June 26, 2017

Daniel P. Wolf, Executive Secretary
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul, MN 55101-2147

Subject: ***In the Matter of a Dakota Electric Association***
Petition for Certification of Depreciation Rates and Methods
Docket No. E-111/D-17-____

Dear Mr. Wolf:

Enclosed for filing is Dakota Electric Association's (Dakota Electric) 5-year Depreciation Study for 2017. This petition is made in compliance with Minnesota Rules pt. 7825.0600 through 7825.0900.

Dakota Electric petitions the Minnesota Public Utilities Commission for certification of the enclosed depreciation rates and methods. We request that these rates be made effective for the year beginning January 1, 2018.

If you have any questions about the information in this filing, please call Tom Riste at 651-463-6278 or me at (651) 463-6258.

Sincerely,

/s/ Douglas R. Larson

Vice President of Regulatory Services
Dakota Electric Association
4300 220th Street West
Farmington, MN 55024

Enclosure

Certificate of Service

I, Cherry Jordan, hereby certify that I have this day served copies of the attached document to those on the following service list by e-filing, personal service, or by causing to be placed in the U.S. mail at Farmington, Minnesota.

Docket No. E-111/D-17-

Dated this 26th day of June, 2017

/s/ Cherry Jordan

_____

Cherry Jordan

DAKOTA ELECTRIC ASSOCIATION

Your Touchstone Energy® Cooperative

2017 Depreciation Rate Study

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DAKOTA ELECTRIC ASSOCIATION
FARMINGTON, MINNESOTA

EXECUTIVE SUMMARY

Summary

This depreciation certification study was initiated to meet the Minnesota Public Utilities Commission (PUC) certification requirement for the five years beginning January 1, 2017.

The principal activities undertaken in the course of this study included:

- Collection of plant and net salvage data
- Interviews with company personnel to identify forces of retirement in the future
- Development of accrual rates for each proposed rate category

Dakota Electric Association is currently using straight-line, broad-group, whole-life depreciation rates. These rates were approved by the Minnesota Public Utilities Commission in 2012 based on the previously submitted five-year depreciation study period of 2007 -2011; this study period was used to determine rates applied to the years 2012 - 2016.

The proposed accrual rates will provide a full-period accrual on plant remaining in service over the entire study year and half-period accrual on study year additions and retirements. The following tables provide a comparison of present and proposed depreciation rates.

Annual Dollar Accrual

	Present	Proposed	Increase (Decrease)
Distribution Plant	$ 7,755,454	$ 8,037,223	$ 281,769
General Plant	$ 2,106,186	$ 2,215,938	$ 109,752
Total	**$ 9,861,640**	**$ 10,253,161**	**$ 391,521**

Annual Accrual Rate - Weighted Average

	Present	Proposed	Increase (Decrease)
Distribution Plant	3.08%	3.19%	0.11%
General Plant	8.06%	8.48%	0.42%
Composite	**3.54%**	**3.68%**	**0.14%**

Average Asset Lives (Yrs)

	Present	Proposed	Increase (Decrease)
Distribution Plant	32.51	31.37	(1.14)
General Plant	12.41	11.80	(0.61)
Composite	**28.22**	**27.14**	**(1.08)**

DAKOTA ELECTRIC ASSOCIATION
FARMINGTON, MINNESOTA

COMPANY PROFILE

General

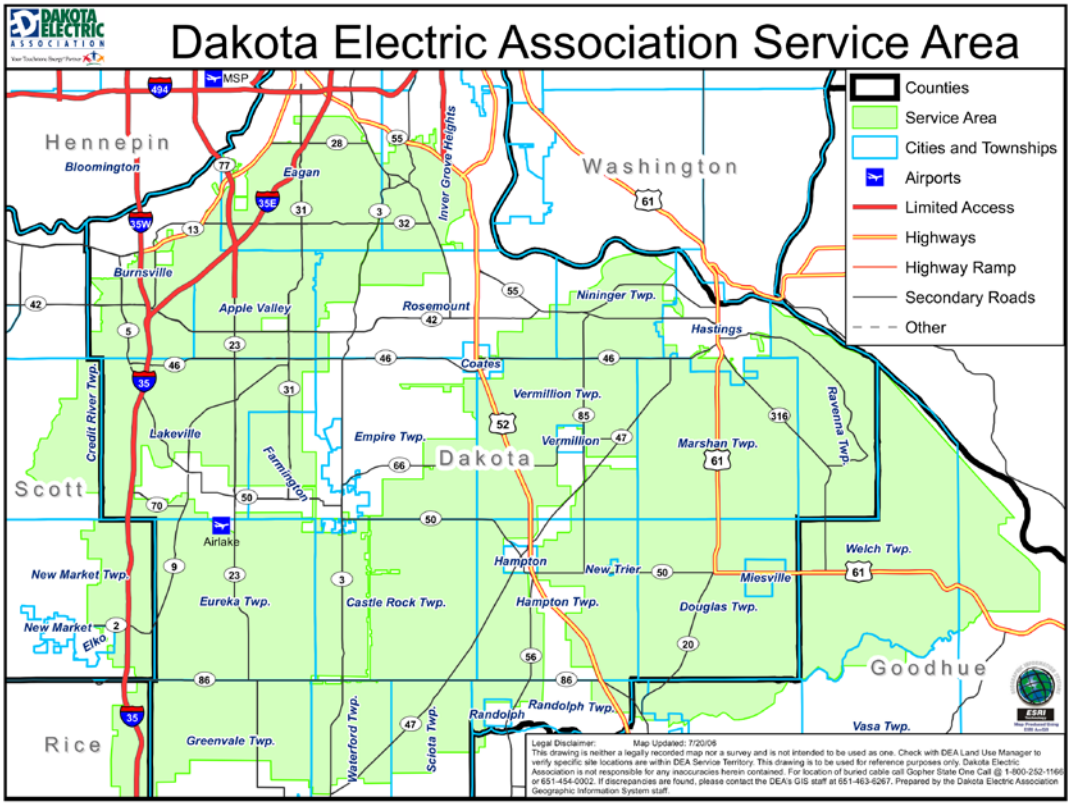
Dakota Electric Association (DEA) is a customer-owned electric distribution cooperative incorporated in 1937. DEA is headquartered in Farmington, Minnesota and provides electrical service to over 105,000 consumers in four counties of Southeastern Minnesota. Service is concentrated over Dakota County and portions of Goodhue, Rice and Scott counties.

DEA is one of 28 member/owners of Great River Energy (GRE), which supplies power at wholesale to its members. During 2016, DEA purchased 1,872,717 megawatt-hours from GRE, and had a peak demand of 379 megawatts.

Service Area

DEA's service area covers 507 square miles located in Southeastern Minnesota and illustrated in the map below. DEA operates over 4,095 miles of distribution line (71% underground, 29% overhead) within its service area and has approximately $286 million invested in total utility plant and equipment in service.

During 2016, total sales were 1,872,717 megawatt-hours of electricity. Commercial members account for approximately 41% of all revenue, residential and farming make up about 58%, and street lighting and irrigation represent the last 1%.

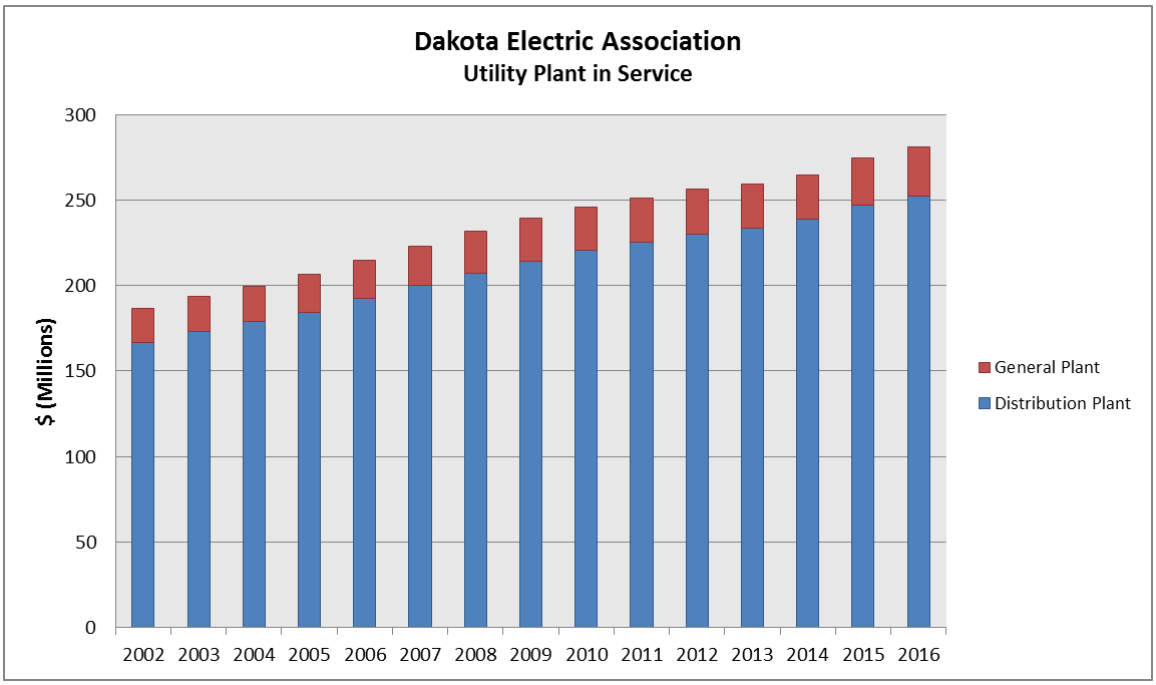


Load Growth and Construction

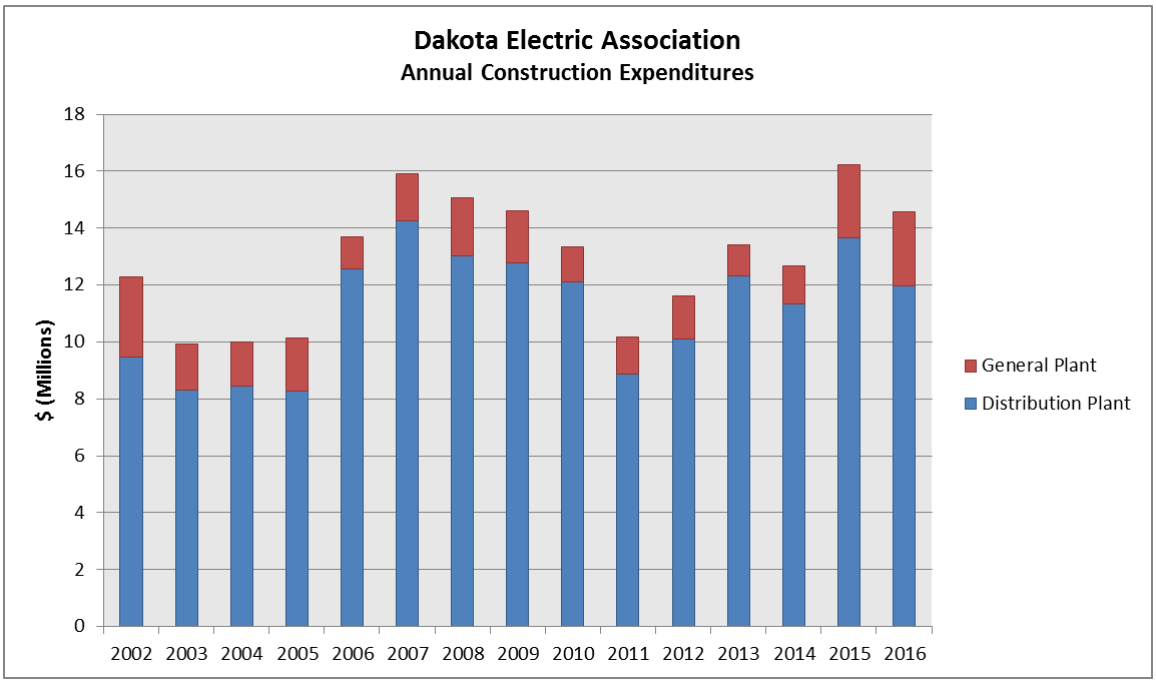
In 1938, the newly-formed Cooperative operated 232 miles of overhead distribution line located in Dakota County. Construction to extend service to the remainder of the county proceeded at a consistent rate of approximately 20 miles per year into the early 1960's. At the end of 1963, the system was served by 782 miles of overhead distribution line. As the system expanded, service boundaries were established between DEA and the service

areas of other developing electric distribution systems which prohibited DEA from expanding into other geographic areas. Annual construction averaged $11.9 million during the period covered by this five year depreciation study, and distribution plant increased from $225 million to $252 million. The level of construction expenditures and growth in total utility plant in service over the past 15 years are illustrated on the following pages.

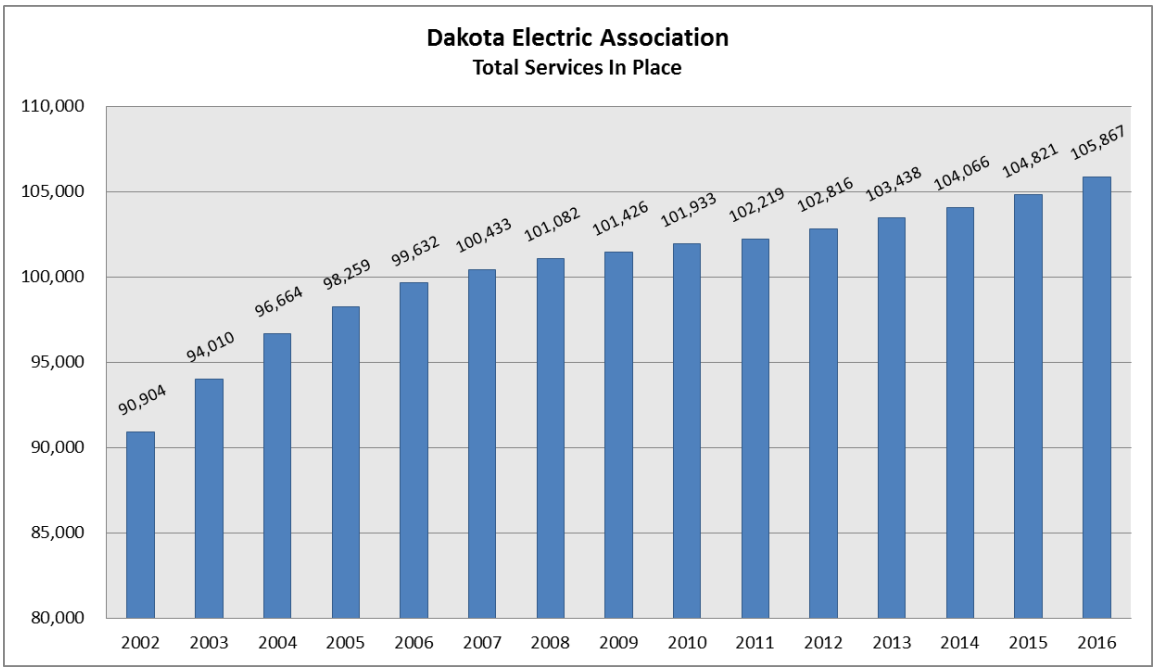
Total Utility Plant in Service



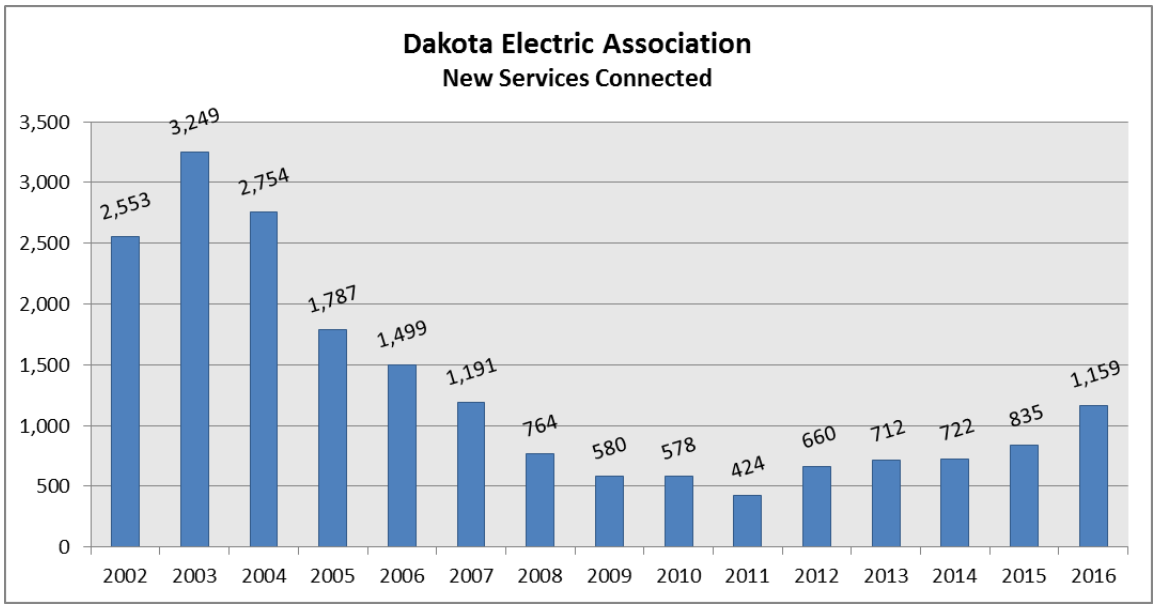
Annual Construction Expenditures



Total Services in Place at Year End



New Services Connected



DAKOTA ELECTRIC ASSOCIATION
FARMINGTON, MINNESOTA

STUDY PROCEDURE

Purpose

The purpose of this study is to analyze net salvage rates and the adequacy of the depreciation accrual and recorded depreciation reserve for each primary account. This study provides the foundation and documentation for recommended changes in the depreciation accrual rates for DEA that are subject to approval of the Minnesota Public Utilities Commission. The study was prepared in accordance with the study procedures established by the PUC for electric utilities.

Distribution and General Plant Databases

The life studies presented in this report are based on December 31, 2016 plant in service. The distribution plant database used in this study was extracted from the detailed property records maintained by DEA as part of its continuing property record system. Distribution plant assets use mass asset depreciation accounting. All assets in the distribution plant database are assigned to categories with average service life and salvage rates that are determined from the five-year depreciation study. When retirement occurs under the mass asset accounting model, no gain or loss is recorded, and the average cost of the asset represents the amount to be removed from accumulated depreciation.

The general plant database used in the study is extracted from the asset management system that was part of the Infor/Lawson software conversion in 1997. Although general plant assets are placed in a category that is considered to have some average life, each individual asset is assigned a service life and salvage rate. When general plant assets are retired, the amount of depreciation expense on the individual asset offsets accumulated depreciation, and a gain or loss is recorded on the Income Statement. Both databases are reconciled to the plant ledger to ensure consistency. The property records are adjusted for additions, retirements, transfers, sales, and other accounting transactions to reflect the actual exposure and normal retirement experience for each category.

Reserve Analysis

Although reserve records are typically maintained by various account classifications, the total reserve for a company is the single most important measure of the status of the company's depreciation practices and procedures. If a company has not previously conducted statistical life studies or considered retirement dispersion in setting depreciation rates, it is likely that some accounts will be over-depreciated and other accounts will be under-depreciated relative to a calculated theoretical reserve. Differences between the theoretical reserve and the recorded reserve will also arise as a normal occurrence when service lives, dispersion patterns and salvage estimates are changed in the course of depreciation reviews.

	Plant	Reserve	Reserve Ratio
2016	280,981,520	117,157,920	41.70%
2015	274,760,196	112,511,485	40.95%
2014	264,572,661	108,165,139	40.88%
2013	259,168,736	104,329,178	40.26%
2012	256,377,720	101,233,323	39.49%

Development of Accrual Rates

The depreciation system adopted in this study consists of the straight-line method, whole-life technique for the distribution plant accounts, while the general plant utilizes an item procedure with recognition of gain or loss on disposal. For all accounts using the straight-line, whole-life system, a single accrual rate was developed for each rate

category. The rate developed for each rate category provides a full-period accrual on plant remaining in service over the entire study year and a half-period accrual on study year additions and retirements. The accrual rates have also been adjusted for expected net salvage on study year additions and retirements.

The development of depreciation rates for the period 2012-2016 was based on the following:

1) Updating the database of plant additions, retirements, and adjustments providing historical overview
2) A review of plant activity over the past five years
3) Interviews with DEA management and staff responsible for asset purchases, retirements, and policy setting
4) Combining the information gathered to form a basis for anticipated lives and salvage values over the next five year depreciation period

General Plant Capitalization versus Expense

The capitalization limit was increased for General Plant assets from an individual minimum of $1,000 to $2,500 for purchases beginning January 1, 2012. General Plant assets will be defined as “all individual items that are greater than $2,500 and have value or a useful life that extends beyond the current accounting period”.

