

Minnesota Energy Resources New Area Surcharge Analysis ELY LAKE EXPANSION

Time Period (1)	Year (2)	Net Plant				ADIT		Traditional Reveune Requirements					Retail Revenue (14)	Revenue Excess (Deficy.) (15)	PV of Cash Flows (16)
		Gross Plant Investment (3)	Accumulated Depreciation Reserve (4)	Net Plant In Service (5)	Average Net Plant (6)	Average ADIT (7)	Average Rate Base (8)	Allowed Return (9)	Book Deprec. (10)	O&M Expense (11)	Property Tax (12)	Total Rev. Requir. (13)			
0		87,049	1,845	85,204	42,602	139,866	182,468	17,986	1,845	4,500	3,047	27,378	15,450	(11,928)	(11,928)
1		132,149	4,647	127,502	106,353	268,144	374,497	36,914	2,802	9,000	4,625	53,341	30,900	(22,440)	(20,811)
2		168,229	8,213	160,016	143,759	245,410	389,168	38,360	3,566	12,600	5,888	60,415	43,260	(17,154)	(14,754)
3		177,249	11,971	165,278	162,647	223,696	386,342	38,082	3,758	13,500	6,204	61,543	46,350	(15,192)	(12,118)
4		181,759	15,824	165,935	165,606	203,328	368,934	36,366	3,853	13,950	6,362	60,530	47,895	(12,635)	(9,347)
5		195,289	19,965	175,324	170,630	184,440	355,069	34,999	4,140	15,300	6,835	61,274	52,531	(8,744)	(5,999)
6		195,289	24,105	171,184	173,254	166,907	340,162	33,530	4,140	15,300	6,835	59,805	52,531	(7,274)	(4,628)
7		195,289	28,245	167,044	169,114	150,713	319,827	31,525	4,140	15,300	6,835	57,800	52,531	(5,270)	(3,110)
8		195,289	32,385	162,904	164,974	135,404	300,379	29,608	4,140	15,300	6,835	55,883	52,531	(3,353)	(1,835)
9		195,289	36,525	158,764	160,834	120,343	281,177	27,715	4,140	15,300	6,835	53,991	52,531	(1,460)	(741)
10		195,289	40,665	154,624	156,694	105,367	262,060	25,831	4,140	15,300	6,835	52,106	52,531	424	200
11		195,289	44,805	150,484	152,554	90,433	242,986	23,951	4,140	15,300	6,835	50,226	52,531	2,304	1,006
12		195,289	48,945	146,344	148,414	75,525	223,939	22,074	4,140	15,300	6,835	48,349	52,531	4,182	1,693
13		195,289	53,086	142,203	144,274	60,630	204,904	20,197	4,140	15,300	6,835	46,472	52,531	6,058	2,274
14		195,289	57,226	138,063	140,133	45,737	185,871	18,321	4,140	15,300	6,835	44,596	52,531	7,934	2,762
15		195,289	61,366	133,923	135,993	30,844	166,837	16,445	4,140	15,300	6,835	42,720	52,531	9,810	3,168
16		195,289	65,506	129,783	131,853	15,951	147,804	14,569	4,140	15,300	6,835	40,844	52,531	11,686	3,499
17		195,289	69,646	125,643	127,713	1,058	128,771	12,693	4,140	15,300	6,835	38,968	52,531	13,562	3,766
18		195,289	73,786	121,503	123,573	(13,835)	109,738	10,817	4,140	15,300	6,835	37,092	52,531	15,438	3,976
19		195,289	77,926	117,363	119,433	(28,728)	90,704	8,941	4,140	15,300	6,835	35,216	52,531	17,315	4,136
20		195,289	82,066	113,223	115,293	(39,969)	75,324	7,425	4,140	15,300	6,835	33,700	52,531	18,831	4,171
21		195,289	86,206	109,082	111,152	(43,698)	67,454	6,649	4,140	15,300	6,835	32,924	52,531	19,606	4,028
22		195,289	90,347	104,942	107,012	(43,192)	63,821	6,291	4,140	15,300	6,835	32,566	52,531	19,965	3,804
23		195,289	94,487	100,802	102,872	(42,101)	60,771	5,990	4,140	15,300	6,835	32,265	52,531	20,265	3,581
24		195,289	98,627	96,662	98,732	(40,740)	57,993	5,716	4,140	15,300	6,835	31,992	52,531	20,539	3,366
25		195,289	102,767	92,522	94,592	(39,232)	55,360	5,457	4,140	15,300	6,835	31,732	52,531	20,798	3,161
26		195,289	106,907	88,382	90,452	(37,578)	52,873	5,212	4,140	15,300	6,835	31,487	52,531	21,044	2,966
27		195,289	111,047	84,242	86,312	(35,862)	50,449	4,973	4,140	15,300	6,835	31,248	52,531	21,283	2,782
28		195,289	115,187	80,102	82,172	(34,146)	48,025	4,734	4,140	15,300	6,835	31,009	52,531	21,521	2,609
29		195,289	119,328	75,961	78,031	(32,430)	45,601	4,495	4,140	15,300	6,835	30,770	52,531	21,760	2,446
30		195,289	123,468	71,821	73,891	(30,714)	43,177	4,256	4,140	15,300	6,835	30,531	52,531	21,999	2,294
31		195,289	127,608	67,681	69,751	(28,998)	40,753	4,017	4,140	15,300	6,835	30,292	52,531	22,238	2,150
32		195,289	131,748	63,541	65,611	(27,282)	38,329	3,778	4,140	15,300	6,835	30,053	52,531	22,477	2,016
33		195,289	135,888	59,401	61,471	(25,566)	35,905	3,539	4,140	15,300	6,835	29,814	52,531	22,716	1,889
34		195,289	140,028	55,261	57,331	(23,850)	33,481	3,300	4,140	15,300	6,835	29,575	52,531	22,955	1,770
35		195,289	144,168	51,121	53,191	(22,134)	31,057	3,061	4,140	15,300	6,835	29,337	52,531	23,194	1,659
36		195,289	148,308	46,981	49,051	(20,418)	28,633	2,822	4,140	15,300	6,835	29,098	52,531	23,433	1,554
37		195,289	152,449	42,840	44,910	(18,702)	26,209	2,583	4,140	15,300	6,835	28,859	52,531	23,672	1,456
38		195,289	156,589	38,700	40,770	(16,985)	23,785	2,344	4,140	15,300	6,835	28,620	52,531	23,911	1,364
39		195,289	160,729	34,560	36,630	(15,269)	21,361	2,106	4,140	15,300	6,835	28,381	52,531	24,150	1,278
40		195,289	164,869	30,420	32,490	(13,553)	18,937	1,867	4,140	15,300	6,835	28,142	52,531	24,389	1,197
41		195,289	169,009	26,280	28,350	(11,837)	16,513	1,628	4,140	15,300	6,835	27,903	52,531	24,628	1,121
42		195,289	173,149	22,140	24,210	(10,121)	14,089	1,389	4,140	15,300	6,835	27,664	52,531	24,867	1,049
43		195,289	177,289	18,000	20,070	(8,405)	11,665	1,150	4,140	15,300	6,835	27,425	52,531	25,105	983
44		195,289	181,429	13,860	15,930	(6,689)	9,241	911	4,140	15,300	6,835	27,186	52,531	25,344	920
45		195,289	185,570	9,719	11,789	(4,973)	6,817	672	4,140	15,300	6,835	26,947	52,531	25,583	861
46		195,289	189,710	5,579	7,649	(3,257)	4,393	433	4,140	15,300	6,835	26,708	52,531	25,822	806
47		195,289	193,850	1,439	3,509	(1,541)	1,968	194	4,140	15,300	6,835	26,469	52,531	26,061	755
48		195,289	195,497	(208)	616	(341)	274	27	1,647	15,300	6,835	23,809	52,531	28,721	771
								595,940	195,497	726,750	326,870	1,845,057	2,495,199	650,142	17

