| 4/2/2015 | 3.56 | 2/5/2015 | 1.83 |
| 4/6/2015 | 3.52 | 2/6/2015 | 1.95 |
| 4/7/2015 | 3.56 | 2/9/2015 | 1.96 |
| 4/8/2015 | 3.57 | 2/10/2015 | 2.01 |
| 4/9/2015 | 3.59 | 2/11/2015 | 2.00 |
| 4/10/2015 | 3.56 | 2/12/2015 | 1.99 |
| 4/13/2015 | 3.6 | 2/13/2015 | 2.02 |
| 4/14/2015 | 3.57 | 2/16/2015 | 2.02 |
| 4/15/2015 | 3.57 | 2/17/2015 | 2.14 |
| 4/16/2015 | 3.59 | 2/18/2015 | 2.07 |
| 4/17/2015 | 3.6 | 2/19/2015 | 2.11 |
| 4/20/2015 | 3.55 | 2/20/2015 | 2.13 |
| 4/21/2015 | 3.58 | 2/23/2015 | 2.06 |
| 4/22/2015 | 3.57 | 2/24/2015 | 1.99 |
| 4/23/2015 | 3.55 | 2/25/2015 | 1.96 |
| 4/24/2015 | 3.52 | 2/26/2015 | 2.03 |
| 4/27/2015 | 3.56 | 2/27/2015 | 2.00 |
| 4/28/2015 | 3.54 | 3/2/2015 | 2.08 |
| 4/29/2015 | 3.55 | 3/3/2015 | 2.12 |
| 4/30/2015 | 3.6 | 3/4/2015 | 2.12 |
| 5/1/2015 | 3.58 | 3/5/2015 | 2.11 |
| 5/4/2015 | 3.56 | 3/6/2015 | 2.24 |
| 5/5/2015 | 3.64 | 3/9/2015 | 2.20 |
| 5/6/2015 | 3.66 | 3/10/2015 | 2.14 |
| 5/7/2015 | 3.65 | 3/11/2015 | 2.11 |
| 5/8/2015 | 3.62 | 3/12/2015 | 2.10 |
| 5/11/2015 | 3.65 | 3/13/2015 | 2.13 |
| 5/12/2015 | 3.66 | 3/16/2015 | 2.10 |
| 5/13/2015 | 3.7 | 3/17/2015 | 2.06 |
| 5/14/2015 | 3.66 | 3/18/2015 | 1.93 |
| 5/15/2015 | 3.62 | 3/19/2015 | 1.98 |
| 5/18/2015 | 3.61 | 3/20/2015 | 1.93 |
| 5/19/2015 | 3.6 | 3/23/2015 | 1.92 |
| 5/20/2015 | 3.59 | 3/24/2015 | 1.88 |
| 5/21/2015 | 3.6 | 3/25/2015 | 1.93 |
| 5/22/2015 | 3.6 | 3/26/2015 | 2.01 |
| 5/26/2015 | 3.63 | 3/27/2015 | 1.95 |
| 5/27/2015 | 3.63 | 3/30/2015 | 1.96 |
| 5/28/2015 | 3.62 | 3/31/2015 | 1.94 |
| 5/29/2015 | 3.62 | 4/1/2015 | 1.87 |
| 6/1/2015 | 3.62 | 4/2/2015 | 1.92 |
| 6/2/2015 | 3.68 | 4/3/2015 | 1.85 |
| 6/3/2015 | 3.73 | 4/6/2015 | 1.92 |
| 6/4/2015 | 3.74 | 4/7/2015 | 1.89 |
| 6/5/2015 | 3.79 | 4/8/2015 | 1.92 |
| 6/8/2015 | 3.82 | 4/9/2015 | 1.97 |
| 6/9/2015 | 3.82 | 4/10/2015 | 1.96 |
| 6/10/2015 | 3.8 | 4/13/2015 | 1.94 |
| 6/11/2015 | 3.78 | 4/14/2015 | 1.90 |
| 6/12/2015 | 3.81 | 4/15/2015 | 1.91 |
| 6/15/2015 | 3.82 | 4/16/2015 | 1.90 |
| 6/16/2015 | 3.81 | 4/17/2015 | 1.87 |
| 6/17/2015 | 3.77 | 4/20/2015 | 1.90 |
| 6/18/2015 | 3.72 | 4/21/2015 | 1.92 |
| 6/19/2015 | 3.76 | 4/22/2015 | 1.99 |
| 6/22/2015 | 3.76 | 4/23/2015 | 1.96 |
| 6/23/2015 | 3.81 | 4/24/2015 | 1.93 |
| 6/24/2015 | 3.84 | 4/27/2015 | 1.94 |
| 6/25/2015 | 3.87 | 4/28/2015 | 2.00 |
| 6/26/2015 | 3.86 | 4/29/2015 | 2.06 |
| 6/29/2015 | 3.88 | 4/30/2015 | 2.05 |
| 6/30/2015 | 3.87 | 5/1/2015 | 2.12 |
| 7/1/2015 | 3.85 | 5/4/2015 | 2.16 |

| S&P 500 Utilities (\$\$UTIL Index) | | 10y US T-Note | |
|------------------------------------|------|---------------|------|
| Dividend Yield (NET_AGGTE_DVD_YLD) | | YIELD | |
| 7/2/2015 | 3.86 | 5/5/2015 | 2.19 |
| 7/6/2015 | 3.85 | 5/6/2015 | 2.25 |
| 7/7/2015 | 3.76 | 5/7/2015 | 2.18 |
| 7/8/2015 | 3.78 | 5/8/2015 | 2.16 |
| 7/9/2015 | 3.82 | 5/11/2015 | 2.28 |
| 7/10/2015 | 3.8 | 5/12/2015 | 2.28 |
| 7/13/2015 | 3.8 | 5/13/2015 | 2.27 |
| 7/14/2015 | 3.8 | 5/14/2015 | 2.23 |
| 7/15/2015 | 3.79 | 5/15/2015 | 2.14 |
| 7/16/2015 | 3.73 | 5/18/2015 | 2.23 |
| 7/17/2015 | 3.77 | 5/19/2015 | 2.27 |
| 7/20/2015 | 3.79 | 5/20/2015 | 2.26 |
| 7/21/2015 | 3.82 | 5/21/2015 | 2.19 |
| 7/22/2015 | 3.8 | 5/22/2015 | 2.21 |
| 7/23/2015 | 3.86 | 5/25/2015 | 2.21 |
| 7/24/2015 | 3.86 | 5/26/2015 | 2.14 |
| 7/27/2015 | 3.81 | 5/27/2015 | 2.14 |
| 7/28/2015 | 3.79 | 5/28/2015 | 2.13 |
| 7/29/2015 | 3.77 | 5/29/2015 | 2.12 |
| 7/30/2015 | 3.75 | 6/1/2015 | 2.19 |
| 7/31/2015 | 3.72 | 6/2/2015 | 2.27 |
| 8/3/2015 | 3.7 | 6/3/2015 | 2.38 |
| 8/4/2015 | 3.76 | 6/4/2015 | 2.31 |
| 8/5/2015 | 3.75 | 6/5/2015 | 2.41 |
| 8/6/2015 | 3.73 | 6/8/2015 | 2.39 |
| 8/7/2015 | 3.69 | 6/9/2015 | 2.42 |
| 8/10/2015 | 3.7 | 6/10/2015 | 2.50 |
| 8/11/2015 | 3.69 | 6/11/2015 | 2.39 |
| 8/12/2015 | 3.63 | 6/12/2015 | 2.39 |
| 8/13/2015 | 3.63 | 6/15/2015 | 2.36 |
| 8/14/2015 | 3.6 | 6/16/2015 | 2.32 |
| 8/17/2015 | 3.59 | 6/17/2015 | 2.32 |
| 8/18/2015 | 3.6 | 6/18/2015 | 2.35 |
| 8/19/2015 | 3.58 | 6/19/2015 | 2.26 |
| 8/20/2015 | 3.6 | 6/22/2015 | 2.37 |
| 8/21/2015 | 3.65 | 6/23/2015 | 2.42 |
| 8/24/2015 | 3.79 | 6/24/2015 | 2.38 |
| 8/25/2015 | 3.91 | 6/25/2015 | 2.40 |
| 8/26/2015 | 3.86 | 6/26/2015 | 2.49 |
| 8/27/2015 | 3.81 | 6/29/2015 | 2.33 |
| 8/28/2015 | 3.82 | 6/30/2015 | 2.35 |
| 8/31/2015 | 3.89 | 7/1/2015 | 2.43 |
| 9/1/2015 | 3.99 | 7/2/2015 | 2.40 |
| 9/2/2015 | 3.99 | 7/3/2015 | 2.40 |
| 9/3/2015 | 3.97 | 7/6/2015 | 2.30 |
| 9/4/2015 | 4.03 | 7/7/2015 | 2.27 |
| 9/8/2015 | 3.95 | 7/8/2015 | 2.22 |
| 9/9/2015 | 4.01 | 7/9/2015 | 2.32 |
| 9/10/2015 | 4.01 | 7/10/2015 | 2.42 |
| 9/11/2015 | 3.98 | 7/13/2015 | 2.44 |
| 9/14/2015 | 3.97 | 7/14/2015 | 2.41 |
| 9/15/2015 | 3.95 | 7/15/2015 | 2.36 |
| 9/16/2015 | 3.92 | 7/16/2015 | 2.36 |
| 9/17/2015 | 3.87 | 7/17/2015 | 2.34 |
| 9/18/2015 | 3.89 | 7/20/2015 | 2.38 |
| 9/21/2015 | 3.87 | 7/21/2015 | 2.35 |
| 9/22/2015 | 3.92 | 7/22/2015 | 2.33 |
| 9/23/2015 | 3.91 | 7/23/2015 | 2.28 |
| 9/24/2015 | 3.88 | 7/24/2015 | 2.27 |
| 9/25/2015 | 3.84 | 7/27/2015 | 2.23 |
| 9/28/2015 | 3.87 | 7/28/2015 | 2.26 |
| 9/29/2015 | 3.86 | 7/29/2015 | 2.29 |
| 9/30/2015 | 3.8 | 7/30/2015 | 2.28 |
| 10/1/2015 | 3.84 | 7/31/2015 | 2.20 |
| 10/2/2015 | 3.79 | 8/3/2015 | 2.16 |
| 10/5/2015 | 3.74 | 8/4/2015 | 2.23 |
| 10/6/2015 | 3.77 | 8/5/2015 | 2.28 |
| 10/7/2015 | 3.78 | 8/6/2015 | 2.23 |
| 10/8/2015 | 3.74 | 8/7/2015 | 2.18 |
| 10/9/2015 | 3.75 | 8/10/2015 | 2.24 |
| 10/12/2015 | 3.72 | 8/11/2015 | 2.15 |
| 10/13/2015 | 3.73 | 8/12/2015 | 2.14 |
| 10/14/2015 | 3.73 | 8/13/2015 | 2.19 |
| 10/15/2015 | 3.68 | 8/14/2015 | 2.20 |
| 10/16/2015 | 3.67 | 8/17/2015 | 2.16 |
| 10/19/2015 | 3.67 | 8/18/2015 | 2.20 |
| 10/20/2015 | 3.66 | 8/19/2015 | 2.12 |

| S&P 500 Utilities (\$\$UTIL Index) | | 10y US T-Note | |
|------------------------------------|------------------------------------|---------------|-------|
| | Dividend Yield (NET_AGGTE_DVD_YLD) | | YIELD |
| 10/21/2015 | 3.66 | 8/20/2015 | 2.09 |
| 10/22/2015 | 3.62 | 8/21/2015 | 2.05 |
| 10/23/2015 | 3.69 | 8/24/2015 | 2.01 |
| 10/26/2015 | 3.7 | 8/25/2015 | 2.12 |
| 10/27/2015 | 3.71 | 8/26/2015 | 2.18 |
| 10/28/2015 | 3.75 | 8/27/2015 | 2.18 |
| 10/29/2015 | 3.78 | 8/28/2015 | 2.19 |
| 10/30/2015 | 3.76 | 8/31/2015 | 2.21 |
| 11/2/2015 | 3.75 | 9/1/2015 | 2.17 |
| 11/3/2015 | 3.74 | 9/2/2015 | 2.20 |
| 11/4/2015 | 3.73 | 9/3/2015 | 2.18 |
| 11/5/2015 | 3.76 | 9/4/2015 | 2.13 |
| 11/6/2015 | 3.9 | 9/7/2015 | 2.13 |
| 11/9/2015 | 3.89 | 9/8/2015 | 2.20 |
| 11/10/2015 | 3.88 | 9/9/2015 | 2.21 |
| 11/11/2015 | 3.84 | 9/10/2015 | 2.23 |
| 11/12/2015 | 3.89 | 9/11/2015 | 2.20 |
| 11/13/2015 | 3.9 | 9/14/2015 | 2.18 |
| 11/16/2015 | 3.84 | 9/15/2015 | 2.28 |
| 11/17/2015 | 3.91 | 9/16/2015 | 2.30 |
| 11/18/2015 | 3.88 | 9/17/2015 | 2.21 |
| 11/19/2015 | 3.85 | 9/18/2015 | 2.13 |
| 11/20/2015 | 3.83 | 9/21/2015 | 2.20 |
| 11/23/2015 | 3.87 | 9/22/2015 | 2.14 |
| 11/24/2015 | 3.89 | 9/23/2015 | 2.16 |
| 11/25/2015 | 3.91 | 9/24/2015 | 2.13 |
| 11/27/2015 | 3.9 | 9/25/2015 | 2.17 |
| 11/30/2015 | 3.89 | 9/28/2015 | 2.10 |
| 12/1/2015 | 3.86 | 9/29/2015 | 2.05 |
| 12/2/2015 | 3.95 | 9/30/2015 | 2.06 |
| 12/3/2015 | 3.98 | 10/1/2015 | 2.05 |
| 12/4/2015 | 3.92 | 10/2/2015 | 1.99 |
| 12/7/2015 | 3.91 | 10/5/2015 | 2.07 |
| 12/8/2015 | 3.92 | 10/6/2015 | 2.05 |
| 12/9/2015 | 3.92 | 10/7/2015 | 2.08 |
| 12/10/2015 | 3.99 | 10/8/2015 | 2.12 |
| 12/11/2015 | 4 | 10/9/2015 | 2.12 |
| 12/14/2015 | 3.98 | 10/12/2015 | 2.12 |
| 12/15/2015 | 3.95 | 10/13/2015 | 2.06 |
| 12/16/2015 | 3.85 | 10/14/2015 | 1.99 |
| 12/17/2015 | 3.85 | 10/15/2015 | 2.04 |
| 12/18/2015 | 3.9 | 10/16/2015 | 2.04 |
| 12/21/2015 | 3.89 | 10/19/2015 | 2.04 |
| 12/22/2015 | 3.87 | 10/20/2015 | 2.08 |
| 12/23/2015 | 3.81 | 10/21/2015 | 2.04 |
| 12/24/2015 | 3.81 | 10/22/2015 | 2.04 |
| 12/28/2015 | 3.81 | 10/23/2015 | 2.09 |
| 12/29/2015 | 3.79 | 10/26/2015 | 2.07 |
| 12/30/2015 | 3.8 | 10/27/2015 | 2.05 |
| 12/31/2015 | 3.84 | 10/28/2015 | 2.10 |
| 1/4/2016 | 3.85 | 10/29/2015 | 2.19 |
| 1/5/2016 | 3.82 | 10/30/2015 | 2.16 |
| 1/6/2016 | 3.82 | 11/2/2015 | 2.20 |
| 1/7/2016 | 3.85 | 11/3/2015 | 2.23 |
| 1/8/2016 | 3.85 | 11/4/2015 | 2.25 |
| 1/11/2016 | 3.83 | 11/5/2015 | 2.26 |
| 1/12/2016 | 3.85 | 11/6/2015 | 2.34 |
| 1/13/2016 | 3.85 | 11/9/2015 | 2.36 |
| 1/14/2016 | 3.79 | 11/10/2015 | 2.32 |
| 1/15/2016 | 3.82 | 11/11/2015 | 2.32 |
| 1/19/2016 | 3.77 | 11/12/2015 | 2.32 |
| 1/20/2016 | 3.86 | 11/13/2015 | 2.28 |
| 1/21/2016 | 3.86 | 11/16/2015 | 2.27 |
| 1/22/2016 | 3.79 | 11/17/2015 | 2.25 |
| 1/25/2016 | 3.82 | 11/18/2015 | 2.27 |
| 1/26/2016 | 3.8 | 11/19/2015 | 2.24 |
| 1/27/2016 | 3.79 | 11/20/2015 | 2.26 |
| 1/28/2016 | 3.73 | 11/23/2015 | 2.25 |
| 1/29/2016 | 3.66 | 11/24/2015 | 2.24 |
| 2/1/2016 | 3.62 | 11/25/2015 | 2.23 |
| 2/2/2016 | 3.61 | 11/26/2015 | 2.23 |
| 2/3/2016 | 3.57 | 11/27/2015 | 2.22 |
| 2/4/2016 | 3.57 | 11/30/2015 | 2.21 |
| 2/5/2016 | 3.56 | 12/1/2015 | 2.15 |
| 2/8/2016 | 3.58 | 12/2/2015 | 2.18 |
| 2/9/2016 | 3.57 | 12/3/2015 | 2.33 |
| 2/10/2016 | 3.59 | 12/4/2015 | 2.28 |

| S&P 500 Utilities (S5UTIL Index)
Dividend Yield (NET_AGGTE_DVD_YLD) | | 10y US T-Note
YIELD | |
|--|------|------------------------|------|
| 2/11/2016 | 3.66 | 12/7/2015 | 2.23 |
| 2/12/2016 | 3.67 | 12/8/2015 | 2.24 |
| 2/16/2016 | 3.65 | 12/9/2015 | 2.22 |
| 2/17/2016 | 3.66 | 12/10/2015 | 2.24 |
| 2/18/2016 | 3.6 | 12/11/2015 | 2.13 |
| 2/19/2016 | 3.62 | 12/14/2015 | 2.23 |
| 2/22/2016 | 3.58 | 12/15/2015 | 2.28 |
| 2/23/2016 | 3.58 | 12/16/2015 | 2.30 |
| 2/24/2016 | 3.57 | 12/17/2015 | 2.24 |
| 2/25/2016 | 3.54 | 12/18/2015 | 2.19 |
| 2/26/2016 | 3.64 | 12/21/2015 | 2.20 |
| 2/29/2016 | 3.63 | 12/22/2015 | 2.24 |
| 3/1/2016 | 3.65 | 12/23/2015 | 2.27 |
| 3/2/2016 | 3.64 | 12/24/2015 | 2.25 |
| 3/3/2016 | 3.62 | 12/25/2015 | 2.25 |
| 3/4/2016 | 3.54 | 12/28/2015 | 2.24 |
| 3/7/2016 | 3.52 | 12/29/2015 | 2.32 |
| 3/8/2016 | 3.5 | 12/30/2015 | 2.31 |
| 3/9/2016 | 3.48 | 12/31/2015 | 2.27 |
| 3/10/2016 | 3.48 | 1/1/2016 | 2.27 |
| 3/11/2016 | 3.47 | 1/4/2016 | 2.24 |
| 3/14/2016 | 3.47 | 1/5/2016 | 2.25 |
| 3/15/2016 | 3.46 | 1/6/2016 | 2.18 |
| 3/16/2016 | 3.43 | 1/7/2016 | 2.16 |
| 3/17/2016 | 3.39 | 1/8/2016 | 2.13 |
| 3/18/2016 | 3.41 | 1/11/2016 | 2.17 |
| 3/21/2016 | 3.42 | 1/12/2016 | 2.12 |
| 3/22/2016 | 3.43 | 1/13/2016 | 2.08 |
| 3/23/2016 | 3.41 | 1/14/2016 | 2.10 |
| 3/24/2016 | 3.4 | 1/15/2016 | 2.03 |
| 3/28/2016 | 3.41 | 1/18/2016 | 2.03 |
| 3/29/2016 | 3.37 | 1/19/2016 | 2.06 |
| 3/30/2016 | 3.37 | 1/20/2016 | 2.01 |
| 3/31/2016 | 3.35 | 1/21/2016 | 2.02 |
| 4/1/2016 | 3.34 | 1/22/2016 | 2.07 |
| 4/4/2016 | 3.35 | 1/25/2016 | 2.03 |
| 4/5/2016 | 3.41 | 1/26/2016 | 2.01 |
| 4/6/2016 | 3.42 | 1/27/2016 | 2.02 |
| 4/7/2016 | 3.42 | 1/28/2016 | 2.00 |
| 4/8/2016 | 3.4 | 1/29/2016 | 1.94 |
| 4/11/2016 | 3.42 | 2/1/2016 | 1.97 |
| 4/12/2016 | 3.39 | 2/2/2016 | 1.87 |
| 4/13/2016 | 3.42 | 2/3/2016 | 1.88 |
| 4/14/2016 | 3.42 | 2/4/2016 | 1.87 |
| 4/15/2016 | 3.4 | 2/5/2016 | 1.86 |
| 4/18/2016 | 3.39 | 2/8/2016 | 1.75 |
| 4/19/2016 | 3.38 | 2/9/2016 | 1.74 |
| 4/20/2016 | 3.47 | 2/10/2016 | 1.71 |
| 4/21/2016 | 3.54 | 2/11/2016 | 1.63 |
| 4/22/2016 | 3.51 | 2/12/2016 | 1.74 |
| 4/25/2016 | 3.5 | 2/15/2016 | 1.74 |
| 4/26/2016 | 3.5 | 2/16/2016 | 1.78 |
| 4/27/2016 | 3.44 | 2/17/2016 | 1.81 |
| 4/28/2016 | 3.44 | 2/18/2016 | 1.75 |
| 4/29/2016 | 3.42 | 2/19/2016 | 1.76 |
| 5/2/2016 | 3.4 | 2/22/2016 | 1.77 |
| 5/3/2016 | 3.4 | 2/23/2016 | 1.74 |
| 5/4/2016 | 3.36 | 2/24/2016 | 1.75 |
| 5/5/2016 | 3.38 | 2/25/2016 | 1.71 |
| 5/6/2016 | 3.4 | 2/26/2016 | 1.76 |
| 5/9/2016 | 3.38 | 2/29/2016 | 1.74 |
| 5/10/2016 | 3.38 | 3/1/2016 | 1.83 |
| 5/11/2016 | 3.39 | 3/2/2016 | 1.84 |
| 5/12/2016 | 3.38 | 3/3/2016 | 1.83 |
| 5/13/2016 | 3.39 | 3/4/2016 | 1.88 |
| 5/16/2016 | 3.39 | 3/7/2016 | 1.91 |
| 5/17/2016 | 3.45 | 3/8/2016 | 1.83 |
| 5/18/2016 | 3.52 | 3/9/2016 | 1.90 |
| 5/19/2016 | 3.49 | 3/10/2016 | 1.93 |
| 5/20/2016 | 3.48 | 3/11/2016 | 1.98 |
| 5/23/2016 | 3.51 | 3/14/2016 | 1.97 |
| 5/24/2016 | 3.47 | 3/15/2016 | 1.97 |
| 5/25/2016 | 3.48 | 3/16/2016 | 1.94 |
| 5/26/2016 | 3.46 | 3/17/2016 | 1.91 |
| 5/27/2016 | 3.45 | 3/18/2016 | 1.88 |
| 5/31/2016 | 3.43 | 3/21/2016 | 1.92 |
| 6/1/2016 | 3.42 | 3/22/2016 | 1.94 |