STATEMENTS

Dakota Electric Association
Annual Depreciation
Year 2017
Schedule A 2017

						PRESENT				PROPOSED				
Account Number	Description	Gross Plant 1/1/2017	50% of Estimated 2017 Addition	50% of Estimated 2017 Retirement	Average Balance 2017	Average or Weighted Service Life (Yrs)	Net Salvage Percent	Accrual Rate or Weighted Average Accrual Rate	Annual Accrual	Average or Weighted Service Life (Yrs)	Net Salvage Percent	Accrual Rate or Weighted Average Accrual Rate	Annual Accrual	Proposed Increase (Decrease)
Distribution Plant														
36000	Land and Land Rights	4,004,579	19,285	-	4,023,863	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
36200	Station Equipment	28,927,702	1,150,000	(23,315)	30,054,387	37.00	0.00%	2.70%	811,468	37.00	0.00%	2.70%	811,468	-
36250	Station Equipment - DSM	3,931,509	-	-	3,931,509	11.00	0.00%	9.09%	-	11.00	0.00%	9.09%	-	-
36255	Station Equipment - DSM Post 2008	767,103	248,000	-	1,015,103	11.00	0.00%	9.09%	92,273	11.00	0.00%	9.09%	92,273	-
36260	Station Equipment - Comm	760,766	-	(37,800)	722,966	6.00	0.00%	16.67%	-	6.00	0.00%	16.67%	-	-
36265	Station Equipment - Comm Post 2009	577,894	315,000	-	892,894	6.00	0.00%	16.67%	148,845	6.00	0.00%	16.67%	148,845	-
36400	Poles, Towers and Fixtures	18,370,537	342,418	(102,258)	18,610,697	29.00	-5.00%	3.62%	673,707	29.00	-5.00%	3.62%	673,707	-
36500	Overhead Conductors and Devices	20,033,477	322,469	(109,313)	20,246,633	30.00	2.00%	3.27%	662,065	30.00	2.00%	3.27%	662,065	-
36700	Underground Conductors and Devices	117,131,608	1,673,273	(699,112)	118,105,769	33.00	5.00%	2.88%	3,401,446	33.00	5.00%	2.88%	3,401,446	-
36800	Line Transformers	38,540,620	699,637	(298,561)	38,941,696	29.00	10.00%	3.10%	1,207,193	29.00	10.00%	3.10%	1,207,193	-
36900	Services	3,309,321	34,666	(1,310)	3,342,678	35.00	-20.00%	3.43%	114,654	35.00	-20.00%	3.43%	114,654	-
37000	Meters	6,866,992	62,309	(39,276)	6,890,025	**25.00**	**0.00%**	**4.00%**	**275,601**	**15.00**	**0.00%**	**6.67%**	**459,565**	183,964
37020	Meters - Used	85,400	-	-	85,400	**15.00**	**0.00%**	**6.67%**	**5,696**	**5.00**	**0.00%**	**20.00%**	**17,080**	11,384
37050	Load Control Meters - DSM	633,490	-	-	633,490	**25.00**	**0.00%**	**4.00%**	**25,340**	**15.00**	**0.00%**	**6.67%**	**42,254**	16,914
37100	Installations on Customers' Premises	233,244	1,352	(24,769)	209,827	**20.00**	**-7.00%**	**5.35%**	**11,226**	**20.00**	**-10.00%**	**5.50%**	**11,540**	314
37120	Installations on Customers' Premises - LED*	121,704	61,512	(660)	182,556	**-**	**0.00%**	**0.00%**	**-**	**16.00**	**0.00%**	**6.25%**	**11,410**	11,410
37150	Load Control Receivers - DSM	228,463	-	(1,606)	226,858	12.00	0.00%	8.33%	-	12.00	0.00%	8.33%	-	-
37300	Street Lighting and Signal Systems	7,717,703	306,121	(54,636)	7,969,187	**22.00**	**10.00%**	**4.09%**	**325,940**	**22.00**	**-5.00%**	**4.77%**	**380,130**	54,190
37320	Street Lighting and Signal Systems - LED*	38,326	19,163	-	57,490	**-**	**0.00%**	**0.00%**	**-**	**16.00**	**0.00%**	**6.25%**	**3,593**	3,593
	TOTAL	252,280,440	5,255,205	(1,392,616)	256,143,028	32.51		3.08%	7,755,454	31.37		3.19%	8,037,223	281,769
* New account category; split from parent account														
General Plant														
38900	Land and Land Rights	102,278	-	-	102,278	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
39000	Structure and Improvements	7,821,782	121,158	(7,770)	7,935,170	**37.50**	**12.50%**	**2.33%**	**184,889**	**34.50**	**12.50%**	**2.54%**	**201,553**	16,664
39050	Security Equipment	316,269	7,006	(39,059)	284,216	6.00	0.00%	16.67%	47,379	6.00	0.00%	16.67%	47,379	-
39100	Office Furniture and Equipment	1,104,287	2,081	(69,838)	1,036,529	12.00	0.00%	8.33%	86,343	12.00	0.00%	8.33%	86,343	-
39110	Computer Equipment	4,940,452	84,017	(16,362)	5,008,107	**5.40**	**0.00%**	**14.69%**	**725,916**	**5.00**	**0.00%**	**16.33%**	**806,573**	80,657
39120	Computer Equipment - DSM	1,432,598	-	-	1,432,598	6.00	0.00%	16.67%	238,814	6.00	0.00%	16.67%	238,814	-
39130	Computer Equipment - Leased	426,168	151,675	(210,890)	366,953	4.00	0.00%	25.00%	91,738	4.00	0.00%	25.00%	91,738	-
39200	Autos & Small Trucks	1,943,593	80,768	(106,269)	1,918,093	7.00	10.00%	10.58%	205,544	7.00	10.00%	10.58%	205,544	-
39300	Stores Equipment	52,570	2,118	(133)	54,554	15.00	0.00%	6.67%	3,639	15.00	0.00%	6.67%	3,639	-
39400	Tools and Line Equipment	818,627	5,021	(115,248)	708,399	16.00	0.00%	6.25%	44,275	16.00	0.00%	6.25%	44,275	-
39410	Shop and Garage Equipment	167,264	7,936	(15,054)	160,146	20.00	0.00%	5.00%	8,007	20.00	0.00%	5.00%	8,007	-
39450	Tools and Related Line Equipment - DSM	-	-	-	-	16.00	0.00%	6.25%	-	16.00	0.00%	6.25%	-	-
39500	Laboratory Equipment	319,265	50,020	(6,278)	363,008	**20.00**	**0.00%**	**5.00%**	**18,150**	**15.00**	**0.00%**	**6.67%**	**24,213**	6,063
39510	Hand Held Meter Reading Devices	98,598	3,080	(11,316)	90,362	6.00	0.00%	16.67%	15,063	6.00	0.00%	16.67%	15,063	-
39620	Power Operated Equipment	1,028,226	(3,767)	-	1,024,459	12.00	5.00%	6.86%	70,278	12.00	5.00%	6.86%	70,278	-
39630	Heavy Transportation Equipment	4,561,863	116,955	(182,830)	4,495,988	**14.22**	**9.54%**	**4.71%**	**214,994**	**11.80**	**9.54%**	**4.85%**	**221,362**	6,368
39700	Communication Equipment	774,886	93,349	(15,040)	853,195	7.50	0.00%	13.33%	113,731	7.50	0.00%	13.33%	113,731	-
39710	Base Stations and Tower	137,908	-	-	137,908	20.00	0.00%	5.00%	6,895	20.00	0.00%	5.00%	6,895	-
39800	Miscellaneous Equipment	260,521	22,155	(7,869)	274,807	9.00	0.00%	11.11%	30,531	9.00	0.00%	11.11%	30,531	-
	TOTAL	26,307,156	743,571	(803,957)	26,246,770	12.41		8.06%	2,106,186	11.80		8.48%	2,215,938	109,752
39999	General Plant Work in Process	2,393,925												
	TOTAL ELECTRIC PLANT IN SERVICE	278,587,595	5,998,776	(2,196,574)	282,389,798	28.22		3.54%	9,861,640	27.14		3.68%	10,253,161	391,521

Years 1 to 5
Dakota Electric Association
Plant Additions and Retirements
Five Years Ended December 31, 2016
Schedule A 2012-2016

Account Number	Description	Balance 1/1/2012	Additions	Retirements	Adjustments and Transfers	Net Additions (Retirements)	Balance 12/31/2016		2016 % of Plant	2016 Reserve Ratio
Distribution Plant										
36000	Land and Land Rights	3,532,579	472,000	-	-	472,000	4,004,579		1.59%	
36200	Station Equipment	25,510,853	3,922,417	(505,568)	-	3,416,849	28,927,702		11.47%	39.6%
36250	Station Equipment - DSM	3,945,309	-	(13,800)	-	(13,800)	3,931,509		1.56%	100.0%
36255	Station Equipment - DSM Post 2008	157,730	609,373	-	-	609,373	767,103		0.30%	23.5%
36260	Station Equipment - Comm	838,459	-	(77,693)	-	(77,693)	760,766		0.30%	100.0%
36265	Station Equipment - Comm Post 2009	103,745	474,915	(765)	-	474,150	577,894		0.23%	27.2%
36400	Poles, Towers and Fixtures	16,493,250	3,156,140	(1,278,853)	-	1,877,287	18,370,537		7.28%	44.4%
36500	Overhead Conductors and Devices	18,529,953	2,852,556	(1,349,032)	-	1,503,524	20,033,477		7.94%	36.8%
36700	Underground Conductors and Devices	103,256,119	21,667,012	(7,791,523)	-	13,875,490	117,131,608		46.43%	31.0%
36800	Line Transformers	33,889,890	7,768,880	(3,118,151)	-	4,650,730	38,540,620		15.28%	56.1%
36900	Services	2,864,138	482,975	(37,791)	-	445,184	3,309,321		1.31%	66.5%
37000	Meters	6,489,286	815,092	(437,386)	-	377,706	6,866,992		2.72%	52.5%
37020	Meters - Used	85,400	-	-	-	-	85,400		0.03%	48.5%
37050	Load Control Meters - DSM	633,490	-	-	-	-	633,490		0.25%	78.5%
37100	Installations on Customers' Premises	290,460	7,908	(65,125)	-	(57,217)	233,244		0.09%	97.5%
37120	Installations on Customers' Premises - LED	-	123,025	(1,320)	-	121,704	121,704		0.05%	1.4%
37150	Load Control Receivers - DSM	2,809,441	-	(2,580,978)	-	(2,580,978)	228,463		0.09%	100.0%
37300	Street Lighting and Signal Systems	5,539,839	2,578,400	(400,536)	-	2,177,864	7,717,703		3.06%	52.2%
37320	Street Lighting and Signal Systems - LED	-	38,326	-	-	38,326	38,326		0.02%	1.6%
	TOTAL	224,969,941	44,969,019	(17,658,520)	-	27,310,499	252,280,440	90%	100%	39.9%
General Plant										
38900	Land and Land Rights	102,278	-	-	-	-	102,278		0.39%	
39000	Structure and Improvements	7,222,479	852,729	(217,430)	(35,996)	599,303	7,821,782		29.73%	44.2%
39050	Security Equipment	359,281	70,009	(144,641)	31,620	(43,012)	316,269		1.20%	84.0%
39100	Office Furniture and Equipment	1,461,305	113,482	(463,404)	(7,095)	(357,018)	1,104,287		4.20%	80.9%
39110	Computer Equipment	4,789,045	943,103	(791,696)	-	151,407	4,940,452		18.78%	82.7%
39120	Computer Equipment - DSM	1,419,961	12,638	-	-	12,638	1,432,598		5.45%	99.4%
39130	Computer Equipment - Leased	829,522	852,375	(1,255,730)	-	(403,354)	426,168		1.62%	31.9%
39200	Autos & Small Trucks	1,913,309	1,132,384	(1,102,099)	-	30,285	1,943,593		7.39%	50.3%
39300	Stores Equipment	67,081	4,235	(18,746)	-	(14,511)	52,570		0.20%	88.0%
39400	Tools and Line Equipment	1,105,085	115,327	(401,331)	(454)	(286,458)	818,627		3.11%	79.9%
39410	Shop and Garage Equipment	161,159	60,693	(51,576)	(3,013)	6,105	167,264		0.64%	64.1%
39450	Tools and Related Line Equipment - DSM	12,018	-	(12,018)	-	(12,018)	-		0.00%	0.0%
39500	Laboratory Equipment	228,590	115,487	(18,107)	(6,705)	90,675	319,265		1.21%	62.9%
39510	Hand Held Meter Reading Devices	119,033	88,606	(109,041)	-	(20,435)	98,598		0.37%	50.1%
39620	Power Operated Equipment	971,734	466,520	(423,823)	13,795	56,492	1,028,226		3.91%	58.3%
39630	Heavy Transportation Equipment	4,125,890	1,599,765	(1,163,792)	-	435,973	4,561,863		17.34%	57.3%
39700	Communication Equipment	643,907	203,017	(72,038)	-	130,980	774,886		2.95%	75.7%
39710	Base Stations and Tower	137,908	-	-	-	-	137,908		0.52%	93.8%
39800	Miscellaneous Equipment	169,142	112,338	(28,808)	7,849	91,379	260,521		0.99%	64.6%
	TOTAL	25,838,726	6,742,709	(6,274,280)	-	468,429	26,307,156	10%	100%	62.3%
39999	General Plant Work in Process	19,575	2,374,350	-	-	2,374,350	2,393,925			
	TOTAL ELECTRIC PLANT IN SERVICE	250,828,242	54,086,078	(23,932,800)	-	30,153,278	280,981,520			41.7%

Year 1
Dakota Electric Association
Plant Additions and Retirements
Year Ended December 31, 2012
Schedule A 2012

Account Number	Description	Balance 1/1/2012	Additions	Retirements	Adjustments and Transfers	Net Additions (Retirements)	Balance 12/31/2012	2012 Reserve Ratio
Distribution Plant								
36000	Land and Land Rights	3,532,579	244	-	-	244	3,532,823	
36200	Station Equipment	25,510,853	955,637	-	-	955,637	26,466,491	34.0%
36250	Station Equipment - DSM	3,945,309	-	-	-	-	3,945,309	100.0%
36255	Station Equipment - DSM Post 2008	157,730	195,435	-	-	195,435	353,165	10.0%
36260	Station Equipment - Comm	838,459	-	-	-	-	838,459	100.0%
36265	Station Equipment - Comm Post 2009	103,745	21,310	-	-	21,310	125,055	28.3%
36400	Poles, Towers and Fixtures	16,493,250	447,221	(137,875)	-	309,346	16,802,596	41.1%
36500	Overhead Conductors and Devices	18,529,953	380,345	(125,511)	-	254,834	18,784,787	33.4%
36700	Underground Conductors and Devices	103,256,119	4,335,679	(1,509,973)	-	2,825,707	106,081,825	28.0%
36800	Line Transformers	33,889,890	1,318,272	(437,413)	-	880,859	34,770,748	54.6%
36900	Services	2,864,138	103,166	(23,884)	-	79,282	2,943,420	60.7%
37000	Meters	6,489,286	109,652	(88,833)	-	20,819	6,510,106	44.1%
37020	Meters - Used	85,400	-	-	-	-	85,400	21.9%
37050	Load Control Meters - DSM	633,490	-	-	-	-	633,490	62.5%
37100	Installations on Customers' Premises	290,460	-	-	-	-	290,460	100.0%
37120	Installations on Customers' Premises - LED	-				-	-	0.0%
37150	Load Control Receivers - DSM	2,809,441	-	(744,030)	-	(744,030)	2,065,411	100.0%
37300	Street Lighting and Signal Systems	5,539,839	472,028	(95,259)	-	376,769	5,916,608	55.2%
37320	Street Lighting and Signal Systems - LED	-	-	-	-	-	-	0.0%
	TOTAL	224,969,941	8,338,989	(3,162,778)	-	5,176,211	230,146,152	37.5%
General Plant								
38900	Land and Land Rights	102,278	-	-	-	-	102,278	
39000	Structure and Improvements	7,222,479	94,324	-	-	94,324	7,316,803	40.4%
39050	Security Equipment	359,281	-	-	12,012	12,012	371,293	90.7%
39100	Office Furniture and Equipment	1,461,305	44,752	(66,277)	-	(21,525)	1,439,780	75.5%
39110	Computer Equipment	4,789,045	238,959	(72,784)	-	166,175	4,955,220	56.4%
39120	Computer Equipment - DSM	1,419,961	-	-	-	-	1,419,961	100.0%
39130	Computer Equipment - Leased	829,522	399,683	(470,901)	-	(71,218)	758,304	43.7%
39200	Autos & Small Trucks	1,913,309	272,318	(182,619)	-	89,700	2,003,008	47.5%
39300	Stores Equipment	67,081	-	-	-	-	67,081	90.4%
39400	Tools and Line Equipment	1,105,085	4,264	(2,826)	-	1,437	1,106,522	73.2%
39410	Shop and Garage Equipment	161,159	13,409	(9,601)	-	3,808	164,967	72.5%
39450	Tools and Related Line Equipment - DSM	12,018	-	-	-	-	12,018	100.0%
39500	Laboratory Equipment	228,590	-	-	-	-	228,590	90.4%
39510	Hand Held Meter Reading Devices	119,033	-	-	-	-	119,033	98.8%
39620	Power Operated Equipment	971,734	118,205	(198,893)	-	(80,688)	891,046	43.1%
39630	Heavy Transportation Equipment	4,125,890	160,721	(146,481)	-	14,239	4,140,129	59.7%
39700	Communication Equipment	643,907	16,319	-	-	16,319	660,226	87.9%
39710	Base Stations and Tower	137,908	-	-	-	-	137,908	79.7%
39800	Miscellaneous Equipment	169,142	53,462	(4,901)	(12,012)	36,549	205,691	52.2%
	TOTAL	25,838,726	1,416,416	(1,155,283)	-	261,132	26,099,859	56.9%
39999	General Plant Work in Process	19,575	112,135	-	-	112,135	131,710	
	TOTAL ELECTRIC PLANT IN SERVICE	250,828,242	9,867,540	(4,318,061)	-	5,549,478	256,377,720	39.5%

Year 2
Dakota Electric Association
Plant Additions and Retirements
Year Ended December 31, 2013
Schedule A 2013

Account Number	Description	Balance 1/1/2013	Additions	Retirements	Adjustments and Transfers	Net Additions (Retirements)	Balance 12/31/2013	2013 Reserve Ratio
Distribution Plant								
36000	Land and Land Rights	3,532,823	-	-	-	-	3,532,823	
36200	Station Equipment	26,466,491	311,360	(160,980)	-	150,379	26,616,870	36.0%
36250	Station Equipment - DSM	3,945,309	-	-	-	-	3,945,309	100.0%
36255	Station Equipment - DSM Post 2008	353,165	-	-	-	-	353,165	19.1%
36260	Station Equipment - Comm	838,459	-	-	-	-	838,459	100.0%
36265	Station Equipment - Comm Post 2009	125,055	10,032	-	-	10,032	135,086	42.4%
36400	Poles, Towers and Fixtures	16,802,596	543,019	(338,441)	-	204,578	17,007,173	42.0%
36500	Overhead Conductors and Devices	18,784,787	676,069	(337,998)	-	338,071	19,122,859	34.1%
36700	Underground Conductors and Devices	106,081,825	3,577,336	(1,644,791)	-	1,932,544	108,014,370	28.8%
36800	Line Transformers	34,770,748	1,607,544	(579,063)	-	1,028,481	35,799,230	55.1%
36900	Services	2,943,420	70,253	(1,242)	-	69,011	3,012,431	62.7%
37000	Meters	6,510,106	220,989	(66,282)	-	154,708	6,664,813	46.0%
37020	Meters - Used	85,400	-	-	-	-	85,400	28.5%
37050	Load Control Meters - DSM	633,490	-	-	-	-	633,490	66.5%
37100	Installations on Customers' Premises	290,460	-	-	-	-	290,460	100.0%
37120	Installations on Customers' Premises - LED	-	-	-	-	-	-	0.0%
37150	Load Control Receivers - DSM	2,065,411	-	(744,030)	-	(744,030)	1,321,381	100.0%
37300	Street Lighting and Signal Systems	5,916,608	288,655	(44,160)	-	244,496	6,161,103	56.3%
37320	Street Lighting and Signal Systems - LED	-	-	-	-	-	-	0.0%
	TOTAL	230,146,152	7,305,256	(3,916,986)	-	3,388,270	233,534,423	38.3%
General Plant								
38900	Land and Land Rights	102,278	-	-	-	-	102,278	
39000	Structure and Improvements	7,316,803	225,583	(154,436)	-	71,147	7,387,949	40.7%
39050	Security Equipment	371,293	-	-	-	-	371,293	93.3%
39100	Office Furniture and Equipment	1,439,780	-	(158,261)	-	(158,261)	1,281,518	76.8%
39110	Computer Equipment	4,955,220	241,576	(578,572)	-	(336,996)	4,618,224	60.2%
39120	Computer Equipment - DSM	1,419,961	-	-	-	-	1,419,961	100.0%
39130	Computer Equipment - Leased	758,304	68,703	(219,464)	-	(150,761)	607,543	42.7%
39200	Autos & Small Trucks	2,003,008	149,415	(228,004)	-	(78,589)	1,924,419	49.2%
39300	Stores Equipment	67,081	-	-	-	-	67,081	92.5%
39400	Tools and Line Equipment	1,106,522	30,380	(22,883)	-	7,497	1,114,019	75.5%
39410	Shop and Garage Equipment	164,967	9,485	(8,486)	-	999	165,966	72.3%
39450	Tools and Related Line Equipment - DSM	12,018	-	(12,018)	-	(12,018)	-	0.0%
39500	Laboratory Equipment	228,590	-	(347)	-	(347)	228,244	91.6%
39510	Hand Held Meter Reading Devices	119,033	-	-	-	-	119,033	99.2%
39620	Power Operated Equipment	891,046	73,686	(15,297)	-	58,389	949,435	46.6%
39630	Heavy Transportation Equipment	4,140,129	293,016	(240,388)	-	52,628	4,192,757	61.0%
39700	Communication Equipment	660,226	-	(41,957)	-	(41,957)	618,269	92.2%
39710	Base Stations and Tower	137,908	-	-	-	-	137,908	85.5%
39800	Miscellaneous Equipment	205,691	-	(4,266)	-	(4,266)	201,425	61.3%
	TOTAL	26,099,859	1,091,843	(1,684,378)	-	(592,535)	25,507,324	58.4%
39999	General Plant Work in Process	131,710	(4,720)	-	-	(4,720)	126,990	
	TOTAL ELECTRIC PLANT IN SERVICE	256,377,720	8,392,379	(5,601,364)	-	2,791,015	259,168,736	40.3%