MERC New Area Surcharge Analysis
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Yr. 1 Gross Plant Investment 789,899
 CIAC (702,850)
 Depreciable Book Basis 87,049

Book Depreciation Rate 2.1200%

Depreciable Tax Basis 789,899

Tax Rate 41.45%

Property Tax Rate 3.50% / Gross Plant

First Year of Analysis 2014

Year	Net Plant				ADIT - Property			
	Gross Plant	Depreciation	Acum. Res.	Net Plant	Avg Net Plant	Tax Rates	Tax Deprec.	Cum. Tax Deprec.
0	2014	87,049				3.750%	29,621	29,621
1	2015	87,049				7.219%	57,023	86,644
2	2016	87,049				6.677%	52,742	139,386
3	2017	87,049				6.177%	48,792	188,178
4	2018	87,049				5.713%	45,127	233,305
5	2019	87,049				5.285%	41,746	275,051
6	2020	87,049				4.888%	38,610	313,661
7	2021	87,049				4.522%	35,719	349,380
8	2022	87,049				4.462%	35,245	384,626
9	2023	87,049				4.461%	35,237	419,863
10	2024	87,049				4.462%	35,245	455,108
11	2025	87,049				4.461%	35,237	490,346
12	2026	87,049				4.462%	35,245	525,591
13	2027	87,049				4.461%	35,237	560,828
14	2028	87,049				4.462%	35,245	596,074
15	2029	87,049				4.461%	35,237	631,311
16	2030	87,049				4.462%	35,245	666,556
17	2031	87,049				4.461%	35,237	701,794
18	2032	87,049				4.462%	35,245	737,039
19	2033	87,049				4.461%	35,237	772,276
20	2034	87,049				2.231%	17,623	789,899
21	2035	87,049					-	789,899
22	2036	87,049					-	789,899
23	2037	87,049					-	789,899
24	2038	87,049					-	789,899
25	2039	87,049					-	789,899
26	2040	87,049					-	789,899
27	2041	87,049					-	789,899
28	2042	87,049					-	789,899
29	2043	87,049					-	789,899
30	2044	87,049					-	789,899
31	2045	87,049					-	789,899
32	2046	87,049					-	789,899
33	2047	87,049					-	789,899
34	2048	87,049					-	789,899
35	2049	87,049					-	789,899
36	2050	87,049					-	789,899
37	2051	87,049					-	789,899
38	2052	87,049					-	789,899
39	2053	87,049					-	789,899
40	2054	87,049					-	789,899
41	2055	87,049					-	789,899
42	2056	87,049					-	789,899
43	2057	87,049					-	789,899
44	2058	87,049					-	789,899
45	2059	87,049					-	789,899
46	2060	87,049					-	789,899
47	2061	87,049					-	789,899
48	2062	87,049					-	789,899
						100.000%	789,899	

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Yr 2 Gross Plant Investment 45,100 Deprec Tax
 Yr 2 Surcharge -
 Yr 2 Net Investment 45,100 Deprec. Book

Book Depreciation Rate 2.120%

Tax Rate 41.45%

Year	Net Plant				ADIT - Prop			
	Gross Plant	Depreciation	Accum. Res.	Net Plant	Avg Net Plant	Tax Rates	Tax Deprec.	Cum Tax Deprec.
0	2014							
1	2015	45,100				3.750%	1,691	1,691
2	2016	45,100				7.219%	3,256	4,947
3	2017	45,100				6.677%	3,011	7,958
4	2018	45,100				6.177%	2,786	10,744
5	2019	45,100				5.713%	2,577	13,321
6	2020	45,100				5.285%	2,384	15,704
7	2021	45,100				4.888%	2,204	17,909
8	2022	45,100				4.522%	2,039	19,948
9	2023	45,100				4.462%	2,012	21,961
10	2024	45,100				4.461%	2,012	23,972
11	2025	45,100				4.462%	2,012	25,985
12	2026	45,100				4.461%	2,012	27,997
13	2027	45,100				4.462%	2,012	30,009
14	2028	45,100				4.461%	2,012	32,021
15	2029	45,100				4.462%	2,012	34,033
16	2030	45,100				4.461%	2,012	36,045
17	2031	45,100				4.462%	2,012	38,058
18	2032	45,100				4.461%	2,012	40,070
19	2033	45,100				4.462%	2,012	42,082
20	2034	45,100				4.461%	2,012	44,094
21	2035	45,100				2.231%	1,006	45,100
22	2036	45,100					-	45,100
23	2037	45,100					-	45,100
24	2038	45,100					-	45,100
25	2039	45,100					-	45,100
26	2040	45,100					-	45,100
27	2041	45,100					-	45,100
28	2042	45,100					-	45,100
29	2043	45,100					-	45,100
30	2044	45,100					-	45,100
31	2045	45,100					-	45,100
32	2046	45,100					-	45,100
33	2047	45,100					-	45,100
34	2048	45,100					-	45,100
35	2049	45,100					-	45,100
36	2050	45,100					-	45,100
37	2051	45,100					-	45,100
38	2052	45,100					-	45,100
39	2053	45,100					-	45,100
40	2054	45,100					-	45,100
41	2055	45,100					-	45,100
42	2056	45,100					-	45,100
43	2057	45,100					-	45,100
44	2058	45,100					-	45,100
45	2059	45,100					-	45,100
46	2060	45,100					-	45,100
47	2061	45,100					-	45,100
48	2062	45,100					-	45,100
						100.000%	45,100	