| S&P 500 Utilities (S5UTIL Index)
Dividend Yield (NET_AGGTE_DVD_YLD) | | 10y US T-Note
YIELD | |
|--|------|------------------------|------|
| 6/2/2016 | 3.43 | 3/23/2016 | 1.88 |
| 6/3/2016 | 3.37 | 3/24/2016 | 1.91 |
| 6/6/2016 | 3.38 | 3/25/2016 | 1.91 |
| 6/7/2016 | 3.38 | 3/28/2016 | 1.89 |
| 6/8/2016 | 3.36 | 3/29/2016 | 1.81 |
| 6/9/2016 | 3.34 | 3/30/2016 | 1.83 |
| 6/10/2016 | 3.34 | 3/31/2016 | 1.78 |
| 6/13/2016 | 3.35 | 4/1/2016 | 1.79 |
| 6/14/2016 | 3.33 | 4/4/2016 | 1.78 |
| 6/15/2016 | 3.36 | 4/5/2016 | 1.73 |
| 6/16/2016 | 3.34 | 4/6/2016 | 1.76 |
| 6/17/2016 | 3.33 | 4/7/2016 | 1.70 |
| 6/20/2016 | 3.34 | 4/8/2016 | 1.72 |
| 6/21/2016 | 3.34 | 4/11/2016 | 1.73 |
| 6/22/2016 | 3.35 | 4/12/2016 | 1.79 |
| 6/23/2016 | 3.34 | 4/13/2016 | 1.77 |
| 6/24/2016 | 3.34 | 4/14/2016 | 1.80 |
| 6/27/2016 | 3.29 | 4/15/2016 | 1.76 |
| 6/28/2016 | 3.29 | 4/18/2016 | 1.78 |
| 6/29/2016 | 3.28 | 4/19/2016 | 1.79 |
| 6/30/2016 | 3.21 | 4/20/2016 | 1.85 |
| 7/1/2016 | 3.21 | 4/21/2016 | 1.88 |
| 7/5/2016 | 3.19 | 4/22/2016 | 1.89 |
| 7/6/2016 | 3.18 | 4/25/2016 | 1.91 |
| 7/7/2016 | 3.24 | 4/26/2016 | 1.94 |
| 7/8/2016 | 3.2 | 4/27/2016 | 1.87 |
| 7/11/2016 | 3.21 | 4/28/2016 | 1.84 |
| 7/12/2016 | 3.25 | 4/29/2016 | 1.83 |
| 7/13/2016 | 3.23 | 5/2/2016 | 1.88 |
| 7/14/2016 | 3.25 | 5/3/2016 | 1.81 |
| 7/15/2016 | 3.24 | 5/4/2016 | 1.79 |
| 7/18/2016 | 3.23 | 5/5/2016 | 1.76 |
| 7/19/2016 | 3.24 | 5/6/2016 | 1.79 |
| 7/20/2016 | 3.25 | 5/9/2016 | 1.77 |
| 7/21/2016 | 3.23 | 5/10/2016 | 1.77 |
| 7/22/2016 | 3.19 | 5/11/2016 | 1.73 |
| 7/25/2016 | 3.2 | 5/12/2016 | 1.75 |
| 7/26/2016 | 3.23 | 5/13/2016 | 1.71 |
| 7/27/2016 | 3.26 | 5/16/2016 | 1.75 |
| 7/28/2016 | 3.25 | 5/17/2016 | 1.76 |
| 7/29/2016 | 3.23 | 5/18/2016 | 1.87 |
| 8/1/2016 | 3.23 | 5/19/2016 | 1.85 |
| 8/2/2016 | 3.25 | 5/20/2016 | 1.85 |
| 8/3/2016 | 3.27 | 5/23/2016 | 1.84 |
| 8/4/2016 | 3.27 | 5/24/2016 | 1.86 |
| 8/5/2016 | 3.32 | 5/25/2016 | 1.87 |
| 8/8/2016 | 3.32 | 5/26/2016 | 1.83 |
| 8/9/2016 | 3.33 | 5/27/2016 | 1.85 |
| 8/10/2016 | 3.35 | 5/30/2016 | 1.85 |
| 8/11/2016 | 3.35 | 5/31/2016 | 1.84 |
| 8/12/2016 | 3.34 | 6/1/2016 | 1.85 |
| 8/15/2016 | 3.4 | 6/2/2016 | 1.81 |
| 8/16/2016 | 3.44 | 6/3/2016 | 1.71 |
| 8/17/2016 | 3.39 | 6/6/2016 | 1.73 |
| 8/18/2016 | 3.35 | 6/7/2016 | 1.72 |
| 8/19/2016 | 3.39 | 6/8/2016 | 1.71 |
| 8/22/2016 | 3.38 | 6/9/2016 | 1.68 |
| 8/23/2016 | 3.4 | 6/10/2016 | 1.64 |
| 8/24/2016 | 3.4 | 6/13/2016 | 1.62 |
| 8/25/2016 | 3.39 | 6/14/2016 | 1.62 |
| 8/26/2016 | 3.48 | 6/15/2016 | 1.60 |
| 8/29/2016 | 3.45 | 6/16/2016 | 1.57 |
| 8/30/2016 | 3.48 | 6/17/2016 | 1.62 |
| 8/31/2016 | 3.48 | 6/20/2016 | 1.67 |
| 9/1/2016 | 3.49 | 6/21/2016 | 1.71 |
| 9/2/2016 | 3.45 | 6/22/2016 | 1.69 |
| 9/6/2016 | 3.41 | 6/23/2016 | 1.74 |
| 9/7/2016 | 3.42 | 6/24/2016 | 1.57 |
| 9/8/2016 | 3.41 | 6/27/2016 | 1.46 |
| 9/9/2016 | 3.54 | 6/28/2016 | 1.46 |
| 9/12/2016 | 3.48 | 6/29/2016 | 1.50 |
| 9/13/2016 | 3.53 | 6/30/2016 | 1.49 |
| 9/14/2016 | 3.51 | 7/1/2016 | 1.46 |
| 9/15/2016 | 3.49 | 7/4/2016 | 1.46 |
| 9/16/2016 | 3.46 | 7/5/2016 | 1.37 |
| 9/19/2016 | 3.43 | 7/6/2016 | 1.38 |
| 9/20/2016 | 3.43 | 7/7/2016 | 1.40 |

| S&P 500 Utilities (\$\$UTIL Index)
Dividend Yield (NET_AGGTE_DVD_YLD) | | 10y US T-Note
YIELD | |
|--|------|------------------------|------|
| 9/21/2016 | 3.36 | 7/8/2016 | 1.37 |
| 9/22/2016 | 3.34 | 7/11/2016 | 1.43 |
| 9/23/2016 | 3.35 | 7/12/2016 | 1.53 |
| 9/26/2016 | 3.36 | 7/13/2016 | 1.48 |
| 9/27/2016 | 3.4 | 7/14/2016 | 1.53 |
| 9/28/2016 | 3.42 | 7/15/2016 | 1.60 |
| 9/29/2016 | 3.47 | 7/18/2016 | 1.59 |
| 9/30/2016 | 3.49 | 7/19/2016 | 1.56 |
| 10/3/2016 | 3.54 | 7/20/2016 | 1.59 |
| 10/4/2016 | 3.62 | 7/21/2016 | 1.57 |
| 10/5/2016 | 3.63 | 7/22/2016 | 1.57 |
| 10/6/2016 | 3.63 | 7/25/2016 | 1.58 |
| 10/7/2016 | 3.63 | 7/26/2016 | 1.57 |
| 10/10/2016 | 3.6 | 7/27/2016 | 1.52 |
| 10/11/2016 | 3.64 | 7/28/2016 | 1.52 |
| 10/12/2016 | 3.61 | 7/29/2016 | 1.46 |
| 10/13/2016 | 3.56 | 8/1/2016 | 1.51 |
| 10/14/2016 | 3.58 | 8/2/2016 | 1.55 |
| 10/17/2016 | 3.56 | 8/3/2016 | 1.55 |
| 10/18/2016 | 3.53 | 8/4/2016 | 1.51 |
| 10/19/2016 | 3.54 | 8/5/2016 | 1.59 |
| 10/20/2016 | 3.54 | 8/8/2016 | 1.59 |
| 10/21/2016 | 3.56 | 8/9/2016 | 1.55 |
| 10/24/2016 | 3.55 | 8/10/2016 | 1.50 |
| 10/25/2016 | 3.53 | 8/11/2016 | 1.57 |
| 10/26/2016 | 3.52 | 8/12/2016 | 1.51 |
| 10/27/2016 | 3.54 | 8/15/2016 | 1.55 |
| 10/28/2016 | 3.53 | 8/16/2016 | 1.57 |
| 10/31/2016 | 3.46 | 8/17/2016 | 1.56 |
| 11/1/2016 | 3.52 | 8/18/2016 | 1.53 |
| 11/2/2016 | 3.57 | 8/19/2016 | 1.58 |
| 11/3/2016 | 3.56 | 8/22/2016 | 1.55 |
| 11/4/2016 | 3.57 | 8/23/2016 | 1.55 |
| 11/7/2016 | 3.51 | 8/24/2016 | 1.56 |
| 11/8/2016 | 3.49 | 8/25/2016 | 1.58 |
| 11/9/2016 | 3.62 | 8/26/2016 | 1.62 |
| 11/10/2016 | 3.71 | 8/29/2016 | 1.57 |
| 11/11/2016 | 3.73 | 8/30/2016 | 1.57 |
| 11/14/2016 | 3.74 | 8/31/2016 | 1.58 |
| 11/15/2016 | 3.68 | 9/1/2016 | 1.57 |
| 11/16/2016 | 3.71 | 9/2/2016 | 1.60 |
| 11/17/2016 | 3.72 | 9/5/2016 | 1.60 |
| 11/18/2016 | 3.73 | 9/6/2016 | 1.55 |
| 11/21/2016 | 3.69 | 9/7/2016 | 1.54 |
| 11/22/2016 | 3.69 | 9/8/2016 | 1.61 |
| 11/23/2016 | 3.72 | 9/9/2016 | 1.67 |
| 11/25/2016 | 3.67 | 9/12/2016 | 1.68 |
| 11/28/2016 | 3.6 | 9/13/2016 | 1.73 |
| 11/29/2016 | 3.59 | 9/14/2016 | 1.70 |
| 11/30/2016 | 3.71 | 9/15/2016 | 1.71 |
| 12/1/2016 | 3.74 | 9/16/2016 | 1.70 |
| 12/2/2016 | 3.71 | 9/19/2016 | 1.70 |
| 12/5/2016 | 3.7 | 9/20/2016 | 1.69 |
| 12/6/2016 | 3.71 | 9/21/2016 | 1.66 |
| 12/7/2016 | 3.67 | 9/22/2016 | 1.63 |
| 12/8/2016 | 3.66 | 9/23/2016 | 1.62 |
| 12/9/2016 | 3.62 | 9/26/2016 | 1.59 |
| 12/12/2016 | 3.59 | 9/27/2016 | 1.56 |
| 12/13/2016 | 3.55 | 9/28/2016 | 1.57 |
| 12/14/2016 | 3.62 | 9/29/2016 | 1.56 |
| 12/15/2016 | 3.61 | 9/30/2016 | 1.60 |
| 12/16/2016 | 3.56 | 10/3/2016 | 1.63 |
| 12/19/2016 | 3.55 | 10/4/2016 | 1.69 |
| 12/20/2016 | 3.54 | 10/5/2016 | 1.72 |
| 12/21/2016 | 3.56 | 10/6/2016 | 1.75 |
| 12/22/2016 | 3.55 | 10/7/2016 | 1.73 |
| 12/23/2016 | 3.55 | 10/10/2016 | 1.73 |
| 12/27/2016 | 3.55 | 10/11/2016 | 1.77 |
| 12/28/2016 | 3.59 | 10/12/2016 | 1.79 |
| 12/29/2016 | 3.55 | 10/13/2016 | 1.75 |
| 12/30/2016 | 3.56 | 10/14/2016 | 1.80 |
| 1/3/2017 | 3.57 | 10/17/2016 | 1.77 |
| 1/4/2017 | 3.56 | 10/18/2016 | 1.75 |
| 1/5/2017 | 3.56 | 10/19/2016 | 1.76 |
| 1/6/2017 | 3.55 | 10/20/2016 | 1.76 |
| 1/9/2017 | 3.59 | 10/21/2016 | 1.74 |
| 1/10/2017 | 3.6 | 10/24/2016 | 1.77 |

| S&P 500 Utilities (S5UTIL Index)
Dividend Yield (NET_AGGTE_DVD_YLD) | | 10y US T-Note
YIELD | |
|--|------|------------------------|------|
| 1/11/2017 | 3.57 | 10/25/2016 | 1.77 |
| 1/12/2017 | 3.56 | 10/26/2016 | 1.79 |
| 1/13/2017 | 3.57 | 10/27/2016 | 1.85 |
| 1/17/2017 | 3.53 | 10/28/2016 | 1.86 |
| 1/18/2017 | 3.53 | 10/31/2016 | 1.84 |
| 1/19/2017 | 3.57 | 11/1/2016 | 1.83 |
| 1/20/2017 | 3.56 | 11/2/2016 | 1.81 |
| 1/23/2017 | 3.58 | 11/3/2016 | 1.82 |
| 1/24/2017 | 3.58 | 11/4/2016 | 1.79 |
| 1/25/2017 | 3.58 | 11/7/2016 | 1.83 |
| 1/26/2017 | 3.58 | 11/8/2016 | 1.88 |
| 1/27/2017 | 3.58 | 11/9/2016 | 2.07 |
| 1/30/2017 | 3.57 | 11/10/2016 | 2.15 |
| 1/31/2017 | 3.52 | 11/11/2016 | 2.15 |
| 2/1/2017 | 3.58 | 11/14/2016 | 2.23 |
| 2/2/2017 | 3.55 | 11/15/2016 | 2.23 |
| 2/3/2017 | 3.54 | 11/16/2016 | 2.22 |
| 2/6/2017 | 3.55 | 11/17/2016 | 2.29 |
| 2/7/2017 | 3.54 | 11/18/2016 | 2.34 |
| 2/8/2017 | 3.51 | 11/21/2016 | 2.33 |
| 2/9/2017 | 3.54 | 11/22/2016 | 2.31 |
| 2/10/2017 | 3.52 | 11/23/2016 | 2.36 |
| 2/13/2017 | 3.51 | 11/24/2016 | 2.36 |
| 2/14/2017 | 3.54 | 11/25/2016 | 2.36 |
| 2/15/2017 | 3.55 | 11/28/2016 | 2.32 |
| 2/16/2017 | 3.52 | 11/29/2016 | 2.30 |
| 2/17/2017 | 3.52 | 11/30/2016 | 2.37 |
| 2/21/2017 | 3.48 | 12/1/2016 | 2.45 |
| 2/22/2017 | 3.47 | 12/2/2016 | 2.40 |
| 2/23/2017 | 3.43 | 12/5/2016 | 2.39 |
| 2/24/2017 | 3.4 | 12/6/2016 | 2.39 |
| 2/27/2017 | 3.41 | 12/7/2016 | 2.34 |
| 2/28/2017 | 3.38 | 12/8/2016 | 2.40 |
| 3/1/2017 | 3.42 | 12/9/2016 | 2.47 |
| 3/2/2017 | 3.4 | 12/12/2016 | 2.49 |
| 3/3/2017 | 3.41 | 12/13/2016 | 2.48 |
| 3/6/2017 | 3.42 | 12/14/2016 | 2.54 |
| 3/7/2017 | 3.42 | 12/15/2016 | 2.60 |
| 3/8/2017 | 3.47 | 12/16/2016 | 2.60 |
| 3/9/2017 | 3.48 | 12/19/2016 | 2.54 |
| 3/10/2017 | 3.46 | 12/20/2016 | 2.57 |
| 3/13/2017 | 3.45 | 12/21/2016 | 2.55 |
| 3/14/2017 | 3.45 | 12/22/2016 | 2.55 |
| 3/15/2017 | 3.4 | 12/23/2016 | 2.55 |
| 3/16/2017 | 3.44 | 12/26/2016 | 2.55 |
| 3/17/2017 | 3.42 | 12/27/2016 | 2.57 |
| 3/20/2017 | 3.44 | 12/28/2016 | 2.51 |
| 3/21/2017 | 3.4 | 12/29/2016 | 2.49 |
| 3/22/2017 | 3.38 | 12/30/2016 | 2.45 |
| 3/23/2017 | 3.39 | 1/2/2017 | 2.45 |
| 3/24/2017 | 3.38 | 1/3/2017 | 2.45 |
| 3/27/2017 | 3.39 | 1/4/2017 | 2.46 |
| 3/28/2017 | 3.39 | 1/5/2017 | 2.37 |
| 3/29/2017 | 3.41 | 1/6/2017 | 2.42 |
| 3/30/2017 | 3.44 | 1/9/2017 | 2.38 |
| 3/31/2017 | 3.43 | 1/10/2017 | 2.38 |
| 4/3/2017 | 3.43 | 1/11/2017 | 2.38 |
| 4/4/2017 | 3.42 | 1/12/2017 | 2.36 |
| 4/5/2017 | 3.4 | 1/13/2017 | 2.40 |
| 4/6/2017 | 3.4 | 1/16/2017 | 2.40 |
| 4/7/2017 | 3.42 | 1/17/2017 | 2.33 |
| 4/10/2017 | 3.41 | 1/18/2017 | 2.42 |
| 4/11/2017 | 3.41 | 1/19/2017 | 2.47 |
| 4/12/2017 | 3.39 | 1/20/2017 | 2.48 |
| 4/13/2017 | 3.4 | 1/23/2017 | 2.41 |
| 4/17/2017 | 3.39 | 1/24/2017 | 2.47 |
| 4/18/2017 | 3.38 | 1/25/2017 | 2.53 |
| 4/19/2017 | 3.4 | 1/26/2017 | 2.51 |
| 4/20/2017 | 3.42 | 1/27/2017 | 2.49 |
| 4/21/2017 | 3.4 | 1/30/2017 | 2.49 |
| 4/24/2017 | 3.38 | 1/31/2017 | 2.45 |
| 4/25/2017 | 3.38 | 2/1/2017 | 2.48 |
| 4/26/2017 | 3.4 | 2/2/2017 | 2.48 |
| 4/27/2017 | 3.39 | 2/3/2017 | 2.49 |
| 4/28/2017 | 3.41 | 2/6/2017 | 2.42 |
| 5/1/2017 | 3.43 | 2/7/2017 | 2.40 |
| 5/2/2017 | 3.42 | 2/8/2017 | 2.34 |

| S&P 500 Utilities (S5UTIL Index)
Dividend Yield (NET_AGGTE_DVD_YLD) | | 10y US T-Note
YIELD | |
|--|------|------------------------|------|
| 5/3/2017 | 3.44 | 2/9/2017 | 2.40 |
| 5/4/2017 | 3.42 | 2/10/2017 | 2.41 |
| 5/5/2017 | 3.41 | 2/13/2017 | 2.43 |
| 5/8/2017 | 3.41 | 2/14/2017 | 2.47 |
| 5/9/2017 | 3.44 | 2/15/2017 | 2.51 |
| 5/10/2017 | 3.44 | 2/16/2017 | 2.45 |
| 5/11/2017 | 3.44 | 2/17/2017 | 2.42 |
| 5/12/2017 | 3.42 | 2/20/2017 | 2.42 |
| 5/15/2017 | 3.41 | 2/21/2017 | 2.43 |
| 5/16/2017 | 3.44 | 2/22/2017 | 2.42 |
| 5/17/2017 | 3.43 | 2/23/2017 | 2.38 |
| 5/18/2017 | 3.42 | 2/24/2017 | 2.31 |
| 5/19/2017 | 3.41 | 2/27/2017 | 2.36 |
| 5/22/2017 | 3.38 | 2/28/2017 | 2.36 |
| 5/23/2017 | 3.37 | 3/1/2017 | 2.46 |
| 5/24/2017 | 3.35 | 3/2/2017 | 2.49 |
| 5/25/2017 | 3.33 | 3/3/2017 | 2.49 |
| 5/26/2017 | 3.34 | 3/6/2017 | 2.49 |
| 5/30/2017 | 3.33 | 3/7/2017 | 2.52 |
| 5/31/2017 | 3.32 | 3/8/2017 | 2.57 |
| 6/1/2017 | 3.29 | 3/9/2017 | 2.60 |
| 6/2/2017 | 3.29 | 3/10/2017 | 2.58 |
| 6/5/2017 | 3.3 | 3/13/2017 | 2.62 |
| 6/6/2017 | 3.31 | 3/14/2017 | 2.60 |
| 6/7/2017 | 3.3 | 3/15/2017 | 2.51 |
| 6/8/2017 | 3.33 | 3/16/2017 | 2.53 |
| 6/9/2017 | 3.33 | 3/17/2017 | 2.50 |
| 6/12/2017 | 3.34 | 3/20/2017 | 2.47 |
| 6/13/2017 | 3.34 | 3/21/2017 | 2.43 |
| 6/14/2017 | 3.32 | 3/22/2017 | 2.40 |
| 6/15/2017 | 3.3 | 3/23/2017 | 2.41 |
| 6/16/2017 | 3.28 | 3/24/2017 | 2.40 |
| 6/19/2017 | 3.3 | 3/27/2017 | 2.38 |
| 6/20/2017 | 3.3 | 3/28/2017 | 2.42 |
| 6/21/2017 | 3.32 | 3/29/2017 | 2.39 |
| 6/22/2017 | 3.33 | 3/30/2017 | 2.42 |
| 6/23/2017 | 3.34 | 3/31/2017 | 2.40 |
| 6/26/2017 | 3.32 | 4/3/2017 | 2.35 |
| 6/27/2017 | 3.36 | 4/4/2017 | 2.36 |
| 6/28/2017 | 3.4 | 4/5/2017 | 2.34 |
| 6/29/2017 | 3.43 | 4/6/2017 | 2.34 |
| 6/30/2017 | 3.43 | 4/7/2017 | 2.38 |
| 7/3/2017 | 3.45 | 4/10/2017 | 2.37 |
| 7/5/2017 | 3.46 | 4/11/2017 | 2.32 |
| 7/6/2017 | 3.47 | 4/12/2017 | 2.28 |
| 7/7/2017 | 3.46 | 4/13/2017 | 2.24 |
| 7/10/2017 | 3.47 | 4/14/2017 | 2.24 |
| 7/11/2017 | 3.47 | 4/17/2017 | 2.26 |
| 7/12/2017 | 3.44 | 4/18/2017 | 2.18 |
| 7/13/2017 | 3.45 | 4/19/2017 | 2.21 |
| 7/14/2017 | 3.44 | 4/20/2017 | 2.24 |
| 7/17/2017 | 3.42 | 4/21/2017 | 2.24 |
| 7/18/2017 | 3.41 | 4/24/2017 | 2.28 |
| 7/19/2017 | 3.4 | 4/25/2017 | 2.35 |
| 7/20/2017 | 3.37 | 4/26/2017 | 2.32 |
| 7/21/2017 | 3.35 | 4/27/2017 | 2.30 |
| 7/24/2017 | 3.38 | 4/28/2017 | 2.29 |
| 7/25/2017 | 3.4 | 5/1/2017 | 2.33 |
| 7/26/2017 | 3.37 | 5/2/2017 | 2.29 |
| 7/27/2017 | 3.36 | 5/3/2017 | 2.33 |
| 7/28/2017 | 3.37 | 5/4/2017 | 2.36 |
| 7/31/2017 | 3.35 | 5/5/2017 | 2.36 |
| 8/1/2017 | 3.34 | 5/8/2017 | 2.39 |
| 8/2/2017 | 3.32 | 5/9/2017 | 2.42 |
| 8/3/2017 | 3.31 | 5/10/2017 | 2.41 |
| 8/4/2017 | 3.32 | 5/11/2017 | 2.39 |
| 8/7/2017 | 3.31 | 5/12/2017 | 2.33 |
| 8/8/2017 | 3.31 | 5/15/2017 | 2.34 |
| 8/9/2017 | 3.32 | 5/16/2017 | 2.33 |
| 8/10/2017 | 3.32 | 5/17/2017 | 2.22 |
| 8/11/2017 | 3.34 | 5/18/2017 | 2.23 |
| 8/14/2017 | 3.32 | 5/19/2017 | 2.23 |
| 8/15/2017 | 3.3 | 5/22/2017 | 2.25 |
| 8/16/2017 | 3.3 | 5/23/2017 | 2.29 |
| 8/17/2017 | 3.33 | 5/24/2017 | 2.26 |
| 8/18/2017 | 3.3 | 5/25/2017 | 2.25 |
| 8/21/2017 | 3.29 | 5/26/2017 | 2.25 |