Year 3
Dakota Electric Association
Plant Additions and Retirements
Year Ended December 31, 2014
Schedule A 2014

Account Number	Description	Balance 1/1/2014	Additions	Retirements	Adjustments and Transfers	Net Additions (Retirements)	Balance 12/31/2014	2014 Reserve Ratio
Distribution Plant								
36000	Land and Land Rights	3,532,823	-	-	-	-	3,532,823	
36200	Station Equipment	26,616,870	467,109	(206,307)	-	260,801	26,877,671	37.5%
36250	Station Equipment - DSM	3,945,309	-	-	-	-	3,945,309	100.0%
36255	Station Equipment - DSM Post 2008	353,165	-	-	-	-	353,165	28.2%
36260	Station Equipment - Comm	838,459	-	-	-	-	838,459	100.0%
36265	Station Equipment - Comm Post 2009	135,086	23,086	(765)	-	22,321	157,408	51.9%
36400	Poles, Towers and Fixtures	17,007,173	819,417	(268,034)	-	551,383	17,558,556	42.3%
36500	Overhead Conductors and Devices	19,122,859	716,534	(235,674)	-	480,860	19,603,718	34.9%
36700	Underground Conductors and Devices	108,014,370	4,406,769	(1,687,045)	-	2,719,724	110,734,094	29.4%
36800	Line Transformers	35,799,230	1,434,368	(565,500)	-	868,868	36,668,098	55.6%
36900	Services	3,012,431	140,116	(4,437)	-	135,680	3,148,111	63.2%
37000	Meters	6,664,813	166,759	(146,504)	-	20,255	6,685,069	47.7%
37020	Meters - Used	85,400	-	-	-	-	85,400	35.2%
37050	Load Control Meters - DSM	633,490	-	-	-	-	633,490	70.5%
37100	Installations on Customers' Premises	290,460	1,059	(1,253)	-	(195)	290,266	100.0%
37120	Installations on Customers' Premises - LED	-	-	-	-	-	-	0.0%
37150	Load Control Receivers - DSM	1,321,381	-	(744,030)	-	(744,030)	577,351	100.0%
37300	Street Lighting and Signal Systems	6,161,103	655,201	(62,636)	-	592,565	6,753,668	54.1%
37320	Street Lighting and Signal Systems - LED	-	-	-	-	-	-	0.0%
	TOTAL	233,534,423	8,830,418	(3,922,185)	-	4,908,232	238,442,655	38.8%
General Plant								
38900	Land and Land Rights	102,278	-	-	-	-	102,278	
39000	Structure and Improvements	7,387,949	176,042	(40,851)	-	135,191	7,523,140	41.7%
39050	Security Equipment	371,293	33,389	(66,523)	-	(33,134)	338,158	86.0%
39100	Office Furniture and Equipment	1,281,518	4,072	(11,956)	-	(7,884)	1,273,634	80.7%
39110	Computer Equipment	4,618,224	200,941	(50,444)	-	150,496	4,768,721	69.2%
39120	Computer Equipment - DSM	1,419,961	12,638	-	-	12,638	1,432,598	99.1%
39130	Computer Equipment - Leased	607,543	4,427	(73,053)	-	(68,626)	538,918	60.0%
39200	Autos & Small Trucks	1,924,419	212,952	(23,135)	-	189,817	2,114,236	52.5%
39300	Stores Equipment	67,081	-	(18,480)	-	(18,480)	48,602	91.9%
39400	Tools and Line Equipment	1,114,019	57,036	(80,520)	-	(23,485)	1,090,534	74.9%
39410	Shop and Garage Equipment	165,966	21,927	(3,380)	-	18,548	184,514	67.0%
39450	Tools and Related Line Equipment - DSM	-	-	-	-	-	-	0.0%
39500	Laboratory Equipment	228,244	-	(1,447)	-	(1,447)	226,796	92.5%
39510	Hand Held Meter Reading Devices	119,033	82,446	(86,409)	-	(3,963)	115,071	37.9%
39620	Power Operated Equipment	949,435	164,365	(134,104)	-	30,260	979,695	46.7%
39630	Heavy Transportation Equipment	4,192,757	502,028	(269,940)	-	232,088	4,424,845	58.1%
39700	Communication Equipment	618,269	-	-	-	-	618,269	96.7%
39710	Base Stations and Tower	137,908	-	-	-	-	137,908	88.3%
39800	Miscellaneous Equipment	201,425	14,567	(3,903)	-	10,664	212,089	66.6%
	TOTAL	25,507,324	1,486,829	(864,146)	-	622,683	26,130,007	60.2%
39999	General Plant Work in Process	126,990	(126,990)	-	-	(126,990)	-	
	TOTAL ELECTRIC PLANT IN SERVICE	259,168,736	10,190,257	(4,786,331)	-	5,403,926	264,572,661	40.9%

Year 4
Dakota Electric Association
Plant Additions and Retirements
Year Ended December 31, 2015
Schedule A 2015

Account Number	Description	Balance 1/1/2015	Additions	Retirements	Adjustments and Transfers	Net Additions (Retirements)	Balance 12/31/2015	2015 Reserve Ratio
Distribution Plant								
36000	Land and Land Rights	3,532,823	433,187	-	-	433,187	3,966,009	
36200	Station Equipment	26,877,671	1,907,099	(91,650)	-	1,815,449	28,693,120	37.4%
36250	Station Equipment - DSM	3,945,309	-	(13,800)	-	(13,800)	3,931,509	100.0%
36255	Station Equipment - DSM Post 2008	353,165	101,084	-	-	101,084	454,248	29.6%
36260	Station Equipment - Comm	838,459	-	(2,093)	-	(2,093)	836,366	100.0%
36265	Station Equipment - Comm Post 2009	157,408	72,415	-	-	72,415	229,822	49.4%
36400	Poles, Towers and Fixtures	17,558,556	661,648	(329,987)	-	331,661	17,890,217	43.0%
36500	Overhead Conductors and Devices	19,603,718	434,669	(431,223)	-	3,446	19,607,165	35.7%
36700	Underground Conductors and Devices	110,734,094	6,000,683	(1,551,490)	-	4,449,193	115,183,287	29.7%
36800	Line Transformers	36,668,098	2,009,422	(939,052)	-	1,070,370	37,738,468	55.7%
36900	Services	3,148,111	100,108	(5,610)	-	94,498	3,242,609	64.5%
37000	Meters	6,685,069	193,073	(57,216)	-	135,857	6,820,926	49.9%
37020	Meters - Used	85,400	-	-	-	-	85,400	41.9%
37050	Load Control Meters - DSM	633,490	-	-	-	-	633,490	74.5%
37100	Installations on Customers' Premises	290,266	4,145	(14,334)	-	(10,188)	280,077	99.5%
37120	Installations on Customers' Premises - LED	-	-	-	-	-	-	0.0%
37150	Load Control Receivers - DSM	577,351	-	(345,677)	-	(345,677)	231,675	100.0%
37300	Street Lighting and Signal Systems	6,753,668	550,274	(89,208)	-	461,066	7,214,734	53.3%
37320	Street Lighting and Signal Systems - LED	-	-	-	-	-	-	0.0%
	TOTAL	238,442,655	12,467,807	(3,871,339)	-	8,596,468	247,039,123	38.9%
General Plant								
38900	Land and Land Rights	102,278	-	-	-	-	102,278	
39000	Structure and Improvements	7,523,140	114,465	(6,604)	-	107,862	7,631,002	43.2%
39050	Security Equipment	338,158	22,609	-	-	22,609	360,767	84.0%
39100	Office Furniture and Equipment	1,273,634	60,495	(87,233)	-	(26,737)	1,246,897	79.7%
39110	Computer Equipment	4,768,721	93,594	(57,173)	-	36,421	4,805,142	78.4%
39120	Computer Equipment - DSM	1,432,598	-	-	-	-	1,432,598	99.3%
39130	Computer Equipment - Leased	538,918	76,211	(70,531)	-	5,680	544,598	72.2%
39200	Autos & Small Trucks	2,114,236	336,162	(455,803)	-	(119,641)	1,994,595	46.6%
39300	Stores Equipment	48,602	-	-	-	-	48,602	93.9%
39400	Tools and Line Equipment	1,090,534	13,606	(64,605)	(8,492)	(59,492)	1,031,043	79.7%
39410	Shop and Garage Equipment	184,514	-	-	-	-	184,514	70.9%
39450	Tools and Related Line Equipment - DSM	-	-	-	-	-	-	0.0%
39500	Laboratory Equipment	226,796	15,447	(3,758)	-	11,689	238,486	87.3%
39510	Hand Held Meter Reading Devices	115,071	-	-	-	-	115,071	50.2%
39620	Power Operated Equipment	979,695	117,799	(75,529)	8,492	50,762	1,030,457	49.4%
39630	Heavy Transportation Equipment	4,424,845	410,090	(141,322)	-	268,768	4,693,613	57.0%
39700	Communication Equipment	618,269	-	-	-	-	618,269	98.2%
39710	Base Stations and Tower	137,908	-	-	-	-	137,908	91.1%
39800	Miscellaneous Equipment	212,089	-	-	-	-	212,089	76.0%
	TOTAL	26,130,007	1,260,479	(962,558)	-	297,921	26,427,928	62.2%
39999	General Plant Work in Process	-	1,293,145	-	-	1,293,145	1,293,145	
	TOTAL ELECTRIC PLANT IN SERVICE	264,572,661	15,021,431	(4,833,897)	-	10,187,534	274,760,196	40.9%

Year 5
Dakota Electric Association
Plant Additions and Retirements
Year Ended December 31, 2016
Schedule A 2016

Account Number	Description	Balance 1/1/2016	Additions	Retirements	Adjustments and Transfers	Net Additions (Retirements)	Balance 12/31/2016	2016 Reserve Ratio
Distribution Plant								
36000	Land and Land Rights	3,966,009	38,569	-	-	38,569	4,004,579	
36200	Station Equipment	28,693,120	281,213	(46,631)	-	234,582	28,927,702	39.6%
36250	Station Equipment - DSM	3,931,509	-	-	-	-	3,931,509	100.0%
36255	Station Equipment - DSM Post 2008	454,248	312,855	-	-	312,855	767,103	23.5%
36260	Station Equipment - Comm	836,366	-	(75,600)	-	(75,600)	760,766	100.0%
36265	Station Equipment - Comm Post 2009	229,822	348,072	-	-	348,072	577,894	27.2%
36400	Poles, Towers and Fixtures	17,890,217	684,836	(204,516)	-	480,320	18,370,537	44.4%
36500	Overhead Conductors and Devices	19,607,165	644,939	(218,626)	-	426,312	20,033,477	36.8%
36700	Underground Conductors and Devices	115,183,287	3,346,545	(1,398,224)	-	1,948,321	117,131,608	31.0%
36800	Line Transformers	37,738,468	1,399,274	(597,122)	-	802,152	38,540,620	56.1%
36900	Services	3,242,609	69,332	(2,619)	-	66,713	3,309,321	66.5%
37000	Meters	6,820,926	124,618	(78,552)	-	46,066	6,866,992	52.5%
37020	Meters - Used	85,400	-	-	-	-	85,400	48.5%
37050	Load Control Meters - DSM	633,490	-	-	-	-	633,490	78.5%
37100	Installations on Customers' Premises	280,077	2,704	(49,538)	-	(46,834)	233,244	97.5%
37120	Installations on Customers' Premises - LED	-	123,025	(1,320)	-	121,704	121,704	1.4%
37150	Load Control Receivers - DSM	231,675	-	(3,211)	-	(3,211)	228,463	100.0%
37300	Street Lighting and Signal Systems	7,214,734	612,241	(109,272)	-	502,969	7,717,703	52.2%
37320	Street Lighting and Signal Systems - LED	-	38,326	-	-	38,326	38,326	1.6%
	TOTAL	247,039,123	8,026,550	(2,785,233)	-	5,241,317	252,280,440	39.9%
General Plant								
38900	Land and Land Rights	102,278	-	-	-	-	102,278	
39000	Structure and Improvements	7,631,002	242,316	(15,539)	(35,996)	190,780	7,821,782	44.2%
39050	Security Equipment	360,767	14,011	(78,118)	19,608	(44,498)	316,269	84.0%
39100	Office Furniture and Equipment	1,246,897	4,162	(139,677)	(7,095)	(142,610)	1,104,287	80.9%
39110	Computer Equipment	4,805,142	168,034	(32,724)	-	135,310	4,940,452	82.7%
39120	Computer Equipment - DSM	1,432,598	-	-	-	-	1,432,598	99.4%
39130	Computer Equipment - Leased	544,598	303,351	(421,780)	-	(118,430)	426,168	31.9%
39200	Autos & Small Trucks	1,994,595	161,536	(212,538)	-	(51,002)	1,943,593	50.3%
39300	Stores Equipment	48,602	4,235	(267)	-	3,969	52,570	88.0%
39400	Tools and Line Equipment	1,031,043	10,043	(230,497)	8,038	(212,416)	818,627	79.9%
39410	Shop and Garage Equipment	184,514	15,872	(30,109)	(3,013)	(17,250)	167,264	64.1%
39450	Tools and Related Line Equipment - DSM	-	-	-	-	-	-	0.0%
39500	Laboratory Equipment	238,486	100,040	(12,555)	(6,705)	80,780	319,265	62.9%
39510	Hand Held Meter Reading Devices	115,071	6,160	(22,632)	-	(16,473)	98,598	50.1%
39620	Power Operated Equipment	1,030,457	(7,534)	-	5,303	(2,232)	1,028,226	58.3%
39630	Heavy Transportation Equipment	4,693,613	233,911	(365,661)	-	(131,750)	4,561,863	57.3%
39700	Communication Equipment	618,269	186,698	(30,081)	-	156,617	774,886	75.7%
39710	Base Stations and Tower	137,908	-	-	-	-	137,908	93.8%
39800	Miscellaneous Equipment	212,089	44,309	(15,737)	19,860	48,432	260,521	64.6%
	TOTAL	26,427,928	1,487,143	(1,607,915)	-	(120,772)	26,307,156	62.3%
39999	General Plant Work in Process	1,293,145	1,100,780	-	-	1,100,780	2,393,925	
	TOTAL ELECTRIC PLANT IN SERVICE	274,760,196	10,614,472	(4,393,148)	-	6,221,325	280,981,520	41.7%

Years 1 to 5
Dakota Electric Association
Accumulated Depreciation
Five Years Ended December 31, 2016
Schedule D 2012-2016

Account Number	Description	Balance 1/1/2012	Dep'n Accrual	Original Cost of Plant Retired	Cost of Removal	Salvage Credits	Net Gain/Loss, Adjustments & Transfers	Net Additions (Deductions)	Balance 12/31/2016
Distribution Plant									
36200-0100	Station Equipment	8,304,140	3,653,390	505,568	31,727	27,500	-	3,143,594	11,447,734
36250-0100	Station Equipment - DSM	3,945,309	-	13,800	-	-	-	(13,800)	3,931,509
36255-0100	Station Equipment - DSM Post 2008	19,485	160,517	-	-	-	-	160,517	180,002
36260-0100	Station Equipment - Comm	838,459	-	77,693	-	-	-	(77,693)	760,766
36265-0100	Station Equipment - Comm Post 2009	17,791	139,803	765	(157)	-	-	139,195	156,986
36400-0100	Poles, Towers and Fixtures	6,471,643	3,142,833	1,278,853	294,918	112,615	-	1,681,677	8,153,320
36500-0100	Overhead Conductors and Devices	5,797,996	3,153,988	1,349,032	521,863	300,370	-	1,583,464	7,381,459
36700-0100	Underground Conductors and Devices	28,044,717	15,809,444	7,791,523	488,523	715,192	-	8,244,591	36,289,307
36800-0100	Line Transformers	18,072,780	5,610,961	3,118,331	286,714	1,349,521	-	3,555,438	21,628,217
36900-0100	Services	1,718,941	529,341	37,791	11,072	976	-	481,454	2,200,395
37000-0100	Meters	2,698,148	1,341,467	437,386	-	-	-	904,081	3,602,229
37020-0100	Meters - Used	12,988	28,466	-	-	-	-	28,466	41,454
37050-0100	Load Control Meters - DSM	370,798	126,698	-	-	-	-	126,698	497,496
37100-0100	Installations on Customers' Premises	290,460	19,150	65,125	17,354	180	-	(63,149)	227,311
37120-0100	Installations on Customers' Premises - LED	-	3,147	1,320	141	-	-	1,685	1,685
37150-0100	Load Control Receivers - DSM	2,809,441	-	2,580,978	-	-	-	(2,580,978)	228,463
37300-0100	Street Lighting and Signal Systems	3,120,900	1,339,403	400,536	99,689	69,862	-	909,040	4,029,940
37320-0100	Street Lighting and Signal Systems - LED	-	608	-	-	-	-	608	608
	TOTAL	82,533,995	35,059,216	17,658,700	1,751,844	2,576,216	-	18,224,888	100,758,882
General Plant									
39000-0100	Structure and Improvements	2,812,178	794,203	217,430	-	-	71,208	647,981	3,460,159
39050-0100	Security Equipment	318,791	63,038	144,641	-	-	28,408	(53,194)	265,597
39100-0100	Office Furniture and Equipment	1,088,178	259,035	463,404	-	2,750	6,674	(194,946)	893,233
39110-0100	Computer Equipment	2,339,283	2,518,154	791,696	-	450	21,207	1,748,115	4,087,398
39120-0100	Computer Equipment - DSM	1,419,609	4,932	-	-	-	-	4,932	1,424,541
39130-0100	Computer Equipment - Leased	623,190	768,397	1,255,730	-	-	-	(487,333)	135,857
39200-0100	Autos & Small Trucks	919,214	960,190	1,102,099	-	237,283	(37,114)	58,259	977,473
39300-0100	Stores Equipment	59,160	5,864	18,746	-	7,650	(7,650)	(12,882)	46,278
39400-0100	Tools and Line Equipment	755,869	282,174	401,331	-	1,682	15,400	(102,074)	653,794
39410-0100	Shop and Garage Equipment	119,915	36,049	51,576	-	2,814	(8)	(12,721)	107,194
39450-0100	Tools and Related Line Equipment - DSM	11,898	120	12,018	-	-	-	(11,898)	-
39500-0100	Laboratory Equipment	203,804	9,420	18,107	-	905	4,846	(2,936)	200,868
39510-0100	Hand Held Meter Reading Devices	117,173	41,306	109,041	-	-	-	(67,735)	49,438
39620-0100	Power Operated Equipment	470,216	419,766	423,823	-	153,901	(20,120)	129,724	599,940
39630-0100	Heavy Transportation Equipment	2,278,316	1,320,671	1,163,792	-	110,222	67,206	334,307	2,612,623
39700-0100	Communication Equipment	544,704	114,298	72,038	-	-	-	42,261	586,965
39710-0100	Base Stations and Tower	99,311	30,109	-	-	-	-	30,109	129,420
39800-0100	Miscellaneous Equipment	104,171	89,690	28,808	-	(1,425)	4,632	64,090	168,261
	TOTAL	14,284,980	7,717,416	6,274,280	-	516,232	154,689	2,114,058	16,399,038
	TOTAL ELECTRIC PLANT DEPRECIATION	96,818,975	42,776,633	23,932,980	1,751,844	3,092,448	154,689	20,338,946	117,157,920

Year 1
Dakota Electric Association
Accumulated Depreciation
Year Ended December 31, 2012
Schedule D 2012