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Yr. 3 Gross Plant Investment	36,080	Deprec Tax
Yr 3 Surcharge	-	
Yr 3 Net Investment	36,080	Deprec. Book
Book Depreciation Rate	2.120%	
Tax Rate	41.45%	

Year	Net Plant				ADIT - Prop			
	Gross Plant	Depreciation	Accum. Res.	Net Plant	Avg Net Plant	Tax Rates	Tax Deprec.	Cum Tax Deprec.
0	2014							
1	2015							
2	2016	36,080				3.750%	1,353	1,353
3	2017	36,080				7.219%	2,605	3,958
4	2018	36,080				6.677%	2,409	6,367
5	2019	36,080				6.177%	2,229	8,595
6	2020	36,080				5.713%	2,061	10,657
7	2021	36,080				5.285%	1,907	12,563
8	2022	36,080				4.888%	1,764	14,327
9	2023	36,080				4.522%	1,632	15,959
10	2024	36,080				4.462%	1,610	17,568
11	2025	36,080				4.461%	1,610	19,178
12	2026	36,080				4.462%	1,610	20,788
13	2027	36,080				4.461%	1,610	22,397
14	2028	36,080				4.462%	1,610	24,007
15	2029	36,080				4.461%	1,610	25,617
16	2030	36,080				4.462%	1,610	27,227
17	2031	36,080				4.461%	1,610	28,836
18	2032	36,080				4.462%	1,610	30,446
19	2033	36,080				4.461%	1,610	32,056
20	2034	36,080				4.462%	1,610	33,666
21	2035	36,080				4.461%	1,610	35,275
22	2036	36,080				2.231%	805	36,080
23	2037	36,080					-	36,080
24	2038	36,080					-	36,080
25	2039	36,080					-	36,080
26	2040	36,080					-	36,080
27	2041	36,080					-	36,080
28	2042	36,080					-	36,080
29	2043	36,080					-	36,080
30	2044	36,080					-	36,080
31	2045	36,080					-	36,080
32	2046	36,080					-	36,080
33	2047	36,080					-	36,080
34	2048	36,080					-	36,080
35	2049	36,080					-	36,080
36	2050	36,080					-	36,080
37	2051	36,080					-	36,080
38	2052	36,080					-	36,080
39	2053	36,080					-	36,080
40	2054	36,080					-	36,080
41	2055	36,080					-	36,080
42	2056	36,080					-	36,080
43	2057	36,080					-	36,080
44	2058	36,080					-	36,080
45	2059	36,080					-	36,080
46	2060	36,080					-	36,080
47	2061	36,080					-	36,080
48	2062	36,080					-	36,080
						100.000%	36,080	

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Yr. 4 Gross Plant Investment	9,020	Deprec. Tax
Yr 4 Surcharge	-	
Yr 4 Net Investment	9,020	Deprec. Book
Book Depreciation Rate	2.120%	
Tax Rate	41.45%	