| S&P 500 Utilities (\$\$UTIL Index) | | 10y US T-Note | |
|------------------------------------|------|---------------|------|
| Dividend Yield (NET_AGGTE_DVD_YLD) | | YIELD | |
| 8/22/2017 | 3.29 | 5/29/2017 | 2.25 |
| 8/23/2017 | 3.29 | 5/30/2017 | 2.21 |
| 8/24/2017 | 3.29 | 5/31/2017 | 2.21 |
| 8/25/2017 | 3.28 | 6/1/2017 | 2.21 |
| 8/28/2017 | 3.27 | 6/2/2017 | 2.15 |
| 8/29/2017 | 3.28 | 6/5/2017 | 2.18 |
| 8/30/2017 | 3.3 | 6/6/2017 | 2.14 |
| 8/31/2017 | 3.3 | 6/7/2017 | 2.18 |
| 9/1/2017 | 3.31 | 6/8/2017 | 2.19 |
| 9/5/2017 | 3.3 | 6/9/2017 | 2.21 |
| 9/6/2017 | 3.31 | 6/12/2017 | 2.21 |
| 9/7/2017 | 3.29 | 6/13/2017 | 2.21 |
| 9/8/2017 | 3.28 | 6/14/2017 | 2.15 |
| 9/11/2017 | 3.25 | 6/15/2017 | 2.16 |
| 9/12/2017 | 3.31 | 6/16/2017 | 2.16 |
| 9/13/2017 | 3.32 | 6/19/2017 | 2.19 |
| 9/14/2017 | 3.3 | 6/20/2017 | 2.16 |
| 9/15/2017 | 3.3 | 6/21/2017 | 2.16 |
| 9/18/2017 | 3.33 | 6/22/2017 | 2.15 |
| 9/19/2017 | 3.34 | 6/23/2017 | 2.15 |
| 9/20/2017 | 3.36 | 6/26/2017 | 2.14 |
| 9/21/2017 | 3.37 | 6/27/2017 | 2.21 |
| 9/22/2017 | 3.39 | 6/28/2017 | 2.22 |
| 9/25/2017 | 3.37 | 6/29/2017 | 2.27 |
| 9/26/2017 | 3.37 | 6/30/2017 | 2.31 |
| 9/27/2017 | 3.42 | 7/3/2017 | 2.35 |
| 9/28/2017 | 3.41 | 7/4/2017 | 2.35 |
| 9/29/2017 | 3.42 | 7/5/2017 | 2.33 |
| 10/2/2017 | 3.41 | 7/6/2017 | 2.37 |
| 10/3/2017 | 3.42 | 7/7/2017 | 2.39 |
| 10/4/2017 | 3.39 | 7/10/2017 | 2.38 |
| 10/5/2017 | 3.39 | 7/11/2017 | 2.37 |
| 10/6/2017 | 3.39 | 7/12/2017 | 2.33 |
| 10/9/2017 | 3.39 | 7/13/2017 | 2.35 |
| 10/10/2017 | 3.36 | 7/14/2017 | 2.33 |
| 10/11/2017 | 3.34 | 7/17/2017 | 2.31 |
| 10/12/2017 | 3.32 | 7/18/2017 | 2.27 |
| 10/13/2017 | 3.35 | 7/19/2017 | 2.27 |
| 10/16/2017 | 3.35 | 7/20/2017 | 2.27 |
| 10/17/2017 | 3.33 | 7/21/2017 | 2.24 |
| 10/18/2017 | 3.34 | 7/24/2017 | 2.26 |
| 10/19/2017 | 3.31 | 7/25/2017 | 2.33 |
| 10/20/2017 | 3.3 | 7/26/2017 | 2.29 |
| 10/23/2017 | 3.3 | 7/27/2017 | 2.32 |
| 10/24/2017 | 3.3 | 7/28/2017 | 2.30 |
| 10/25/2017 | 3.31 | 7/31/2017 | 2.30 |
| 10/26/2017 | 3.31 | 8/1/2017 | 2.26 |
| 10/27/2017 | 3.29 | 8/2/2017 | 2.27 |
| 10/30/2017 | 3.29 | 8/3/2017 | 2.24 |
| 10/31/2017 | 3.29 | 8/4/2017 | 2.27 |
| 11/1/2017 | 3.31 | 8/7/2017 | 2.26 |
| 11/2/2017 | 3.3 | 8/8/2017 | 2.29 |
| 11/3/2017 | 3.29 | 8/9/2017 | 2.24 |
| 11/6/2017 | 3.3 | 8/10/2017 | 2.20 |
| 11/7/2017 | 3.26 | 8/11/2017 | 2.19 |
| 11/8/2017 | 3.26 | 8/14/2017 | 2.22 |
| 11/9/2017 | 3.26 | 8/15/2017 | 2.27 |
| 11/10/2017 | 3.28 | 8/16/2017 | 2.23 |
| 11/13/2017 | 3.24 | 8/17/2017 | 2.19 |
| 11/14/2017 | 3.2 | 8/18/2017 | 2.19 |
| 11/15/2017 | 3.23 | 8/21/2017 | 2.18 |
| 11/16/2017 | 3.25 | 8/22/2017 | 2.22 |
| 11/17/2017 | 3.28 | 8/23/2017 | 2.17 |
| 11/20/2017 | 3.29 | 8/24/2017 | 2.19 |
| 11/21/2017 | 3.28 | 8/25/2017 | 2.17 |
| 11/22/2017 | 3.29 | 8/28/2017 | 2.16 |
| 11/24/2017 | 3.28 | 8/29/2017 | 2.13 |
| 11/27/2017 | 3.27 | 8/30/2017 | 2.15 |
| 11/28/2017 | 3.26 | 8/31/2017 | 2.12 |
| 11/29/2017 | 3.25 | 9/1/2017 | 2.16 |
| 11/30/2017 | 3.25 | 9/4/2017 | 2.16 |
| 12/1/2017 | 3.26 | 9/5/2017 | 2.07 |
| 12/4/2017 | 3.28 | 9/6/2017 | 2.10 |
| 12/5/2017 | 3.32 | 9/7/2017 | 2.05 |
| 12/6/2017 | 3.31 | 9/8/2017 | 2.06 |
| 12/7/2017 | 3.31 | 9/11/2017 | 2.14 |
| 12/8/2017 | 3.3 | 9/12/2017 | 2.17 |

| S&P 500 Utilities (\$\$UTIL Index) | | 10y US T-Note | |
|------------------------------------|------|---------------|------|
| Dividend Yield (NET_AGGTE_DVD_YLD) | | YIELD | |
| 12/11/2017 | 3.28 | 9/13/2017 | 2.20 |
| 12/12/2017 | 3.34 | 9/14/2017 | 2.20 |
| 12/13/2017 | 3.33 | 9/15/2017 | 2.20 |
| 12/14/2017 | 3.33 | 9/18/2017 | 2.23 |
| 12/15/2017 | 3.32 | 9/19/2017 | 2.24 |
| 12/18/2017 | 3.36 | 9/20/2017 | 2.28 |
| 12/19/2017 | 3.42 | 9/21/2017 | 2.27 |
| 12/20/2017 | 3.45 | 9/22/2017 | 2.26 |
| 12/21/2017 | 3.49 | 9/25/2017 | 2.22 |
| 12/22/2017 | 3.49 | 9/26/2017 | 2.24 |
| 12/26/2017 | 3.51 | 9/27/2017 | 2.31 |
| 12/27/2017 | 3.5 | 9/28/2017 | 2.31 |
| 12/28/2017 | 3.45 | 9/29/2017 | 2.33 |
| 12/29/2017 | 3.45 | 10/2/2017 | 2.34 |
| 1/2/2018 | 3.48 | 10/3/2017 | 2.33 |
| 1/3/2018 | 3.5 | 10/4/2017 | 2.33 |
| 1/4/2018 | 3.54 | 10/5/2017 | 2.35 |
| 1/5/2018 | 3.54 | 10/6/2017 | 2.37 |
| 1/8/2018 | 3.5 | 10/9/2017 | 2.37 |
| 1/9/2018 | 3.54 | 10/10/2017 | 2.35 |
| 1/10/2018 | 3.58 | 10/11/2017 | 2.35 |
| 1/11/2018 | 3.59 | 10/12/2017 | 2.33 |
| 1/12/2018 | 3.61 | 10/13/2017 | 2.28 |
| 1/16/2018 | 3.62 | 10/16/2017 | 2.30 |
| 1/17/2018 | 3.6 | 10/17/2017 | 2.30 |
| 1/18/2018 | 3.62 | 10/18/2017 | 2.34 |
| 1/19/2018 | 3.63 | 10/19/2017 | 2.33 |
| 1/22/2018 | 3.63 | 10/20/2017 | 2.39 |
| 1/23/2018 | 3.59 | 10/23/2017 | 2.38 |
| 1/24/2018 | 3.61 | 10/24/2017 | 2.42 |
| 1/25/2018 | 3.56 | 10/25/2017 | 2.44 |
| 1/26/2018 | 3.56 | 10/26/2017 | 2.46 |
| 1/29/2018 | 3.6 | 10/27/2017 | 2.42 |
| 1/30/2018 | 3.6 | 10/30/2017 | 2.37 |
| 1/31/2018 | 3.56 | 10/31/2017 | 2.38 |
| 2/1/2018 | 3.62 | 11/1/2017 | 2.37 |
| 2/2/2018 | 3.64 | 11/2/2017 | 2.35 |
| 2/5/2018 | 3.71 | 11/3/2017 | 2.34 |
| 2/6/2018 | 3.76 | 11/6/2017 | 2.32 |
| 2/7/2018 | 3.78 | 11/7/2017 | 2.32 |
| 2/8/2018 | 3.83 | 11/8/2017 | 2.32 |
| 2/9/2018 | 3.75 | 11/9/2017 | 2.33 |
| 2/12/2018 | 3.72 | 11/10/2017 | 2.40 |
| 2/13/2018 | 3.71 | 11/13/2017 | 2.40 |
| 2/14/2018 | 3.76 | 11/14/2017 | 2.38 |
| 2/15/2018 | 3.69 | 11/15/2017 | 2.33 |
| 2/16/2018 | 3.66 | 11/16/2017 | 2.37 |
| 2/20/2018 | 3.71 | 11/17/2017 | 2.35 |
| 2/21/2018 | 3.76 | 11/20/2017 | 2.37 |
| 2/22/2018 | 3.74 | 11/21/2017 | 2.36 |
| 2/23/2018 | 3.64 | 11/22/2017 | 2.32 |
| 2/26/2018 | 3.67 | 11/23/2017 | 2.32 |
| 2/27/2018 | 3.73 | 11/24/2017 | 2.34 |
| 2/28/2018 | 3.75 | 11/27/2017 | 2.32 |
| 3/1/2018 | 3.76 | 11/28/2017 | 2.34 |
| 3/2/2018 | 3.77 | 11/29/2017 | 2.37 |
| 3/5/2018 | 3.7 | 11/30/2017 | 2.42 |
| 3/6/2018 | 3.75 | 12/1/2017 | 2.37 |
| 3/7/2018 | 3.78 | 12/4/2017 | 2.37 |
| 3/8/2018 | 3.76 | 12/5/2017 | 2.36 |
| 3/9/2018 | 3.75 | 12/6/2017 | 2.33 |
| 3/12/2018 | 3.73 | 12/7/2017 | 2.37 |
| 3/13/2018 | 3.73 | 12/8/2017 | 2.38 |
| 3/14/2018 | 3.69 | 12/11/2017 | 2.39 |
| 3/15/2018 | 3.69 | 12/12/2017 | 2.40 |
| 3/16/2018 | 3.66 | 12/13/2017 | 2.36 |
| 3/19/2018 | 3.69 | 12/14/2017 | 2.35 |
| 3/20/2018 | 3.7 | 12/15/2017 | 2.35 |
| 3/21/2018 | 3.72 | 12/18/2017 | 2.39 |
| 3/22/2018 | 3.71 | 12/19/2017 | 2.46 |
| 3/23/2018 | 3.76 | 12/20/2017 | 2.49 |
| 3/26/2018 | 3.72 | 12/21/2017 | 2.48 |
| 3/27/2018 | 3.67 | 12/22/2017 | 2.48 |
| 3/28/2018 | 3.67 | 12/25/2017 | 2.48 |
| 3/29/2018 | 3.65 | 12/26/2017 | 2.47 |
| 4/2/2018 | 3.68 | 12/27/2017 | 2.42 |
| 4/3/2018 | 3.67 | 12/28/2017 | 2.43 |

| S&P 500 Utilities (S5UTIL Index)
Dividend Yield (NET_AGGTE_DVD_YLD) | | 10y US T-Note
YIELD | |
|--|------|------------------------|------|
| 4/4/2018 | 3.66 | 12/29/2017 | 2.40 |
| 4/5/2018 | 3.63 | 1/1/2018 | 2.40 |
| 4/6/2018 | 3.66 | 1/2/2018 | 2.46 |
| 4/9/2018 | 3.65 | 1/3/2018 | 2.44 |
| 4/10/2018 | 3.68 | 1/4/2018 | 2.46 |
| 4/11/2018 | 3.69 | 1/5/2018 | 2.47 |
| 4/12/2018 | 3.73 | 1/8/2018 | 2.49 |
| 4/13/2018 | 3.71 | 1/9/2018 | 2.55 |
| 4/16/2018 | 3.66 | 1/10/2018 | 2.55 |
| 4/17/2018 | 3.62 | 1/11/2018 | 2.54 |
| 4/18/2018 | 3.63 | 1/12/2018 | 2.55 |
| 4/19/2018 | 3.64 | 1/15/2018 | 2.55 |
| 4/20/2018 | 3.67 | 1/16/2018 | 2.54 |
| 4/23/2018 | 3.67 | 1/17/2018 | 2.57 |
| 4/24/2018 | 3.64 | 1/18/2018 | 2.62 |
| 4/25/2018 | 3.64 | 1/19/2018 | 2.64 |
| 4/26/2018 | 3.6 | 1/22/2018 | 2.66 |
| 4/27/2018 | 3.57 | 1/23/2018 | 2.63 |
| 4/30/2018 | 3.58 | 1/24/2018 | 2.65 |
| 5/1/2018 | 3.55 | 1/25/2018 | 2.63 |
| 5/2/2018 | 3.56 | 1/26/2018 | 2.66 |
| 5/3/2018 | 3.56 | 1/29/2018 | 2.70 |
| 5/4/2018 | 3.55 | 1/30/2018 | 2.73 |
| 5/7/2018 | 3.57 | 1/31/2018 | 2.72 |
| 5/8/2018 | 3.66 | 2/1/2018 | 2.78 |
| 5/9/2018 | 3.69 | 2/2/2018 | 2.84 |
| 5/10/2018 | 3.64 | 2/5/2018 | 2.77 |
| 5/11/2018 | 3.64 | 2/6/2018 | 2.79 |
| 5/14/2018 | 3.66 | 2/7/2018 | 2.84 |
| 5/15/2018 | 3.69 | 2/8/2018 | 2.85 |
| 5/16/2018 | 3.72 | 2/9/2018 | 2.83 |
| 5/17/2018 | 3.76 | 2/12/2018 | 2.86 |
| 5/18/2018 | 3.77 | 2/13/2018 | 2.83 |
| 5/21/2018 | 3.75 | 2/14/2018 | 2.91 |
| 5/22/2018 | 3.73 | 2/15/2018 | 2.90 |
| 5/23/2018 | 3.7 | 2/16/2018 | 2.87 |
| 5/24/2018 | 3.67 | 2/19/2018 | 2.87 |
| 5/25/2018 | 3.66 | 2/20/2018 | 2.88 |
| 5/29/2018 | 3.66 | 2/21/2018 | 2.94 |
| 5/30/2018 | 3.63 | 2/22/2018 | 2.92 |
| 5/31/2018 | 3.63 | 2/23/2018 | 2.88 |
| 6/1/2018 | 3.69 | 2/26/2018 | 2.86 |
| 6/4/2018 | 3.73 | 2/27/2018 | 2.90 |
| 6/5/2018 | 3.74 | 2/28/2018 | 2.87 |
| 6/6/2018 | 3.82 | 3/1/2018 | 2.81 |
| 6/7/2018 | 3.81 | 3/2/2018 | 2.86 |
| 6/8/2018 | 3.81 | 3/5/2018 | 2.88 |
| 6/11/2018 | 3.82 | 3/6/2018 | 2.88 |
| 6/12/2018 | 3.77 | 3/7/2018 | 2.89 |
| 6/13/2018 | 3.78 | 3/8/2018 | 2.86 |
| 6/14/2018 | 3.74 | 3/9/2018 | 2.90 |
| 6/15/2018 | 3.72 | 3/12/2018 | 2.87 |
| 6/18/2018 | 3.7 | 3/13/2018 | 2.84 |
| 6/19/2018 | 3.66 | 3/14/2018 | 2.81 |
| 6/20/2018 | 3.66 | 3/15/2018 | 2.82 |
| 6/21/2018 | 3.65 | 3/16/2018 | 2.85 |
| 6/22/2018 | 3.63 | 3/19/2018 | 2.85 |
| 6/25/2018 | 3.57 | 3/20/2018 | 2.89 |
| 6/26/2018 | 3.57 | 3/21/2018 | 2.89 |
| 6/27/2018 | 3.55 | 3/22/2018 | 2.83 |
| 6/28/2018 | 3.55 | 3/23/2018 | 2.82 |
| 6/29/2018 | 3.55 | 3/26/2018 | 2.85 |
| 7/2/2018 | 3.52 | 3/27/2018 | 2.78 |
| 7/3/2018 | 3.51 | 3/28/2018 | 2.77 |
| 7/5/2018 | 3.49 | 3/29/2018 | 2.74 |
| 7/6/2018 | 3.47 | 3/30/2018 | 2.74 |
| 7/9/2018 | 3.57 | 4/2/2018 | 2.73 |
| 7/10/2018 | 3.53 | 4/3/2018 | 2.79 |
| 7/11/2018 | 3.5 | 4/4/2018 | 2.79 |
| 7/12/2018 | 3.5 | 4/5/2018 | 2.83 |
| 7/13/2018 | 3.5 | 4/6/2018 | 2.77 |
| 7/16/2018 | 3.5 | 4/9/2018 | 2.78 |
| 7/17/2018 | 3.51 | 4/10/2018 | 2.80 |
| 7/18/2018 | 3.52 | 4/11/2018 | 2.79 |
| 7/19/2018 | 3.49 | 4/12/2018 | 2.83 |
| 7/20/2018 | 3.52 | 4/13/2018 | 2.82 |
| 7/23/2018 | 3.54 | 4/16/2018 | 2.83 |

