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April 1, 2013

**VIA E-FILING**

Dr. Burl Haar  
Executive Secretary  
Minnesota Public Utilities Commission  
121 7th Place East, Suite 350  
St. Paul, MN 55101-2147

**RE: In the Matter of Minnesota Power's 2013 Average Service Life Petition  
Docket No. E015/D-13-\_\_\_\_\_**

Dear Dr. Haar:

Enclosed for filing with the Commission please find Minnesota Power's 2013 Average Service Life Petition. An Affidavit of Service is also enclosed.

Please contact me if you have any questions regarding this filing.

Yours truly,

Christopher D. Anderson

CDA/rlh  
Enclosures  
cc: Service List

**STATE OF MINNESOTA  
BEFORE THE  
MINNESOTA PUBLIC UTILITIES COMMISSION**

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In the Matter of Minnesota Power's  
2013 Average Service Life Study

Docket No. E015/D-13-\_\_\_\_\_  
2013 AVERAGE SERVICE  
LIFE PETITION

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**SUMMARY**

Minnesota Power hereby petitions the Minnesota Public Utilities Commission (“Commission”) for approval of its 2013 Average Service Life Petition (“Petition”). This Petition sets the future depreciation rates for all of Minnesota Power’s average service life assets.

In this filing, Minnesota Power is combining its Transmission Plant and Distribution Plant Studies into a single Average Service Life Study. The previous Average Service Life Study was approved by the Commission on February 20, 2009 in Docket No. E015/D-08-422.

Minnesota Power has completed analytical and judgmental review of all plant accounts that comprise the average service life grouping. The Simulated Plant Record analysis method was used for analytical results. In addition, engineering management from the transmission and distribution lines of business provided their expertise and knowledge to the review of average service lives.

Minnesota Power recommends that the average service lives and net salvage rates be modified, based on the results of the study, as shown in Part III of this filing. The financial impact of these changes will be to increase Minnesota Power’s annual depreciation expense by \$341,912.

**STATE OF MINNESOTA  
BEFORE THE  
MINNESOTA PUBLIC UTILITIES COMMISSION**

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In the Matter of Minnesota Power's  
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LIFE PETITION

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**I. INTRODUCTION**

Pursuant to Minn. Stat. §§ 216B.08 and 216B.11, and Minn. Rules 7825.0600 and 7825.0700, Minnesota Power hereby petitions the Minnesota Public Utilities Commission (“Commission”) for approval of its 2013 Average Service Life Petition (“Petition”). This Petition recommends average service lives, salvage components, and depreciation lives for all average service life assets. The average service lives, salvage components, and depreciation lives will be used to determine depreciation expense for all average service life assets effective January 1, 2013.

**II. PROCEDURAL REQUIREMENTS**

Pursuant to Minn. Rules 7825.3200, 7825.3500 and 7829.1300, subp. 3, Minnesota Power provides the following required information.

- A. Name, Address and Telephone Number of Utility (Minn. Rules 7825.3500(A) and 7829.1300, subp. 3(A))

Minnesota Power  
30 West Superior Street  
Duluth, MN 55802  
(218) 722-2641

B. Name, Address and Telephone Number of Utility Attorney (Minn. Rules 7825.3500(A) and 7829.1300, subp. 3(B))

David R. Moeller  
Senior Attorney  
Minnesota Power  
30 West Superior Street  
Duluth, MN 55802  
(218) 723-3963  
dmoeller@allete.com

C. Date of Filing and Date Proposed Rates Take Effect (Minn. Rules 7825.3500(B) and 7829.1300, subp. 3(C))

This Petition is being filed on April 1, 2013. Minnesota Power respectfully requests that the Commission approve its proposed Petition, with depreciation rates effective as of January 1, 2013.

D. Statute Controlling Schedule for Processing the Filing (Minn. Rule 7829.1300, subp. 3(D))

This Petition is made in accordance with Minn. Stat. § 216B.11 and prior Commission orders. No statutorily imposed time frame for a Commission decision applies to this filing.