Year	Net Plant				ADIT - Prop			
	Gross Plant	Depreciation	Accum. Res.	Net Plant	Avg Net Plant	Tax Rates	Tax Deprec.	Cum Tax Deprec.
0	2014							
1	2015							
2	2016							
3	2017	9,020				3.750%	338	338
4	2018	9,020				7.219%	651	989
5	2019	9,020				6.677%	602	1,592
6	2020	9,020				6.177%	557	2,149
7	2021	9,020				5.713%	515	2,664
8	2022	9,020				5.285%	477	3,141
9	2023	9,020				4.888%	441	3,582
10	2024	9,020				4.522%	408	3,990
11	2025	9,020				4.462%	402	4,392
12	2026	9,020				4.461%	402	4,794
13	2027	9,020				4.462%	402	5,197
14	2028	9,020				4.461%	402	5,599
15	2029	9,020				4.462%	402	6,002
16	2030	9,020				4.461%	402	6,404
17	2031	9,020				4.462%	402	6,807
18	2032	9,020				4.461%	402	7,209
19	2033	9,020				4.462%	402	7,612
20	2034	9,020				4.461%	402	8,014
21	2035	9,020				4.462%	402	8,416
22	2036	9,020				4.461%	402	8,819
23	2037	9,020				2.231%	201	9,020
24	2038	9,020					-	9,020
25	2039	9,020					-	9,020
26	2040	9,020					-	9,020
27	2041	9,020					-	9,020
28	2042	9,020					-	9,020
29	2043	9,020					-	9,020
30	2044	9,020					-	9,020
31	2045	9,020					-	9,020
32	2046	9,020					-	9,020
33	2047	9,020					-	9,020
34	2048	9,020					-	9,020
35	2049	9,020					-	9,020
36	2050	9,020					-	9,020
37	2051	9,020					-	9,020
38	2052	9,020					-	9,020
39	2053	9,020					-	9,020
40	2054	9,020					-	9,020
41	2055	9,020					-	9,020
42	2056	9,020					-	9,020
43	2057	9,020					-	9,020
44	2058	9,020					-	9,020
45	2059	9,020					-	9,020
46	2060	9,020					-	9,020
47	2061	9,020					-	9,020
48	2062	9,020					-	9,020
						100.000%	9,020	

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Yr. 5 Gross Plant Investment 4,510
 Yr 5 Surcharge -
 Yr 5 Net Investment 4,510 Deprec. Book

 Book Depreciation Rate 2.1200%

 Tax Rate 41.45%

Year	Net Plant				ADIT - Prop			
	Gross Plant	Depreciation	Accum. Res.	Net Plant	Avg Net Plant	Tax Rates	Tax Deprec.	Cum Tax Deprec.
0	2014							
1	2015							
2	2016							
3	2017							
4	2018	4,510				3.750%	169	169
5	2019	4,510				7.219%	326	495
6	2020	4,510				6.677%	301	796
7	2021	4,510				6.177%	279	1,074
8	2022	4,510				5.713%	258	1,332
9	2023	4,510				5.285%	238	1,570
10	2024	4,510				4.888%	220	1,791
11	2025	4,510				4.522%	204	1,995
12	2026	4,510				4.462%	201	2,196
13	2027	4,510				4.461%	201	2,397
14	2028	4,510				4.462%	201	2,598
15	2029	4,510				4.461%	201	2,800
16	2030	4,510				4.462%	201	3,001
17	2031	4,510				4.461%	201	3,202
18	2032	4,510				4.462%	201	3,403
19	2033	4,510				4.461%	201	3,605
20	2034	4,510				4.462%	201	3,806
21	2035	4,510				4.461%	201	4,007
22	2036	4,510				4.462%	201	4,208
23	2037	4,510				4.461%	201	4,409
24	2038	4,510				2.231%	101	4,510
25	2039	4,510					-	4,510
26	2040	4,510					-	4,510
27	2041	4,510					-	4,510
28	2042	4,510					-	4,510
29	2043	4,510					-	4,510
30	2044	4,510					-	4,510
31	2045	4,510					-	4,510
32	2046	4,510					-	4,510
33	2047	4,510					-	4,510
34	2048	4,510					-	4,510
35	2049	4,510					-	4,510
36	2050	4,510					-	4,510
37	2051	4,510					-	4,510
38	2052	4,510					-	4,510
39	2053	4,510					-	4,510
40	2054	4,510					-	4,510
41	2055	4,510					-	4,510
42	2056	4,510					-	4,510
43	2057	4,510					-	4,510
44	2058	4,510					-	4,510
45	2059	4,510					-	4,510
46	2060	4,510					-	4,510
47	2061	4,510					-	4,510
48	2062	4,510					-	4,510
						100.000%	4,510	

MERC New Area Surcharge Analysis
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Yr 6-15 Gross Plant Investment	13,530	Deprec. Tax
Yr 6-15 Surcharge	-	
Yr 6-15 Net Investment	13,530	Deprec. Book
Book Depreciation Rate	2.1200%	
Tax Rate	41.45%	