| S&P 500 Utilities (\$\$UTIL Index) | | 10y US T-Note | |
|------------------------------------|------|---------------|------|
| Dividend Yield (NET_AGGTE_DVD_YLD) | | YIELD | |
| 7/24/2018 | 3.53 | 4/17/2018 | 2.82 |
| 7/25/2018 | 3.52 | 4/18/2018 | 2.87 |
| 7/26/2018 | 3.48 | 4/19/2018 | 2.92 |
| 7/27/2018 | 3.49 | 4/20/2018 | 2.96 |
| 7/30/2018 | 3.52 | 4/23/2018 | 2.98 |
| 7/31/2018 | 3.48 | 4/24/2018 | 3.00 |
| 8/1/2018 | 3.47 | 4/25/2018 | 3.03 |
| 8/2/2018 | 3.45 | 4/26/2018 | 3.00 |
| 8/3/2018 | 3.42 | 4/27/2018 | 2.96 |
| 8/6/2018 | 3.41 | 4/30/2018 | 2.95 |
| 8/7/2018 | 3.42 | 5/1/2018 | 2.97 |
| 8/8/2018 | 3.44 | 5/2/2018 | 2.97 |
| 8/9/2018 | 3.43 | 5/3/2018 | 2.94 |
| 8/10/2018 | 3.44 | 5/4/2018 | 2.95 |
| 8/13/2018 | 3.44 | 5/7/2018 | 2.95 |
| 8/14/2018 | 3.44 | 5/8/2018 | 2.97 |
| 8/15/2018 | 3.41 | 5/9/2018 | 3.00 |
| 8/16/2018 | 3.38 | 5/10/2018 | 2.97 |
| 8/17/2018 | 3.37 | 5/11/2018 | 2.97 |
| 8/20/2018 | 3.38 | 5/14/2018 | 3.00 |
| 8/21/2018 | 3.41 | 5/15/2018 | 3.08 |
| 8/22/2018 | 3.43 | 5/16/2018 | 3.09 |
| 8/23/2018 | 3.43 | 5/17/2018 | 3.11 |
| 8/24/2018 | 3.42 | 5/18/2018 | 3.06 |
| 8/27/2018 | 3.44 | 5/21/2018 | 3.06 |
| 8/28/2018 | 3.45 | 5/22/2018 | 3.06 |
| 8/29/2018 | 3.44 | 5/23/2018 | 3.01 |
| 8/30/2018 | 3.43 | 5/24/2018 | 2.98 |
| 8/31/2018 | 3.45 | 5/25/2018 | 2.93 |
| 9/4/2018 | 3.43 | 5/28/2018 | 2.93 |
| 9/5/2018 | 3.39 | 5/29/2018 | 2.77 |
| 9/6/2018 | 3.38 | 5/30/2018 | 2.84 |
| 9/7/2018 | 3.42 | 5/31/2018 | 2.83 |
| 9/10/2018 | 3.4 | 6/1/2018 | 2.89 |
| 9/11/2018 | 3.41 | 6/4/2018 | 2.94 |
| 9/12/2018 | 3.41 | 6/5/2018 | 2.92 |
| 9/13/2018 | 3.39 | 6/6/2018 | 2.97 |
| 9/14/2018 | 3.41 | 6/7/2018 | 2.93 |
| 9/17/2018 | 3.4 | 6/8/2018 | 2.93 |
| 9/18/2018 | 3.4 | 6/11/2018 | 2.96 |
| 9/19/2018 | 3.48 | 6/12/2018 | 2.96 |
| 9/20/2018 | 3.48 | 6/13/2018 | 2.98 |
| 9/21/2018 | 3.46 | 6/14/2018 | 2.94 |
| 9/24/2018 | 3.49 | 6/15/2018 | 2.93 |
| 9/25/2018 | 3.54 | 6/18/2018 | 2.92 |
| 9/26/2018 | 3.57 | 6/19/2018 | 2.89 |
| 9/27/2018 | 3.55 | 6/20/2018 | 2.93 |
| 9/28/2018 | 3.49 | 6/21/2018 | 2.90 |
| 10/1/2018 | 3.5 | 6/22/2018 | 2.90 |
| 10/2/2018 | 3.46 | 6/25/2018 | 2.87 |
| 10/3/2018 | 3.5 | 6/26/2018 | 2.88 |
| 10/4/2018 | 3.48 | 6/27/2018 | 2.83 |
| 10/5/2018 | 3.43 | 6/28/2018 | 2.84 |
| 10/8/2018 | 3.4 | 6/29/2018 | 2.85 |
| 10/9/2018 | 3.39 | 7/2/2018 | 2.87 |
| 10/10/2018 | 3.41 | 7/3/2018 | 2.83 |
| 10/11/2018 | 3.47 | 7/4/2018 | 2.83 |
| 10/12/2018 | 3.47 | 7/5/2018 | 2.84 |
| 10/15/2018 | 3.46 | 7/6/2018 | 2.82 |
| 10/16/2018 | 3.42 | 7/9/2018 | 2.86 |
| 10/17/2018 | 3.43 | 7/10/2018 | 2.87 |
| 10/18/2018 | 3.42 | 7/11/2018 | 2.85 |
| 10/19/2018 | 3.37 | 7/12/2018 | 2.85 |
| 10/22/2018 | 3.39 | 7/13/2018 | 2.83 |
| 10/23/2018 | 3.41 | 7/16/2018 | 2.85 |
| 10/24/2018 | 3.33 | 7/17/2018 | 2.86 |
| 10/25/2018 | 3.38 | 7/18/2018 | 2.88 |
| 10/26/2018 | 3.44 | 7/19/2018 | 2.84 |
| 10/29/2018 | 3.4 | 7/20/2018 | 2.89 |
| 10/30/2018 | 3.39 | 7/23/2018 | 2.96 |
| 10/31/2018 | 3.43 | 7/24/2018 | 2.95 |
| 11/1/2018 | 3.45 | 7/25/2018 | 2.94 |
| 11/2/2018 | 3.47 | 7/26/2018 | 2.98 |
| 11/5/2018 | 3.42 | 7/27/2018 | 2.96 |
| 11/6/2018 | 3.36 | 7/30/2018 | 2.98 |
| 11/7/2018 | 3.32 | 7/31/2018 | 2.96 |
| 11/8/2018 | 3.33 | 8/1/2018 | 3.00 |

| S&P 500 Utilities (\$\$UTIL Index) | | 10y US T-Note | |
|------------------------------------|------|---------------|------|
| Dividend Yield (NET_AGGTE_DVD_YLD) | | YIELD | |
| 11/9/2018 | 3.33 | 8/2/2018 | 2.98 |
| 11/12/2018 | 3.33 | 8/3/2018 | 2.95 |
| 11/13/2018 | 3.32 | 8/6/2018 | 2.94 |
| 11/14/2018 | 3.36 | 8/7/2018 | 2.98 |
| 11/15/2018 | 3.39 | 8/8/2018 | 2.96 |
| 11/16/2018 | 3.35 | 8/9/2018 | 2.93 |
| 11/19/2018 | 3.33 | 8/10/2018 | 2.87 |
| 11/20/2018 | 3.35 | 8/13/2018 | 2.88 |
| 11/21/2018 | 3.4 | 8/14/2018 | 2.89 |
| 11/23/2018 | 3.4 | 8/15/2018 | 2.86 |
| 11/26/2018 | 3.38 | 8/16/2018 | 2.87 |
| 11/27/2018 | 3.35 | 8/17/2018 | 2.87 |
| 11/28/2018 | 3.36 | 8/20/2018 | 2.82 |
| 11/29/2018 | 3.37 | 8/21/2018 | 2.85 |
| 11/30/2018 | 3.32 | 8/22/2018 | 2.82 |
| 12/3/2018 | 3.29 | 8/23/2018 | 2.82 |
| 12/4/2018 | 3.29 | 8/24/2018 | 2.82 |
| 12/6/2018 | 3.3 | 8/27/2018 | 2.85 |
| 12/7/2018 | 3.28 | 8/28/2018 | 2.88 |
| 12/10/2018 | 3.27 | 8/29/2018 | 2.89 |
| 12/11/2018 | 3.26 | 8/30/2018 | 2.86 |
| 12/12/2018 | 3.28 | 8/31/2018 | 2.86 |
| 12/13/2018 | 3.25 | 9/3/2018 | 2.86 |
| 12/14/2018 | 3.26 | 9/4/2018 | 2.90 |
| 12/17/2018 | 3.37 | 9/5/2018 | 2.90 |
| 12/18/2018 | 3.39 | 9/6/2018 | 2.88 |
| 12/19/2018 | 3.4 | 9/7/2018 | 2.94 |
| 12/20/2018 | 3.39 | 9/10/2018 | 2.94 |
| 12/21/2018 | 3.41 | 9/11/2018 | 2.98 |
| 12/24/2018 | 3.57 | 9/12/2018 | 2.97 |
| 12/26/2018 | 3.51 | 9/13/2018 | 2.97 |
| 12/27/2018 | 3.48 | 9/14/2018 | 2.99 |
| 12/28/2018 | 3.49 | 9/17/2018 | 2.99 |
| 12/31/2018 | 3.48 | 9/18/2018 | 3.05 |
| 1/2/2019 | 3.57 | 9/19/2018 | 3.08 |
| 1/3/2019 | 3.57 | 9/20/2018 | 3.07 |
| 1/4/2019 | 3.52 | 9/21/2018 | 3.07 |
| 1/7/2019 | 3.54 | 9/24/2018 | 3.08 |
| 1/8/2019 | 3.5 | 9/25/2018 | 3.10 |
| 1/9/2019 | 3.52 | 9/26/2018 | 3.06 |
| 1/10/2019 | 3.47 | 9/27/2018 | 3.06 |
| 1/11/2019 | 3.49 | 9/28/2018 | 3.05 |
| 1/14/2019 | 3.57 | 10/1/2018 | 3.09 |
| 1/15/2019 | 3.52 | 10/2/2018 | 3.05 |
| 1/16/2019 | 3.51 | 10/3/2018 | 3.15 |
| 1/17/2019 | 3.5 | 10/4/2018 | 3.19 |
| 1/18/2019 | 3.51 | 10/5/2018 | 3.23 |
| 1/22/2019 | 3.5 | 10/8/2018 | 3.23 |
| 1/23/2019 | 3.47 | 10/9/2018 | 3.21 |
| 1/24/2019 | 3.45 | 10/10/2018 | 3.22 |
| 1/25/2019 | 3.5 | 10/11/2018 | 3.14 |
| 1/28/2019 | 3.51 | 10/12/2018 | 3.15 |
| 1/29/2019 | 3.5 | 10/15/2018 | 3.16 |
| 1/30/2019 | 3.48 | 10/16/2018 | 3.16 |
| 1/31/2019 | 3.41 | 10/17/2018 | 3.19 |
| 2/1/2019 | 3.42 | 10/18/2018 | 3.17 |
| 2/4/2019 | 3.42 | 10/19/2018 | 3.20 |
| 2/5/2019 | 3.41 | 10/22/2018 | 3.20 |
| 2/6/2019 | 3.42 | 10/23/2018 | 3.17 |
| 2/7/2019 | 3.38 | 10/24/2018 | 3.10 |
| 2/8/2019 | 3.36 | 10/25/2018 | 3.14 |
| 2/11/2019 | 3.36 | 10/26/2018 | 3.08 |
| 2/12/2019 | 3.36 | 10/29/2018 | 3.08 |
| 2/13/2019 | 3.37 | 10/30/2018 | 3.12 |
| 2/14/2019 | 3.39 | 10/31/2018 | 3.15 |
| 2/15/2019 | 3.36 | 11/1/2018 | 3.14 |
| 2/19/2019 | 3.34 | 11/2/2018 | 3.22 |
| 2/20/2019 | 3.33 | 11/5/2018 | 3.20 |
| 2/21/2019 | 3.31 | 11/6/2018 | 3.22 |
| 2/22/2019 | 3.29 | 11/7/2018 | 3.22 |
| 2/25/2019 | 3.31 | 11/8/2018 | 3.24 |
| 2/26/2019 | 3.31 | 11/9/2018 | 3.19 |
| 2/27/2019 | 3.32 | 11/12/2018 | 3.19 |
| 2/28/2019 | 3.31 | 11/13/2018 | 3.14 |
| 3/1/2019 | 3.31 | 11/14/2018 | 3.12 |
| 3/4/2019 | 3.3 | 11/15/2018 | 3.11 |
| 3/5/2019 | 3.31 | 11/16/2018 | 3.08 |

| S&P 500 Utilities (S5UTIL Index)
Dividend Yield (NET_AGGTE_DVD_YLD) | | 10y US T-Note
YIELD | |
|--|------|------------------------|------|
| 3/6/2019 | 3.31 | 11/19/2018 | 3.06 |
| 3/7/2019 | 3.3 | 11/20/2018 | 3.06 |
| 3/8/2019 | 3.29 | 11/21/2018 | 3.06 |
| 3/11/2019 | 3.26 | 11/22/2018 | 3.06 |
| 3/12/2019 | 3.25 | 11/23/2018 | 3.05 |
| 3/13/2019 | 3.24 | 11/26/2018 | 3.07 |
| 3/14/2019 | 3.25 | 11/27/2018 | 3.06 |
| 3/15/2019 | 3.23 | 11/28/2018 | 3.06 |
| 3/18/2019 | 3.25 | 11/29/2018 | 3.03 |
| 3/19/2019 | 3.29 | 11/30/2018 | 3.01 |
| 3/20/2019 | 3.28 | 12/3/2018 | 2.98 |
| 3/21/2019 | 3.25 | 12/4/2018 | 2.91 |
| 3/22/2019 | 3.23 | 12/5/2018 | 2.91 |
| 3/25/2019 | 3.23 | 12/6/2018 | 2.87 |
| 3/26/2019 | 3.2 | 12/7/2018 | 2.85 |
| 3/27/2019 | 3.23 | 12/10/2018 | 2.85 |
| 3/28/2019 | 3.27 | 12/11/2018 | 2.89 |
| 3/29/2019 | 3.25 | 12/12/2018 | 2.91 |
| 4/1/2019 | 3.27 | 12/13/2018 | 2.91 |
| 4/2/2019 | 3.27 | 12/14/2018 | 2.89 |
| 4/3/2019 | 3.27 | 12/17/2018 | 2.86 |
| 4/4/2019 | 3.28 | 12/18/2018 | 2.82 |
| 4/5/2019 | 3.25 | 12/19/2018 | 2.77 |
| 4/8/2019 | 3.28 | 12/20/2018 | 2.79 |
| 4/9/2019 | 3.27 | 12/21/2018 | 2.79 |
| 4/10/2019 | 3.28 | 12/24/2018 | 2.74 |
| 4/11/2019 | 3.26 | 12/25/2018 | 2.74 |
| 4/12/2019 | 3.24 | 12/26/2018 | 2.81 |
| 4/15/2019 | 3.24 | 12/27/2018 | 2.77 |
| 4/16/2019 | 3.29 | 12/28/2018 | 2.72 |
| 4/17/2019 | 3.3 | 12/31/2018 | 2.69 |
| 4/18/2019 | 3.3 | 1/1/2019 | 2.69 |
| 4/22/2019 | 3.3 | 1/2/2019 | 2.66 |
| 4/23/2019 | 3.29 | 1/3/2019 | 2.56 |
| 4/24/2019 | 3.27 | 1/4/2019 | 2.67 |
| 4/25/2019 | 3.26 | 1/7/2019 | 2.70 |
| 4/26/2019 | 3.25 | 1/8/2019 | 2.73 |
| 4/29/2019 | 3.27 | 1/9/2019 | 2.74 |
| 4/30/2019 | 3.22 | 1/10/2019 | 2.74 |
| 5/1/2019 | 3.25 | 1/11/2019 | 2.71 |
| 5/2/2019 | 3.26 | 1/14/2019 | 2.71 |
| 5/3/2019 | 3.24 | 1/15/2019 | 2.72 |
| 5/6/2019 | 3.27 | 1/16/2019 | 2.73 |
| 5/7/2019 | 3.28 | 1/17/2019 | 2.75 |
| 5/8/2019 | 3.32 | 1/18/2019 | 2.79 |
| 5/9/2019 | 3.33 | 1/21/2019 | 2.79 |
| 5/10/2019 | 3.27 | 1/22/2019 | 2.74 |
| 5/13/2019 | 3.24 | 1/23/2019 | 2.76 |
| 5/14/2019 | 3.27 | 1/24/2019 | 2.72 |
| 5/15/2019 | 3.28 | 1/25/2019 | 2.76 |
| 5/16/2019 | 3.26 | 1/28/2019 | 2.75 |
| 5/17/2019 | 3.25 | 1/29/2019 | 2.72 |
| 5/20/2019 | 3.24 | 1/30/2019 | 2.70 |
| 5/21/2019 | 3.24 | 1/31/2019 | 2.63 |
| 5/22/2019 | 3.21 | 2/1/2019 | 2.70 |
| 5/23/2019 | 3.19 | 2/4/2019 | 2.73 |
| 5/24/2019 | 3.2 | 2/5/2019 | 2.71 |
| 5/28/2019 | 3.25 | 2/6/2019 | 2.70 |
| 5/29/2019 | 3.29 | 2/7/2019 | 2.65 |
| 5/30/2019 | 3.3 | 2/8/2019 | 2.63 |
| 5/31/2019 | 3.29 | 2/11/2019 | 2.65 |
| 6/3/2019 | 3.26 | 2/12/2019 | 2.68 |
| 6/4/2019 | 3.26 | 2/13/2019 | 2.71 |
| 6/5/2019 | 3.19 | 2/14/2019 | 2.66 |
| 6/6/2019 | 3.19 | 2/15/2019 | 2.66 |
| 6/7/2019 | 3.21 | 2/18/2019 | 2.66 |
| 6/10/2019 | 3.23 | 2/19/2019 | 2.65 |
| 6/11/2019 | 3.25 | 2/20/2019 | 2.65 |
| 6/12/2019 | 3.21 | 2/21/2019 | 2.69 |
| 6/13/2019 | 3.21 | 2/22/2019 | 2.65 |
| 6/14/2019 | 3.18 | 2/25/2019 | 2.67 |
| 6/17/2019 | 3.19 | 2/26/2019 | 2.64 |
| 6/18/2019 | 3.2 | 2/27/2019 | 2.69 |
| 6/19/2019 | 3.17 | 2/28/2019 | 2.73 |
| 6/20/2019 | 3.15 | 3/1/2019 | 2.76 |
| 6/21/2019 | 3.14 | 3/4/2019 | 2.72 |
| 6/24/2019 | 3.14 | 3/5/2019 | 2.72 |

| S&P 500 Utilities (\$SUTIL Index) | | 10y US T-Note | |
|------------------------------------|------|---------------|------|
| Dividend Yield (NET_AGGTE_DVD_YLD) | | YIELD | |
| 6/25/2019 | 3.16 | 3/6/2019 | 2.69 |
| 6/26/2019 | 3.23 | 3/7/2019 | 2.64 |
| 6/27/2019 | 3.23 | 3/8/2019 | 2.62 |
| 6/28/2019 | 3.21 | 3/11/2019 | 2.64 |
| 7/1/2019 | 3.22 | 3/12/2019 | 2.61 |
| 7/2/2019 | 3.18 | 3/13/2019 | 2.61 |
| 7/3/2019 | 3.16 | 3/14/2019 | 2.63 |
| 7/5/2019 | 3.16 | 3/15/2019 | 2.59 |
| 7/8/2019 | 3.16 | 3/18/2019 | 2.60 |
| 7/9/2019 | 3.16 | 3/19/2019 | 2.61 |
| 7/10/2019 | 3.15 | 3/20/2019 | 2.54 |
| 7/11/2019 | 3.15 | 3/21/2019 | 2.54 |
| 7/12/2019 | 3.17 | 3/22/2019 | 2.44 |
| 7/15/2019 | 3.15 | 3/25/2019 | 2.43 |
| 7/16/2019 | 3.17 | 3/26/2019 | 2.41 |
| 7/17/2019 | 3.16 | 3/27/2019 | 2.39 |
| 7/18/2019 | 3.13 | 3/28/2019 | 2.39 |
| 7/19/2019 | 3.18 | 3/29/2019 | 2.41 |
| 7/22/2019 | 3.19 | 4/1/2019 | 2.49 |
| 7/23/2019 | 3.2 | 4/2/2019 | 2.48 |
| 7/24/2019 | 3.2 | 4/3/2019 | 2.52 |
| 7/25/2019 | 3.21 | 4/4/2019 | 2.51 |
| 7/26/2019 | 3.2 | 4/5/2019 | 2.50 |
| 7/29/2019 | 3.18 | 4/8/2019 | 2.52 |
| 7/30/2019 | 3.21 | 4/9/2019 | 2.51 |
| 7/31/2019 | 3.23 | 4/10/2019 | 2.48 |
| 8/1/2019 | 3.2 | 4/11/2019 | 2.51 |
| 8/2/2019 | 3.19 | 4/12/2019 | 2.56 |
| 8/5/2019 | 3.24 | 4/15/2019 | 2.55 |
| 8/6/2019 | 3.2 | 4/16/2019 | 2.60 |
| 8/7/2019 | 3.2 | 4/17/2019 | 2.59 |
| 8/8/2019 | 3.17 | 4/18/2019 | 2.57 |
| 8/9/2019 | 3.17 | 4/19/2019 | 2.57 |
| 8/12/2019 | 3.17 | 4/22/2019 | 2.59 |
| 8/13/2019 | 3.17 | 4/23/2019 | 2.57 |
| 8/14/2019 | 3.21 | 4/24/2019 | 2.53 |
| 8/15/2019 | 3.17 | 4/25/2019 | 2.54 |
| 8/16/2019 | 3.16 | 4/26/2019 | 2.51 |
| 8/19/2019 | 3.14 | 4/29/2019 | 2.54 |
| 8/20/2019 | 3.14 | 4/30/2019 | 2.51 |
| 8/21/2019 | 3.12 | 5/1/2019 | 2.52 |
| 8/22/2019 | 3.12 | 5/2/2019 | 2.55 |
| 8/23/2019 | 3.15 | 5/3/2019 | 2.54 |
| 8/26/2019 | 3.12 | 5/6/2019 | 2.51 |
| 8/27/2019 | 3.11 | 5/7/2019 | 2.45 |
| 8/28/2019 | 3.13 | 5/8/2019 | 2.49 |
| 8/29/2019 | 3.11 | 5/9/2019 | 2.45 |
| 8/30/2019 | 3.11 | 5/10/2019 | 2.47 |
| 9/3/2019 | 3.06 | 5/13/2019 | 2.40 |
| 9/4/2019 | 3.05 | 5/14/2019 | 2.42 |
| 9/5/2019 | 3.1 | 5/15/2019 | 2.37 |
| 9/6/2019 | 3.11 | 5/16/2019 | 2.40 |
| 9/9/2019 | 3.13 | 5/17/2019 | 2.39 |
| 9/10/2019 | 3.12 | 5/20/2019 | 2.41 |
| 9/11/2019 | 3.09 | 5/21/2019 | 2.43 |
| 9/12/2019 | 3.09 | 5/22/2019 | 2.39 |
| 9/13/2019 | 3.11 | 5/23/2019 | 2.31 |
| 9/16/2019 | 3.11 | 5/24/2019 | 2.32 |
| 9/17/2019 | 3.08 | 5/27/2019 | 2.32 |
| 9/18/2019 | 3.07 | 5/28/2019 | 2.26 |
| 9/19/2019 | 3.06 | 5/29/2019 | 2.25 |
| 9/20/2019 | 3.05 | 5/30/2019 | 2.22 |
| 9/23/2019 | 3.04 | 5/31/2019 | 2.14 |
| 9/24/2019 | 3.01 | 6/3/2019 | 2.07 |
| 9/25/2019 | 3.01 | 6/4/2019 | 2.12 |
| 9/26/2019 | 3 | 6/5/2019 | 2.12 |
| 9/27/2019 | 3.01 | 6/6/2019 | 2.12 |
| 9/30/2019 | 3.01 | 6/7/2019 | 2.09 |
| 10/1/2019 | 3.02 | 6/10/2019 | 2.15 |
| 10/2/2019 | 3.06 | 6/11/2019 | 2.15 |
| 10/3/2019 | 3.05 | 6/12/2019 | 2.13 |
| 10/4/2019 | 3 | 6/13/2019 | 2.10 |
| 10/7/2019 | 3.01 | 6/14/2019 | 2.09 |
| 10/8/2019 | 3.05 | 6/17/2019 | 2.09 |
| 10/9/2019 | 3.03 | 6/18/2019 | 2.06 |
| 10/10/2019 | 3.03 | 6/19/2019 | 2.03 |
| 10/11/2019 | 3.04 | 6/20/2019 | 2.01 |