Account Number	Description	Balance 1/1/2012	Dep'n Accrual	Original Cost of Plant Retired	Cost of Removal	Salvage Credits	Net Gain/Loss, Adjustments & Transfers	Net Additions (Deductions)	Balance 12/31/2012
Distribution Plant									
36200-0100	Station Equipment	8,304,140	687,318	-	-	(1)	-	687,318	8,991,457
36250-0100	Station Equipment - DSM	3,945,309	-	-	-	-	-	-	3,945,309
36255-0100	Station Equipment - DSM Post 2008	19,485	15,818	-	-	-	-	15,818	35,303
36260-0100	Station Equipment - Comm	838,459	-	-	-	-	-	-	838,459
36265-0100	Station Equipment - Comm Post 2009	17,791	17,590	-	-	-	-	17,590	35,381
36400-0100	Poles, Towers and Fixtures	6,471,643	600,911	137,875	29,957	4,642	-	437,721	6,909,364
36500-0100	Overhead Conductors and Devices	5,797,996	607,610	125,511	45,959	46,929	-	483,069	6,281,065
36700-0100	Underground Conductors and Devices	28,044,717	2,996,599	1,509,973	51,360	198,539	-	1,633,806	29,678,523
36800-0100	Line Transformers	18,072,780	1,062,480	437,593	44,376	318,469	-	898,979	18,971,759
36900-0100	Services	1,718,941	100,205	23,884	7,527	0	-	68,794	1,787,735
37000-0100	Meters	2,698,148	260,571	88,833	-	-	-	171,738	2,869,887
37020-0100	Meters - Used	12,988	5,693	-	-	-	-	5,693	18,681
37050-0100	Load Control Meters - DSM	370,798	25,340	-	-	-	-	25,340	396,138
37100-0100	Installations on Customers' Premises	290,460	-	-	-	-	-	-	290,460
37120-0100	Installations on Customers' Premises - LED	-	-	-	-	-	-	-	-
37150-0100	Load Control Receivers - DSM	2,809,441	-	744,030	-	-	-	(744,030)	2,065,411
37300-0100	Street Lighting and Signal Systems	3,120,900	235,930	95,259	27,106	34,107	-	147,671	3,268,571
37320-0100	Street Lighting and Signal Systems - LED	-	-	-	-	-	-	-	-
	TOTAL	82,533,995	6,616,065	3,162,958	206,286	602,685	-	3,849,507	86,383,502
General Plant									
39000-0100	Structure and Improvements	2,812,178	140,919	-	-	-	-	140,919	2,953,097
39050-0100	Security Equipment	318,791	10,001	-	-	-	7,841	17,842	336,632
39100-0100	Office Furniture and Equipment	1,088,178	64,285	66,277	-	-	372	(1,621)	1,086,558
39110-0100	Computer Equipment	2,339,283	526,036	72,784	-	-	-	453,252	2,792,535
39120-0100	Computer Equipment - DSM	1,419,609	352	-	-	-	-	352	1,419,961
39130-0100	Computer Equipment - Leased	623,190	179,324	470,901	-	-	-	(291,578)	331,612
39200-0100	Autos & Small Trucks	919,214	180,814	182,619	-	32,918	660	31,772	950,986
39300-0100	Stores Equipment	59,160	1,461	-	-	-	-	1,461	60,621
39400-0100	Tools and Line Equipment	755,869	56,865	2,826	-	-	-	54,039	809,908
39410-0100	Shop and Garage Equipment	119,915	8,084	9,601	-	1,639	(383)	(261)	119,654
39450-0100	Tools and Related Line Equipment - DSM	11,898	120	-	-	-	-	120	12,018
39500-0100	Laboratory Equipment	203,804	2,831	-	-	-	-	2,831	206,635
39510-0100	Hand Held Meter Reading Devices	117,173	446	-	-	-	-	446	117,620
39620-0100	Power Operated Equipment	470,216	69,057	198,893	-	51,098	(7,758)	(86,497)	383,719
39630-0100	Heavy Transportation Equipment	2,278,316	298,601	146,481	-	20,015	20,516	192,651	2,470,967
39700-0100	Communication Equipment	544,704	35,383	-	-	-	-	35,383	580,087
39710-0100	Base Stations and Tower	99,311	10,629	-	-	-	-	10,629	109,940
39800-0100	Miscellaneous Equipment	104,171	14,689	4,901	-	(1,425)	(5,261)	3,101	107,272
	TOTAL	14,284,980	1,599,895	1,155,283	-	104,244	15,986	564,842	14,849,822
	TOTAL ELECTRIC PLANT DEPRECIATION	96,818,975	8,215,960	4,318,241	206,286	706,929	15,986	4,414,349	101,233,323

Year 2
Dakota Electric Association
Accumulated Depreciation
Year Ended December 31, 2013
Schedule D 2013

Account Number	Description	Balance 1/1/2013	Dep'n Accrual	Original Cost of Plant Retired	Cost of Removal	Salvage Credits	Net Gain/Loss, Adjustments & Transfers	Net Additions (Deductions)	Balance 12/31/2013
Distribution Plant									
36200-0100	Station Equipment	8,991,457	718,019	160,980	5,400	27,500	-	579,139	9,570,596
36250-0100	Station Equipment - DSM	3,945,309	-	-	-	-	-	-	3,945,309
36255-0100	Station Equipment - DSM Post 2008	35,303	32,106	-	-	-	-	32,106	67,409
36260-0100	Station Equipment - Comm	838,459	-	-	-	-	-	-	838,459
36265-0100	Station Equipment - Comm Post 2009	35,381	21,957	-	-	-	-	21,957	57,338
36400-0100	Poles, Towers and Fixtures	6,909,364	613,404	338,441	77,559	27,877	-	225,281	7,134,645
36500-0100	Overhead Conductors and Devices	6,281,065	619,636	337,998	140,081	97,722	-	239,280	6,520,345
36700-0100	Underground Conductors and Devices	29,678,523	3,074,981	1,644,791	131,901	113,151	-	1,411,439	31,089,962
36800-0100	Line Transformers	18,971,759	1,091,822	579,063	52,211	291,803	-	752,351	19,724,110
36900-0100	Services	1,787,735	101,855	1,242	235	-	-	100,378	1,888,113
37000-0100	Meters	2,869,887	265,161	66,282	-	-	-	198,879	3,068,766
37020-0100	Meters - Used	18,681	5,693	-	-	-	-	5,693	24,374
37050-0100	Load Control Meters - DSM	396,138	25,340	-	-	-	-	25,340	421,477
37100-0100	Installations on Customers' Premises	290,460	-	-	-	-	-	-	290,460
37120-0100	Installations on Customers' Premises - LED	-	-	-	-	-	-	-	-
37150-0100	Load Control Receivers - DSM	2,065,411	-	744,030	-	-	-	(744,030)	1,321,381
37300-0100	Street Lighting and Signal Systems	3,268,571	246,608	44,160	13,080	8,222	-	197,590	3,466,161
37320-0100	Street Lighting and Signal Systems - LED	-	-	-	-	-	-	-	-
	TOTAL	86,383,502	6,816,582	3,916,986	420,466	566,274	-	3,045,405	89,428,906
General Plant									
39000-0100	Structure and Improvements	2,953,097	146,004	154,436	-	-	60,613	52,181	3,005,278
39050-0100	Security Equipment	336,632	9,814	-	-	-	-	9,814	346,447
39100-0100	Office Furniture and Equipment	1,086,558	54,919	158,261	-	-	826	(102,516)	984,042
39110-0100	Computer Equipment	2,792,535	558,652	578,572	-	-	6,770	(13,150)	2,779,385
39120-0100	Computer Equipment - DSM	1,419,961	-	-	-	-	-	-	1,419,961
39130-0100	Computer Equipment - Leased	331,612	147,571	219,464	-	-	-	(71,893)	259,719
39200-0100	Autos & Small Trucks	950,986	187,577	228,004	-	42,470	(7,108)	(5,065)	945,921
39300-0100	Stores Equipment	60,621	1,455	-	-	-	-	1,455	62,075
39400-0100	Tools and Line Equipment	809,908	54,029	22,883	-	1,443	(1,642)	30,947	840,855
39410-0100	Shop and Garage Equipment	119,654	6,261	8,486	-	1,175	1,366	316	119,969
39450-0100	Tools and Related Line Equipment - DSM	12,018	-	12,018	-	-	-	(12,018)	-
39500-0100	Laboratory Equipment	206,635	2,671	347	-	905	(902)	2,327	208,962
39510-0100	Hand Held Meter Reading Devices	117,620	446	-	-	-	-	446	118,066
39620-0100	Power Operated Equipment	383,719	72,912	15,297	-	3,735	(2,970)	58,380	442,099
39630-0100	Heavy Transportation Equipment	2,470,967	299,948	240,388	-	30,470	(4,923)	85,107	2,556,073
39700-0100	Communication Equipment	580,087	31,885	41,957	-	-	-	(10,071)	570,016
39710-0100	Base Stations and Tower	109,940	7,961	-	-	-	-	7,961	117,900
39800-0100	Miscellaneous Equipment	107,272	20,496	4,266	-	-	-	16,231	123,503
	TOTAL	14,849,822	1,602,601	1,684,378	-	80,198	52,030	50,450	14,900,272
	TOTAL ELECTRIC PLANT DEPRECIATION	101,233,323	8,419,183	5,601,364	420,466	646,472	52,030	3,095,855	104,329,178

Year 3
Dakota Electric Association
Accumulated Depreciation
Year Ended December 31, 2014
Schedule D 2014

Account Number	Description	Balance 1/1/2014	Dep'n Accrual	Original Cost of Plant Retired	Cost of Removal	Salvage Credits	Net Gain/Loss, Adjustments & Transfers	Net Additions (Deductions)	Balance 12/31/2014
Distribution Plant									
36200-0100	Station Equipment	9,570,596	722,119	206,307	13,724	-	-	502,088	10,072,684
36250-0100	Station Equipment - DSM	3,945,309	-	-	-	-	-	-	3,945,309
36255-0100	Station Equipment - DSM Post 2008	67,409	32,106	-	-	-	-	32,106	99,514
36260-0100	Station Equipment - Comm	838,459	-	-	-	-	-	-	838,459
36265-0100	Station Equipment - Comm Post 2009	57,338	25,844	765	722	-	-	24,357	81,695
36400-0100	Poles, Towers and Fixtures	7,134,645	631,171	268,034	69,983	6,375	-	299,530	7,434,175
36500-0100	Overhead Conductors and Devices	6,520,345	637,954	235,674	120,878	45,529	-	326,931	6,847,276
36700-0100	Underground Conductors and Devices	31,089,962	3,142,740	1,687,045	104,488	99,959	-	1,451,166	32,541,128
36800-0100	Line Transformers	19,724,110	1,124,317	565,500	48,231	157,629	-	668,215	20,392,325
36900-0100	Services	1,888,113	105,592	4,437	1,170	386	-	100,372	1,988,486
37000-0100	Meters	3,068,766	269,264	146,504	-	-	-	122,760	3,191,526
37020-0100	Meters - Used	24,374	5,693	-	-	-	-	5,693	30,068
37050-0100	Load Control Meters - DSM	421,477	25,340	-	-	-	-	25,340	446,817
37100-0100	Installations on Customers' Premises	290,460	1,326	1,253	268	-	-	(195)	290,266
37120-0100	Installations on Customers' Premises - LED	-	-	-	-	-	-	-	-
37150-0100	Load Control Receivers - DSM	1,321,381	-	744,030	-	-	-	(744,030)	577,351
37300-0100	Street Lighting and Signal Systems	3,466,161	264,172	62,636	17,052	4,687	-	189,170	3,655,331
37320-0100	Street Lighting and Signal Systems - LED	-	-	-	-	-	-	-	-
	TOTAL	89,428,906	6,987,638	3,922,185	376,515	314,565	-	3,003,502	92,432,409
General Plant									
39000-0100	Structure and Improvements	3,005,278	160,395	40,851	-	-	10,966	130,510	3,135,788
39050-0100	Security Equipment	346,447	10,834	66,523	-	-	-	(55,689)	290,758
39100-0100	Office Furniture and Equipment	984,042	50,205	11,956	-	750	4,398	43,397	1,027,439
39110-0100	Computer Equipment	2,779,385	566,633	50,444	-	-	2,622	518,811	3,298,196
39120-0100	Computer Equipment - DSM	1,419,961	367	-	-	-	-	367	1,420,328
39130-0100	Computer Equipment - Leased	259,719	136,876	73,053	-	-	-	63,824	323,543
39200-0100	Autos & Small Trucks	945,921	184,062	23,135	-	3,065	(81)	163,910	1,109,831
39300-0100	Stores Equipment	62,075	1,058	18,480	-	7,650	(7,650)	(17,422)	44,653
39400-0100	Tools and Line Equipment	840,855	54,857	80,520	-	-	1,488	(24,175)	816,680
39410-0100	Shop and Garage Equipment	119,969	6,959	3,380	-	-	5	3,584	123,553
39450-0100	Tools and Related Line Equipment - DSM	-	-	-	-	-	-	-	-
39500-0100	Laboratory Equipment	208,962	2,233	1,447	-	-	91	876	209,839
39510-0100	Hand Held Meter Reading Devices	118,066	11,897	86,409	-	-	-	(74,512)	43,554
39620-0100	Power Operated Equipment	442,099	92,864	134,104	-	69,570	(13,175)	15,154	457,253
39630-0100	Heavy Transportation Equipment	2,556,073	255,235	269,940	-	22,546	6,286	14,127	2,570,200
39700-0100	Communication Equipment	570,016	28,009	-	-	-	-	28,009	598,024
39710-0100	Base Stations and Tower	117,900	3,840	-	-	-	-	3,840	121,740
39800-0100	Miscellaneous Equipment	123,503	20,855	3,903	-	-	894	17,847	141,349
	TOTAL	14,900,272	1,587,179	864,146	-	103,581	5,845	832,459	15,732,730
	TOTAL ELECTRIC PLANT DEPRECIATION	104,329,178	8,574,817	4,786,331	376,515	418,146	5,845	3,835,961	108,165,139

Year 4
Dakota Electric Association
Accumulated Depreciation
Year Ended December 31, 2015
Schedule D 2015

Account Number	Description	Balance 1/1/2015	Dep'n Accrual	Original Cost of Plant Retired	Cost of Removal	Salvage Credits	Net Gain/Loss, Adjustments & Transfers	Net Additions (Deductions)	Balance 12/31/2015
Distribution Plant									
36200-0100	Station Equipment	10,072,684	745,885	91,650	2,054	-	-	652,181	10,724,865
36250-0100	Station Equipment - DSM	3,945,309	-	13,800	-	-	-	(13,800)	3,931,509
36255-0100	Station Equipment - DSM Post 2008	99,514	34,840	-	-	-	-	34,840	134,354
36260-0100	Station Equipment - Comm	838,459	-	2,093	-	-	-	(2,093)	836,366
36265-0100	Station Equipment - Comm Post 2009	81,695	30,947	-	(879)	-	-	31,826	113,521
36400-0100	Poles, Towers and Fixtures	7,434,175	640,896	329,987	71,709	22,890	-	262,090	7,696,265
36500-0100	Overhead Conductors and Devices	6,847,276	642,355	431,223	134,828	71,518	-	147,822	6,995,098
36700-0100	Underground Conductors and Devices	32,541,128	3,245,054	1,551,490	106,222	126,983	-	1,714,326	34,255,454
36800-0100	Line Transformers	20,392,325	1,150,450	939,052	64,142	475,591	-	622,848	21,015,172
36900-0100	Services	1,988,486	109,155	5,610	1,343	590	-	102,791	2,091,277
37000-0100	Meters	3,191,526	271,378	57,216	-	-	-	214,162	3,405,688
37020-0100	Meters - Used	30,068	5,693	-	-	-	-	5,693	35,761
37050-0100	Load Control Meters - DSM	446,817	25,340	-	-	-	-	25,340	472,156
37100-0100	Installations on Customers' Premises	290,266	4,092	14,334	1,250	-	-	(11,492)	278,774
37120-0100	Installations on Customers' Premises - LED	-	-	-	-	-	-	-	-
37150-0100	Load Control Receivers - DSM	577,351	-	345,677	-	-	-	(345,677)	231,675
37300-0100	Street Lighting and Signal Systems	3,655,331	286,679	89,208	19,502	11,474	-	189,443	3,844,774
37320-0100	Street Lighting and Signal Systems - LED	-	-	-	-	-	-	-	-
	TOTAL	92,432,409	7,192,764	3,871,339	400,171	709,046	-	3,630,300	96,062,709
General Plant									
39000-0100	Structure and Improvements	3,135,788	167,843	6,604	-	-	449	161,689	3,297,477
39050-0100	Security Equipment	290,758	12,376	-	-	-	-	12,376	303,135
39100-0100	Office Furniture and Equipment	1,027,439	46,418	87,233	-	2,000	5,357	(33,458)	993,981
39110-0100	Computer Equipment	3,298,196	516,068	57,173	-	-	10,961	469,856	3,768,052
39120-0100	Computer Equipment - DSM	1,420,328	2,106	-	-	-	-	2,106	1,422,434
39130-0100	Computer Equipment - Leased	323,543	140,147	70,531	-	-	-	69,615	393,158
39200-0100	Autos & Small Trucks	1,109,831	197,753	455,803	-	111,280	(33,901)	(180,670)	929,161
39300-0100	Stores Equipment	44,653	991	-	-	-	-	991	45,645
39400-0100	Tools and Line Equipment	816,680	55,454	64,605	-	175	13,823	4,847	821,527
39410-0100	Shop and Garage Equipment	123,553	7,341	-	-	-	-	7,341	130,894
39450-0100	Tools and Related Line Equipment - DSM	-	-	-	-	-	-	-	-
39500-0100	Laboratory Equipment	209,839	2,089	3,758	-	-	-	(1,669)	208,169
39510-0100	Hand Held Meter Reading Devices	43,554	14,187	-	-	-	-	14,187	57,742
39620-0100	Power Operated Equipment	457,253	95,949	75,529	-	29,499	2,237	52,156	509,408
39630-0100	Heavy Transportation Equipment	2,570,200	232,032	141,322	-	10,421	2,995	104,126	2,674,326
39700-0100	Communication Equipment	598,024	8,929	-	-	-	-	8,929	606,953
39710-0100	Base Stations and Tower	121,740	3,840	-	-	-	-	3,840	125,580
39800-0100	Miscellaneous Equipment	141,349	19,784	-	-	-	-	19,784	161,134
	TOTAL	15,732,730	1,523,306	962,558	-	153,375	1,922	716,046	16,448,776
	TOTAL ELECTRIC PLANT DEPRECIATION	108,165,139	8,716,070	4,833,897	400,171	862,421	1,922	4,346,346	112,511,485

Year 5
Dakota Electric Association
Accumulated Depreciation
Year Ended December 31, 2016
Schedule D 2016

Account Number	Description	Balance 1/1/2016	Dep'n Accrual	Original Cost of Plant Retired	Cost of Removal	Salvage Credits	Net Gain/Loss, Adjustments & Transfers	Net Additions (Deductions)	Balance 12/31/2016
Distribution Plant									
36200-0100	Station Equipment	10,724,865	780,048	46,631	10,548	-	-	722,869	11,447,734
36250-0100	Station Equipment - DSM	3,931,509	-	-	-	-	-	-	3,931,509
36255-0100	Station Equipment - DSM Post 2008	134,354	45,648	-	-	-	-	45,648	180,002
36260-0100	Station Equipment - Comm	836,366	-	75,600	-	-	-	(75,600)	760,766
36265-0100	Station Equipment - Comm Post 2009	113,521	43,465	-	-	-	-	43,465	156,986
36400-0100	Poles, Towers and Fixtures	7,696,265	656,452	204,516	45,711	50,830	-	457,055	8,153,320
36500-0100	Overhead Conductors and Devices	6,995,098	646,433	218,626	80,117	38,672	-	386,362	7,381,459
36700-0100	Underground Conductors and Devices	34,255,454	3,350,070	1,398,224	94,553	176,561	-	2,033,854	36,289,307
36800-0100	Line Transformers	21,015,172	1,181,893	597,122	77,754	106,029	-	613,045	21,628,217
36900-0100	Services	2,091,277	112,534	2,619	797	-	-	109,118	2,200,395
37000-0100	Meters	3,405,688	275,094	78,552	-	-	-	196,541	3,602,229
37020-0100	Meters - Used	35,761	5,693	-	-	-	-	5,693	41,454
37050-0100	Load Control Meters - DSM	472,156	25,340	-	-	-	-	25,340	497,496
37100-0100	Installations on Customers' Premises	278,774	13,731	49,538	15,836	180	-	(51,463)	227,311
37120-0100	Installations on Customers' Premises - LED	-	3,147	1,320	141	-	-	1,685	1,685
37150-0100	Load Control Receivers - DSM	231,675	-	3,211	-	-	-	(3,211)	228,463
37300-0100	Street Lighting and Signal Systems	3,844,774	306,013	109,272	22,948	11,373	-	185,166	4,029,940
37320-0100	Street Lighting and Signal Systems - LED	-	608	-	-	-	-	608	608
	TOTAL	96,062,709	7,446,168	2,785,233	348,406	383,645	-	4,696,174	100,758,882
General Plant									
39000-0100	Structure and Improvements	3,297,477	179,042	15,539	-	-	(820)	162,682	3,460,159
39050-0100	Security Equipment	303,135	20,012	78,118	-	-	20,567	(37,538)	265,597
39100-0100	Office Furniture and Equipment	993,981	43,208	139,677	-	-	(4,279)	(100,748)	893,233
39110-0100	Computer Equipment	3,768,052	350,765	32,724	-	450	854	319,346	4,087,398
39120-0100	Computer Equipment - DSM	1,422,434	2,106	-	-	-	-	2,106	1,424,541
39130-0100	Computer Equipment - Leased	393,158	164,479	421,780	-	-	-	(257,301)	135,857
39200-0100	Autos & Small Trucks	929,161	209,984	212,538	-	47,550	3,315	48,312	977,473
39300-0100	Stores Equipment	45,645	900	267	-	-	-	633	46,278
39400-0100	Tools and Line Equipment	821,527	60,969	230,497	-	64	1,731	(167,733)	653,794
39410-0100	Shop and Garage Equipment	130,894	7,405	30,109	-	-	(996)	(23,700)	107,194
39450-0100	Tools and Related Line Equipment - DSM	-	-	-	-	-	-	-	-
39500-0100	Laboratory Equipment	208,169	(403)	12,555	-	-	5,657	(7,301)	200,868
39510-0100	Hand Held Meter Reading Devices	57,742	14,329	22,632	-	-	-	(8,304)	49,438
39620-0100	Power Operated Equipment	509,408	88,985	-	-	-	1,547	90,532	599,940
39630-0100	Heavy Transportation Equipment	2,674,326	234,856	365,661	-	26,770	42,332	(61,703)	2,612,623
39700-0100	Communication Equipment	606,953	10,093	30,081	-	-	-	(19,988)	586,965
39710-0100	Base Stations and Tower	125,580	3,840	-	-	-	-	3,840	129,420
39800-0100	Miscellaneous Equipment	161,134	13,866	15,737	-	-	8,999	7,128	168,261
	TOTAL	16,448,776	1,404,436	1,607,915	-	74,834	78,907	(49,738)	16,399,038
	TOTAL ELECTRIC PLANT DEPRECIATION	112,511,485	8,850,603	4,393,148	348,406	458,479	78,907	4,646,435	117,157,920

DISTRIBUTION PLANT

DAKOTA ELECTRIC ASSOCIATION

36200 Station Equipment

	Present	Proposed
Study Year Investment	$ 28,927,702	
Percent of General Plant	11.47 %	
Average Service Life (Yrs)	37.00	37.00
Average Net Salvage Rate	0.00 %	0.00 %
Accrual Rate	2.70 %	2.70 %

DESCRIPTION

This account shall include the original cost of station equipment that is used for the purpose of changing the characteristics of electricity in connection with its distribution. Specifically, it consists of the installed cost at 31 distribution substation locations, with the investment in each substation at December 31, 2016 summarized below.