Year	Net Plant				ADIT - Prop			
	Gross Plant	Depreciation	Accum. Res.	Net Plant	Avg Net Plant	Tax Rates	Tax Deprec.	Cum Tax Deprec.
0	2014							
1	2015							
2	2016							
3	2017							
4	2018							
5	2019	13,530				3.750%	507	507
6	2020	13,530				7.219%	977	1,484
7	2021	13,530				6.677%	903	2,388
8	2022	13,530				6.177%	836	3,223
9	2023	13,530				5.713%	773	3,996
10	2024	13,530				5.285%	715	4,711
11	2025	13,530				4.888%	661	5,373
12	2026	13,530				4.522%	612	5,984
13	2027	13,530				4.462%	604	6,588
14	2028	13,530				4.461%	604	7,192
15	2029	13,530				4.462%	604	7,795
16	2030	13,530				4.461%	604	8,399
17	2031	13,530				4.462%	604	9,003
18	2032	13,530				4.461%	604	9,606
19	2033	13,530				4.462%	604	10,210
20	2034	13,530				4.461%	604	10,814
21	2035	13,530				4.462%	604	11,417
22	2036	13,530				4.461%	604	12,021
23	2037	13,530				4.462%	604	12,625
24	2038	13,530				4.461%	604	13,228
25	2039	13,530				2.231%	302	13,530
26	2040	13,530					-	13,530
27	2041	13,530					-	13,530
28	2042	13,530					-	13,530
29	2043	13,530					-	13,530
30	2044	13,530					-	13,530
31	2045	13,530					-	13,530
32	2046	13,530					-	13,530
33	2047	13,530					-	13,530
34	2048	13,530					-	13,530
35	2049	13,530					-	13,530
36	2050	13,530					-	13,530
37	2051	13,530					-	13,530
38	2052	13,530					-	13,530
39	2053	13,530					-	13,530
40	2054	13,530					-	13,530
41	2055	13,530					-	13,530
42	2056	13,530					-	13,530
43	2057	13,530					-	13,530
44	2058	13,530					-	13,530
45	2059	13,530					-	13,530
46	2060	13,530					-	13,530
47	2061	13,530					-	13,530
48	2062	13,530					-	13,530
						100.000%	13,530	