| S&P 500 Utilities (\$SUTIL Index)
Dividend Yield (NET_AGGTE_DVD_YLD) | | 10y US T-Note
YIELD | |
|---|------|------------------------|------|
| 10/14/2019 | 3.07 | 6/21/2019 | 2.07 |
| 10/15/2019 | 3.07 | 6/24/2019 | 2.02 |
| 10/16/2019 | 3.07 | 6/25/2019 | 2.00 |
| 10/17/2019 | 3.06 | 6/26/2019 | 2.05 |
| 10/18/2019 | 3.05 | 6/27/2019 | 2.01 |
| 10/21/2019 | 3.04 | 6/28/2019 | 2.00 |
| 10/22/2019 | 3.02 | 7/1/2019 | 2.03 |
| 10/23/2019 | 3.01 | 7/2/2019 | 1.98 |
| 10/24/2019 | 3 | 7/3/2019 | 1.96 |
| 10/25/2019 | 3.03 | 7/4/2019 | 1.96 |
| 10/28/2019 | 3.07 | 7/5/2019 | 2.04 |
| 10/29/2019 | 3.07 | 7/8/2019 | 2.05 |
| 10/30/2019 | 3.05 | 7/9/2019 | 2.07 |
| 10/31/2019 | 3.03 | 7/10/2019 | 2.07 |
| 11/1/2019 | 3.04 | 7/11/2019 | 2.13 |
| 11/4/2019 | 3.08 | 7/12/2019 | 2.12 |
| 11/5/2019 | 3.11 | 7/15/2019 | 2.09 |
| 11/6/2019 | 3.11 | 7/16/2019 | 2.13 |
| 11/7/2019 | 3.15 | 7/17/2019 | 2.06 |
| 11/8/2019 | 3.16 | 7/18/2019 | 2.04 |
| 11/11/2019 | 3.18 | 7/19/2019 | 2.05 |
| 11/12/2019 | 3.18 | 7/22/2019 | 2.05 |
| 11/13/2019 | 3.13 | 7/23/2019 | 2.08 |
| 11/14/2019 | 3.13 | 7/24/2019 | 2.05 |
| 11/15/2019 | 3.12 | 7/25/2019 | 2.08 |
| 11/18/2019 | 3.12 | 7/26/2019 | 2.08 |
| 11/19/2019 | 3.13 | 7/29/2019 | 2.06 |
| 11/20/2019 | 3.11 | 7/30/2019 | 2.06 |
| 11/21/2019 | 3.12 | 7/31/2019 | 2.02 |
| 11/22/2019 | 3.12 | 8/1/2019 | 1.90 |
| 11/25/2019 | 3.13 | 8/2/2019 | 1.86 |
| 11/26/2019 | 3.12 | 8/5/2019 | 1.75 |
| 11/27/2019 | 3.12 | 8/6/2019 | 1.73 |
| 11/29/2019 | 3.13 | 8/7/2019 | 1.71 |
| 12/2/2019 | 3.15 | 8/8/2019 | 1.72 |
| 12/3/2019 | 3.14 | 8/9/2019 | 1.74 |
| 12/4/2019 | 3.11 | 8/12/2019 | 1.65 |
| 12/5/2019 | 3.12 | 8/13/2019 | 1.68 |
| 12/6/2019 | 3.13 | 8/14/2019 | 1.59 |
| 12/9/2019 | 3.14 | 8/15/2019 | 1.52 |
| 12/10/2019 | 3.15 | 8/16/2019 | 1.55 |
| 12/11/2019 | 3.14 | 8/19/2019 | 1.60 |
| 12/12/2019 | 3.15 | 8/20/2019 | 1.55 |
| 12/13/2019 | 3.13 | 8/21/2019 | 1.59 |
| 12/16/2019 | 3.09 | 8/22/2019 | 1.62 |
| 12/17/2019 | 3.08 | 8/23/2019 | 1.52 |
| 12/18/2019 | 3.07 | 8/26/2019 | 1.54 |
| 12/19/2019 | 3.07 | 8/27/2019 | 1.49 |
| 12/20/2019 | 3.05 | 8/28/2019 | 1.47 |
| 12/23/2019 | 3.08 | 8/29/2019 | 1.50 |
| 12/24/2019 | 3.07 | 8/30/2019 | 1.50 |
| 12/26/2019 | 3.07 | 9/2/2019 | 1.50 |
| 12/27/2019 | 3.06 | 9/3/2019 | 1.47 |
| 12/30/2019 | 3.06 | 9/4/2019 | 1.47 |
| 12/31/2019 | 3.05 | 9/5/2019 | 1.57 |
| 1/2/2020 | 3.09 | 9/6/2019 | 1.55 |
| 1/3/2020 | 3.09 | 9/9/2019 | 1.63 |
| 1/6/2020 | 3.08 | 9/10/2019 | 1.72 |
| 1/7/2020 | 3.09 | 9/11/2019 | 1.75 |
| 1/8/2020 | 3.09 | 9/12/2019 | 1.79 |
| 1/9/2020 | 3.07 | 9/13/2019 | 1.90 |
| 1/10/2020 | 3.06 | 9/16/2019 | 1.84 |
| 1/13/2020 | 3.04 | 9/17/2019 | 1.81 |
| 1/14/2020 | 3.03 | 9/18/2019 | 1.80 |
| 1/15/2020 | 2.99 | 9/19/2019 | 1.79 |
| 1/16/2020 | 2.97 | 9/20/2019 | 1.74 |
| 1/17/2020 | 2.95 | 9/23/2019 | 1.72 |
| 1/21/2020 | 2.93 | 9/24/2019 | 1.64 |
| 1/22/2020 | 2.92 | 9/25/2019 | 1.73 |
| 1/23/2020 | 2.89 | 9/26/2019 | 1.70 |
| 1/24/2020 | 2.88 | 9/27/2019 | 1.69 |
| 1/27/2020 | 2.89 | 9/30/2019 | 1.68 |
| 1/28/2020 | 2.88 | 10/1/2019 | 1.65 |
| 1/29/2020 | 2.87 | 10/2/2019 | 1.60 |
| 1/30/2020 | 2.85 | 10/3/2019 | 1.54 |
| 1/31/2020 | 2.87 | 10/4/2019 | 1.52 |
| 2/3/2020 | 2.86 | 10/7/2019 | 1.56 |

| S&P 500 Utilities (S5UTIL Index)
Dividend Yield (NET_AGGTE_DVD_YLD) | | 10y US T-Note
YIELD | |
|--|------|------------------------|------|
| 2/4/2020 | 2.89 | 10/8/2019 | 1.54 |
| 2/5/2020 | 2.88 | 10/9/2019 | 1.59 |
| 2/6/2020 | 2.88 | 10/10/2019 | 1.67 |
| 2/7/2020 | 2.89 | 10/11/2019 | 1.76 |
| 2/10/2020 | 2.88 | 10/14/2019 | 1.76 |
| 2/11/2020 | 2.87 | 10/15/2019 | 1.77 |
| 2/12/2020 | 2.87 | 10/16/2019 | 1.75 |
| 2/13/2020 | 2.84 | 10/17/2019 | 1.76 |
| 2/14/2020 | 2.83 | 10/18/2019 | 1.76 |
| 2/18/2020 | 2.81 | 10/21/2019 | 1.80 |
| 2/19/2020 | 2.84 | 10/22/2019 | 1.78 |
| 2/20/2020 | 2.83 | 10/23/2019 | 1.77 |
| 2/21/2020 | 2.84 | 10/24/2019 | 1.77 |
| 2/24/2020 | 2.87 | 10/25/2019 | 1.80 |
| 2/25/2020 | 2.93 | 10/28/2019 | 1.85 |
| 2/26/2020 | 2.96 | 10/29/2019 | 1.84 |
| 2/27/2020 | 3.12 | 10/30/2019 | 1.78 |
| 2/28/2020 | 3.23 | 10/31/2019 | 1.69 |
| 3/2/2020 | 3.05 | 11/1/2019 | 1.73 |
| 3/3/2020 | 3.09 | 11/4/2019 | 1.79 |
| 3/4/2020 | 2.92 | 11/5/2019 | 1.86 |
| 3/5/2020 | 2.97 | 11/6/2019 | 1.81 |
| 3/6/2020 | 2.99 | 11/7/2019 | 1.92 |
| 3/9/2020 | 3.17 | 11/8/2019 | 1.94 |
| 3/10/2020 | 3.14 | 11/11/2019 | 1.94 |
| 3/11/2020 | 3.31 | 11/12/2019 | 1.92 |
| 3/12/2020 | 3.69 | 11/13/2019 | 1.88 |
| 3/13/2020 | 3.5 | 11/14/2019 | 1.82 |
| 3/16/2020 | 3.95 | 11/15/2019 | 1.84 |
| 3/17/2020 | 3.49 | 11/18/2019 | 1.81 |
| 3/18/2020 | 3.66 | 11/19/2019 | 1.79 |
| 3/19/2020 | 3.88 | 11/20/2019 | 1.73 |
| 3/20/2020 | 4.22 | 11/21/2019 | 1.77 |
| 3/23/2020 | 4.46 | 11/22/2019 | 1.77 |
| 3/24/2020 | 4.02 | 11/25/2019 | 1.76 |
| 3/25/2020 | 3.91 | 11/26/2019 | 1.74 |
| 3/26/2020 | 3.61 | 11/27/2019 | 1.77 |
| 3/27/2020 | 3.59 | 11/28/2019 | 1.77 |
| 3/30/2020 | 3.46 | 11/29/2019 | 1.78 |
| 3/31/2020 | 3.61 | 12/2/2019 | 1.83 |
| 4/1/2020 | 3.84 | 12/3/2019 | 1.72 |
| 4/2/2020 | 3.73 | 12/4/2019 | 1.77 |
| 4/3/2020 | 3.87 | 12/5/2019 | 1.80 |
| 4/6/2020 | 3.58 | 12/6/2019 | 1.84 |
| 4/7/2020 | 3.63 | 12/9/2019 | 1.83 |
| 4/8/2020 | 3.44 | 12/10/2019 | 1.85 |
| 4/9/2020 | 3.29 | 12/11/2019 | 1.79 |
| 4/13/2020 | 3.4 | 12/12/2019 | 1.90 |
| 4/14/2020 | 3.3 | 12/13/2019 | 1.82 |
| 4/15/2020 | 3.41 | 12/16/2019 | 1.89 |
| 4/16/2020 | 3.41 | 12/17/2019 | 1.89 |
| 4/17/2020 | 3.3 | 12/18/2019 | 1.92 |
| 4/20/2020 | 3.44 | 12/19/2019 | 1.92 |
| 4/21/2020 | 3.49 | 12/20/2019 | 1.92 |
| 4/22/2020 | 3.39 | 12/23/2019 | 1.93 |
| 4/23/2020 | 3.45 | 12/24/2019 | 1.90 |
| 4/24/2020 | 3.43 | 12/25/2019 | 1.90 |
| 4/27/2020 | 3.39 | 12/26/2019 | 1.90 |
| 4/28/2020 | 3.38 | 12/27/2019 | 1.88 |
| 4/29/2020 | 3.42 | 12/30/2019 | 1.90 |
| 4/30/2020 | 3.51 | 12/31/2019 | 1.92 |
| 5/1/2020 | 3.6 | 1/1/2020 | 1.92 |
| 5/4/2020 | 3.57 | 1/2/2020 | 1.88 |
| 5/5/2020 | 3.54 | 1/3/2020 | 1.80 |
| 5/6/2020 | 3.67 | 1/6/2020 | 1.81 |
| 5/7/2020 | 3.65 | 1/7/2020 | 1.83 |
| 5/8/2020 | 3.58 | 1/8/2020 | 1.87 |
| 5/11/2020 | 3.6 | 1/9/2020 | 1.85 |
| 5/12/2020 | 3.63 | 1/10/2020 | 1.83 |
| 5/13/2020 | 3.67 | 1/13/2020 | 1.85 |
| 5/14/2020 | 3.64 | 1/14/2020 | 1.82 |
| 5/15/2020 | 3.69 | 1/15/2020 | 1.79 |
| 5/18/2020 | 3.55 | 1/16/2020 | 1.81 |
| 5/19/2020 | 3.61 | 1/17/2020 | 1.84 |
| 5/20/2020 | 3.58 | 1/20/2020 | 1.84 |
| 5/21/2020 | 3.62 | 1/21/2020 | 1.78 |
| 5/22/2020 | 3.58 | 1/22/2020 | 1.77 |

| S&P 500 Utilities (S5UTIL Index)
Dividend Yield (NET_AGGTE_DVD_YLD) | | 10y US T-Note
YIELD | |
|--|------|------------------------|------|
| 5/26/2020 | 3.55 | 1/23/2020 | 1.74 |
| 5/27/2020 | 3.52 | 1/24/2020 | 1.70 |
| 5/28/2020 | 3.41 | 1/27/2020 | 1.61 |
| 5/29/2020 | 3.39 | 1/28/2020 | 1.65 |
| 6/1/2020 | 3.36 | 1/29/2020 | 1.60 |
| 6/2/2020 | 3.34 | 1/30/2020 | 1.57 |
| 6/3/2020 | 3.3 | 1/31/2020 | 1.51 |
| 6/4/2020 | 3.36 | 2/3/2020 | 1.54 |
| 6/5/2020 | 3.32 | 2/4/2020 | 1.61 |
| 6/8/2020 | 3.23 | 2/5/2020 | 1.66 |
| 6/9/2020 | 3.3 | 2/6/2020 | 1.65 |
| 6/10/2020 | 3.32 | 2/7/2020 | 1.59 |
| 6/11/2020 | 3.46 | 2/10/2020 | 1.56 |
| 6/12/2020 | 3.47 | 2/11/2020 | 1.59 |
| 6/15/2020 | 3.45 | 2/12/2020 | 1.62 |
| 6/16/2020 | 3.43 | 2/13/2020 | 1.61 |
| 6/17/2020 | 3.44 | 2/14/2020 | 1.59 |
| 6/18/2020 | 3.45 | 2/17/2020 | 1.59 |
| 6/19/2020 | 3.56 | 2/18/2020 | 1.55 |
| 6/22/2020 | 3.51 | 2/19/2020 | 1.56 |
| 6/23/2020 | 3.55 | 2/20/2020 | 1.52 |
| 6/24/2020 | 3.58 | 2/21/2020 | 1.46 |
| 6/25/2020 | 3.63 | 2/24/2020 | 1.38 |
| 6/26/2020 | 3.67 | 2/25/2020 | 1.33 |
| 6/29/2020 | 3.6 | 2/26/2020 | 1.33 |
| 6/30/2020 | 3.59 | 2/27/2020 | 1.30 |
| 7/1/2020 | 3.51 | 2/28/2020 | 1.13 |
| 7/2/2020 | 3.5 | 3/2/2020 | 1.10 |
| 7/6/2020 | 3.55 | 3/3/2020 | 1.02 |
| 7/7/2020 | 3.56 | 3/4/2020 | 1.02 |
| 7/8/2020 | 3.53 | 3/5/2020 | 0.92 |
| 7/9/2020 | 3.57 | 3/6/2020 | 0.74 |
| 7/10/2020 | 3.51 | 3/9/2020 | 0.54 |
| 7/13/2020 | 3.51 | 3/10/2020 | 0.76 |
| 7/14/2020 | 3.47 | 3/11/2020 | 0.82 |
| 7/15/2020 | 3.49 | 3/12/2020 | 0.88 |
| 7/16/2020 | 3.44 | 3/13/2020 | 0.94 |
| 7/17/2020 | 3.36 | 3/16/2020 | 0.73 |
| 7/20/2020 | 3.41 | 3/17/2020 | 1.02 |
| 7/21/2020 | 3.4 | 3/18/2020 | 1.18 |
| 7/22/2020 | 3.34 | 3/19/2020 | 1.12 |
| 7/23/2020 | 3.34 | 3/20/2020 | 0.92 |
| 7/24/2020 | 3.36 | 3/23/2020 | 0.76 |
| 7/27/2020 | 3.4 | 3/24/2020 | 0.84 |
| 7/28/2020 | 3.35 | 3/25/2020 | 0.88 |
| 7/29/2020 | 3.34 | 3/26/2020 | 0.83 |
| 7/30/2020 | 3.34 | 3/27/2020 | 0.72 |
| 7/31/2020 | 3.34 | 3/30/2020 | 0.70 |
| 8/3/2020 | 3.38 | 3/31/2020 | 0.70 |
| 8/4/2020 | 3.34 | 4/1/2020 | 0.62 |
| 8/5/2020 | 3.39 | 4/2/2020 | 0.63 |
| 8/6/2020 | 3.37 | 4/3/2020 | 0.62 |
| 8/7/2020 | 3.31 | 4/6/2020 | 0.67 |
| 8/10/2020 | 3.32 | 4/7/2020 | 0.75 |
| 8/11/2020 | 3.39 | 4/8/2020 | 0.77 |
| 8/12/2020 | 3.34 | 4/9/2020 | 0.73 |
| 8/13/2020 | 3.36 | 4/10/2020 | 0.73 |
| 8/14/2020 | 3.39 | 4/13/2020 | 0.76 |
| 8/17/2020 | 3.4 | 4/14/2020 | 0.76 |
| 8/18/2020 | 3.42 | 4/15/2020 | 0.63 |
| 8/19/2020 | 3.42 | 4/16/2020 | 0.61 |
| 8/20/2020 | 3.45 | 4/17/2020 | 0.65 |
| 8/21/2020 | 3.44 | 4/20/2020 | 0.63 |
| 8/24/2020 | 3.41 | 4/21/2020 | 0.58 |
| 8/25/2020 | 3.44 | 4/22/2020 | 0.63 |
| 8/26/2020 | 3.49 | 4/23/2020 | 0.61 |
| 8/27/2020 | 3.49 | 4/24/2020 | 0.60 |
| 8/28/2020 | 3.48 | 4/27/2020 | 0.67 |
| 8/31/2020 | 3.47 | 4/28/2020 | 0.62 |
| 9/1/2020 | 3.5 | 4/29/2020 | 0.63 |
| 9/2/2020 | 3.4 | 4/30/2020 | 0.64 |
| 9/3/2020 | 3.44 | 5/1/2020 | 0.64 |
| 9/4/2020 | 3.46 | 5/4/2020 | 0.64 |
| 9/8/2020 | 3.49 | 5/5/2020 | 0.66 |
| 9/9/2020 | 3.44 | 5/6/2020 | 0.72 |
| 9/10/2020 | 3.51 | 5/7/2020 | 0.63 |
| 9/11/2020 | 3.49 | 5/8/2020 | 0.69 |

| S&P 500 Utilities (\$\$UTIL Index) | | 10y US T-Note | |
|------------------------------------|------|---------------|------|
| Dividend Yield (NET_AGGTE_DVD_YLD) | | YIELD | |
| 9/14/2020 | 3.45 | 5/11/2020 | 0.73 |
| 9/15/2020 | 3.43 | 5/12/2020 | 0.69 |
| 9/16/2020 | 3.43 | 5/13/2020 | 0.64 |
| 9/17/2020 | 3.46 | 5/14/2020 | 0.63 |
| 9/18/2020 | 3.53 | 5/15/2020 | 0.64 |
| 9/21/2020 | 3.55 | 5/18/2020 | 0.73 |
| 9/22/2020 | 3.52 | 5/19/2020 | 0.70 |
| 9/23/2020 | 3.58 | 5/20/2020 | 0.68 |
| 9/24/2020 | 3.54 | 5/21/2020 | 0.68 |
| 9/25/2020 | 3.49 | 5/22/2020 | 0.66 |
| 9/28/2020 | 3.48 | 5/25/2020 | 0.66 |
| 9/29/2020 | 3.48 | 5/26/2020 | 0.69 |
| 9/30/2020 | 3.45 | 5/27/2020 | 0.68 |
| 10/1/2020 | 3.58 | 5/28/2020 | 0.70 |
| 10/2/2020 | 3.54 | 5/29/2020 | 0.65 |
| 10/5/2020 | 3.5 | 6/1/2020 | 0.66 |
| 10/6/2020 | 3.47 | 6/2/2020 | 0.68 |
| 10/7/2020 | 3.45 | 6/3/2020 | 0.77 |
| 10/8/2020 | 3.38 | 6/4/2020 | 0.82 |
| 10/9/2020 | 3.39 | 6/5/2020 | 0.91 |
| 10/12/2020 | 3.36 | 6/8/2020 | 0.88 |
| 10/13/2020 | 3.39 | 6/9/2020 | 0.84 |
| 10/14/2020 | 3.39 | 6/10/2020 | 0.75 |
| 10/15/2020 | 3.39 | 6/11/2020 | 0.66 |
| 10/16/2020 | 3.36 | 6/12/2020 | 0.71 |
| 10/19/2020 | 3.39 | 6/15/2020 | 0.71 |
| 10/20/2020 | 3.37 | 6/16/2020 | 0.75 |
| 10/21/2020 | 3.37 | 6/17/2020 | 0.74 |
| 10/22/2020 | 3.33 | 6/18/2020 | 0.71 |
| 10/23/2020 | 3.32 | 6/19/2020 | 0.70 |
| 10/26/2020 | 3.32 | 6/22/2020 | 0.71 |
| 10/27/2020 | 3.32 | 6/23/2020 | 0.72 |
| 10/28/2020 | 3.42 | 6/24/2020 | 0.69 |
| 10/29/2020 | 3.42 | 6/25/2020 | 0.68 |
| 10/30/2020 | 3.46 | 6/26/2020 | 0.64 |
| 11/2/2020 | 3.38 | 6/29/2020 | 0.64 |
| 11/3/2020 | 3.33 | 6/30/2020 | 0.66 |
| 11/4/2020 | 3.39 | 7/1/2020 | 0.69 |
| 11/5/2020 | 3.36 | 7/2/2020 | 0.68 |
| 11/6/2020 | 3.36 | 7/3/2020 | 0.68 |
| 11/9/2020 | 3.31 | 7/6/2020 | 0.69 |
| 11/10/2020 | 3.26 | 7/7/2020 | 0.65 |
| 11/11/2020 | 3.25 | 7/8/2020 | 0.67 |
| 11/12/2020 | 3.31 | 7/9/2020 | 0.62 |
| 11/13/2020 | 3.29 | 7/10/2020 | 0.65 |
| 11/16/2020 | 3.25 | 7/13/2020 | 0.64 |
| 11/17/2020 | 3.32 | 7/14/2020 | 0.63 |
| 11/18/2020 | 3.38 | 7/15/2020 | 0.64 |
| 11/19/2020 | 3.41 | 7/16/2020 | 0.62 |
| 11/20/2020 | 3.41 | 7/17/2020 | 0.64 |
| 11/23/2020 | 3.41 | 7/20/2020 | 0.62 |
| 11/24/2020 | 3.38 | 7/21/2020 | 0.61 |
| 11/25/2020 | 3.38 | 7/22/2020 | 0.60 |
| 11/27/2020 | 3.41 | 7/23/2020 | 0.59 |
| 11/30/2020 | 3.46 | 7/24/2020 | 0.59 |
| 12/1/2020 | 3.44 | 7/27/2020 | 0.62 |
| 12/2/2020 | 3.42 | 7/28/2020 | 0.59 |
| 12/3/2020 | 3.43 | 7/29/2020 | 0.58 |
| 12/4/2020 | 3.46 | 7/30/2020 | 0.55 |
| 12/7/2020 | 3.44 | 7/31/2020 | 0.55 |
| 12/8/2020 | 3.45 | 8/3/2020 | 0.56 |
| 12/9/2020 | 3.46 | 8/4/2020 | 0.52 |
| 12/10/2020 | 3.48 | 8/5/2020 | 0.55 |
| 12/11/2020 | 3.48 | 8/6/2020 | 0.55 |
| 12/14/2020 | 3.5 | 8/7/2020 | 0.57 |
| 12/15/2020 | 3.43 | 8/10/2020 | 0.59 |
| 12/16/2020 | 3.47 | 8/11/2020 | 0.64 |
| 12/17/2020 | 3.45 | 8/12/2020 | 0.69 |
| 12/18/2020 | 3.48 | 8/13/2020 | 0.71 |
| 12/21/2020 | 3.52 | 8/14/2020 | 0.71 |
| 12/22/2020 | 3.53 | 8/17/2020 | 0.69 |
| 12/23/2020 | 3.54 | 8/18/2020 | 0.67 |
| 12/24/2020 | 3.51 | 8/19/2020 | 0.68 |
| 12/28/2020 | 3.5 | 8/20/2020 | 0.65 |
| 12/29/2020 | 3.5 | 8/21/2020 | 0.64 |
| 12/30/2020 | 3.48 | 8/24/2020 | 0.65 |
| 12/31/2020 | 3.43 | 8/25/2020 | 0.69 |