Apple Valley	$ 602,630
Barnes Grove (Inactive)	14,227
Burnscott	950,398
Burnsville	1,117,144
Byllesby	242,615
Castle Rock	110,922
Colonial Hills	1,103,504
Dakota Heights	765,876
Deerwood	949,428

Dodd Park	832,166
Eagan	1,376,542
Empire	770,772
Farmington (Inactive)	3,250
Fischer	1,363,779
Hastings	299,847
Kenrick	1,036,259
Lake Marion	427,297
Lakeville	980,503
Lebanon Hills	399,271
LeMay Lake	1,008,850
Marshan	530,691
Miesville	444,051
Nininger	1,318,782
Orchard Lake	630,910
Pilot Knob	759,941
Ravenna	1,562,982
Ritter Park	1,619,023
River Hills	2,779,676
Vermillion	1,125,284
Wescott Park	2,008,841
Yankee Doodle	1,792,241
TOTAL	**$ 28,927,702**

SERVICE LIFE

The retirement activity in the station equipment account is largely associated with the replacement of power transformers in distribution substations to meet load requirements that exceed the capacity of existing transformers. Retirements are also caused by shifting load centers that create a need for new or larger station transformers located in the proximity of the load center. Use of larger transformers thereby eliminates the need for the smaller, displaced station transformer. It is the opinion of DEA engineers that the expected life of the station transformer is 35-45 years. A 37 year average service life falls within this range; no change is recommended.

NET SALVAGE

Station transformers are sometimes removed from a substation when the transformer capacity lags the load center growth affecting that particular substation. Since the station transformer still has remaining useful life, the transformer is returned to inventory with the potential to be used again at a different substation at a later date. The retired station transformer is returned to inventory at its material cost (excluding labor and overhead). When the station transformer is returned to service it is removed from inventory at its depreciated cost and reclassified as a plant addition. However, before a reusable station transformer is returned to service, an economic analysis is conducted to determine whether the remaining useful life of the transformer is the lowest cost alternative for the particular substation being considered for the station transformer's installation. Thus, the average service life of station transformers is a measurement of location life, and an estimation of net salvage must recognize the possibility of reuse. When equipment is

scrapped, dollars received for metals recycling will likely be offset by the cost of removal. Therefore, it is recommended the net salvage rate for this account remain at zero.

DAKOTA ELECTRIC ASSOCIATION

36250 Station Equipment - DSM

	Present	Proposed
Study Year Investment	$ 3,931,509	
Percent of General Plant	1.56 %	
Average Service Life (Yrs)	11.00	11.00
Average Net Salvage Rate	0.00 %	0.00 %
Accrual Rate	9.09 %	9.09 %

DESCRIPTION

This account was created in 1991 and includes the installed cost of buildings and supervisory control and data acquisition (SCADA) equipment at 31 substations specifically identified and used for demand-side management (DSM) of consumers' electricity demand and peak usage.

The primary function of the SCADA equipment is to collect data from voltage and current monitors and relay this information to Dakota Electric headquarters to monitor how system conditions are changing as loads vary.

SERVICE LIFE

The major forces of retirement are expected to be technological obsolescence and physical deterioration. Based on engineering judgments, the SCADA equipment has a projected 11 year life.

NET SALVAGE

The opinion of DEA Engineering Department personnel is that the assets will have no appreciable salvage value. A future net salvage rate of zero is recommended.

DAKOTA ELECTRIC ASSOCIATION

36255 Station Equipment - DSM Post 2009

	Present	Proposed
Study Year Investment	$ 767,103	
Percent of General Plant	0.30 %	
Average Service Life (Yrs)	11.00	11.00
Average Net Salvage Rate	0.00 %	0.00 %
Accrual Rate	9.09 %	9.09 %

DESCRIPTION

This account was created in 2009 and includes the installed cost of buildings and SCADA equipment placed into service after 2009 at 31 substation locations and at the Great River Energy communication tower in Randolph Minnesota. The equipment is used for the demand side management of consumers' electric load and controlling peak usage.

In 2008, DEA determined the cost of replacing the equipment had decreased significantly and a separate account for the new equipment was needed. This allows for the depreciation of the new equipment over a period that stays within the confines of the mass asset depreciation accrual system. If new additions were included with the parent account 36250, the new equipment would be depreciated in a matter of months instead of its appropriate useful life, due to the high basis value.

SERVICE LIFE

The major forces of retirement are expected to be technological obsolescence and physical deterioration. Based on engineering judgments, the SCADA equipment has a projected 11 year life.

NET SALVAGE

The opinion of DEA Engineering Department personnel is that the assets will have no appreciable salvage value. A future net salvage rate of zero is recommended.

DAKOTA ELECTRIC ASSOCIATION

36260 Station Equipment - Communication

	Present	Proposed
Study Year Investment	$ 760,766	
Percent of General Plant	0.30 %	
Average Service Life (Yrs)	6.00	6.00
Average Net Salvage Rate	0.00 %	0.00 %
Accrual Rate	16.67 %	16.67 %

DESCRIPTION

This account was created in 2002, and it includes the cost of our Wide Area Network (WAN) communication system equipment constructed through 2009. The communication system equipment included in this account runs at a minimum of 1,000,000 Baud (1MB) where our existing phone system prior to 2002 was running at 4,800 Baud (.0048MB).

SERVICE LIFE

DEA's Senior Project Leader expects the equipment in this account to have a service life of six years. Technological obsolescence is expected to be the major force of retirement for the assets this account. Based on this consideration, continuing a six year service life is recommended.

NET SALVAGE

Since technological obsolescence will be the major force of retirement for equipment in this account, the net salvage is expected to be zero.

DAKOTA ELECTRIC ASSOCIATION

36265 Station Equipment – Communication Post 2009

	Present	Proposed
Study Year Investment	$ 577,894	
Percent of General Plant	0.23 %	
Average Service Life (Yrs)	6.00	6.00
Average Net Salvage Rate	0.00 %	0.00 %
Accrual Rate	16.67 %	16.67 %

DESCRIPTION

This account was created in 2009 and it includes the cost of our Wide Area Network (WAN) Communication System. In 2008, DEA determined a separate account for the new equipment was needed. This allows for the depreciation of the new equipment over a period that stays within the confines of the mass asset depreciation accrual system. If new additions were included in the old account, the new equipment would be depreciated in a much shorter time period rather than over its determined useful life. In 2016, DEA began to connect to fiber-optic networking cable to significantly increase the bandwidth of data (up into the gigabits) that will be required with the enhanced communication requirements and high data rates of future technologies such as Advanced Grid Infrastructure (AGI).

SERVICE LIFE

Technological obsolescence is expected to be the major force of retirement for the assets in this account. Based on this consideration, a six year service life is recommended.

NET SALVAGE

Since technological obsolescence will be the major force of retirement for the equipment in this account, the net salvage is expected to be zero.

DAKOTA ELECTRIC ASSOCIATION

36400 Poles, Towers & Fixtures

	Present	Proposed
Study Year Investment	$ 18,370,537	
Percent of General Plant	7.28 %	
Average Service Life (Yrs)	29.00	29.00
Average Net Salvage Rate	-5.00 %	-5.00 %
Accrual Rate	3.62 %	3.62 %

DESCRIPTION

This account includes the installed cost of poles, pole top assemblies, guys and anchors, cross-arms, and secondary attachments. The major components at December 31, 2016 are summarized below.

Pole Top Assemblies / Guy Attachments / Anchors	$ 3,560,961
Cross-Arms	3,131,801
Cluster Mounts	50,762
Wood Poles:	
35ft and Under	2,465,795
40ft-45ft	8,711,727
50ft and Over	449,491
TOTAL	**$ 18,370,537**

SERVICE LIFE

Wood poles on the Dakota Electric Association system have been systematically replaced at around 40-50 years of service. It is important to note that a majority of the wood poles have not been allowed to remain in service for this length of time. This is due to new construction, storm damage, and accidents, but not due to physical deterioration. The typical experience for many wood poles is that it remains in one location for around 10-20 years, so considerable life remains in many of the poles returned from the field.

Dakota Electric Association purchases cedar poles that have a natural resistance to decay. This species of wood has proven to be worth the extra cost over the life of the pole. Given the ability of this species of wood to fight decay and the positive experience of other utilities that use cedar poles, it is expected that a cedar pole will last 50 years under normal service.

The reuse guideline established within this document uses the assumption that a pole will be removed from the field once it has reached its service life. This typically will occur within the first 20 years of its service life, and then the pole will be able to be inspected and reused at another location. Considering the above factors, statistical analysis conducted over the last decade, and discussions with DEA's Operations and Engineering staff, the average service life is expected to remain at 29 years

NET SALVAGE

When wood poles are identified to be retired from the distribution system, DEA's technical standard and guideline is followed to determine possible reuse. The Staker shall determine the pole age; any wooden pole greater than 20 years old or a pole that does not have an identifying brand (so the age of the pole is unknown) shall be disposed of. Poles that are less than 20 years old are inspected by the crew and junked if they are determined to be unusable. Once poles pass the crew inspections, if they are newer than 10 years old, they are brought back into inventory. If between 10 and 20 years, they are formally inspected by an external pole inspection service for final disposition. Based on this guideline and the historical net salvage value of the assets in this account, it is recommended keeping the net salvage rate at -5.00%

DAKOTA ELECTRIC ASSOCIATION

36500 Overhead Conductors and Devices

	Present	Proposed
Study Year Investment	$ 20,033,477	
Percent of General Plant	7.94 %	
Average Service Life (Yrs)	30.00	30.00
Average Net Salvage Rate	2.00 %	2.00 %
Accrual Rate	3.27 %	3.27 %

DESCRIPTION

This account shall include the installed cost of overhead conductors and devices used for distribution purposes. The major components at December 31, 2016 are summarized below.

Grounding Assemblies	$ 6,803,552
String of Insulators	2,657,990
Switches	1,394,699
Circuit Recloser	630,133
Aluminum Conductor (ACSR)	6,972,098
1/0 or 2/0 Secondary	821,942
3/0 or 4/0 & Larger Secondary	148,743
#2, #4, #6 & Smaller Secondary	604,320
TOTAL	**$ 20,033,477**

SERVICE LIFE

The major forces of retirement for the cable and equipment in this account have been, and will continue to be, rebuilding identifiable deteriorating line, rebuilding due to economic development in DEA's service area (e.g. road construction projects), and line conversions to increase capacity where needed. All overhead lines are to be systematically replaced at a maximum age of 35 years if the line or its associated pole or line transformer requires maintenance or repair. If a 35+ year old line or accompanying asset requires no maintenance or repairs, the line is expected to remain in service for 40-50 years. Past statistics for overhead conductors generally indicate average service lives of 20-40 years. We are proposing to keep the service life at 30 years, due to the fact that overhead conductor (ACSR) and grounding assemblies are typically retired at the same time as the poles.

NET SALVAGE

Considering the retirement experience during the last five years with the little salvage cost recovered from of the property retired and stable costs of removal, we recommend the net salvage for the equipment in this account to remain at 2.00%.

DAKOTA ELECTRIC ASSOCIATION

36700 Underground Conductors and Devices

	Present	Proposed
Study Year Investment	$ 117,131,608	
Percent of General Plant	46.43 %	
Average Service Life (Yrs)	33.00	33.00
Average Net Salvage Rate	5.00 %	5.00 %
Accrual Rate	2.88 %	2.88 %

DESCRIPTION

This account shall include the installed cost of transformer pads and basements, cable terminations and elbows, fuse switch enclosures, primary underground cable, and secondary underground cable. The major components at December 31, 2016 are summarized below.

Transformer Pads and Basements	$ 3,488,409
Cable Terminations and Elbows	20,132,605
Fuse and Switch Enclosures	9,424,966
Mount Equipment	359,242
Primary Cable	76,562,456
Secondary Cable	7,163,930
TOTAL	**$ 117,131,608**

SERVICE LIFE

As underground cables age, their failure rate increases, threatening system reliability and customer satisfaction. Deciding whether to replace or repair underground cable will have significant implications for both capital investment and future operating costs. Engineering, GIS staff, System Operations, and Utility Service representatives work together to make cost-effective cable management decisions based on information about historical failures and other cable asset information, such as year of manufacture and cable design, to prioritize replacements. Around 1982-1984, Dakota Electric switched to installing all covered or "jacketed" cable, which has proven to have much better performance compared to the bare concentric neutral cable installed in prior years. Insulation failures are a leading cause of cable problems and common source of faults. Dakota Electric has also experienced water entering into splices and terminators, as well as water and other impurities causing electrical treeing in the cable insulation (treeing is a pre-breakdown phenomenon in the solid insulation in a path resembling the branches of a tree). Over the years, cable design and manufacturing processes have greatly improved, and cable manufactured today is expected to have a considerably longer life. Statistical life analysis for underground conductor supports average service lives ranging from 25-45 years. DEA's engineering staff expects a 40-year maximum life from post-1981 jacketed underground cable, and therefore continuing to use a 33 year average service life is reasonable.

NET SALVAGE

DEA's engineering staff does not forecast that any cable will be retired with salvage value. The positive salvage value evidenced by a net salvage analysis is primarily due to the reuse of fuse and switch enclosures associated with the connections made between the cable and padmount transformers. With consideration to these facts and estimates, it is recommended to maintain a net salvage rate of 5.00%.

DAKOTA ELECTRIC ASSOCIATION

36800 Line Transformers

	Present	Proposed
Study Year Investment	$ 38,540,620	
Percent of General Plant	15.28 %	
Average Service Life (Yrs)	29.00	29.00
Average Net Salvage Rate	10.00 %	10.00 %
Accrual Rate	3.10 %	3.10 %

DESCRIPTION

This account shall include the installed cost of overhead and underground distribution line transformers. Also included are pole-type and underground voltage regulators, arresters, and capacitors. The major components at December 31, 2016 are summarized below.

Polemount Transformers	$ 3,723,362
Padmount Transformer	27,568,807
Voltage Regulators	381,945
Capacitors	1,802,042
Arresters and Cutouts	5,064,464
TOTAL	$ 38,540,620

SERVICE LIFE

Conditions and situations that require transformers to be removed from the field will include change-outs for resizing, transformer failures (open or not providing adequate

service voltage), oil leaks, severe rust, and other damage that can't be repaired and/or repainted in the field. Generally, the crew chief in charge of the work order, job order, or trouble call will decide if a transformer needs to be removed from the field. Engineering staff also analyzes loading criteria and calculations to determine when transformer re-sizing may be required. In addition, overhead transformers are removed during line rebuild or conversion projects. Other padmount transformers are left in place during cable replacement unless a redesign requires their removal or relocation, or if their condition requires that they be removed.

When transformers are removed from the field, they are brought to the Technician Electrician shop. At this point, the Technician Electricians will evaluate the reason for the transformer's removal and its condition. If repairs or refurbishment are required in order to return the transformer to stock for reuse, the Technician Electrician will determine the work needed and estimate the cost of the work.

Repaired and refurbished transformers will be placed into DEA stock to be reused on the DEA system with no specific limitation in regard to location or type of project. If the decision is made to not repair or refurbish a transformer for reuse, the unit will be disposed of properly. Most non-PCB transformers are sold for their scrap value. Any transformer with unknown PCB content (not clearly labeled as non-PCB) will have its oil tested for PCB content before leaving DEA's possession. Transformers containing PCB will be disposed of in accordance with established regulations and procedures. It is the

opinion of DEA engineering and utility service departments to continue to use a service life of 29 years.

NET SALVAGE

Prior to 2006, transformers were considered “special equipment” items. The material and installation costs of these items were capitalized at the time of purchase and not charged to the materials and supplies account, as in the case with other inventory materials. After 2006, transformers were treated as inventory items and capitalized at the time of installation rather than the time of purchase. Once a transformer is removed from service and determined to be reusable, the item is charged to inventory at the average costs. As a result of adding the transformers to inventory, the salvage has increased. Based on this accounting change and past history, we propose the net salvage rate of 10.00% remain in place.

DAKOTA ELECTRIC ASSOCIATION

36900 Services

	Present	Proposed
Study Year Investment	$ 3,309,321	
Percent of General Plant	1.31 %	
Average Service Life (Yrs)	35.00	35.00
Average Net Salvage Rate	-20.00 %	-20.00 %
Accrual Rate	3.43 %	3.43 %

DESCRIPTION

This account shall include the installed cost of overhead and underground conductors leading from a point where wires leave the last pole of the overhead system (or distribution box, manhole, service pedestal of an underground system) to the point of connection with the customer's outlet or wiring.

SERVICE LIFE

The major forces of retirement related to services include load growth and increasing capacity requirements, insulation deterioration, and road relocations. Considering our retirement experience over the last five years, we recommend continuing to use the average service life of 35 years.

NET SALVAGE

The net salvage for services is significantly impacted by the cost incurred with removals. With no gross salvage for the property retired, these costs are largely a function of labor rates. Historical net salvage rates have ranged from -100.00% to 0.00% for the assets in

this account. Based on these considerations, a continued net salvage rate of -20.00% is recommended.

DAKOTA ELECTRIC ASSOCIATION

37000 Meters

	Present	Proposed
Study Year Investment	$ 6,866,992	
Percent of General Plant	2.72 %	
Average Service Life (Yrs)	25.00	15.00
Average Net Salvage Rate	0.00 %	0.00 %
Accrual Rate	4.00 %	6.67 %

DESCRIPTION

This account shall include the installed cost of meters or devices used in measuring the electricity delivered to consumers.

SERVICE LIFE

Metering equipment in this category is classified as "special equipment". The material cost is capitalized at the time of purchase and remain in the plant account whether actually in service or held in reserve. Meter assets are removed from the electric plant accounts only when the items are abandoned or fully retired from the system. The cost of removing and resetting meters is expensed, thus, the prior service life estimates for meters was a "cradle-to-grave" life.

Past statistical life analysis for meters support an average service life of 25-40 years, with a past tendency towards 30 years. With the introduction of Automatic Meter Reading (AMR) and Advanced Metering Infrastructure (AMI) technologies to collect and transmit

two way data, the retirement of existing meters will be accelerated. Benefits and labor cost savings using new "smart metering" will likely drive replacement, resulting in a shortened service life for existing meters. Based on increased technological obsolescence, we recommend reducing the average service life from 25 years to 15 years.

NET SALVAGE

The opinion of DEA operating personnel is that the assets will have no appreciable salvage value. Based on this consideration, a future net salvage of zero is recommended.

DAKOTA ELECTRIC ASSOCIATION

37020 Meters -Used

	Present	Proposed
Study Year Investment	$ 85,400	
Percent of General Plant	0.03 %	
Average Service Life (Yrs)	15.00	5.00
Average Net Salvage Rate	0.00 %	0.00 %
Accrual Rate	6.67 %	20.00 %

DESCRIPTION

This account was created in 2008 to segregate the purchase of used meters from new meters. Currently, the assets held in this account consist of 8,000 used 2S electronic meters.

SERVICE LIFE

Technological obsolescence will be the major force of retirement, the same way technology impacts the "37000 Meters" parent account. In 2012, we reduced the average service life from 20 years to 15 years. Based on increased technological obsolescence, we recommend further reducing the average service life from 15 years to 5 years.

NET SALVAGE

The opinion of DEA operating personnel is that the assets will have no appreciable salvage value due to the specialty of their use and the impact of technology causing their future obsolescence. A future net salvage rate of zero is recommended.

DAKOTA ELECTRIC ASSOCIATION

37050 Meters - DSM

	Present	Proposed
Study Year Investment	$ 633,490	
Percent of General Plant	0.25 %	
Average Service Life (Yrs)	25.00	15.00
Average Net Salvage Rate	0.00 %	0.00 %
Accrual Rate	4.00 %	6.67 %

DESCRIPTION

This account was created in 1991 to include the installed cost of dual fuel and irrigation meters specifically identified and used for demand-side management (DSM) of consumers' electric load and peak usage. The major items at December 31, 2016 are summarized below.

	Number of Units	Original Cost
CTs and PTs		$ 23,590
2-Wire Meters	602	48,578
3-Wire Meters	8,490	474,538
4-Wire Meters	253	86,784
TOTAL	**9,345**	**$ 633,490**

SERVICE LIFE

The assets in this account have the same projected life, accrual rate, and salvage rate of its parent account "37000 Meters." The oldest vintage in this account is 1981 (transferred from "37000 Meters"), and no retirements have been recorded.

Technological obsolescence will be the major force of retirement, the same way technology impacts the "37000 Meters" parent account. In 2012, we reduced the average service life from 30 years to 25 years. Based on increased technological obsolescence, we recommend further reducing the average service life from 25 years to 15 years.

NET SALVAGE

The opinion of DEA operating personnel is that the assets will have no appreciable salvage value due to the specialty of their use and the impact of technology causing their future obsolescence. A future net salvage rate of zero is recommended.

DAKOTA ELECTRIC ASSOCIATION

37100 Installations on Customers' Premises

	Present	Proposed
Study Year Investment	$ 233,244	
Percent of General Plant	0.09 %	
Average Service Life (Yrs)	20.00	20.00
Average Net Salvage Rate	-7.00 %	-10.00 %
Accrual Rate	5.35 %	5.50 %

DESCRIPTION

This account shall include the cost of equipment owned by DEA, installed on the customers' property, but on DEA's side of the meter. At December 31, 2016 this account consisted of two types of security lights: Mercury Vapor (MV) $758 and High Pressure Sodium (HPS) $232,486.