Retail Sales and Surcharge

Residential										Commercial						Surcharge Info					
Year	Average Customers	Annual Throughput Customer	Volumetric Margin/Unit	Annual Base Charge/Cu stomer	Annual Retail Revenue	Monthly Surcharge Per Customer	Surcharge Recovery	Average Customers	Annual Throughput/ Customer	Volumetric Margin/Unit	Annual Base Charge /Customer	Annual Retail Revenue	Monthly Surcharge Per Customer	Surcharge Recovery	Total Customers	Total Retail Revenue	Total Surcharge Recover	Tax G-Up on Surcharge	Total Surcharge Recovery	Avg Cum Surcharge Recovery	
0	2014	50	87	2,229	115.08	15,450	33.50	20,100	0	1,400	1,6868	420.00	-	34.10	-	50	15,450	20,100	14,183	20,100	10,050
1	2015	100	87	2,229	115.08	30,900	33.50	40,200	0	1,400	1,6868	420.00	-	34.10	-	100	30,900	40,200	28,366	60,300	40,200
2	2016	140	87	2,229	115.08	43,260	33.50	56,280	0	1,400	1,6868	420.00	-	34.10	-	140	43,260	56,280	39,712	116,580	88,440
3	2017	150	87	2,229	115.08	46,350	33.50	60,300	0	1,400	1,6868	420.00	-	34.10	-	150	46,350	60,300	42,548	176,880	146,730
4	2018	155	87	2,229	115.08	47,895	33.50	62,310	0	1,400	1,6868	420.00	-	34.10	-	155	47,895	62,310	43,967	239,190	208,035
5	2019	170	87	2,229	115.08	52,531	33.50	68,340	0	1,400	1,6868	420.00	-	34.10	-	170	52,531	68,340	48,221	307,530	273,360
6	2020	170	87	2,229	115.08	52,531	33.50	68,340	0	1,400	1,6868	420.00	-	34.10	-	170	52,531	68,340	48,221	375,870	341,700
7	2021	170	87	2,229	115.08	52,531	33.50	68,340	0	1,400	1,6868	420.00	-	34.10	-	170	52,531	68,340	48,221	444,210	410,040
8	2022	170	87	2,229	115.08	52,531	33.50	68,340	0	1,400	1,6868	420.00	-	34.10	-	170	52,531	68,340	48,221	512,550	478,380
9	2023	170	87	2,229	115.08	52,531	33.50	68,340	0	1,400	1,6868	420.00	-	34.10	-	170	52,531	68,340	48,221	580,890	546,720
10	2024	170	87	2,229	115.08	52,531	33.50	68,340	0	1,400	1,6868	420.00	-	34.10	-	170	52,531	68,340	48,221	649,230	615,060
11	2025	170	87	2,229	115.08	52,531	33.50	68,340	0	1,400	1,6868	420.00	-	34.10	-	170	52,531	68,340	48,221	717,570	683,400
12	2026	170	87	2,229	115.08	52,531	33.50	68,340	0	1,400	1,6868	420.00	-	34.10	-	170	52,531	68,340	48,221	785,910	751,740
13	2027	170	87	2,229	115.08	52,531	33.50	68,340	0	1,400	1,6868	420.00	-	34.10	-	170	52,531	68,340	48,221	854,250	820,080
14	2028	170	87	2,229	115.08	52,531	33.50	68,340	0	1,400	1,6868	420.00	-	34.10	-	170	52,531	68,340	48,221	922,590	888,420
15	2029	170	87	2,229	115.08	52,531	33.50	68,340	0	1,400	1,6868	420.00	-	34.10	-	170	52,531	68,340	48,221	990,930	956,760
16	2030	170	87	2,229	115.08	52,531	33.50	68,340	0	1,400	1,6868	420.00	-	34.10	-	170	52,531	68,340	48,221	#####	#####
17	2031	170	87	2,229	115.08	52,531	33.50	68,340	0	1,400	1,6868	420.00	-	34.10	-	170	52,531	68,340	48,221	#####	#####
18	2032	170	87	2,229	115.08	52,531	33.50	68,340	0	1,400	1,6868	420.00	-	34.10	-	170	52,531	68,340	48,221	#####	#####