| S&P 500 Utilities (S5UTIL Index)
Dividend Yield (NET_AGGTE_DVD_YLD) | | 10y US T-Note
YIELD | |
|--|------|------------------------|------|
| 1/4/2021 | 3.36 | 8/26/2020 | 0.69 |
| 1/5/2021 | 3.36 | 8/27/2020 | 0.74 |
| 1/6/2021 | 3.27 | 8/28/2020 | 0.74 |
| 1/7/2021 | 3.32 | 8/31/2020 | 0.72 |
| 1/8/2021 | 3.29 | 9/1/2020 | 0.68 |
| 1/11/2021 | 3.32 | 9/2/2020 | 0.66 |
| 1/12/2021 | 3.34 | 9/3/2020 | 0.63 |
| 1/13/2021 | 3.28 | 9/4/2020 | 0.72 |
| 1/14/2021 | 3.29 | 9/7/2020 | 0.72 |
| 1/15/2021 | 3.26 | 9/8/2020 | 0.69 |
| 1/19/2021 | 3.27 | 9/9/2020 | 0.71 |
| 1/20/2021 | 3.25 | 9/10/2020 | 0.68 |
| 1/21/2021 | 3.27 | 9/11/2020 | 0.67 |
| 1/22/2021 | 3.26 | 9/14/2020 | 0.68 |
| 1/25/2021 | 3.2 | 9/15/2020 | 0.68 |
| 1/26/2021 | 3.23 | 9/16/2020 | 0.69 |
| 1/27/2021 | 3.32 | 9/17/2020 | 0.69 |
| 1/28/2021 | 3.28 | 9/18/2020 | 0.70 |
| 1/29/2021 | 3.3 | 9/21/2020 | 0.68 |
| 2/1/2021 | 3.29 | 9/22/2020 | 0.68 |
| 2/2/2021 | 3.26 | 9/23/2020 | 0.68 |
| 2/3/2021 | 3.27 | 9/24/2020 | 0.67 |
| 2/4/2021 | 3.25 | 9/25/2020 | 0.66 |
| 2/5/2021 | 3.23 | 9/28/2020 | 0.67 |
| 2/8/2021 | 3.26 | 9/29/2020 | 0.66 |
| 2/9/2021 | 3.26 | 9/30/2020 | 0.69 |
| 2/10/2021 | 3.24 | 10/1/2020 | 0.68 |
| 2/11/2021 | 3.27 | 10/2/2020 | 0.70 |
| 2/12/2021 | 3.3 | 10/5/2020 | 0.78 |
| 2/16/2021 | 3.34 | 10/6/2020 | 0.76 |
| 2/17/2021 | 3.33 | 10/7/2020 | 0.81 |
| 2/18/2021 | 3.31 | 10/8/2020 | 0.78 |
| 2/19/2021 | 3.36 | 10/9/2020 | 0.79 |
| 2/22/2021 | 3.43 | 10/12/2020 | 0.79 |
| 2/23/2021 | 3.4 | 10/13/2020 | 0.74 |
| 2/24/2021 | 3.44 | 10/14/2020 | 0.73 |
| 2/25/2021 | 3.48 | 10/15/2020 | 0.74 |
| 2/26/2021 | 3.55 | 10/16/2020 | 0.76 |
| 3/1/2021 | 3.47 | 10/19/2020 | 0.78 |
| 3/2/2021 | 3.48 | 10/20/2020 | 0.81 |
| 3/3/2021 | 3.52 | 10/21/2020 | 0.83 |
| 3/4/2021 | 3.5 | 10/22/2020 | 0.87 |
| 3/5/2021 | 3.45 | 10/23/2020 | 0.85 |
| 3/8/2021 | 3.4 | 10/26/2020 | 0.81 |
| 3/9/2021 | 3.36 | 10/27/2020 | 0.79 |
| 3/10/2021 | 3.34 | 10/28/2020 | 0.79 |
| 3/11/2021 | 3.34 | 10/29/2020 | 0.85 |
| 3/12/2021 | 3.31 | 10/30/2020 | 0.88 |
| 3/15/2021 | 3.26 | 11/2/2020 | 0.87 |
| 3/16/2021 | 3.26 | 11/3/2020 | 0.90 |
| 3/17/2021 | 3.31 | 11/4/2020 | 0.78 |
| 3/18/2021 | 3.32 | 11/5/2020 | 0.79 |
| 3/19/2021 | 3.32 | 11/6/2020 | 0.83 |
| 3/22/2021 | 3.32 | 11/9/2020 | 0.96 |
| 3/23/2021 | 3.27 | 11/10/2020 | 0.98 |
| 3/24/2021 | 3.27 | 11/11/2020 | 0.98 |
| 3/25/2021 | 3.24 | 11/12/2020 | 0.88 |
| 3/26/2021 | 3.23 | 11/13/2020 | 0.89 |
| 3/29/2021 | 3.19 | 11/16/2020 | 0.91 |
| 3/30/2021 | 3.22 | 11/17/2020 | 0.87 |
| 3/31/2021 | 3.2 | 11/18/2020 | 0.88 |
| 4/1/2021 | 3.2 | 11/19/2020 | 0.86 |
| 4/5/2021 | 3.17 | 11/20/2020 | 0.83 |
| 4/6/2021 | 3.15 | 11/23/2020 | 0.86 |
| 4/7/2021 | 3.16 | 11/24/2020 | 0.88 |
| 4/8/2021 | 3.16 | 11/25/2020 | 0.88 |
| 4/9/2021 | 3.16 | 11/26/2020 | 0.88 |
| 4/12/2021 | 3.16 | 11/27/2020 | 0.84 |
| 4/13/2021 | 3.12 | 11/30/2020 | 0.84 |
| 4/14/2021 | 3.11 | 12/1/2020 | 0.92 |
| 4/15/2021 | 3.08 | 12/2/2020 | 0.95 |
| 4/16/2021 | 3.05 | 12/3/2020 | 0.92 |
| 4/19/2021 | 3.07 | 12/4/2020 | 0.97 |
| 4/20/2021 | 3.03 | 12/7/2020 | 0.94 |
| 4/21/2021 | 3.05 | 12/8/2020 | 0.92 |
| 4/22/2021 | 3.07 | 12/9/2020 | 0.95 |
| 4/23/2021 | 3.08 | 12/10/2020 | 0.92 |

| S&P 500 Utilities (\$SUTIL Index)
Dividend Yield (NET_AGGTE_DVD_YLD) | | 10y US T-Note
YIELD | |
|---|------|------------------------|------|
| 4/26/2021 | 3.1 | 12/11/2020 | 0.90 |
| 4/27/2021 | 3.12 | 12/14/2020 | 0.90 |
| 4/28/2021 | 3.13 | 12/15/2020 | 0.92 |
| 4/29/2021 | 3.1 | 12/16/2020 | 0.92 |
| 4/30/2021 | 3.08 | 12/17/2020 | 0.94 |
| 5/3/2021 | 3.08 | 12/18/2020 | 0.95 |
| 5/4/2021 | 3.09 | 12/21/2020 | 0.95 |
| 5/5/2021 | 3.14 | 12/22/2020 | 0.93 |
| 5/6/2021 | 3.12 | 12/23/2020 | 0.96 |
| 5/7/2021 | 3.12 | 12/24/2020 | 0.94 |
| 5/10/2021 | 3.08 | 12/25/2020 | 0.94 |
| 5/11/2021 | 3.12 | 12/28/2020 | 0.94 |
| 5/12/2021 | 3.2 | 12/29/2020 | 0.94 |
| 5/13/2021 | 3.14 | 12/30/2020 | 0.93 |
| 5/14/2021 | 3.13 | 12/31/2020 | 0.93 |
| 5/17/2021 | 3.16 | 1/1/2021 | 0.93 |
| 5/18/2021 | 3.16 | 1/4/2021 | 0.93 |
| 5/19/2021 | 3.17 | 1/5/2021 | 0.96 |
| 5/20/2021 | 3.14 | 1/6/2021 | 1.04 |
| 5/21/2021 | 3.13 | 1/7/2021 | 1.08 |
| 5/24/2021 | 3.13 | 1/8/2021 | 1.13 |
| 5/25/2021 | 3.17 | 1/11/2021 | 1.15 |
| 5/26/2021 | 3.17 | 1/12/2021 | 1.15 |
| 5/27/2021 | 3.19 | 1/13/2021 | 1.10 |
| 5/28/2021 | 3.18 | 1/14/2021 | 1.15 |
| 6/1/2021 | 3.21 | 1/15/2021 | 1.11 |
| 6/2/2021 | 3.19 | 1/18/2021 | 1.11 |
| 6/3/2021 | 3.15 | 1/19/2021 | 1.10 |
| 6/4/2021 | 3.15 | 1/20/2021 | 1.10 |
| 6/7/2021 | 3.15 | 1/21/2021 | 1.12 |
| 6/8/2021 | 3.18 | 1/22/2021 | 1.10 |
| 6/9/2021 | 3.15 | 1/25/2021 | 1.05 |
| 6/10/2021 | 3.13 | 1/26/2021 | 1.05 |
| 6/11/2021 | 3.12 | 1/27/2021 | 1.04 |
| 6/14/2021 | 3.12 | 1/28/2021 | 1.07 |
| 6/15/2021 | 3.11 | 1/29/2021 | 1.11 |
| 6/16/2021 | 3.15 | 2/1/2021 | 1.09 |
| 6/17/2021 | 3.14 | 2/2/2021 | 1.12 |
| 6/18/2021 | 3.22 | 2/3/2021 | 1.15 |
| 6/21/2021 | 3.18 | 2/4/2021 | 1.15 |
| 6/22/2021 | 3.2 | 2/5/2021 | 1.19 |
| 6/23/2021 | 3.24 | 2/8/2021 | 1.19 |
| 6/24/2021 | 3.24 | 2/9/2021 | 1.18 |
| 6/25/2021 | 3.2 | 2/10/2021 | 1.15 |
| 6/28/2021 | 3.18 | 2/11/2021 | 1.16 |
| 6/29/2021 | 3.24 | 2/12/2021 | 1.20 |
| 6/30/2021 | 3.24 | 2/15/2021 | 1.20 |
| 7/1/2021 | 3.21 | 2/16/2021 | 1.30 |
| 7/2/2021 | 3.22 | 2/17/2021 | 1.29 |
| 7/6/2021 | 3.21 | 2/18/2021 | 1.29 |
| 7/7/2021 | 3.19 | 2/19/2021 | 1.34 |
| 7/8/2021 | 3.2 | 2/22/2021 | 1.37 |
| 7/9/2021 | 3.19 | 2/23/2021 | 1.37 |
| 7/12/2021 | 3.18 | 2/24/2021 | 1.38 |
| 7/13/2021 | 3.21 | 2/25/2021 | 1.54 |
| 7/14/2021 | 3.18 | 2/26/2021 | 1.44 |
| 7/15/2021 | 3.14 | 3/1/2021 | 1.45 |
| 7/16/2021 | 3.11 | 3/2/2021 | 1.42 |
| 7/19/2021 | 3.16 | 3/3/2021 | 1.47 |
| 7/20/2021 | 3.15 | 3/4/2021 | 1.54 |
| 7/21/2021 | 3.18 | 3/5/2021 | 1.56 |
| 7/22/2021 | 3.18 | 3/8/2021 | 1.59 |
| 7/23/2021 | 3.14 | 3/9/2021 | 1.55 |
| 7/26/2021 | 3.14 | 3/10/2021 | 1.53 |
| 7/27/2021 | 3.09 | 3/11/2021 | 1.54 |
| 7/28/2021 | 3.11 | 3/12/2021 | 1.64 |
| 7/29/2021 | 3.1 | 3/15/2021 | 1.62 |
| 7/30/2021 | 3.13 | 3/16/2021 | 1.62 |
| 8/2/2021 | 3.11 | 3/17/2021 | 1.63 |
| 8/3/2021 | 3.09 | 3/18/2021 | 1.71 |
| 8/4/2021 | 3.09 | 3/19/2021 | 1.74 |
| 8/5/2021 | 3.06 | 3/22/2021 | 1.69 |
| 8/6/2021 | 3.06 | 3/23/2021 | 1.63 |
| 8/9/2021 | 3.07 | 3/24/2021 | 1.62 |
| 8/10/2021 | 3.07 | 3/25/2021 | 1.63 |
| 8/11/2021 | 3.04 | 3/26/2021 | 1.67 |
| 8/12/2021 | 3.04 | 3/29/2021 | 1.73 |

| S&P 500 Utilities (\$\$UTIL Index) | | 10y US T-Note | |
|------------------------------------|------|---------------|------|
| Dividend Yield (NET_AGGTE_DVD_YLD) | | YIELD | |
| 8/13/2021 | 3.03 | 3/30/2021 | 1.73 |
| 8/16/2021 | 3.01 | 3/31/2021 | 1.74 |
| 8/17/2021 | 3.01 | 4/1/2021 | 1.69 |
| 8/18/2021 | 3.02 | 4/2/2021 | 1.72 |
| 8/19/2021 | 3.01 | 4/5/2021 | 1.73 |
| 8/20/2021 | 2.98 | 4/6/2021 | 1.67 |
| 8/23/2021 | 3.02 | 4/7/2021 | 1.68 |
| 8/24/2021 | 3.03 | 4/8/2021 | 1.64 |
| 8/25/2021 | 3.03 | 4/9/2021 | 1.67 |
| 8/26/2021 | 3.05 | 4/12/2021 | 1.69 |
| 8/27/2021 | 3.05 | 4/13/2021 | 1.64 |
| 8/30/2021 | 3.04 | 4/14/2021 | 1.64 |
| 8/31/2021 | 3.04 | 4/15/2021 | 1.56 |
| 9/1/2021 | 3.01 | 4/16/2021 | 1.59 |
| 9/2/2021 | 2.96 | 4/19/2021 | 1.61 |
| 9/3/2021 | 2.98 | 4/20/2021 | 1.58 |
| 9/7/2021 | 3.02 | 4/21/2021 | 1.57 |
| 9/8/2021 | 2.97 | 4/22/2021 | 1.57 |
| 9/9/2021 | 2.99 | 4/23/2021 | 1.58 |
| 9/10/2021 | 3.03 | 4/26/2021 | 1.58 |
| 9/13/2021 | 3.04 | 4/27/2021 | 1.63 |
| 9/14/2021 | 3.05 | 4/28/2021 | 1.63 |
| 9/15/2021 | 3.06 | 4/29/2021 | 1.65 |
| 9/16/2021 | 3.08 | 4/30/2021 | 1.65 |
| 9/17/2021 | 3.13 | 5/3/2021 | 1.63 |
| 9/20/2021 | 3.13 | 5/4/2021 | 1.61 |
| 9/21/2021 | 3.14 | 5/5/2021 | 1.59 |
| 9/22/2021 | 3.14 | 5/6/2021 | 1.58 |
| 9/23/2021 | 3.16 | 5/7/2021 | 1.60 |
| 9/24/2021 | 3.17 | 5/10/2021 | 1.63 |
| 9/27/2021 | 3.21 | 5/11/2021 | 1.64 |
| 9/28/2021 | 3.24 | 5/12/2021 | 1.69 |
| 9/29/2021 | 3.2 | 5/13/2021 | 1.66 |
| 9/30/2021 | 3.23 | 5/14/2021 | 1.63 |
| 10/1/2021 | 3.23 | 5/17/2021 | 1.64 |
| 10/4/2021 | 3.19 | 5/18/2021 | 1.64 |
| 10/5/2021 | 3.19 | 5/19/2021 | 1.68 |
| 10/6/2021 | 3.15 | 5/20/2021 | 1.63 |
| 10/7/2021 | 3.16 | 5/21/2021 | 1.63 |
| 10/8/2021 | 3.19 | 5/24/2021 | 1.61 |
| 10/11/2021 | 3.23 | 5/25/2021 | 1.56 |
| 10/12/2021 | 3.21 | 5/26/2021 | 1.58 |
| 10/13/2021 | 3.17 | 5/27/2021 | 1.61 |
| 10/14/2021 | 3.13 | 5/28/2021 | 1.58 |
| 10/15/2021 | 3.14 | 5/31/2021 | 1.58 |
| 10/18/2021 | 3.17 | 6/1/2021 | 1.62 |
| 10/19/2021 | 3.13 | 6/2/2021 | 1.59 |
| 10/20/2021 | 3.08 | 6/3/2021 | 1.63 |
| 10/21/2021 | 3.08 | 6/4/2021 | 1.56 |
| 10/22/2021 | 3.07 | 6/7/2021 | 1.57 |
| 10/25/2021 | 3.08 | 6/8/2021 | 1.53 |
| 10/26/2021 | 3.07 | 6/9/2021 | 1.50 |
| 10/27/2021 | 3.09 | 6/10/2021 | 1.45 |
| 10/28/2021 | 3.07 | 6/11/2021 | 1.47 |
| 10/29/2021 | 3.09 | 6/14/2021 | 1.51 |
| 11/1/2021 | 3.08 | 6/15/2021 | 1.51 |
| 11/2/2021 | 3.07 | 6/16/2021 | 1.57 |
| 11/3/2021 | 3.08 | 6/17/2021 | 1.52 |
| 11/4/2021 | 3.1 | 6/18/2021 | 1.45 |
| 11/5/2021 | 3.08 | 6/21/2021 | 1.50 |
| 11/8/2021 | 3.12 | 6/22/2021 | 1.48 |
| 11/9/2021 | 3.11 | 6/23/2021 | 1.50 |
| 11/10/2021 | 3.09 | 6/24/2021 | 1.49 |
| 11/11/2021 | 3.11 | 6/25/2021 | 1.54 |
| 11/12/2021 | 3.12 | 6/28/2021 | 1.49 |
| 11/15/2021 | 3.08 | 6/29/2021 | 1.49 |
| 11/16/2021 | 3.1 | 6/30/2021 | 1.45 |
| 11/17/2021 | 3.09 | 7/1/2021 | 1.48 |
| 11/18/2021 | 3.11 | 7/2/2021 | 1.44 |
| 11/19/2021 | 3.09 | 7/5/2021 | 1.44 |
| 11/22/2021 | 3.08 | 7/6/2021 | 1.37 |
| 11/23/2021 | 3.07 | 7/7/2021 | 1.33 |
| 11/24/2021 | 3.08 | 7/8/2021 | 1.30 |
| 11/26/2021 | 3.13 | 7/9/2021 | 1.37 |
| 11/29/2021 | 3.08 | 7/12/2021 | 1.38 |
| 11/30/2021 | 3.18 | 7/13/2021 | 1.42 |
| 12/1/2021 | 3.17 | 7/14/2021 | 1.37 |

| S&P 500 Utilities (\$\$UTIL Index)
Dividend Yield (NET_AGGTE_DVD_YLD) | | 10y US T-Note
YIELD | |
|--|------|------------------------|------|
| 12/2/2021 | 3.13 | 7/15/2021 | 1.31 |
| 12/3/2021 | 3.1 | 7/16/2021 | 1.31 |
| 12/6/2021 | 3.06 | 7/19/2021 | 1.19 |
| 12/7/2021 | 3.03 | 7/20/2021 | 1.23 |
| 12/8/2021 | 3.04 | 7/21/2021 | 1.30 |
| 12/9/2021 | 3.04 | 7/22/2021 | 1.27 |
| 12/10/2021 | 3.03 | 7/23/2021 | 1.30 |
| 12/13/2021 | 2.99 | 7/26/2021 | 1.29 |
| 12/14/2021 | 3.01 | 7/27/2021 | 1.25 |
| 12/15/2021 | 2.96 | 7/28/2021 | 1.26 |
| 12/16/2021 | 2.95 | 7/29/2021 | 1.28 |
| 12/17/2021 | 2.99 | 7/30/2021 | 1.24 |
| 12/20/2021 | 2.99 | 8/2/2021 | 1.20 |
| 12/21/2021 | 2.99 | 8/3/2021 | 1.19 |
| 12/22/2021 | 2.98 | 8/4/2021 | 1.19 |
| 12/23/2021 | 2.98 | 8/5/2021 | 1.23 |
| 12/27/2021 | 2.97 | 8/6/2021 | 1.31 |
| 12/28/2021 | 2.94 | 8/9/2021 | 1.33 |
| 12/29/2021 | 2.93 | 8/10/2021 | 1.36 |
| 12/30/2021 | 2.92 | 8/11/2021 | 1.35 |
| 12/31/2021 | 2.91 | 8/12/2021 | 1.36 |
| 1/3/2022 | 2.94 | 8/13/2021 | 1.29 |
| 1/4/2022 | 2.94 | 8/16/2021 | 1.26 |
| 1/5/2022 | 2.95 | 8/17/2021 | 1.26 |
| 1/6/2022 | 2.98 | 8/18/2021 | 1.27 |
| 1/7/2022 | 2.96 | 8/19/2021 | 1.24 |
| 1/10/2022 | 2.97 | 8/20/2021 | 1.26 |
| 1/11/2022 | 3 | 8/23/2021 | 1.25 |
| 1/12/2022 | 2.99 | 8/24/2021 | 1.29 |
| 1/13/2022 | 2.98 | 8/25/2021 | 1.35 |
| 1/14/2022 | 3 | 8/26/2021 | 1.34 |
| 1/18/2022 | 3.03 | 8/27/2021 | 1.31 |
| 1/19/2022 | 3.02 | 8/30/2021 | 1.29 |
| 1/20/2022 | 3.02 | 8/31/2021 | 1.30 |
| 1/21/2022 | 3.02 | 9/1/2021 | 1.31 |
| 1/24/2022 | 3.05 | 9/2/2021 | 1.29 |
| 1/25/2022 | 3.1 | 9/3/2021 | 1.33 |
| 1/26/2022 | 3.12 | 9/6/2021 | 1.33 |
| 1/27/2022 | 3.1 | 9/7/2021 | 1.38 |
| 1/28/2022 | 3.06 | 9/8/2021 | 1.35 |
| 1/31/2022 | 3.01 | 9/9/2021 | 1.30 |
| 2/1/2022 | 3.05 | 9/10/2021 | 1.35 |
| 2/2/2022 | 3 | 9/13/2021 | 1.33 |
| 2/3/2022 | 3.02 | 9/14/2021 | 1.28 |
| 2/4/2022 | 3.04 | 9/15/2021 | 1.31 |
| 2/7/2022 | 3.05 | 9/16/2021 | 1.34 |
| 2/8/2022 | 3.05 | 9/17/2021 | 1.37 |
| 2/9/2022 | 3.03 | 9/20/2021 | 1.31 |
| 2/10/2022 | 3.12 | 9/21/2021 | 1.33 |
| 2/11/2022 | 3.12 | 9/22/2021 | 1.32 |
| 2/14/2022 | 3.14 | 9/23/2021 | 1.41 |
| 2/15/2022 | 3.16 | 9/24/2021 | 1.47 |
| 2/16/2022 | 3.16 | 9/27/2021 | 1.48 |
| 2/17/2022 | 3.16 | 9/28/2021 | 1.54 |
| 2/18/2022 | 3.17 | 9/29/2021 | 1.55 |
| 2/22/2022 | 3.17 | 9/30/2021 | 1.52 |
| 2/23/2022 | 3.23 | 10/1/2021 | 1.48 |
| 2/24/2022 | 3.21 | 10/4/2021 | 1.49 |
| 2/25/2022 | 3.11 | 10/5/2021 | 1.54 |
| 2/28/2022 | 3.1 | 10/6/2021 | 1.53 |
| 3/1/2022 | 3.13 | 10/7/2021 | 1.58 |
| 3/2/2022 | 3.09 | 10/8/2021 | 1.61 |
| 3/3/2022 | 3.04 | 10/11/2021 | 1.61 |
| 3/4/2022 | 2.98 | 10/12/2021 | 1.59 |
| 3/7/2022 | 2.94 | 10/13/2021 | 1.56 |
| 3/8/2022 | 2.99 | 10/14/2021 | 1.52 |
| 3/9/2022 | 3 | 10/15/2021 | 1.59 |
| 3/10/2022 | 2.98 | 10/18/2021 | 1.59 |
| 3/11/2022 | 2.99 | 10/19/2021 | 1.65 |
| 3/14/2022 | 2.99 | 10/20/2021 | 1.65 |
| 3/15/2022 | 2.96 | 10/21/2021 | 1.68 |
| 3/16/2022 | 2.96 | 10/22/2021 | 1.66 |
| 3/17/2022 | 2.95 | 10/25/2021 | 1.64 |
| 3/18/2022 | 2.97 | 10/26/2021 | 1.63 |
| 3/21/2022 | 2.95 | 10/27/2021 | 1.54 |
| 3/22/2022 | 2.95 | 10/28/2021 | 1.57 |
| 3/23/2022 | 2.94 | 10/29/2021 | 1.55 |