SERVICE LIFE

High pressure sodium lights are the only type of lights currently being purchased for this account. Mercury vapor lights have not been put in service since 1982. In 2016, Dakota Electric arranged for the removal of all MV security lighting from our distribution system. The retirement of security lights is largely determined by customer decisions to discontinue service. If the predominant force of retirement acting upon a plant account is the service requirements of customers, then recently installed equipment is as likely to be retired as equipment that has been in service for a number of years. Past historical statistical life analysis for the assets in this account supports an average service life

ranging from 10-35 years. Considering our retirement experience during the last five years we will recommend continuing to use a 20 year service life.

NET SALVAGE

When retired from service, HPS security lights may be returned to inventory and reinstalled at a different location. The retired HPS security light is returned to inventory at its material cost and when it is returned to service, it is removed from inventory at average unit cost and reclassified as a plant addition. Thus, the average service life of security lights is a measure of location life, and estimates of net salvage must recognize the possibility of reuse. However, with emerging lighting technologies, the likelihood of returning an HPS type light to service has diminished. Gross salvage of retired fixtures will have no appreciable value yet the cost of removal is likely to remain consistent with historical experience. Therefore reducing the net salvage rate to -10.00% is recommended.

DAKOTA ELECTRIC ASSOCIATION

37120 Installations on Customers' Premises - LED

	Present	Proposed
Study Year Investment	$ 121,704	
Percent of General Plant	0.05 %	
Average Service Life (Yrs)		16.00
Average Net Salvage Rate		0.00 %
Accrual Rate		6.25 %

DESCRIPTION

This sub-account was established in 2016 to provide for a different depreciation accrual rate for Light Emitting Diode (LED) electric security lighting used for illumination at private residential, farm or commercial locations. This newer lighting technology has a different service life and net salvage value when compared to High Pressure Sodium (HPS) security lighting fixtures. They are similar in that they all have a photocell providing for dusk-to-dawn illumination and that the equipment is owned by DEA, installed on the customers' property, on DEA's side of the meter.

SERVICE LIFE

Unlike conventional light sources, LED products do not typically fail without warning. Instead, the light output (known as lumen depreciation) slowly reduces over time. The normal convention is to measure the life from when the output has reduced by 30%, or in other words, when there is 70% light output remaining. This is often quoted as the L70 life and is measured in hours. The theoretical L70 life for the fixture DEA is currently purchasing is quoted as 87,000 hours at an ambient temperature of 25 degrees Celsius.

This equates to approximately 22 years of life assuming 11 hours of operation per day. We also purchase the fixture with enhanced surge protection 10kV/10kA to protect the electronic components from failure due to line-to-ground and line-to-line surges. Therefore, with a 10 year warranty from our current manufacturer, we can expect 10-22 years of serviceable life. With little historical statistical life analysis for this new technology, and to account for premature failures, DEA has assigned a mid-point 16 year service life.

NET SALVAGE

Unlike HPS security lights which have been refurbished with a new bulb and/or ballast, returned to inventory, and often reinstalled at a different location, we anticipate that the majority of retired LED lights will follow one of two paths. If the fixture has failed and is less than 10 years old, it will be sent to the manufacturer for a warranty replacement. If the fixture has failed and is over 10 years old, it will be considered unserviceable and have no scrap value. Therefore, we recommend using a zero net salvage value.

DAKOTA ELECTRIC ASSOCIATION

37150 Load Control Receivers – DSM

	Present	Proposed
Study Year Investment	$ 228,463	
Percent of General Plant	0.09 %	
Average Service Life (Yrs)	12.00	12.00
Average Net Salvage Rate	0.00 %	0.00 %
Accrual Rate	8.33 %	8.33 %

DESCRIPTION

This account was created in 1991 and shall include the installed cost of radio controlled and power line carrier receivers specifically identified and used for demand-side management (DSM) of consumers' electric load and peak usage.

Receivers are located at the consumer's site of electrical use, and they directly control the electric supply to an end-use appliance such as an electric water heater, heat pump, central air conditioning compressor, or irrigation pump. The amount of time that an appliance will be turned off by the load control receiver is predetermined and preset.

SERVICE LIFE

The major forces of retirement are expected to be technological obsolescence and physical deterioration. The assets in this account are fully depreciated and are expected to be retired and replaced as part of a future implementation of Advanced Metering Infrastructure (AMI) technologies which will collect and transmit two way data.

NET SALVAGE

Due to the technological obsolescence and physical deterioration it is reasonable to conclude that assets in this category will have no appreciable salvage value. A net salvage rate of zero is recommended.

DAKOTA ELECTRIC ASSOCIATION

37300 Street Lighting and Signal Systems

	Present	Proposed
Study Year Investment	$ 7,717,703	
Percent of General Plant	3.06 %	
Average Service Life (Yrs)	22.00	22.00
Average Net Salvage Rate	10.00 %	-5.00 %
Accrual Rate	4.09 %	4.77 %

DESCRIPTION

This account shall include the installed cost of equipment used for lighting on public streets and highways.

SERVICE LIFE

The primary forces of retirement have been equipment deterioration, failure, and technological obsolescence. Past historical statistical life analysis for this account supports an average service life ranging from 18-30 years. Considering our retirement experience over the last five years, we recommend continuing to use an average service life of 22 years.

NET SALVAGE

With emerging lighting technologies, we expect that the future gross salvage of HPS fixtures will have no appreciable value, while cost of removal will remain consistent with historical experience. Unlike security lights, there is the opportunity to retrofit acorn-style HPS fixtures to convert them to LEDs. Therefore we recommend reducing the

average net salvage rate from 10.00% to -5.00%.

DAKOTA ELECTRIC ASSOCIATION

37320 Street Lighting and Signal Systems – LED

	Present	Proposed
Study Year Investment	$ 38,326	
Percent of General Plant	0.02 %	
Average Service Life (Yrs)		16.00
Average Net Salvage Rate		0.00 %
Accrual Rate		6.25 %

DESCRIPTION

This sub-account was established in 2016 to provide for a different depreciation accrual rate for Light Emitting Diode (LED) electric street lighting used for illumination. This new lighting technology has a different service life and net salvage value when compared to high pressure sodium (HPS) lighting fixtures.

SERVICE LIFE

Unlike conventional light sources, LED products do not typically fail without warning. Instead, the light output (known as lumen depreciation) slowly reduces over time. The normal convention is to measure the life from when the output has reduced by 30%, or in other words, when there is 70% light output remaining. This is often quoted as the L70 life and is measured in hours. The theoretical L70 life for the fixture DEA is currently purchasing is quoted as 87,000 hours at an ambient temperature of 25 degrees Celsius. This equates to approximately 22 years of life assuming 11 hours of operation per day. We also purchase the fixture with enhanced surge protection 10kV/10kA to protect the

electronic components from failure due to line-to-ground and line-to-line surges. Therefore, with a 10 year warranty from our current manufacturer, we can expect 10-22 years of serviceable life. With little historical statistical life analysis for this new technology, and to account for premature failures, DEA has assigned a mid-point 16 year service life.

NET SALVAGE

Unlike HPS security lights which have been refurbished with a new bulb and/or ballast, returned to inventory, and often reinstalled at a different location, we anticipate that the majority of retired LED lights will follow one of two paths. If the fixture has failed and is less than 10 years old, it will be sent to the manufacturer for a warranty replacement. If the fixture has failed and is over 10 years old, it will be considered unserviceable and have no scrap value. Therefore, we recommend using a zero net salvage value.

GENERAL PLANT

DAKOTA ELECTRIC ASSOCIATION

39000 Structures and Improvements

	Present	Proposed
Study Year Investment	$ 7,821,782	
Percent of General Plant	29.73 %	
Weighted Average Service Life (Yrs)	37.50	34.50
Average Net Salvage Rate	12.50 %	18.95 %
Accrual Rate	2.33 %	2.54 %

DESCRIPTION

The investment in this account shall include Dakota Electric's office building, warehouse, garages, storage buildings, pole yard structures, and related improvements and remodeling. At December 31, 2016, this account includes structures which total approximately 100,000 square feet. All structures are located in the same 20 acre plot where the facility was originally constructed in 1978. The pole yard has a compacted gravel surface and wooden utility pole storage racks. Significant additions occurred in 1989 with the construction of a detached storage garage separate from the office and warehouse to the south. Office building additions were also completed in 1990 for $536,000 to the west side, and in 1994 for $1,990,000 to the east side. In 2002, the roofs of the main office building and warehouse were replaced at a cost of $312,000.

The major items at December 31, 2016 are summarized below.

Office Building	$ 7,002,067
Warehouse	206,237
Truck Bay	19,353
Attached Service Garage	151,694
Detached South Garage	139,477
East Lean-To Garage	17,703
Pole Yard	19,291
Parking Lot	265,960
TOTAL	**$ 7,821,782**

SERVICE LIFE

Dakota Electric shall continue to use a service life of 50 years on the original structure. Improvement projects such as restroom remodeling and exterior door replacements shall use an expected useful life of 25 years. HVAC heat pump replacements shall have an expected useful life of 15 years. Carpet and flooring replacements will have an expected useful life of ten years. The current weighted average service life is 34.50 years.

NET SALVAGE

The structures classified in this account are special purpose buildings; however, with a reasonable amount of remodeling, they could adequately meet the requirements of other businesses that locate in this expanding rural/suburban portion of Dakota County. Dakota Electric does not anticipate that it will outgrow its current location, as we have the real estate available to continue expanding buildings as needed for the future. With these considerations in mind, it is reasonable to conclude that the buildings will have a residual value of 25%. No salvage value is assigned to HVAC system replacements or remodeling projects.

DAKOTA ELECTRIC ASSOCIATION

39050 Security Equipment

	Present	Proposed
Study Year Investment	$ 316,269	
Percent of General Plant	1.20 %	
Average Service Life (Yrs)	6.00	6.00
Average Net Salvage Rate	0.00 %	0.00 %
Accrual Rate	16.67 %	16.67 %

DESCRIPTION

This account was created in 2002, and it shall include the cost of the security alarm, proximity card access, closed circuit security cameras, intercom system, and other security related items for the office building, warehouse, and garages.

SERVICE LIFE

Technological obsolescence is expected to be the major force of retirement for the assets in this account. We propose continuing to use a six year average service life

NET SALVAGE

With technological obsolescence being the major force of retirement, the average net salvage is expected to be zero.

DAKOTA ELECTRIC ASSOCIATION

39100 Office Furniture and Equipment

	Present	Proposed
Study Year Investment	$ 1,104,287	
Percent of General Plant	4.20 %	
Average Service Life (Yrs)	12.00	12.00
Average Net Salvage Rate	0.00 %	0.00 %
Accrual Rate	8.33 %	8.33 %

DESCRIPTION

This account shall include the cost of office furniture and equipment not permanently attached to buildings. The items classified in this account at December 31, 2016 are summarized below.

Desks, Chairs, and Furniture	$ 1,010,965
File Cabinets and Shelving	12,106
Copiers and Printers	81,216
TOTAL	**$ 1,104,287**

SERVICE LIFE

The largest percent of the investment in this category is in modular furniture and desks, which have a service life of 18 years. Multifunction printers and copiers tend to have a technological obsolescence characteristic providing for a maximum service life of six years. Therefore, we recommend keeping the average service life at 12 years.

NET SALVAGE

In our recent experience, it has become increasingly difficult to sell used furniture. Installations of new furniture may allow for free removal and haul away of the old furniture, but many times it is scrapped. Based on history and in the opinion of Dakota Electric purchasing department personnel, the equipment retired from this account will not generate any appreciable salvage value. Therefore, a net salvage rate of zero is recommended.

DAKOTA ELECTRIC ASSOCIATION

39110 Computer Equipment

	Present	Proposed
Study Year Investment	$ 4,940,542	
Percent of General Plant	18.78 %	
Weighted Average Service Life (Yrs)	5.40	5.00
Average Net Salvage Rate	0.00 %	0.00 %
Weighted Average Accrual Rate	14.69 %	16.33 %

DESCRIPTION

This account shall include the installed cost of server hardware and software, monitors, Geographic Information System (GIS), printers, licenses, surge protectors, and other network equipment. The items classified in this account at December 31, 2016 are summarized below.

Geographic Information System (GIS)	$ 3,037,726
Licenses	170,927
Non-Leased Personal Computers	64,866
Software	698,670
Server Hardware / Network Equipment	968,263
TOTAL	**$ 4,940,452**

SERVICE LIFE

Since technological obsolescence will most likely be the dominant force of retirement in this account, the service life of computer equipment will exceed the historical indications when its economic life is dictated by the rapid deployment of computer technology.

Server Hardware / Network Equipment makes up a large portion of our investment in this category. Since the last depreciation study, Dakota Electric has moved from single-use primary and secondary servers to a virtual hardware platform using multiple servers for the same application. When the single-use primary server reached 3-4 years in age, it would be a hand-me-down for a secondary or low-level (non-important) server for another few years. Now that Dakota Electric is using a virtual hardware platform, the equipment is systematically replaced after four years. Based on these considerations, we are recommending the service life for assets in the Server Hardware / Network Equipment category be reduced to four years. GIS equipment, non-leased personal computers, and software will continue to have a six year service life. Licenses will continue to have a three year service life. The overall weighted average service life for this account is five years. The original cost, accumulated depreciation, service life, salvage rate, salvage value and proposed difference in annual depreciation are detailed in the following schedule (Reference "2016 Schedule DS-39110-Computer Equipment").

NET SALVAGE

In view of the prediction that future plant retirements will be caused by the introduction of new technology, it is likely that the displaced equipment will have no appreciable salvage value. Disposals in the last five years have supported this fact. Hard drives from servers are removed for security purposes and Dakota Electric has had very little success in finding interested parties to purchase the remaining used hardware. They are generally sent to a recycling agency with other electronic waste and Dakota Electric receives certification of proper disposal. Therefore, a net salvage rate of zero is recommended.

Dakota Electric Association
Annual Depreciation Accrual Determination - Computer Equipment
2016 Schedule DS-39110-Computer Equipment

					PRESENT					PROPOSED					
Description	**Type**	**Date in Service**	**Original Cost**	**12/31/2016 Accum Depr**	**Service Life**	**Salvage Rate**	**Salvage Value**	**Annual Accrual Rate**	**Annual Depreciation**	**Service Life**	**Salvage Rate**	**Salvage Value**	**Annual Accrual Rate**	**Annual Depreciation**	**Increase (Decrease)**
GEOGRAPHIC INFORMATION SYSTEM (GIS)	GIS	Multiple	3,037,726	2,540,528	6.0	0.0%	-	16.7%	497,199	6.0	0.0%	-	16.7%	497,199	-
LICENSES	LICENSE	Multiple	170,927	126,800	3.0	0.0%	-	33.3%	44,127	3.0	0.0%	-	33.3%	44,127	-
NON-LEASED PERSONAL COMPUTERS	PCS	Multiple	64,866	62,068	6.0	0.0%	-	16.7%	2,799	6.0	0.0%	-	16.7%	2,799	-
SOFTWARE	SOFT	Multiple	698,670	678,288	6.0	0.0%	-	16.7%	20,382	6.0	0.0%	-	16.7%	20,382	-
SERVER HARDWARE / NETWORK EQUIPMENT	COMP	Multiple	968,263	679,714	6.0	0.0%	-	16.7%	161,409	4.0	0.0%	-	25.0%	242,066	80,657
TOTALS			**4,940,452**	**4,087,398**			**-**		**725,916**			**-**		**806,573**	**80,657**
Average Service Life					**5.4**					**5.0**					
Weighted Average Salvage Rate						**0.00%**					**0.00%**				
Weighted Average Accrual Rate								**14.69%**					**16.33%**		

DAKOTA ELECTRIC ASSOCIATION

39120 Computer Equipment - DSM

	Present	Proposed
Study Year Investment	$ 1,432,598	
Percent of General Plant	5.45 %	
Average Service Life (Yrs)	6.00	6.00
Average Net Salvage Rate	0.00 %	0.00 %
Accrual Rate	16.67 %	16.67 %

DESCRIPTION

This account shall include the installed cost of equipment utilized in operating a Demand Side Management (DSM) system. The DSM system performs three major functions: the real-time acquisition of power system data, remote control of power field devices, and management of power system loads and standby generators during periods of peak usage. Major components at December 31, 2016 are summarized below.

Unit Work Stations	$ 683,603
Computer Hardware	19,482
Printers	37,750
Software	673,602
Licenses	18,161
TOTAL	**$ 1,432,598**

SERVICE LIFE

We expect the items in this account to have a maximum service life of no more than six years. Technological obsolescence is expected to be the major force of retirement for this account. Based on this consideration, a six year service life is recommended for the assets in this account.

NET SALVAGE

Since technological obsolescence will be the major force of retirement, the net salvage rate is expected to be zero.

DAKOTA ELECTRIC ASSOCIATION

39130 Computer Equipment -Leased

	Present	Proposed
Study Year Investment	$ 426,168	
Percent of General Plant	1.62 %	
Average Service Life (Yrs)	4.00	4.00
Average Net Salvage Rate	0.00 %	0.00 %
Accrual Rate	25.00 %	25.00 %

DESCRIPTION

This account shall include the leased cost of desktop, laptop computers and tablets.

SERVICE LIFE

The equipment in this account is leased for four years. Future leasing will continue to be based on a four year turnover. Therefore, a four year service life is recommended.

NET SALVAGE

A net salvage rate of zero is recommended for the equipment in this account.

DAKOTA ELECTRIC ASSOCIATION

39200 Autos & Small Trucks

	Present	Proposed
Study Year Investment	$ 1,943,593	
Percent of General Plant	7.39 %	
Average Service Life (Yrs)	7.00	7.00
Average Net Salvage Rate	10.00 %	10.00 %
Weighted Average Accrual Rate	10.58 %	10.58 %

DESCRIPTION

This account shall include the cost of light duty transportation vehicles used for utility purposes. The major components at December 31, 2016 are summarized below.

Vehicle Type	Number of Vehicles	Original Cost
Cars	9	225,076
Light Trucks	28	843,267
Vans and SUVs	30	875,250
TOTAL	**67**	**$ 1,943,593**

SERVICE LIFE

Vehicles are replaced based upon age, mileage, maintenance records, safety and reliability. Appearance is also a factor as it relates to Dakota Electric's public image. After a detailed review of disposals since the last study and of the scheduled future equipment replacements determined that our average service life for this category is approximately 7.2 years. We recommend maintaining a seven year average service life.

The original cost, accumulated depreciation, service life, salvage rate, and salvage value are detailed in the schedule below (Reference “2016 Schedule DS-39200-Autos”).

NET SALVAGE

Net salvage rates have been determined through discussions with DEA's operating personnel and an analysis of the historical realized salvage value. Based on the analysis of disposals within the past five years, and consistent with industry trends, it is recommended the current 10.00% salvage rate remain unchanged.