19	2033	170	87	2,229	115.08	52,531	33.50	68,340	0	1,400	1,6868	420.00	-	34.10	-	170	52,531	68,340	48,221	#####	#####
20	2034	170	87	2,229	115.08	52,531	-	-	0	1,400	1,6868	420.00	-	-	-	170	52,531	-	-	#####	#####
21	2035	170	87	2,229	115.08	52,531	-	-	0	1,400	1,6868	420.00	-	-	-	170	52,531	-	-	#####	#####
22	2036	170	87	2,229	115.08	52,531	-	-	0	1,400	1,6868	420.00	-	-	-	170	52,531	-	-	#####	#####
23	2037	170	87	2,229	115.08	52,531	-	-	0	1,400	1,6868	420.00	-	-	-	170	52,531	-	-	#####	#####
24	2038	170	87	2,229	115.08	52,531	-	-	0	1,400	1,6868	420.00	-	-	-	170	52,531	-	-	#####	#####
25	2039	170	87	2,229	115.08	52,531	-	-	0	1,400	1,6868	420.00	-	-	-	170	52,531	-	-	#####	#####
26	2040	170	87	2,229	115.08	52,531	-	-	0	1,400	1,6868	420.00	-	-	-	170	52,531	-	-	#####	#####
27	2041	170	87	2,229	115.08	52,531	-	-	0	1,400	1,6868	420.00	-	-	-	170	52,531	-	-	#####	#####
28	2042	170	87	2,229	115.08	52,531	-	-	0	1,400	1,6868	420.00	-	-	-	170	52,531	-	-	#####	#####
29	2043	170	87	2,229	115.08	52,531	-	-	0	1,400	1,6868	420.00	-	-	-	170	52,531	-	-	#####	#####
30	2044	170	87	2,229	115.08	52,531	-	-	0	1,400	1,6868	420.00	-	-	-	170	52,531	-	-	#####	#####
31	2045	170	87	2,229	115.08	52,531	-	-	0	1,400	1,6868	420.00	-	-	-	170	52,531	-	-	#####	#####
32	2046	170	87	2,229	115.08	52,531	-	-	0	1,400	1,6868	420.00	-	-	-	170	52,531	-	-	#####	#####
33	2047	170	87	2,229	115.08	52,531	-	-	0	1,400	1,6868	420.00	-	-	-	170	52,531	-	-	#####	#####
34	2048	170	87	2,229	115.08	52,531	-	-	0	1,400	1,6868	420.00	-	-	-	170	52,531	-	-	#####	#####
35	2049	170	87	2,229	115.08	52,531	-	-	0	1,400	1,6868	420.00	-	-	-	170	52,531	-	-	#####	#####
36	2050	170	87	2,229	115.08	52,531	-	-	0	1,400	1,6868	420.00	-	-	-	170	52,531	-	-	#####	#####
37	2051	170	87	2,229	115.08	52,531	-	-	0	1,400	1,6868	420.00	-	-	-	170	52,531	-	-	#####	#####
38	2052	170	87	2,229	115.08	52,531	-	-	0	1,400	1,6868	420.00	-	-	-	170	52,531	-	-	#####	#####
39	2053	170	87	2,229	115.08	52,531	-	-	0	1,400	1,6868	420.00	-	-	-	170	52,531	-	-	#####	#####
40	2054	170	87	2,229	115.08	52,531	-	-	0	1,400	1,6868	420.00	-	-	-	170	52,531	-	-	#####	#####
41	2055	170	87	2,229	115.08	52,531	-	-	0	1,400	1,6868	420.00	-	-	-	170	52,531	-	-	#####	#####
42	2056	170	87	2,229	115.08	52,531	-	-	0	1,400	1,6868	420.00	-	-	-	170	52,531	-	-	#####	#####
43	2057	170	87	2,229	115.08	52,531	-	-	0	1,400	1,6868	420.00	-	-	-	170	52,531	-	-	#####	#####
44	2058	170	87	2,229	115.08	52,531	-	-	0	1,400	1,6868	420.00	-	-	-	170	52,531	-	-	#####	#####
45	2059	170	87	2,229	115.08	52,531	-	-	0	1,400	1,6868	420.00	-	-	-	170	52,531	-	-	#####	#####
46	2060	170	87	2,229	115.08	52,531	-	-	0	1,400	1,6868	420.00	-	-	-	170	52,531	-	-	#####	#####
47	2061	170	87	2,229	115.08	52,531	-	-	0	1,400	1,6868	420.00	-	-	-	170	52,531	-	-	#####	#####
48	2062	170	87	2,229	115.08	52,531	-	-	0	1,400	1,6868	420.00	-	-	-	170	52,531	-	-	#####	#####