E. Utility Employee Responsible for Filing (Minn. Rules 7825.3500(E) and 7829.1300, subp. 3(E))

Debbra A. Davey  
Supervisor, Accounting  
Minnesota Power  
30 West Superior Street  
Duluth, MN 55802  
(218) 355-3714  
ddavey@allete.com

F. Service List

Pursuant to Minn. Rules 7829.0700, Minnesota Power requests that the following persons be placed on the Commission's official service list for this matter:

David R. Moeller  
Senior Attorney  
Minnesota Power

Debbra A. Davey  
Supervisor, Accounting  
Minnesota Power

30 West Superior Street  
Duluth, MN 55802  
dmoeller@allete.com

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Duluth, MN 55802  
ddavey@allete.com

G. Service on Other Parties

Pursuant to Minn. Stat. § 216.17, subd. 3 and Minn. Rules 7829.1300, subp. 2, Minnesota Power has eFiled this Petition with the Department of Commerce, Division of Energy Resources and served a copy on the Antitrust and Utilities Division of the Office of Attorney General. A summary of the filing prepared in accordance with Minn. Rules 7829.1300, subp. 1 is being served on all parties on Minnesota Power's general service list.

H. Summary of Filing

A one-paragraph summary accompanies this Petition pursuant to Minn. Rules 7829.1300, subp. 1.

### III. DESCRIPTION OF FILING

**A. Background**

As required by the November 6, 2008 Commission Order Certifying Depreciation Rates and Methods in Docket No. E015/D-08-422, Minnesota Power has prepared a study reviewing the average service lives, salvage components and depreciation rates for all average service life property.

**B. Asset Retirement Obligation**

Since our last Average Service Life Study Petition there have been no changes in our accounting for asset retirement obligations for transmission and distribution assets. Minnesota Power owns and operates a transmission and distribution network of over 8,800 miles of lines and 170 substations. All of these facilities must be viewed as one large system asset, and since it is our intention to operate these facilities indefinitely, no settlement date for the transmission and distribution system can be arrived at. Since no retirement or settlement date can be determined for the transmission and distribution assets, the recognition of any obligation shall be deferred until an actual settlement date

can be determined. This is specifically allowed under Accounting Standards Codification 410-20, *Asset Retirement Obligations*, (formerly FASB No. 143, *Accounting for Asset Retirement Obligations* (Section A16)).

Transmission and distribution lines that cross private property are subject to the provisions of the license/easement agreements with the individual landowners. Based on samples of these easements, we concluded that none of our easements have clauses which require the removal of facilities or formulate any legal obligation. However, certain easements require the removal of our facilities if they interfere with mining and mineral rights. Once notified by a mining company or mineral rights owner, Minnesota Power has a limited amount of time to remove those facilities. This does not create a legal obligation until the triggering event occurs (i.e. notification from the mining company or mineral rights owner).

Additional Minnesota Power assets are located on public rights-of-way (ROW). These facilities are subject to Minn. Rules 7819.3300, which requires the removal of these facilities once the ROW is abandoned. This rule would create a legal obligation for these assets if and only if the date of abandonment is known. However, the ability to measure that obligation is not possible until the actual date of abandonment is known. Minnesota Power conducts an annual review and search for potential AROs, however since adoption of SFAS 143, Minnesota Power has not recorded an Asset Retirement Obligation in regards to its Transmission or Distribution assets.

### **C. Study Details**

Due to the complex and technical nature of preparing a depreciation study, Minnesota Power engaged a consulting firm specializing in utility depreciation studies to prepare the Depreciation Accrual Rate Study. Their report, which describes the methodology used and interpretation of the results, is attached as Appendix II.

A comparison of Present Rates versus Proposed Rates and the estimated impact on depreciation expense is presented in Appendix I. This comparison shows that the increase is primarily due to recommended changes to account 3640 – Poles, Towers and Fixtures. The results of the study show that a net salvage rate of -50.0% is appropriate

for account 3640, versus -40.0%. Changes to our systems have allowed us to more effectively capture removal costs which should be reflected in our net salvage rates.