| S&P 500 Utilities (S5UTIL Index)
Dividend Yield (NET_AGGTE_DVD_YLD) | | 10y US T-Note
YIELD | |
|--|------|------------------------|------|
| 3/24/2022 | 2.92 | 11/1/2021 | 1.58 |
| 3/25/2022 | 2.87 | 11/2/2021 | 1.56 |
| 3/28/2022 | 2.85 | 11/3/2021 | 1.60 |
| 3/29/2022 | 2.83 | 11/4/2021 | 1.53 |
| 3/30/2022 | 2.81 | 11/5/2021 | 1.45 |
| 3/31/2022 | 2.81 | 11/8/2021 | 1.51 |
| 4/1/2022 | 2.77 | 11/9/2021 | 1.46 |
| 4/4/2022 | 2.79 | 11/10/2021 | 1.56 |
| 4/5/2022 | 2.77 | 11/12/2021 | 1.58 |
| 4/6/2022 | 2.72 | 11/15/2021 | 1.63 |
| 4/7/2022 | 2.73 | 11/16/2021 | 1.63 |
| 4/8/2022 | 2.72 | 11/17/2021 | 1.60 |
| 4/11/2022 | 2.76 | 11/18/2021 | 1.59 |
| 4/12/2022 | 2.75 | 11/19/2021 | 1.54 |
| 4/13/2022 | 2.75 | 11/22/2021 | 1.63 |
| 4/14/2022 | 2.75 | 11/23/2021 | 1.67 |
| 4/18/2022 | 2.76 | 11/24/2021 | 1.64 |
| 4/19/2022 | 2.75 | 11/25/2021 | 1.64 |
| 4/20/2022 | 2.73 | 11/26/2021 | 1.48 |
| 4/21/2022 | 2.77 | 11/29/2021 | 1.52 |
| 4/22/2022 | 2.82 | 11/30/2021 | 1.43 |
| 4/25/2022 | 2.84 | 12/1/2021 | 1.43 |
| 4/26/2022 | 2.87 | 12/2/2021 | 1.44 |
| 4/27/2022 | 2.88 | 12/3/2021 | 1.35 |
| 4/28/2022 | 2.85 | 12/6/2021 | 1.43 |
| 4/29/2022 | 2.94 | 12/7/2021 | 1.48 |
| 5/2/2022 | 2.97 | 12/8/2021 | 1.52 |
| 5/3/2022 | 2.96 | 12/9/2021 | 1.49 |
| 5/4/2022 | 2.9 | 12/10/2021 | 1.48 |
| 5/5/2022 | 2.93 | 12/13/2021 | 1.42 |
| 5/6/2022 | 2.91 | 12/14/2021 | 1.44 |
| 5/9/2022 | 2.93 | 12/15/2021 | 1.47 |
| 5/10/2022 | 2.97 | 12/16/2021 | 1.44 |
| 5/11/2022 | 2.95 | 12/17/2021 | 1.41 |
| 5/12/2022 | 2.98 | 12/20/2021 | 1.43 |
| 5/13/2022 | 2.95 | 12/21/2021 | 1.48 |
| 5/16/2022 | 2.94 | 12/22/2021 | 1.46 |
| 5/17/2022 | 2.91 | 12/23/2021 | 1.50 |
| 5/18/2022 | 2.95 | 12/27/2021 | 1.48 |
| 5/19/2022 | 2.95 | 12/28/2021 | 1.49 |
| 5/20/2022 | 2.95 | 12/29/2021 | 1.55 |
| 5/23/2022 | 2.91 | 12/30/2021 | 1.52 |
| 5/24/2022 | 2.85 | 12/31/2021 | 1.52 |
| 5/25/2022 | 2.86 | 1/3/2022 | 1.63 |
| 5/26/2022 | 2.85 | 1/4/2022 | 1.66 |
| 5/27/2022 | 2.81 | 1/5/2022 | 1.71 |
| 5/31/2022 | 2.85 | 1/6/2022 | 1.73 |
| 6/1/2022 | 2.86 | 1/7/2022 | 1.76 |
| 6/2/2022 | 2.84 | 1/10/2022 | 1.78 |
| 6/3/2022 | 2.86 | 1/11/2022 | 1.75 |
| 6/6/2022 | 2.84 | 1/12/2022 | 1.74 |
| 6/7/2022 | 2.83 | 1/13/2022 | 1.70 |
| 6/8/2022 | 2.89 | 1/14/2022 | 1.78 |
| 6/9/2022 | 2.96 | 1/17/2022 | 1.78 |
| 6/10/2022 | 2.98 | 1/18/2022 | 1.87 |
| 6/13/2022 | 3.13 | 1/19/2022 | 1.83 |
| 6/14/2022 | 3.21 | 1/20/2022 | 1.83 |
| 6/15/2022 | 3.19 | 1/21/2022 | 1.75 |
| 6/16/2022 | 3.25 | 1/24/2022 | 1.75 |
| 6/17/2022 | 3.26 | 1/25/2022 | 1.78 |
| 6/21/2022 | 3.2 | 1/26/2022 | 1.85 |
| 6/22/2022 | 3.17 | 1/27/2022 | 1.81 |
| 6/23/2022 | 3.1 | 1/28/2022 | 1.78 |
| 6/24/2022 | 3.04 | 1/31/2022 | 1.79 |
| 6/27/2022 | 3.02 | 2/1/2022 | 1.81 |
| 6/28/2022 | 3.03 | 2/2/2022 | 1.78 |
| 6/29/2022 | 3.03 | 2/3/2022 | 1.82 |
| 6/30/2022 | 3 | 2/4/2022 | 1.93 |
| 7/1/2022 | 2.92 | 2/7/2022 | 1.92 |
| 7/5/2022 | 3.03 | 2/8/2022 | 1.96 |
| 7/6/2022 | 3 | 2/9/2022 | 1.94 |
| 7/7/2022 | 3 | 2/10/2022 | 2.03 |
| 7/8/2022 | 3.01 | 2/11/2022 | 1.92 |
| 7/11/2022 | 2.99 | 2/14/2022 | 1.98 |
| 7/12/2022 | 3.01 | 2/15/2022 | 2.05 |
| 7/13/2022 | 3.02 | 2/16/2022 | 2.03 |
| 7/14/2022 | 3.02 | 2/17/2022 | 1.97 |

| S&P 500 Utilities (\$\$UTIL Index) | | 10y US T-Note | |
|------------------------------------|------|---------------|------|
| Dividend Yield (NET_AGGTE_DVD_YLD) | | YIELD | |
| 7/15/2022 | 3.02 | 2/18/2022 | 1.92 |
| 7/18/2022 | 3.06 | 2/21/2022 | 1.92 |
| 7/19/2022 | 3.04 | 2/22/2022 | 1.94 |
| 7/20/2022 | 3.08 | 2/23/2022 | 1.99 |
| 7/21/2022 | 3.07 | 2/24/2022 | 1.96 |
| 7/22/2022 | 3.03 | 2/25/2022 | 1.97 |
| 7/25/2022 | 2.99 | 2/28/2022 | 1.83 |
| 7/26/2022 | 2.97 | 3/1/2022 | 1.72 |
| 7/27/2022 | 2.97 | 3/2/2022 | 1.86 |
| 7/28/2022 | 2.87 | 3/3/2022 | 1.86 |
| 7/29/2022 | 2.85 | 3/4/2022 | 1.74 |
| 8/1/2022 | 2.84 | 3/7/2022 | 1.78 |
| 8/2/2022 | 2.85 | 3/8/2022 | 1.86 |
| 8/3/2022 | 2.83 | 3/9/2022 | 1.94 |
| 8/4/2022 | 2.83 | 3/10/2022 | 1.98 |
| 8/5/2022 | 2.84 | 3/11/2022 | 2.00 |
| 8/8/2022 | 2.83 | 3/14/2022 | 2.14 |
| 8/9/2022 | 2.81 | 3/15/2022 | 2.15 |
| 8/10/2022 | 2.8 | 3/16/2022 | 2.19 |
| 8/11/2022 | 2.8 | 3/17/2022 | 2.20 |
| 8/12/2022 | 2.76 | 3/18/2022 | 2.14 |
| 8/15/2022 | 2.74 | 3/21/2022 | 2.32 |
| 8/16/2022 | 2.73 | 3/22/2022 | 2.38 |
| 8/17/2022 | 2.74 | 3/23/2022 | 2.32 |
| 8/18/2022 | 2.73 | 3/24/2022 | 2.34 |
| 8/19/2022 | 2.73 | 3/25/2022 | 2.48 |
| 8/22/2022 | 2.77 | 3/28/2022 | 2.46 |
| 8/23/2022 | 2.79 | 3/29/2022 | 2.41 |
| 8/24/2022 | 2.78 | 3/30/2022 | 2.35 |
| 8/25/2022 | 2.76 | 3/31/2022 | 2.32 |
| 8/26/2022 | 2.8 | 4/1/2022 | 2.39 |
| 8/29/2022 | 2.81 | 4/4/2022 | 2.42 |
| 8/30/2022 | 2.85 | 4/5/2022 | 2.54 |
| 8/31/2022 | 2.87 | 4/6/2022 | 2.61 |
| 9/1/2022 | 2.83 | 4/7/2022 | 2.66 |
| 9/2/2022 | 2.86 | 4/8/2022 | 2.72 |
| 9/6/2022 | 2.85 | 4/11/2022 | 2.79 |
| 9/7/2022 | 2.77 | 4/12/2022 | 2.72 |
| 9/8/2022 | 2.76 | 4/13/2022 | 2.70 |
| 9/9/2022 | 2.75 | 4/14/2022 | 2.83 |
| 9/12/2022 | 2.72 | 4/15/2022 | 2.83 |
| 9/13/2022 | 2.8 | 4/18/2022 | 2.85 |
| 9/14/2022 | 2.78 | 4/19/2022 | 2.93 |
| 9/15/2022 | 2.85 | 4/20/2022 | 2.85 |
| 9/16/2022 | 2.86 | 4/21/2022 | 2.90 |
| 9/19/2022 | 2.82 | 4/22/2022 | 2.90 |
| 9/20/2022 | 2.86 | 4/25/2022 | 2.81 |
| 9/21/2022 | 2.9 | 4/26/2022 | 2.77 |
| 9/22/2022 | 2.92 | 4/27/2022 | 2.82 |
| 9/23/2022 | 2.95 | 4/28/2022 | 2.85 |
| 9/26/2022 | 3.02 | 4/29/2022 | 2.89 |
| 9/27/2022 | 3.08 | 5/2/2022 | 2.99 |
| 9/28/2022 | 3.04 | 5/3/2022 | 2.97 |
| 9/29/2022 | 3.17 | 5/4/2022 | 2.93 |
| 9/30/2022 | 3.24 | 5/5/2022 | 3.05 |
| 10/3/2022 | 3.08 | 5/6/2022 | 3.12 |
| 10/4/2022 | 3.01 | 5/9/2022 | 3.05 |
| 10/5/2022 | 3.08 | 5/10/2022 | 2.99 |
| 10/6/2022 | 3.19 | 5/11/2022 | 2.91 |
| 10/7/2022 | 3.25 | 5/12/2022 | 2.84 |
| 10/10/2022 | 3.25 | 5/13/2022 | 2.93 |
| 10/11/2022 | 3.26 | 5/16/2022 | 2.88 |
| 10/12/2022 | 3.37 | 5/17/2022 | 2.98 |
| 10/13/2022 | 3.29 | 5/18/2022 | 2.88 |
| 10/14/2022 | 3.34 | 5/19/2022 | 2.84 |
| 10/17/2022 | 3.27 | 5/20/2022 | 2.78 |
| 10/18/2022 | 3.21 | 5/23/2022 | 2.86 |
| 10/19/2022 | 3.25 | 5/24/2022 | 2.76 |
| 10/20/2022 | 3.34 | 5/25/2022 | 2.75 |
| 10/21/2022 | 3.28 | 5/26/2022 | 2.75 |
| 10/24/2022 | 3.25 | 5/27/2022 | 2.74 |
| 10/25/2022 | 3.19 | 5/30/2022 | 2.74 |
| 10/26/2022 | 3.19 | 5/31/2022 | 2.85 |
| 10/27/2022 | 3.17 | 6/1/2022 | 2.94 |
| 10/28/2022 | 3.08 | 6/2/2022 | 2.92 |
| 10/31/2022 | 3.11 | 6/3/2022 | 2.96 |
| 11/1/2022 | 3.1 | 6/6/2022 | 3.04 |

| S&P 500 Utilities (\$SUTIL Index)
Dividend Yield (NET_AGGTE_DVD_YLD) | | 10y US T-Note
YIELD | |
|---|------|------------------------|------|
| 11/2/2022 | 3.13 | 6/7/2022 | 2.98 |
| 11/3/2022 | 3.12 | 6/8/2022 | 3.03 |
| 11/4/2022 | 3.1 | 6/9/2022 | 3.04 |
| 11/7/2022 | 3.16 | 6/10/2022 | 3.15 |
| 11/8/2022 | 3.14 | 6/13/2022 | 3.43 |
| 11/9/2022 | 3.17 | 6/14/2022 | 3.49 |
| 11/10/2022 | 3.03 | 6/15/2022 | 3.33 |
| 11/11/2022 | 3.06 | 6/16/2022 | 3.28 |
| 11/14/2022 | 3.1 | 6/17/2022 | 3.25 |
| 11/15/2022 | 3.07 | 6/20/2022 | 3.25 |
| 11/16/2022 | 3.04 | 6/21/2022 | 3.31 |
| 11/17/2022 | 3.1 | 6/22/2022 | 3.16 |
| 11/18/2022 | 3.04 | 6/23/2022 | 3.09 |
| 11/21/2022 | 3.03 | 6/24/2022 | 3.13 |
| 11/22/2022 | 3 | 6/27/2022 | 3.20 |
| 11/23/2022 | 2.98 | 6/28/2022 | 3.20 |
| 11/25/2022 | 2.96 | 6/29/2022 | 3.10 |
| 11/28/2022 | 2.99 | 6/30/2022 | 2.98 |
| 11/29/2022 | 3.02 | 7/1/2022 | 2.88 |
| 11/30/2022 | 2.94 | 7/4/2022 | 2.88 |
| 12/1/2022 | 2.95 | 7/5/2022 | 2.82 |
| 12/2/2022 | 2.96 | 7/6/2022 | 2.93 |
| 12/5/2022 | 2.98 | 7/7/2022 | 3.01 |
| 12/6/2022 | 2.96 | 7/8/2022 | 3.09 |
| 12/7/2022 | 2.98 | 7/11/2022 | 2.99 |
| 12/8/2022 | 2.95 | 7/12/2022 | 2.96 |
| 12/9/2022 | 2.96 | 7/13/2022 | 2.91 |
| 12/12/2022 | 2.9 | 7/14/2022 | 2.96 |
| 12/13/2022 | 2.89 | 7/15/2022 | 2.93 |
| 12/14/2022 | 2.89 | 7/18/2022 | 2.96 |
| 12/15/2022 | 2.93 | 7/19/2022 | 3.01 |
| 12/16/2022 | 2.98 | 7/20/2022 | 3.04 |
| 12/19/2022 | 2.99 | 7/21/2022 | 2.91 |
| 12/20/2022 | 2.99 | 7/22/2022 | 2.77 |
| 12/21/2022 | 2.95 | 7/25/2022 | 2.81 |
| 12/22/2022 | 2.97 | 7/26/2022 | 2.81 |
| 12/23/2022 | 2.94 | 7/27/2022 | 2.78 |
| 12/27/2022 | 2.92 | 7/28/2022 | 2.68 |
| 12/28/2022 | 2.95 | 7/29/2022 | 2.67 |
| 12/29/2022 | 2.93 | 8/1/2022 | 2.60 |
| 12/30/2022 | 2.96 | 8/2/2022 | 2.75 |
| 1/3/2023 | 2.96 | 8/3/2022 | 2.73 |
| 1/4/2023 | 2.93 | 8/4/2022 | 2.68 |
| 1/5/2023 | 3 | 8/5/2022 | 2.83 |
| 1/6/2023 | 2.94 | 8/8/2022 | 2.77 |
| 1/9/2023 | 2.92 | 8/9/2022 | 2.80 |
| 1/10/2023 | 2.92 | 8/10/2022 | 2.78 |
| 1/11/2023 | 2.9 | 8/11/2022 | 2.87 |
| 1/12/2023 | 2.92 | 8/12/2022 | 2.84 |
| 1/13/2023 | 2.93 | 8/15/2022 | 2.79 |
| 1/17/2023 | 2.93 | 8/16/2022 | 2.82 |
| 1/18/2023 | 3 | 8/17/2022 | 2.89 |
| 1/19/2023 | 3.03 | 8/18/2022 | 2.88 |
| 1/20/2023 | 3.02 | 8/19/2022 | 2.98 |
| 1/23/2023 | 3.02 | 8/22/2022 | 3.03 |
| 1/24/2023 | 3 | 8/23/2022 | 3.05 |
| 1/25/2023 | 3.04 | 8/24/2022 | 3.11 |
| 1/26/2023 | 3.03 | 8/25/2022 | 3.03 |
| 1/27/2023 | 3.03 | 8/26/2022 | 3.04 |
| 1/30/2023 | 3.05 | 8/29/2022 | 3.12 |
| 1/31/2023 | 3.03 | 8/30/2022 | 3.11 |
| 2/1/2023 | 3.02 | 8/31/2022 | 3.15 |
| 2/2/2023 | 3.02 | 9/1/2022 | 3.26 |
| 2/3/2023 | 3.08 | 9/2/2022 | 3.20 |
| 2/6/2023 | 3.05 | 9/5/2022 | 3.20 |
| 2/7/2023 | 3.06 | 9/6/2022 | 3.33 |
| 2/8/2023 | 3.11 | 9/7/2022 | 3.27 |
| 2/9/2023 | 3.16 | 9/8/2022 | 3.29 |
| 2/10/2023 | 3.1 | 9/9/2022 | 3.33 |
| 2/13/2023 | 3.08 | 9/12/2022 | 3.37 |
| 2/14/2023 | 3.1 | 9/13/2022 | 3.42 |
| 2/15/2023 | 3.08 | 9/14/2022 | 3.41 |
| 2/16/2023 | 3.11 | 9/15/2022 | 3.45 |
| 2/17/2023 | 3.08 | 9/16/2022 | 3.45 |
| 2/21/2023 | 3.14 | 9/19/2022 | 3.49 |
| 2/22/2023 | 3.15 | 9/20/2022 | 3.57 |
| 2/23/2023 | 3.17 | 9/21/2022 | 3.51 |