1,264,290

Total Surcharge Rev 1,264,290

PV = equals CIAC 702,410

CIAC (702,850)

MERC New Area Surcharge Analysis
 ELY LAKE EXPANSION
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Income Tax Rate 41.45%
 MPUC Factor 1.414500

Capital Structure:

	Ratios	Cost	Weighted Cost	Tax Factor	Overall Factor
Long Term Debt	44.60%	6.5526%	2.9223%		2.92%
STD	4.93%	0.1833%	0.0090%		0.01%
Common Equity	50.48%	9.7000%	4.8961%	1.4145	6.93%
Total	100.00%		7.8275%		9.86%

Income Tax Rate 41.45%
 ROR 9.86%
 Actual Disct Rate 7.83%
 Disc Rate per MPUC 6.55%

MERC New Area Surcharge Analysis
ELY LAKE EXPANSION

Discount Rate 6.55%

	Surcharge	PV	Interest
1	20,100	20,100	-
2	40,200	37,729	2,471
3	56,280	49,571	6,709
4	60,300	49,845	10,455
5	62,310	48,339	13,971
6	68,340	49,757	18,583
7	68,340	46,697	21,643
8	68,340	43,825	24,515
9	68,340	41,130	27,210
10	68,340	38,601	29,739
11	68,340	36,227	32,113
12	68,340	33,999	34,341
13	68,340	31,908	36,432
14	68,340	29,946	38,394
15	68,340	28,105	40,235
16	68,340	26,376	41,964
17	68,340	24,754	43,586
18	68,340	23,232	45,108
19	68,340	21,803	46,537
20	68,340	20,462	47,878
	1,264,290	702,410	561,880

Assumptions

Construction Costs	\$744,799		
CIAC	\$ 702,850		
Costs for Service Line	\$ 902		
Customer's Sign-Up	259 (total possible)		
Year 1 - 2014	50	\$	45,100
Year 2 - 2015	50	\$	45,100
Year 3 - 2016	40	\$	36,080
Year 4 - 2017	10	\$	9,020
Year 5 - 2019	5	\$	4,510
Year 6 - 15 - 2020 through 2029	15	\$	13,530
Total Customer Connects	170		
		\$	153,340
Percentage of Total Connects Available	66%		
Total Project	\$898,139		