Dakota Electric Association
Annual Depreciation Accrual Determination - Autos & Small Trucks
2016 Schedule DS-39200-Autos

Description	Type	Date in Service	Original Cost	12/31/2016 Accum Depr	Service Life	Salvage Rate	Salvage Value	Annual Accrual Rate	Annual Depreciation
2007 CHEVROLET IMPALA LT #265	CARS	3/19/2007	19,317	16,979	7.5	12.1%	2,337	11.7%	-
2009 CHEVROLET IMPALA LT #277	CARS	9/30/2008	22,964	20,668	7.5	10.0%	2,296	12.0%	-
2010 CHEVROLET IMPALA LT #295	CARS	5/31/2010	24,728	19,782	7.5	10.0%	2,473	12.0%	2,473
2010 CHEVROLET IMPALA LT #296	CARS	5/31/2010	24,728	19,782	7.5	10.0%	2,473	12.0%	2,473
2013 CHEVROLET MALIBU LT #327	CARS	6/30/2013	22,598	10,411	7.0	10.0%	2,260	12.9%	2,906
2013 CHEVROLET MALIBU LT #328	CARS	6/30/2013	22,598	10,411	7.0	10.0%	2,260	12.9%	2,906
2013 BUICK LACROSSE #329	CARS	8/31/2013	33,861	14,874	7.0	10.0%	3,386	12.9%	4,354
2015 FORD FOCUS ELECTRIC #348	CARS	10/31/2015	30,159	4,847	7.0	10.0%	3,016	12.9%	3,878
2016 FORD FUSION SE #349	CARS	11/30/2015	24,122	3,618	7.0	10.0%	2,412	12.9%	3,102
1992 CHEVROLET PICKUP #26	PICK	1/1/1992	22,071	20,305	7.5	8.0%	1,766	12.3%	-
FB-56 SERVICE BODY #338	PICK	12/20/2000	7,189	6,319	7.5	12.1%	870	11.7%	-
2005 CHEVROLET SILVERADO #247	PICK	5/23/2005	19,820	17,422	7.5	12.1%	2,398	11.7%	-
2007 CHEVROLET SILVERADO #260	PICK	9/1/2006	21,818	19,014	7.5	12.8%	2,803	11.6%	-
2007 CHEVROLET SILVERADO #261	PICK	8/31/2006	24,486	21,523	7.5	12.1%	2,963	11.7%	-
2007 CHEVROLET 2500HD 4x4 #269	PICK	5/22/2007	24,415	21,806	7.5	10.7%	2,609	11.9%	-
2009 CHEVROLET COLORADO #281	PICK	10/31/2008	23,778	21,400	7.5	10.0%	2,378	12.0%	-
2009 CHEVROLET 2500HD 4X4 #288	PICK	11/30/2009	28,957	24,903	7.5	10.0%	2,896	12.0%	1,158
2009 CHEVROLET 2500HD 4X4 #289	PICK	11/30/2009	29,447	25,324	7.5	10.0%	2,945	12.0%	1,178
2010 CHEVROLET EXT CAB #292	PICK	3/31/2010	29,523	24,209	7.5	10.0%	2,952	12.0%	2,362
2010 CHEVROLET EXT CAB #293	PICK	3/31/2010	29,523	24,209	7.5	10.0%	2,952	12.0%	2,362
2010 CHEVROLET EXT CAB #294	PICK	3/31/2010	30,318	24,933	7.5	9.7%	2,952	12.0%	2,433
2012 CHEVROLET 2500HD 4x4 #312	PICK	10/31/2011	38,085	24,173	7.5	9.3%	3,552	12.1%	4,605
2013 CHEVROLET 2500HD 4X4 #318	PICK	10/31/2012	33,148	18,330	7.0	8.9%	2,957	13.0%	4,313
2013 CHEVROLET 2500HD 4X4 #319	PICK	10/31/2012	31,633	17,410	7.0	9.3%	2,957	13.0%	4,097
2013 CHEVROLET 2500HD 4X4 #320	PICK	10/31/2012	31,893	17,568	7.0	9.3%	2,957	13.0%	4,133
2013 CHEVROLET 1500LT 4X4 #321	PICK	10/31/2012	30,196	16,544	7.0	9.8%	2,947	12.9%	3,892
2013 CHEVROLET 2500HD 4X4 #322	PICK	11/30/2012	36,792	19,917	7.0	8.9%	3,263	13.0%	4,790
2013 CHEVROLET 1500LT 4X4 #324	PICK	4/30/2013	31,478	15,177	7.0	10.0%	3,148	12.9%	4,048
2015 CHEVROLET 2500HD 4X4 #337	PICK	12/31/2014	39,157	10,595	7.0	8.7%	3,413	13.0%	5,106
2015 CHEVROLET 2500HD 4X4 #338	PICK	12/31/2014	37,018	9,977	7.0	9.2%	3,413	13.0%	4,801
2015 CHEVROLET 2500HD 4X4 #339	PICK	12/31/2014	33,617	9,050	7.0	9.4%	3,147	13.0%	4,353
2015 CHEVROLET 2500HD 4X4 #340	PICK	12/31/2014	35,453	9,581	7.0	8.9%	3,147	13.0%	4,616
2015 CHEVROLET 1500 4X4 #345	PICK	8/31/2015	35,550	6,496	7.0	9.7%	3,452	12.9%	4,586
2015 CHEVROLET 1500 4X4 #346	PICK	8/31/2015	35,550	6,496	7.0	9.7%	3,452	12.9%	4,586
2016 CHEVROLET 1500 4X4 #351	PICK	11/30/2015	35,553	5,374	7.0	8.7%	3,086	13.1%	4,640
2016 CHEVROLET 2500HD 4X4 #353	PICK	12/31/2015	33,837	4,713	7.0	10.0%	3,384	12.9%	4,351
2017 CHEVROLET 1500 4X4 #359	PICK	12/31/2016	32,961	355	7.0	9.4%	3,112	12.9%	4,265
2005 CHEVROLET EXPRESS #246	VANS	5/23/2005	27,730	24,375	7.5	12.1%	3,355	11.7%	-
2008 DODGE GRAND CARAVAN #273	VANS	3/27/2008	23,816	21,434	7.5	10.0%	2,382	12.0%	-
2010 DODGE GRAND CARAVAN #297	VANS	6/30/2010	26,272	20,755	7.5	10.0%	2,627	12.0%	2,890
2011 FORD ESCAPE XLT #298	VANS	8/31/2010	24,974	19,230	7.5	10.0%	2,497	12.0%	2,997
2011 FORD ESCAPE XLT #303	VANS	5/31/2011	25,463	17,315	7.5	10.0%	2,546	12.0%	3,056
2011 CHEVROLET EQUINOX #304	VANS	5/31/2011	24,358	16,564	7.5	10.0%	2,436	12.0%	2,923
2011 CHEVROLET EQUINOX #305	VANS	5/31/2011	24,358	16,564	7.5	10.0%	2,436	12.0%	2,923
2011 CHEVROLET EQUINOX #306	VANS	5/31/2011	24,358	16,564	7.5	10.0%	2,436	12.0%	2,923
2012 FORD ESCAPE HYBRID #308	VANS	7/31/2011	32,414	21,393	7.5	10.0%	3,241	12.0%	3,890
2012 FORD ESCAPE HYBRID #309	VANS	7/31/2011	32,414	21,393	7.5	10.0%	3,241	12.0%	3,890
2012 FORD EXPLORER 4WD XLT#310	VANS	8/31/2011	34,883	22,674	7.5	10.0%	3,488	12.0%	4,186
2012 FORD EXPLORER 4WD XLT#311	VANS	8/31/2011	34,883	22,674	7.5	10.0%	3,488	12.0%	4,186
2011 CHRYSLER T&C TOURING #307	VANS	8/31/2011	28,099	18,373	7.5	9.5%	2,660	12.1%	3,392
2012 FORD ESCAPE XLT 4WD #313	VANS	11/30/2011	26,018	16,131	7.5	10.0%	2,602	12.0%	3,122
2012 DODGE GRAND CARAVAN #315	VANS	2/29/2012	27,124	17,146	7.0	10.0%	2,712	12.9%	3,488
2012 DODGE GRAND CARAVAN #316	VANS	3/31/2012	27,124	16,856	7.0	10.0%	2,712	12.9%	3,488
2013 FORD EXPLORER XLT #317	VANS	5/31/2012	32,967	19,777	7.0	10.0%	3,302	12.9%	4,240
2013 CHEVROLET EQUINOX #323	VANS	12/31/2012	25,602	13,441	7.0	10.0%	2,560	12.9%	3,292
2013 FORD EDGE AWD SEL #330	VANS	9/30/2013	34,719	14,880	7.0	10.0%	3,472	12.9%	4,465
2014 FORD TRANSIT CONNECT #332	VANS	8/31/2014	27,690	8,604	7.0	10.0%	2,769	12.9%	3,561
2015 CHEVROLET EQUINOX #335	VANS	12/31/2014	27,051	7,246	7.0	10.0%	2,705	12.9%	3,479
2015 CHEVROLET EQUINOX #336	VANS	12/31/2014	27,003	7,233	7.0	10.0%	2,700	12.9%	3,473
2015 CHEVROLET AWD TRAX #342	VANS	6/30/2015	25,031	5,096	7.0	10.0%	2,503	12.9%	3,219
2015 CHEVROLET AWD TRAX #343	VANS	6/30/2015	25,031	5,096	7.0	10.0%	2,503	12.9%	3,219
2015 CHEVROLET AWD TRAX #344	VANS	6/30/2015	25,031	5,096	7.0	10.0%	2,503	12.9%	3,219
2015 CHEVROLET AWD TRAX #347	VANS	9/30/2015	25,031	4,291	7.0	10.0%	2,503	12.9%	3,219
2016 CHEVROLET EQUINOX LT #350	VANS	11/30/2015	29,056	4,358	7.0	10.0%	2,906	12.9%	3,737
2016 FORD EXPEDITION LTD #356	VANS	5/31/2016	59,980	5,141	7.0	10.0%	5,998	12.9%	7,713
2017 FORD EXPLORER XLT #357	VANS	8/31/2016	38,500	2,062	7.0	10.0%	3,850	12.9%	4,951
2017 FORD ESCAPE SE 4WD #358	VANS	9/30/2016	28,270	1,212	7.0	10.0%	2,827	12.9%	3,636
TOTALS			**1,943,593**	**977,473**			**192,747**		**205,544**

Average Service Life	**7.2**		
Weighted Average Salvage Rate		**9.92%**	
Weighted Average Accrual Rate			**10.58%**

DAKOTA ELECTRIC ASSOCIATION

39300 Stores Equipment

	Present	Proposed
Study Year Investment	$ 52,570	
Percent of General Plant	0.20 %	
Average Service Life (Yrs)	15.00	15.00
Average Net Salvage Rate	0.00 %	0.00 %
Accrual Rate	6.67 %	6.67%

DESCRIPTION

This account shall include the cost of equipment used for receiving, shipping, handling, and storing materials and supplies. The major components at December 31, 2016 are summarized below.

Shelving and Cabinets	$ 12,954
Battery Powered Sweeper	7,937
Electric Cart	6,917
Forklift	4,705
Scale	1,390
Spill Containment Hut	4,235
Vertical Baler	8,862
Generator	1,917
Miscellaneous / Other	3,654
TOTAL	**$ 52,570**

SERVICE LIFE

The average service life measured by other utilities has a range of 10-35 years, with a central tendency around 20 years. Based on historical experience and in the opinion of

the Warehouse Supervisor, forklifts and utility carts shall have a service life of approximately ten years. The other items in this account shall continue to use a 20 year service life. The average service life in this account is 15 years.

NET SALVAGE

Disposals in the last five years have recorded no appreciable salvage value. After review of the current assets by the Warehouse Supervisor, it is probable that the displaced equipment will have negligible salvage value. Therefore, a net salvage rate of zero is recommended.

DAKOTA ELECTRIC ASSOCIATION

39400 Tools and Line Equipment

	Present	Proposed
Study Year Investment	$ 818,627	
Percent of General Plant	3.11 %	
Average Service Life (Yrs)	16.00	16.00
Average Net Salvage Rate	0.00 %	0.00 %
Accrual Rate	6.25 %	6.25 %

DESCRIPTION

This account shall include the cost of tools, implements, and equipment used in construction and repair work. The equipment classified in this account includes: cable locators, hydraulic, pneumatic and battery operated hand tools, construction trench box / shoring system, and other testing and measuring equipment.

SERVICE LIFE

The predominant force of retirement for tool, shop, and garage equipment is breakage. Past historical studies indicated a service life range from 12-21 years for most equipment in this category. However in 2008, Dakota Electric began to procure battery-powered compression and cutting tools which historically have been shown to have a 6-7 year service life before needing replacement. Dakota Electric shall assign a six year life for battery operated ACSR and Guy cutting tools and a seven year life for battery operated compression tools. An evaluation is done each time a tool in this category is in need of repair. If the cost of repairs is estimated to be more than 50% of the cost of a purchasing

a new tool, Dakota Electric will retire the existing tool and purchase new. Considering the range of 6-21 years of service lives, and based on past experience with the assets in this account, we would recommend continuing to use a 16 year average service life.

NET SALVAGE

Because tools and line equipment are generally used until repairs are no longer economical, any salvage cost is negligible. These forces of retirement are expected to continue in the future. A net salvage rate of zero is recommended for the equipment in this account.

DAKOTA ELECTRIC ASSOCIATION

39410 Shop and Garage Equipment

	Present	Proposed
Study Year Investment	$ 167,264	
Percent of General Plant	0.64 %	
Average Service Life (Yrs)	20.00	20.00
Average Net Salvage Rate	0.00 %	0.00 %
Accrual Rate	5.00 %	5.00 %

DESCRIPTION

This account includes the cost of general service tools and equipment used to repair and maintain the utility's automobiles, light trucks, heavy trucks, and power-operated equipment.

SERVICE LIFE

The predominant forces of retirement are expected to be breakage and physical deterioration. Past historical studies indicate service lives for equipment in this category can range between 12-45 years for tools, shop and garage equipment. It is therefore recommended that a 20 year average service life continue to be used.

NET SALVAGE

The equipment in this account is expected to be used until it breaks, physically deteriorates to the point at which it is no longer useable, or is technologically obsolete. Accordingly, no salvage value is expected and therefore a net salvage rate of zero is recommended.

DAKOTA ELECTRIC ASSOCIATION

39450 Tools and Line Equipment-DSM

	Present	Proposed
Study Year Investment	$ 0	
Percent of General Plant	0.00 %	
Average Service Life (Yrs)	16.00	16.00
Average Net Salvage Rate	0.00 %	0.00 %
Accrual Rate	6.25 %	6.25 %

DESCRIPTION

This account includes tools, implements, and equipment used in construction and repair work of Demand Side Management (DSM) that are not specifically provided for or included in other accounts.

SERVICE LIFE

The assets in this account adopted the service life from its parent account "39400 Tools and Related Line Equipment." Therefore a 16 year service life is recommended.

NET SALVAGE

Like its parent account "39400 Tools and Related Line Equipment" the net salvage rate is expected to be zero.

DAKOTA ELECTRIC ASSOCIATION

39500 Laboratory Equipment

	Present	Proposed
Study Year Investment	$ 319,265	
Percent of General Plant	1.21 %	
Average Service Life (Yrs)	20.00	15.00
Average Net Salvage Rate	0.00 %	0.00 %
Accrual Rate	5.00 %	6.67 %

DESCRIPTION

This account shall include the cost of installed equipment used for general laboratory purposes and not specifically provided for or included in other departmental or functional plant accounts.

SERVICE LIFE

The earliest addition in this account was 1955 and the earliest recorded retirement was 1973. The predominant force of retirement is expected to be technology that will provide improved metering devices that cannot be tested or repaired using older laboratory equipment. In years past, Technician Electricians, who use the testing equipment in this category, anticipated an average service of life for the assets in this account to be 20 years. However, with technological obsolescence being the predominant factor in the life of this testing equipment, Dakota Electric recommends reducing the average service life to 15 years.

NET SALVAGE

It is the opinion of DEA operating personnel that the equipment retired from this account will not generate sufficient salvage or removal expense. Based on these considerations, a net salvage rate of zero is recommended.

DAKOTA ELECTRIC ASSOCIATION

39510 Hand Held Meter Reading Devices

	Present	Proposed
Study Year Investment	$ 98,598	
Percent of General Plant	0.37 %	
Average Service Life (Yrs)	6.00	6.00
Average Net Salvage Rate	0.00 %	0.00 %
Accrual Rate	16.67 %	16.67 %

DESCRIPTION

This account consists solely of Itron computerized meter reading devices, proprietary software, and miscellaneous accessories for the devices. Readings are entered into the units by the Meter Reader in the field and are later read by a specially equipped personal computer and then uploaded to Dakota Electric's computer system and billing programs.

SERVICE LIFE

It is expected that these meter reading devices will continue to have a six year life.

NET SALVAGE

In view of the prediction that future plant retirements will be caused by the introduction of new technology, it is probable that the displaced equipment will have no appreciable salvage value. Therefore, a net salvage rate of zero is recommended.

DAKOTA ELECTRIC ASSOCIATION

39620 Power Operated Equipment

	Present	Proposed
Study Year Investment	$ 1,028,226	
Percent of General Plant	3.91 %	
Average Service Life (Yrs)	12.00	12.00
Average Net Salvage Rate	5.00 %	5.00 %
Weighted Average Accrual Rate	6.86 %	6.86 %

DESCRIPTION

This account shall include the cost of power equipment used in construction or repair work. The tools and accessories used with this equipment (or if applicable, the vehicle on which it is mounted) are also recorded in this account.

SERVICE LIFE

Equipment is replaced based upon age, maintenance records, safety, and reliability. In 2007 the power operated equipment average service life changed from 20 years to 12 years. The majority of these items are heavily used and costly to maintain. Wood chippers are expected to have a five year average service life. Gas powered tamps are expected to last seven years on average; however, those are a smaller percentage of the total investment in this account. A 12 year average service life is expected on the major equipment in this category; therefore, it is recommended to continue to use an average service life of 12 years. The original cost, accumulated depreciation, service life, salvage rate, salvage value, and annual depreciation are detailed in the following schedule (Reference “2016 Schedule DS-39620-Power”).

NET SALVAGE

Net salvage rates have been determined through discussions with DEA's operating personnel and an analysis of the expected salvage value for each piece of power equipment based on original cost and expected service life. It is recommended to continue using a 5.00% salvage value.

Dakota Electric Association
Asset Listing and Annual Depreciation - Power Operated Equipment
2016 Schedule: DS-39620-Power

Description	Type	Date in Service	Original Cost	12/31/2016 Accum Depr	Service Life	Salvage Rate	Salvage Value	Annual Accrual Rate	Annual Depreciation
BACKHOE BUCKET INTERCHNG #612	POWER	1/1/1970	1,024	973	20.0	5.0%	51	4.8%	-
1989 THIEMANN POLE PULLER #613	POWER	1/1/1989	3,729	3,543	20.0	5.0%	186	4.8%	-
1996 PULLER TENSIONER #633	POWER	1/1/1996	66,523	64,473	20.0	3.1%	2,050	4.9%	-
1999 TRACTOR BACKHOE #638	POWER	11/21/1999	24,097	19,552	20.0	5.0%	1,205	4.8%	1,145
2001 NEWHOLLAND BACKHOE #642	POWER	3/28/2001	83,973	63,155	20.0	5.0%	4,199	4.8%	3,989
2002 SWENSON SPREADER #647	POWER	11/15/2002	3,715	2,500	20.0	5.0%	186	4.8%	176
1996 PULLER TENSIONER #634	POWER	1/1/1996	66,523	64,473	20.0	3.1%	2,050	4.9%	-
2003 TOYOTA FORKLIFT #510	POWER	8/15/2003	54,441	32,016	20.0	4.4%	2,391	4.8%	2,602
INGERSOLL AIR COMPRESSOR #648	POWER	9/9/2003	12,030	7,619	20.0	5.0%	602	4.8%	571
2004 MULTIQUIP GENERATOR #653	POWER	6/23/2004	24,628	14,720	20.0	5.0%	1,231	4.8%	1,170
2005 TOYOTA FORKLIFT #511	POWER	9/6/2005	29,993	16,146	20.0	5.0%	1,500	4.8%	1,425
VERMEER SKID STEER - #663/#664	POWER	11/9/2005	20,599	10,926	20.0	5.0%	1,030	4.8%	978
2007 GRAPPLE ROTATOR #670	POWER	1/24/2007	4,260	2,024	20.0	5.0%	213	4.8%	202
18" JR SOD CUTTER - HONDA #672	POWER	3/27/2008	4,246	3,126	12.0	0.0%	-	8.3%	354
18" JR SOD CUTTER - HONDA #673	POWER	3/27/2008	4,246	3,126	12.0	0.0%	-	8.3%	354
ATV KUBOTA UTIL VEHCILE #671	POWER	4/24/2008	10,946	7,582	12.0	5.0%	547	7.9%	867
2010 DITCH WITCH FX30/500 #677	POWER	6/30/2010	46,970	24,480	12.0	5.0%	2,349	7.9%	3,720
2009 EXMARK LAZER Z MOWER #678	POWER	8/31/2010	7,926	6,040	8.0	5.0%	396	11.9%	941
WACKER BS50-4S RAMMER #681	POWER	5/31/2011	2,651	939	16.0	0.0%	-	6.3%	166
WACKER BS50-4S RAMMER #682	POWER	5/31/2011	2,651	939	16.0	0.0%	-	6.3%	166
2010 KUBOTA TRAC HOE #679	POWER	5/31/2011	46,663	34,031	7.0	5.0%	2,333	13.6%	6,332
2011 RYAN 18" SOD CUTTER #680	POWER	5/31/2011	4,815	2,160	12.0	5.0%	241	7.9%	381
2011 RINGOMATIC VACUUM EXCAVAT	POWER	8/31/2011	46,952	20,134	12.0	5.0%	2,348	7.9%	3,719
2012 BRUSH BANDIT 255XP #684	POWER	4/30/2012	39,402	35,560	5.0	5.0%	1,970	19.0%	1,872
2012 BRUSH BANDIT 255XP #685	POWER	4/30/2012	39,402	35,560	5.0	5.0%	1,970	19.0%	1,872
2012 BRUSH BANDIT 255XP #686	POWER	4/30/2012	39,402	35,560	5.0	5.0%	1,970	19.0%	1,872
18" POWER SOD CUTTER RYAN #687	POWER	6/30/2013	5,087	1,443	12.0	5.0%	254	7.9%	403
2013 WACKER BS50-2 TAMP #688	POWER	6/30/2013	2,523	716	12.0	5.0%	126	7.9%	200
2013 WACKER BS50-2 TAMP #689	POWER	6/30/2013	2,523	716	12.0	5.0%	126	7.9%	200
2013 MAGNUM GENERATOR #690	POWER	9/30/2013	25,515	6,733	12.0	5.0%	1,276	7.9%	2,021
2013 TOYOTA FORKLIFT #513	POWER	12/31/2013	38,038	9,285	12.0	5.0%	1,902	7.9%	3,013
2014 KUBOTA EXCAVATOR #692	POWER	2/28/2014	49,946	20,009	7.0	5.4%	2,675	13.5%	6,753
2014 KUBOTA EXCAVATOR #691	POWER	2/28/2014	49,946	20,009	7.0	5.4%	2,675	13.5%	6,753
2014 68" BOBCAT BROOM #693	POWER	4/30/2014	5,571	1,277	12.0	0.0%	-	8.3%	464
2014 BOBCAT SKID-STEER #694	POWER	9/30/2014	38,994	7,203	12.0	5.0%	1,950	7.9%	3,088
2014 BOBCAT 72"SNOWBLOWER #695	POWER	9/30/2014	7,521	1,389	12.0	5.0%	376	7.9%	596
2015 KUBOTA TRAC HOE #696	POWER	3/31/2015	54,950	14,011	7.0	5.4%	2,943	13.5%	7,429
2015 WACKER BS50-2 TAMP #697	POWER	7/31/2015	2,506	537	7.0	0.0%	-	14.3%	358
2015 WACKER BS50-2 TAMP #698	POWER	7/31/2015	2,506	537	7.0	0.0%	-	14.3%	358
2015 TORO CABLE PLOW #699	POWER	11/30/2015	50,794	4,720	12.0	5.4%	2,721	7.9%	4,008
TOTALS			**1,028,226**	**599,940**			**48,042**		**70,518**
Average Service Life					**13.4**				
Weighted Average Salvage Rate						**4.67%**			
Weighted Average Accrual Rate								**6.86%**	

DAKOTA ELECTRIC ASSOCIATION

39630 Heavy Transportation Equipment and Trailers

	Present	Proposed
Study Year Investment	$ 4,561,863	
Percent of General Plant	17.34 %	
Average Service Life (Yrs)	14.22	11.80
Weighted Average Net Salvage Rate	9.54 %	9.54 %
Weighted Average Accrual Rate	4.71 %	4.85 %

DESCRIPTION

This account consists of 33 large vehicles sub classified as aerial trucks, diggers, or utility trucks. In addition, this account contains 36 trailers, which are designed to be pulled behind the heavy vehicles for transporting equipment, supplies, inventory, etc.