| S&P 500 Utilities (S5UTIL Index)
Dividend Yield (NET_AGGTE_DVD_YLD) | | 10y US T-Note
YIELD | |
|--|------|------------------------|------|
| 2/24/2023 | 3.17 | 9/22/2022 | 3.70 |
| 2/27/2023 | 3.21 | 9/23/2022 | 3.69 |
| 2/28/2023 | 3.26 | 9/26/2022 | 3.88 |
| 3/1/2023 | 3.32 | 9/27/2022 | 3.97 |
| 3/2/2023 | 3.26 | 9/28/2022 | 3.72 |
| 3/3/2023 | 3.2 | 9/29/2022 | 3.76 |
| 3/6/2023 | 3.19 | 9/30/2022 | 3.83 |
| 3/7/2023 | 3.24 | 10/3/2022 | 3.67 |
| 3/8/2023 | 3.22 | 10/4/2022 | 3.62 |
| 3/9/2023 | 3.25 | 10/5/2022 | 3.76 |
| 3/10/2023 | 3.3 | 10/6/2022 | 3.83 |
| 3/13/2023 | 3.25 | 10/7/2022 | 3.89 |
| 3/14/2023 | 3.22 | 10/10/2022 | 3.89 |
| 3/15/2023 | 3.17 | 10/11/2022 | 3.93 |
| 3/16/2023 | 3.15 | 10/12/2022 | 3.91 |
| 3/17/2023 | 3.18 | 10/13/2022 | 3.97 |
| 3/20/2023 | 3.16 | 10/14/2022 | 4.00 |
| 3/21/2023 | 3.23 | 10/17/2022 | 4.02 |
| 3/22/2023 | 3.29 | 10/18/2022 | 4.01 |
| 3/23/2023 | 3.32 | 10/19/2022 | 4.14 |
| 3/24/2023 | 3.22 | 10/20/2022 | 4.24 |
| 3/27/2023 | 3.22 | 10/21/2022 | 4.21 |
| 3/28/2023 | 3.21 | 10/24/2022 | 4.25 |
| 3/29/2023 | 3.17 | 10/25/2022 | 4.10 |
| 3/30/2023 | 3.15 | 10/26/2022 | 4.04 |
| 3/31/2023 | 3.13 | 10/27/2022 | 3.96 |
| 4/3/2023 | 3.15 | 10/28/2022 | 4.02 |
| 4/4/2023 | 3.14 | 10/31/2022 | 4.10 |
| 4/5/2023 | 3.06 | 11/1/2022 | 4.07 |
| 4/6/2023 | 3.04 | 11/2/2022 | 4.10 |
| 4/10/2023 | 3.04 | 11/3/2022 | 4.14 |
| 4/11/2023 | 3.04 | 11/4/2022 | 4.17 |
| 4/12/2023 | 3.04 | 11/7/2022 | 4.22 |
| 4/13/2023 | 3.04 | 11/8/2022 | 4.14 |
| 4/14/2023 | 3.08 | 11/9/2022 | 4.12 |
| 45033 | 3.06 | 11/10/2022 | 3.82 |
| 45034 | 3.08 | 11/14/2022 | 3.88 |
| 45035 | 3.05 | 11/15/2022 | 3.80 |
| 4/20/2023 | 3.05 | 11/16/2022 | 3.67 |
| 4/21/2023 | 3.04 | 11/17/2022 | 3.77 |
| 4/24/2023 | 3.03 | 11/18/2022 | 3.82 |
| 4/25/2023 | 3.03 | 11/21/2022 | 3.83 |
| 4/26/2023 | 3.11 | 11/22/2022 | 3.76 |
| 4/27/2023 | 3.07 | 11/23/2022 | 3.71 |
| 4/28/2023 | 3.08 | 11/24/2022 | 3.71 |
| 5/1/2023 | 3.07 | 11/25/2022 | 3.68 |
| 5/2/2023 | 3.11 | 11/28/2022 | 3.69 |
| 5/3/2023 | 3.12 | 11/29/2022 | 3.75 |
| 5/4/2023 | 3.1 | 11/30/2022 | 3.68 |
| 45051 | 3.08 | 12/1/2022 | 3.53 |
| 45054 | 3.09 | 12/2/2022 | 3.51 |
| 45055 | 3.1 | 12/5/2022 | 3.60 |
| 45056 | 3.07 | 12/6/2022 | 3.51 |
| 45057 | 3.11 | 12/7/2022 | 3.42 |
| 45058 | 3.1 | 12/8/2022 | 3.48 |
| 5/15/2023 | 3.14 | 12/9/2022 | 3.57 |
| 5/16/2023 | 3.22 | 12/12/2022 | 3.61 |
| 5/17/2023 | 3.23 | 12/13/2022 | 3.51 |
| 5/18/2023 | 3.24 | 12/14/2022 | 3.49 |
| 5/19/2023 | 3.25 | 12/15/2022 | 3.44 |
| 5/22/2023 | 3.25 | 12/16/2022 | 3.48 |
| 5/23/2023 | 3.26 | 12/19/2022 | 3.57 |
| 5/24/2023 | 3.28 | 12/20/2022 | 3.69 |
| 5/25/2023 | 3.33 | 12/21/2022 | 3.68 |
| 5/26/2023 | 3.34 | 12/22/2022 | 3.67 |
| 5/30/2023 | 3.35 | 12/23/2022 | 3.75 |
| 5/31/2023 | 3.32 | 12/26/2022 | 3.75 |
| 6/1/2023 | 3.35 | 12/27/2022 | 3.84 |
| 6/2/2023 | 3.31 | 12/28/2022 | 3.88 |
| 6/5/2023 | 3.3 | 12/29/2022 | 3.83 |
| 6/6/2023 | 3.3 | 12/30/2022 | 3.88 |
| 6/7/2023 | 3.24 | 1/2/2023 | 3.88 |
| 6/8/2023 | 3.23 | 1/3/2023 | 3.79 |
| 6/9/2023 | 3.25 | 1/4/2023 | 3.69 |
| 6/12/2023 | 3.26 | 1/5/2023 | 3.71 |
| 6/13/2023 | 3.26 | 1/6/2023 | 3.55 |
| 6/14/2023 | 3.27 | 1/9/2023 | 3.53 |

| S&P 500 Utilities (S5UTIL Index)
Dividend Yield (NET_AGGTE_DVD_YLD) | | 10y US T-Note
YIELD | |
|--|------|------------------------|------|
| 6/15/2023 | 3.23 | 1/10/2023 | 3.61 |
| 6/16/2023 | 3.22 | 1/11/2023 | 3.54 |
| 6/20/2023 | 3.25 | 1/12/2023 | 3.43 |
| 6/21/2023 | 3.22 | 1/13/2023 | 3.49 |
| 6/22/2023 | 3.25 | 1/16/2023 | 3.49 |
| 6/23/2023 | 3.3 | 1/17/2023 | 3.53 |
| 6/26/2023 | 3.27 | 1/18/2023 | 3.37 |
| 6/27/2023 | 3.27 | 1/19/2023 | 3.39 |
| 6/28/2023 | 3.32 | 1/20/2023 | 3.48 |
| 6/29/2023 | 3.32 | 1/23/2023 | 3.52 |
| 6/30/2023 | 3.28 | 1/24/2023 | 3.46 |
| 7/3/2023 | 3.26 | 1/25/2023 | 3.46 |
| 7/5/2023 | 3.22 | 1/26/2023 | 3.49 |
| 7/6/2023 | 3.26 | 1/27/2023 | 3.52 |
| 7/7/2023 | 3.29 | 1/30/2023 | 3.55 |
| 7/10/2023 | 3.3 | 1/31/2023 | 3.52 |
| 7/11/2023 | 3.26 | 2/1/2023 | 3.39 |
| 7/12/2023 | 3.21 | 2/2/2023 | 3.40 |
| 7/13/2023 | 3.2 | 2/3/2023 | 3.53 |
| 7/14/2023 | 3.21 | 2/6/2023 | 3.63 |
| 7/17/2023 | 3.25 | 2/7/2023 | 3.67 |
| 7/18/2023 | 3.28 | 2/8/2023 | 3.63 |
| 7/19/2023 | 3.24 | 2/9/2023 | 3.67 |
| 7/20/2023 | 3.19 | 2/10/2023 | 3.74 |
| 7/21/2023 | 3.14 | 2/13/2023 | 3.72 |
| 7/24/2023 | 3.15 | 2/14/2023 | 3.77 |
| 7/25/2023 | 3.14 | 2/15/2023 | 3.81 |
| 7/26/2023 | 3.14 | 2/16/2023 | 3.86 |
| 7/27/2023 | 3.2 | 2/17/2023 | 3.82 |
| 7/28/2023 | 3.21 | 2/20/2023 | 3.82 |
| 7/31/2023 | 3.21 | 2/21/2023 | 3.95 |
| | | 2/22/2023 | 3.93 |
| | | 2/23/2023 | 3.88 |
| | | 2/24/2023 | 3.95 |
| | | 2/27/2023 | 3.92 |
| | | 2/28/2023 | 3.92 |
| | | 3/1/2023 | 4.01 |
| | | 3/2/2023 | 4.08 |
| | | 3/3/2023 | 3.97 |
| | | 3/6/2023 | 3.98 |
| | | 3/7/2023 | 3.97 |
| | | 3/8/2023 | 3.98 |
| | | 3/9/2023 | 3.93 |
| | | 3/10/2023 | 3.70 |
| | | 3/13/2023 | 3.55 |
| | | 3/14/2023 | 3.64 |
| | | 3/15/2023 | 3.51 |
| | | 3/16/2023 | 3.56 |
| | | 3/17/2023 | 3.39 |
| | | 3/20/2023 | 3.47 |
| | | 3/21/2023 | 3.59 |
| | | 3/22/2023 | 3.48 |
| | | 3/23/2023 | 3.38 |
| | | 3/24/2023 | 3.38 |
| | | 3/27/2023 | 3.53 |
| | | 3/28/2023 | 3.55 |
| | | 3/29/2023 | 3.57 |
| | | 3/30/2023 | 3.55 |
| | | 3/31/2023 | 3.48 |
| | | 4/3/2023 | 3.43 |
| | | 4/4/2023 | 3.35 |
| | | 4/5/2023 | 3.30 |
| | | 4/6/2023 | 3.30 |
| | | 4/7/2023 | 3.39 |
| | | 4/10/2023 | 3.41 |
| | | 4/11/2023 | 3.43 |
| | | 4/12/2023 | 3.41 |
| | | 4/13/2023 | 3.45 |
| | | 4/14/2023 | 3.52 |
| | | 4/17/2023 | 3.60 |
| | | 4/18/2023 | 3.58 |
| | | 4/19/2023 | 3.60 |
| | | 4/20/2023 | 3.54 |
| | | 4/21/2023 | 3.57 |
| | | 4/24/2023 | 3.52 |
| | | 4/25/2023 | 3.40 |
| | | 4/26/2023 | 3.43 |

| S&P 500 Utilities (S5UTIL Index)
Dividend Yield (NET_AGGTE_DVD_YLD) | 10y US T-Note
YIELD |
|--|------------------------|
| | 4/27/2023 3.53 |
| | 4/28/2023 3.44 |
| | 5/1/2023 3.59 |
| | 5/2/2023 3.44 |
| | 5/3/2023 3.38 |
| | 5/4/2023 3.37 |
| | 5/5/2023 3.44 |
| | 5/8/2023 3.52 |
| | 5/9/2023 3.53 |
| | 5/10/2023 3.43 |
| | 5/11/2023 3.39 |
| | 5/12/2023 3.46 |
| | 5/15/2023 3.50 |
| | 5/16/2023 3.54 |
| | 5/17/2023 3.57 |
| | 5/18/2023 3.65 |
| | 5/19/2023 3.70 |
| | 5/22/2023 3.72 |
| | 5/23/2023 3.70 |
| | 5/24/2023 3.73 |
| | 5/25/2023 3.83 |
| | 5/26/2023 3.80 |
| | 5/29/2023 3.80 |
| | 5/30/2023 3.69 |
| | 5/31/2023 3.64 |
| | 6/1/2023 3.61 |
| | 6/2/2023 3.69 |
| | 6/5/2023 3.69 |
| | 6/6/2023 3.70 |
| | 6/7/2023 3.79 |
| | 6/8/2023 3.73 |
| | 6/9/2023 3.75 |
| | 6/12/2023 3.73 |
| | 6/13/2023 3.84 |
| | 6/14/2023 3.83 |
| | 6/15/2023 3.72 |
| | 6/16/2023 3.77 |
| | 6/19/2023 3.77 |
| | 6/20/2023 3.74 |
| | 6/21/2023 3.72 |
| | 6/22/2023 3.80 |
| | 6/23/2023 3.74 |
| | 6/26/2023 3.72 |
| | 6/27/2023 3.77 |
| | 6/28/2023 3.71 |
| | 6/29/2023 3.85 |
| | 6/30/2023 3.81 |
| | 7/3/2023 3.86 |
| | 7/4/2023 3.86 |
| | 7/5/2023 3.95 |
| | 7/6/2023 4.05 |
| | 7/7/2023 4.06 |
| | 7/10/2023 4.01 |
| | 7/11/2023 3.99 |
| | 7/12/2023 3.86 |
| | 7/13/2023 3.76 |
| | 7/14/2023 3.83 |
| | 7/17/2023 3.81 |
| | 7/18/2023 3.80 |
| | 7/19/2023 3.75 |
| | 7/20/2023 3.85 |
| | 7/21/2023 3.84 |
| | 7/24/2023 3.86 |
| | 7/25/2023 3.91 |
| | 7/26/2023 3.86 |
| | 7/27/2023 4.01 |
| | 7/28/2023 3.96 |
| | 7/31/2023 3.97 |

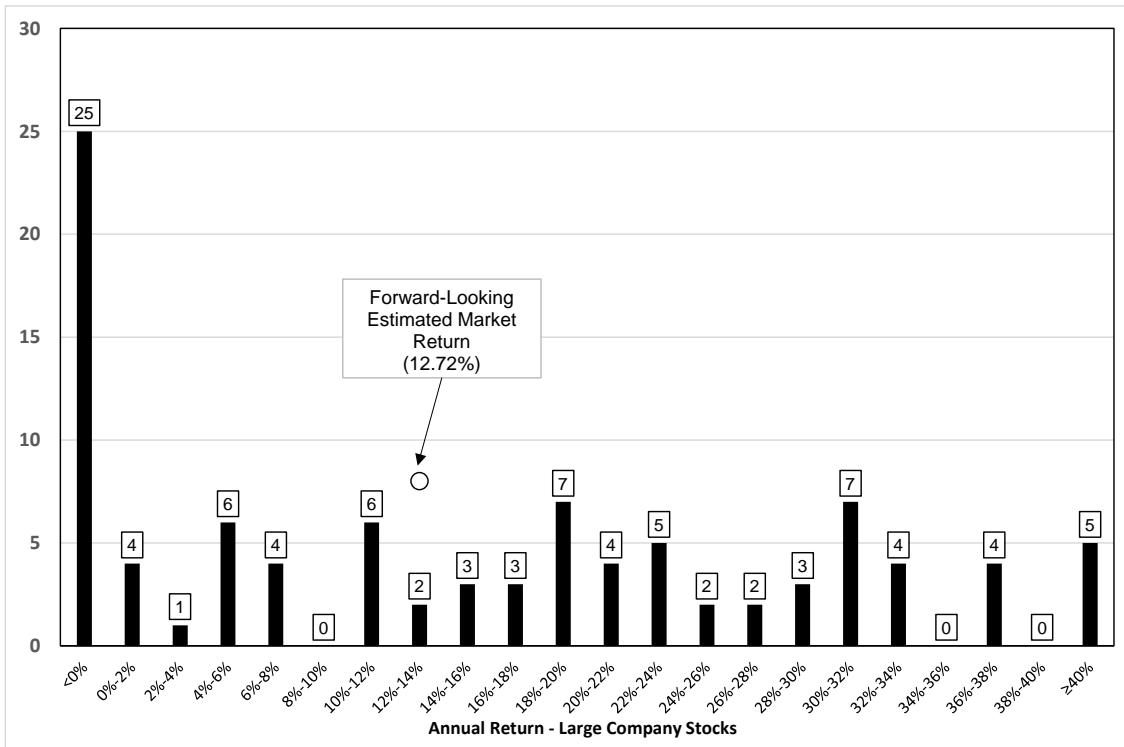
Historical equity market returns and historical equity premium (HEP)

| | Large Co Stock
Total Return
Table A-1 | Income Only
Returns LT Govt
Table A-7 | Observed
Equity
Premium |
|------|---|---|-------------------------------|
| 1926 | 11.62% | 3.73% | 7.89% |
| 1927 | 37.49% | 3.41% | 34.08% |
| 1928 | 43.61% | 3.22% | 40.39% |
| 1929 | -8.42% | 3.47% | -11.89% |
| 1930 | -24.90% | 3.32% | -28.22% |
| 1931 | -43.34% | 3.33% | -46.67% |
| 1932 | -8.19% | 3.69% | -11.88% |
| 1933 | 53.99% | 3.12% | 50.87% |
| 1934 | -1.44% | 3.18% | -4.62% |
| 1935 | 47.67% | 2.81% | 44.86% |
| 1936 | 33.92% | 2.77% | 31.15% |
| 1937 | -35.03% | 2.66% | -37.69% |
| 1938 | 31.12% | 2.64% | 28.48% |
| 1939 | 0.41% | 2.40% | -1.99% |
| 1940 | -9.78% | 2.23% | -12.01% |
| 1941 | -11.59% | 1.94% | -13.53% |
| 1942 | 20.34% | 2.46% | 17.88% |
| 1943 | 25.90% | 2.44% | 23.46% |
| 1944 | 19.75% | 2.46% | 17.29% |
| 1945 | 36.44% | 2.34% | 34.10% |
| 1946 | -8.07% | 2.04% | -10.11% |
| 1947 | 5.71% | 2.13% | 3.58% |
| 1948 | 5.50% | 2.40% | 3.10% |
| 1949 | 18.79% | 2.25% | 16.54% |
| 1950 | 31.71% | 2.12% | 29.59% |
| 1951 | 24.02% | 2.38% | 21.64% |
| 1952 | 18.37% | 2.66% | 15.71% |
| 1953 | -0.99% | 2.84% | -3.83% |
| 1954 | 52.62% | 2.79% | 49.83% |
| 1955 | 31.56% | 2.75% | 28.81% |
| 1956 | 6.56% | 2.99% | 3.57% |
| 1957 | -10.78% | 3.44% | -14.22% |
| 1958 | 43.36% | 3.27% | 40.09% |
| 1959 | 11.96% | 4.01% | 7.95% |
| 1960 | 0.47% | 4.26% | -3.79% |
| 1961 | 26.89% | 3.83% | 23.06% |
| 1962 | -8.73% | 4.00% | -12.73% |
| 1963 | 22.80% | 3.89% | 18.91% |
| 1964 | 16.48% | 4.15% | 12.33% |
| 1965 | 12.45% | 4.20% | 8.25% |
| 1966 | -10.06% | 4.49% | -14.55% |
| 1967 | 23.98% | 4.59% | 19.39% |

| | Large Co Stock
Total Return
Table A-1 | Income Only
Returns LT Govt
Table A-7 | Observed
Equity
Premium |
|-----------------------|---|---|-------------------------------|
| 1968 | 11.06% | 5.50% | 5.56% |
| 1969 | -8.50% | 5.95% | -14.45% |
| 1970 | 4.01% | 6.74% | -2.73% |
| 1971 | 14.31% | 6.32% | 7.99% |
| 1972 | 18.98% | 5.87% | 13.11% |
| 1973 | -14.66% | 6.51% | -21.17% |
| 1974 | -26.47% | 7.27% | -33.74% |
| 1975 | 37.20% | 7.99% | 29.21% |
| 1976 | 23.84% | 7.89% | 15.95% |
| 1977 | -7.18% | 7.14% | -14.32% |
| 1978 | 6.56% | 7.90% | -1.34% |
| 1979 | 18.44% | 8.86% | 9.58% |
| 1980 | 32.50% | 9.97% | 22.53% |
| 1981 | -4.92% | 11.55% | -16.47% |
| 1982 | 21.55% | 13.50% | 8.05% |
| 1983 | 22.56% | 10.38% | 12.18% |
| 1984 | 6.27% | 11.74% | -5.47% |
| 1985 | 31.73% | 11.25% | 20.48% |
| 1986 | 18.67% | 8.98% | 9.69% |
| 1987 | 5.25% | 7.92% | -2.67% |
| 1988 | 16.61% | 8.97% | 7.64% |
| 1989 | 31.69% | 8.81% | 22.88% |
| 1990 | -3.11% | 8.19% | -11.30% |
| 1991 | 30.47% | 8.22% | 22.25% |
| 1992 | 7.62% | 7.26% | 0.36% |
| 1993 | 10.08% | 7.17% | 2.91% |
| 1994 | 1.32% | 6.59% | -5.27% |
| 1995 | 37.58% | 7.60% | 29.98% |
| 1996 | 22.96% | 6.18% | 16.78% |
| 1997 | 33.36% | 6.64% | 26.72% |
| 1998 | 28.58% | 5.83% | 22.75% |
| 1999 | 21.04% | 5.57% | 15.47% |
| 2000 | -9.10% | 6.50% | -15.60% |
| 2001 | -11.89% | 5.53% | -17.42% |
| 2002 | -22.10% | 5.59% | -27.69% |
| 2003 | 28.68% | 4.80% | 23.88% |
| 2004 | 10.88% | 5.02% | 5.86% |
| 2005 | 4.91% | 4.69% | 0.22% |
| 2006 | 15.79% | 4.68% | 11.11% |
| 2007 | 5.49% | 4.86% | 0.63% |
| 2008 | -37.00% | 4.45% | -41.45% |
| 2009 | 26.46% | 3.47% | 22.99% |
| 2010 | 15.06% | 4.25% | 10.81% |
| 2011 | 2.11% | 3.82% | -1.71% |
| 2012 | 16.00% | 2.46% | 13.54% |
| 2013 | 32.39% | 2.88% | 29.51% |
| 2014 | 13.69% | 3.41% | 10.28% |
| 2015 | 1.38% | 2.47% | -1.09% |
| 2016 | 11.96% | 2.30% | 9.66% |
| 2017 | 21.83% | 2.67% | 19.16% |
| 2018 | -4.38% | 2.82% | -7.20% |
| 2019 | 31.49% | 2.55% | 28.94% |
| 2020 | 18.40% | 1.53% | 16.87% |
| 2021 | 28.70% | 1.73% | 26.97% |
| 2022 | -18.11% | 2.61% | -20.72% |
| Arithmetic
average | 12.02% | 4.85% | 7.17% |

12.72% 50
 97

| | | Count | Bulkley Direct |
|--------|--------|---------|----------------|
| | 0.00% | <0% | 25 |
| 0.00% | 2.00% | 0%-2% | 4 |
| 2.00% | 4.00% | 2%-4% | 1 |
| 4.00% | 6.00% | 4%-6% | 6 |
| 6.00% | 8.00% | 6%-8% | 4 |
| 8.00% | 10.00% | 8%-10% | 0 |
| 10.00% | 12.00% | 10%-12% | 6 |
| 12.00% | 14.00% | 12%-14% | 2 |
| 14.00% | 16.00% | 14%-16% | 3 |
| 16.00% | 18.00% | 16%-18% | 3 |
| 18.00% | 20.00% | 18%-20% | 7 |
| 20.00% | 22.00% | 20%-22% | 4 |
| 22.00% | 24.00% | 22%-24% | 5 |
| 24.00% | 26.00% | 24%-26% | 2 |
| 26.00% | 28.00% | 26%-28% | 2 |
| 28.00% | 30.00% | 28%-30% | 3 |
| 30.00% | 32.00% | 30%-32% | 7 |
| 32.00% | 34.00% | 32%-34% | 4 |
| 34.00% | 36.00% | 34%-36% | 0 |
| 36.00% | 38.00% | 36%-38% | 4 |
| 38.00% | 40.00% | 38%-40% | 0 |
| 40.00% | | ≥40% | 5 |



PUBLIC DOCUMENT – NOT PUBLIC (OR PRIVILEGED) DATA HAS BEEN EXCISED

[PROTECTED DATA BEGINS...

Case No. PU-23-
Bulkley Workpapers – Figure 14 – Customer
Concentration Analysis
is CONFIDENTIAL in its Entirety

...PROTECTED DATA ENDS]