Other transportation equipment (cars, light trucks and vans) are allocated to the specific account "39200 Autos and Small Trucks". The major components at December 31, 2016 are summarized below.

Vehicle Type	Number of Vehicles	Original Cost
Aerial Trucks	18	$ 2,610,417
Diggers	6	1,127,575
Trailers	36	343,409
Utility Trucks	9	480,463
TOTAL	**69**	**$ 4,561,863**

SERVICE LIFE

Vehicles are replaced based upon age, mileage, maintenance records, safety, and reliability. In addition, technological advancements in newer vehicles allow for productivity improvements. It is recommended that diggers and utility trucks maintain a service life of 12 years, which is in line with historical disposals.

Nine aerial trucks were disposed of in the last five years with an average 11.63 years of ownership. It is recommended that an 11 year service life continue to be used on Aerial trucks.

In 2007, the service life for the sub category "trailers" was reduced from 20 years to 15 years, primarily due to decreased availability of replacement parts. In the last five years, a third of the trailers retired were in service less than 15 years. Rust and corrosion due to road salt has become a factor in a replacement decision. Based on the commitment by Dakota Electric's management to maintain an updated fleet, review of scheduled equipment replacements, and at the counsel of the Transportation Manager, it is recommended to change the present 15 year service life on trailers to 12 years. The original cost, accumulated depreciation, service life, salvage rate, salvage value and proposed difference in annual depreciation are detailed in the following schedule (Reference "2016 Schedule DS-39630-Heavy").

NET SALVAGE

Net salvage rates have been determined through discussions with DEA's operating personnel and historical salvage values. Seasonality of the sale and the condition of the construction economy are other major factors that may affect auction proceeds in “heavy” equipment disposals. Average historical salvage values appear in line with our current rates. We recommend keeping the salvage percentage rate at 10.00% for trucks and 5.00% for trailers.

Dakota Electric Association
Annual Depreciation Accrual Determination - Heavy Transportation Equipment
2016 Schedule DS-39630-Heavy

					PRESENT					PROPOSED					
Description	Type	Date in Service	Original Cost	12/31/2016 Accum Depr	Service Life	Salvage Rate	Salvage Value	Annual Accrual Rate	Annual Depreciation	Service Life	Salvage Rate	Salvage Value	Annual Accrual Rate	Annual Depreciation	Increase (Decrease)
2003 FREIGHTLINER ARIAL #206	AERIAL	10/9/2002	135,239	122,304	12.0	9.6%	12,935	7.5%	-	12.0	9.6%	12,935	7.5%	-	-
2003 FREIGHTLINER FL70 #223	AERIAL	7/23/2003	119,810	107,829	12.0	10.0%	11,981	7.5%	-	12.0	10.0%	11,981	7.5%	-	-
2005 FREIGHTLINER AERIAL #241	AERIAL	10/1/2004	135,127	122,203	12.0	9.6%	12,924	7.5%	-	12.0	9.6%	12,924	7.5%	-	-
2005 FREIGHTLINER AERIAL #242	AERIAL	10/1/2004	135,127	122,203	12.0	9.6%	12,924	7.5%	-	12.0	9.6%	12,924	7.5%	-	-
2007 INTERNATIONAL AERIAL #263	AERIAL	11/14/2006	141,368	107,793	12.0	10.0%	14,137	7.5%	10,603	12.0	10.0%	14,137	7.5%	10,603	-
2007 INTERNATIONAL AERIAL #264	AERIAL	11/14/2006	141,368	107,793	12.0	10.0%	14,137	7.5%	10,603	12.0	10.0%	14,137	7.5%	10,603	-
2008 STERLING AERIAL LIFT #283	AERIAL	3/31/2009	113,408	66,651	12.0	10.0%	11,355	7.5%	8,506	12.0	10.0%	11,355	7.5%	8,506	-
2009 INTERNATIONAL 4300 #282	AERIAL	4/30/2009	157,889	91,806	12.0	10.0%	15,808	7.5%	11,842	12.0	10.0%	15,808	7.5%	11,842	-
2010 FREIGHTLINER ALTEC #290	AERIAL	5/31/2010	160,295	80,147	12.0	10.0%	16,029	7.5%	12,022	12.0	10.0%	16,029	7.5%	12,022	-
2011 FREIGHTLINER ALTEC #301	AERIAL	7/31/2011	167,182	68,963	12.0	10.0%	16,718	7.5%	12,539	12.0	10.0%	16,718	7.5%	12,539	-
2012 FREIGHTLINER ALTEC #314	AERIAL	3/31/2012	141,655	56,018	11.0	10.0%	14,165	8.2%	11,587	11.0	10.0%	14,165	8.2%	11,587	-
2013 FREIGHTLINER ALTEC #325	AERIAL	7/31/2013	146,516	41,957	11.0	10.0%	14,652	8.2%	11,985	11.0	10.0%	14,652	8.2%	11,985	-
2013 FREIGHTLINER ALTEC #326	AERIAL	7/31/2013	146,500	41,952	11.0	10.0%	14,650	8.2%	11,984	11.0	10.0%	14,650	8.2%	11,984	-
2014 TEREX AERIAL DEVICE #331	AERIAL	4/30/2014	148,488	33,410	11.0	10.0%	14,849	8.2%	12,146	11.0	10.0%	14,849	8.2%	12,146	-
2015 FREIGHTLINER TEREX #333	AERIAL	10/31/2014	161,007	29,640	11.0	10.0%	16,101	8.2%	13,170	11.0	10.0%	16,101	8.2%	13,170	-
2015 FREIGHTLINER TEREX #334	AERIAL	10/31/2014	161,007	29,640	11.0	10.0%	16,101	8.2%	13,170	11.0	10.0%	16,101	8.2%	13,170	-
2015 FREIGHTLINER TEREX #341	AERIAL	5/31/2015	170,573	23,260	11.0	10.0%	17,057	8.2%	13,953	11.0	10.0%	17,057	8.2%	13,953	-
2016 DODGE 5500/VERSALIFT #354	AERIAL	6/30/2016	127,858	6,102	11.0	10.0%	12,786	8.2%	10,459	11.0	10.0%	12,786	8.2%	10,459	-
2001 GMC DIGGER DERRICK #196	DIGGER	1/30/2002	191,898	172,708	12.0	10.0%	19,190	7.5%	-	12.0	10.0%	19,190	7.5%	-	-
2001 GMC DIGGER DERRICK #197	DIGGER	2/8/2002	187,890	169,101	12.0	10.0%	18,789	7.5%	-	12.0	10.0%	18,789	7.5%	-	-
2001 GMC DIGGER DERRICK #198	DIGGER	2/13/2002	187,890	169,101	12.0	10.0%	18,789	7.5%	-	12.0	10.0%	18,789	7.5%	-	-
2003 FREIGHTLINER DIGGER #212	DIGGER	11/20/2002	162,194	146,681	12.0	9.6%	15,513	7.5%	-	12.0	9.6%	15,513	7.5%	-	-
2003 FREIGHTLINER DIGGER #210	DIGGER	11/1/2002	162,000	146,506	12.0	9.6%	15,495	7.5%	-	12.0	9.6%	15,495	7.5%	-	-
2016 FREIGHTLINER DIGGER #352	DIGGER	12/31/2015	235,702	19,151	12.0	10.0%	23,570	7.5%	17,678	12.0	10.0%	23,570	7.5%	17,678	-
1986 OUTAGE TRAILER #711	TRAILERS	1/1/1986	1,118	1,062	20.0	5.0%	56	4.8%	-	12.0	5.0%	56	7.9%	-	-
1987 OUTAGE TRAILER #739	TRAILERS	1/1/1987	654	621	20.0	5.0%	33	4.8%	-	12.0	5.0%	33	7.9%	-	-
1995 DUOLIFT 2AXLE TRAILER#750	TRAILERS	1/1/1995	4,043	3,841	20.0	5.0%	202	4.8%	-	12.0	5.0%	202	7.9%	-	-
2000 FABRICATED CHIP BOX #758	TRAILERS	12/5/2000	4,500	3,652	20.0	0.0%	-	5.0%	225	12.0	0.0%	-	8.3%	375	150
2000 DRESSEN 2AXLE TRAILER#758	TRAILERS	10/19/2000	4,976	3,843	20.0	5.0%	249	4.8%	236	12.0	5.0%	249	7.9%	394	158
2001 DRESSEN 2AXLE TRAILER#759	TRAILERS	4/24/2001	4,249	3,179	20.0	5.0%	212	4.8%	202	12.0	5.0%	212	7.9%	337	135
2001 DRESSEN 2AXLE TRAILER#760	TRAILERS	4/24/2001	4,249	3,179	20.0	5.0%	212	4.8%	202	12.0	5.0%	212	7.9%	337	135
2003 FELLING 3REEL TRAILER#761	TRAILERS	7/18/2002	12,399	8,540	20.0	5.0%	620	4.8%	589	12.0	5.0%	620	7.9%	982	393
2003 BROOKS POLE TRAILER #762	TRAILERS	12/17/2002	10,227	6,841	20.0	5.0%	511	4.8%	486	12.0	5.0%	511	7.9%	810	324
2003 BROOKS POLE TRAILER #763	TRAILERS	12/17/2002	10,227	6,841	20.0	5.0%	511	4.8%	486	12.0	5.0%	511	7.9%	810	324
2003 FELLING 3REEL TRAILER#765	TRAILERS	5/6/2003	15,522	10,077	20.0	5.0%	776	4.8%	737	12.0	5.0%	776	7.9%	1,229	492
2003 FELLING 3REEL TRAILER#766	TRAILERS	5/6/2003	15,522	10,077	20.0	5.0%	776	4.8%	737	12.0	5.0%	776	7.9%	1,229	492
2004 FELLING 3REEL TRAILER#767	TRAILERS	5/13/2004	16,552	9,959	20.0	5.0%	828	4.8%	786	12.0	5.0%	828	7.9%	1,311	525
2004 FELLING 3REEL TRAILER#768	TRAILERS	5/24/2004	16,552	9,959	20.0	5.0%	828	4.8%	786	12.0	5.0%	828	7.9%	1,311	525
2004 SHADOW MASTER TRLR #769	TRAILERS	5/6/2004	5,641	3,394	20.0	5.0%	282	4.8%	268	12.0	5.0%	282	7.9%	447	179
2005 DRESSEN 2AXLE TRAILER#772	TRAILERS	10/7/2004	11,300	6,575	20.0	5.0%	565	4.8%	537	12.0	5.0%	565	7.9%	895	358
2005 FELLING 3REEL TRAILER#773	TRAILERS	8/8/2005	19,135	10,377	20.0	5.0%	957	4.8%	909	12.0	5.0%	957	7.9%	1,516	607
2005 BROOKS POLE TRAILER #774	TRAILERS	9/14/2005	12,306	6,625	20.0	5.0%	615	4.8%	585	12.0	5.0%	615	7.9%	975	390
2005 FELLING 16' TRAILER #775	TRAILERS	1/9/2006	5,125	2,678	20.0	5.0%	256	4.8%	243	12.0	5.0%	256	7.9%	406	163
2007 FELLING 2AXLE TRAILER#776	TRAILERS	4/26/2007	13,707	8,464	15.0	5.0%	685	6.3%	868	12.0	5.0%	685	7.9%	1,086	218
2007 FELLING 3AXLE TRAILER#777	TRAILERS	4/30/2007	17,013	10,506	15.0	5.0%	851	6.3%	1,077	12.0	5.0%	851	7.9%	1,347	270
2008 FELLING 14' TRAILER #779	TRAILERS	3/28/2008	3,078	1,722	15.0	5.0%	154	6.3%	195	12.0	5.0%	154	7.9%	244	49
2009 FELLING 2AXLE TRAILER#780	TRAILERS	3/4/2009	14,003	6,947	15.0	5.0%	700	6.3%	886	12.0	5.0%	700	7.9%	1,109	223
2010 FELLING 2AXLE TRAILER#781	TRAILERS	8/31/2010	6,006	2,441	15.0	5.0%	300	6.3%	380	12.0	5.0%	300	7.9%	476	96
2010 FELLING 2AXLE TRAILER#782	TRAILERS	8/31/2010	5,773	2,346	15.0	5.0%	289	6.3%	365	12.0	5.0%	289	7.9%	457	92
2012 FELLING 2AXLE TRAILER#783	TRAILERS	3/31/2012	6,182	1,892	15.0	5.0%	309	6.3%	391	12.0	5.0%	309	7.9%	490	99
2012 BROOKS POLE TRAILER #784	TRAILERS	3/31/2012	12,884	3,944	15.0	5.0%	644	6.3%	816	12.0	5.0%	644	7.9%	1,020	204
2011 PJ 24' 2AXLE TRAILER #788	TRAILERS	4/30/2014	3,382	1,377	6.4	5.0%	169	14.8%	501	12.0	5.0%	169	7.9%	268	(233)
2014 FELLING 2AXLE TRAILER#786	TRAILERS	5/31/2014	12,698	2,681	12.0	5.0%	635	7.9%	1,006	12.0	5.0%	635	7.9%	1,006	-
2014 FELLING FT-10DT DUMP #787	TRAILERS	5/31/2014	8,769	1,851	12.0	5.0%	438	7.9%	694	12.0	5.0%	438	7.9%	694	-
2014 FELLING REEL TRAILER #789	TRAILERS	9/30/2014	7,014	1,296	12.0	5.0%	351	7.9%	555	12.0	5.0%	351	7.9%	555	-
2015 FELLING FT-7 TRAILER #790	TRAILERS	11/30/2015	3,815	352	12.0	5.0%	191	7.9%	302	12.0	5.0%	191	7.9%	302	-
2016 FELLING 2AXLE TRAILER#791	TRAILERS	4/30/2016	15,944	955	12.0	4.2%	669	8.0%	1,272	12.0	4.2%	669	8.0%	1,272	-
2016 FELLING 2AXLE TRAILER#792	TRAILERS	8/31/2016	12,818	423	12.0	5.0%	641	7.9%	1,015	12.0	5.0%	641	7.9%	1,015	-
2016 FELLING FT-10 DUMP #793	TRAILERS	9/30/2016	8,886	234	12.0	5.0%	444	7.9%	704	12.0	5.0%	444	7.9%	704	-
2016 FELLING 2AXLE TRAILER#795	TRAILERS	12/31/2016	17,139	113	12.0	5.0%	857	7.9%	1,357	12.0	5.0%	857	7.9%	1,357	-
1997 CHEVROLET K3500 C&C #152	UTILITY	4/11/2000	14,852	13,367	7.5	10.0%	1,485	12.0%	-	7.5	10.0%	1,485	12.0%	-	-
2004 INTERNATIONAL 4300 #222	UTILITY	9/1/2003	79,486	71,538	12.0	10.0%	7,949	7.5%	-	12.0	10.0%	7,949	7.5%	-	-
2004 INTERNATIONAL 4300 #224	UTILITY	9/1/2003	79,486	71,538	12.0	10.0%	7,949	7.5%	-	12.0	10.0%	7,949	7.5%	-	-
2003 DUMP TRUCK #227	UTILITY	10/20/2003	55,797	50,218	12.0	10.0%	5,580	7.5%	-	12.0	10.0%	5,580	7.5%	-	-
2004 CHEVROLET TRUCK #228	UTILITY	11/7/2003	33,062	29,756	12.0	10.0%	3,306	7.5%	-	12.0	10.0%	3,306	7.5%	-	-
2006 FREIGHTLINER UTILITY #255	UTILITY	10/20/2005	84,268	71,101	12.0	10.0%	8,427	7.5%	4,740	12.0	10.0%	8,427	7.5%	4,740	-
2008 FORD F550 DUMP TRUCK #275	UTILITY	8/31/2008	50,182	31,677	12.0	10.0%	5,018	7.5%	3,764	12.0	10.0%	5,018	7.5%	3,764	-
2009 CHEVROLET SILVERADO #286	UTILITY	5/29/2009	32,063	29,084	7.5	9.3%	2,979	12.1%	-	7.5	9.3%	2,979	12.1%	-	-
2016 FORD F550 DUMP TRUCK #355	UTILITY	5/31/2016	51,266	2,563	12.0	10.0%	5,127	7.5%	3,845	12.0	10.0%	5,127	7.5%	3,845	-
TOTALS			**4,561,863**	**2,612,623**			**435,292**		**214,994**			**435,292**		**221,362**	**6,368**
Average Service Life					**14.2**					**11.8**					
Weighted Average Salvage Rate						**9.54%**					**9.54%**				
Weighted Average Accrual Rate								**4.71%**					**4.85%**		

DAKOTA ELECTRIC ASSOCIATION

39700 Communication Equipment

	Present	Proposed
Study Year Investment	$ 774,886	
Percent of General Plant	2.95 %	
Average Service Life (Yrs)	7.50	7.50
Average Net Salvage Rate	0.00 %	0.00 %
Accrual Rate	13.33 %	13.33 %

DESCRIPTION

This account shall include the installed cost of telephone system equipment, which was recently upgraded to Voice over Internet Protocol, the crew radio system, Interactive Voice Response (IVR) system, related equipment, and cabling for general use in connection with communications for utility operations.

SERVICE LIFE

The predominant force of retirement for communication equipment is technological obsolescence driven by advancements in telecommunications technology. DEA's engineering department expects Interactive Voice Response and automatic answering outage system to have a service life of six years. However, recently added CAT-6 cabling has an expected service life of 15 years. Dakota Electric recommends continuing to use an average service life of 7.5 years.

NET SALVAGE

In view of the prediction that future retirements will be caused by new technology, it is doubtful that the displaced equipment will have any appreciable value. A net salvage rate of zero is recommended for the equipment in this account.

DAKOTA ELECTRIC ASSOCIATION

39710 Base Stations and Tower

	Present	Proposed
Study Year Investment	$ 137,908	
Percent of General Plant	0.52 %	
Average Service Life (Yrs)	20.00	20.00
Average Net Salvage Rate	0.00 %	0.00 %
Accrual Rate	5.00 %	5.00 %

DESCRIPTION

This account includes the installed costs of tower structures and equipment used for communication purposes. Also included is the base station radio transmission and receiving equipment used for crew communications.

Dakota Electric Association currently has equipment in use on four towers:

Tower Name	Year In Service	Tower Address
Great River Energy North Tower	1993	4300 220th St W, Farmington, MN
Verizon South Tower	1998	4300 220th St W, Farmington, MN
Miesville Tower	1999	14724 240th St E., Miesville, MN
School of Environmental Studies Tower	2007	12155 Johnny Cake Ridge Road, Apple Valley, MN

SERVICE LIFE

Dakota Electric expects the communications towers to have a service life of approximately 40 years and the base station radio equipment to be approximately 10 years. Maintaining an average service life of 20 years for the assets in this account is recommended.

NET SALVAGE

Considering the expectation that new technology and component failure will cause future retirements, it is probable that the displaced equipment will have no appreciable salvage value. Towers will have a scrap metal salvage value, but the cost of removal will likely offset any gains on the sale of those assets. A net salvage rate of zero is recommended.

DAKOTA ELECTRIC ASSOCIATION

39800 Miscellaneous Equipment

	Present	Proposed
Study Year Investment	$ 260,521	
Percent of General Plant	0.99 %	
Average Service Life (Yrs)	9.00	9.00
Average Net Salvage Rate	0.00 %	0.00 %
Accrual Rate	11.11 %	11.11 %

DESCRIPTION

This account includes the cost of equipment used in utility operations that is not included in any other account. The major components at December 31, 2016 are marketing displays, special use furniture, industrial cleaning equipment for carpet/tile, a Caterpillar diesel generator including an uninterruptable power supply (UPS) system, and automated defibrillators.

SERVICE LIFE

The earliest addition to this account was 1960. Past statistical analysis for this account supports an average service life of 12-14 years; however, with the recent addition of defibrillators, which have a much shorter service life, a nine year average rate is considered appropriate and recommended to remain unchanged from the last study.

NET SALVAGE

Given the variety of equipment in this account, it is reasonable to expect that removal expense on some items will offset any potential salvage on other items in the account. A net salvage rate of zero is therefore recommended.

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
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Douglas	Larson	dlarson@dakotaelectric.com	Dakota Electric Association	4300 220th St W Farmington, MN 55024	Electronic Service	No	GEN_SL_Dakota Electric Association_General Service List
John	Lindell	agorud.ecf@ag.state.mn.us	Office of the Attorney General-RUD	1400 BRM Tower 445 Minnesota St St. Paul, MN 551012130	Electronic Service	No	GEN_SL_Dakota Electric Association_General Service List
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Ron	Spangler, Jr.	rlspangler@otpco.com	Otter Tail Power Company	215 So. Cascade St. PO Box 496 Fergus Falls, MN 565380496	Electronic Service	No	GEN_SL_Dakota Electric Association_General Service List
Eric	Swanson	eswanson@winthrop.com	Winthrop Weinstine	225 S 6th St Ste 3500 Capella Tower Minneapolis, MN 554024629	Electronic Service	No	GEN_SL_Dakota Electric Association_General Service List
Daniel P	Wolf	dan.wolf@state.mn.us	Public Utilities Commission	121 7th Place East Suite 350 St. Paul, MN 551012147	Electronic Service	No	GEN_SL_Dakota Electric Association_General Service List