The Recommended Depreciation Rates are as follows:

<u>Acct.</u> <u>No.</u>	<u>Transmission Plant</u>	<u>ASL</u> <u>(Year)</u>	<u>Salvage</u> <u>Rate</u>	<u>Depreciation</u> <u>Rate %</u>
3520	Structures & Improvements	54	-10.0%	2.60%
3530	Station Equipment	44	-12.0%	2.76%
3531	Reserve Station Transformers	44	0.0%	1.63%
3540	Tower and Fixtures	55	-10.0%	1.94%
3550	Poles and Fixtures	54	-35.0%	2.50%
3560	Overhead Conductors and Devices	55	-30.0%	2.88%
3561	Clearing Land & Rights of Way	67	0.0%	1.24%
3580	Underground Conduit	50	0.0%	2.05%
3590	Roads and Trails	60	0.0%	1.69%
<u>Acct.</u> <u>No.</u>	<u>Distribution Plant</u>	<u>ASL</u> <u>(Year)</u>	<u>Salvage</u> <u>Rate %</u>	<u>Depreciation</u> <u>Rate %</u>
3610	Structures & Improvements	60	-15.0%	1.58%
3620	Station Equipment	46	-25.0%	2.50%
3621	Reserve Station Transformers	46	0.0%	2.23%
3640	Poles, Towers and Fixtures	40	-50.0%	4.35%
3650	Overhead Conductors and Devices	41	-50.0%	4.50%
3651	Clearing Land & Rights of Way	65	0.0%	1.44%
3660	Underground Conduit	63	-10.0%	1.67%
3670	Underground Conductor & Devices	44	-22.0%	2.68%
3680	Line Transformers	44	-13.0%	2.43%
3691	Services-Overhead	33	-50.0%	3.89%
3692	Services-Underground	40	-5.0%	2.29%
3700	Meters	24	0.0%	4.60%
3722	Leased Property on Cust. Prem. - Lighting	18	-60.0%	6.46%
3730	Street Lighting and Signal Systems	27	-35.0%	3.21%

#### IV. CONCLUSION

Minnesota Power respectfully requests that the Commission approve the 2013 Average Service Life Petition. The proposed changes to average service lives and net salvage rates will increase Minnesota Power's annual depreciation expense from Transmission and Distribution plant by \$341,912.

Date: April 1, 2013

Respectfully submitted,

/s/ Debbra A. Davey

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# APPENDIX I

**Minnesota Power**  
**Comparison of Depreciation Expense- Present Rates vs. Proposed**

Acct	Acct Description	Plant at 12/31/2012	Present Accrual Rate	Proposed Accrual Rate	Depr Expense At Current Rates	Depr Expense At Proposed Rates	Difference
352	Structures and Improvements	9,493,913	2.20%	2.60%	208,866	247,243	38,377
353	Station Equipment	221,306,591	2.69%	2.76%	5,953,147	6,117,346	164,198
3531	Reserve Station Transformers	2,178,237	2.08%	1.63%	45,307	35,570	(9,737)
354	Towers & Fixtures	26,118,753	1.60%	1.94%	417,900	506,676	88,776
355	Poles & Fixtures	96,966,261	2.41%	2.50%	2,336,887	2,428,148	91,261
356	Overhead Conductors & Devices	61,726,355	2.61%	2.88%	1,611,058	1,777,184	166,126
3561	Clearing Land & Rights of Way	10,322,486	1.48%	1.24%	152,773	128,436	(24,337)
358	Underground Conduit	2,988,455	2.40%	2.05%	71,723	61,156	(10,567)
359	Roads and Trails	58,614	1.72%	1.69%	1,008	989	(20)
361	Structures and Improvements	5,681,462	1.31%	1.58%	74,427	89,716	15,288
362	Station Equipment	59,317,695	2.98%	2.50%	1,767,667	1,484,179	(283,488)
3621	Reserve Station Transformers	1,258,085	2.95%	2.23%	37,114	28,107	(9,007)
364	Poles, Towers and Fixtures	91,143,079	3.95%	4.35%	3,600,152	3,965,490	365,338
365	Overhead Conductors & Devices	77,613,956	4.49%	4.50%	3,484,867	3,495,630	10,764
3651	Clearing Land & Rights of Way	5,334,326	1.45%	1.44%	77,348	76,878	(469)
366	Underground Conduit	9,140,238	1.33%	1.67%	121,565	152,414	30,848
367	Underground Conductors & Devices	80,308,143	2.71%	2.68%	2,176,351	2,148,986	(27,364)
368	Line Transformers	79,078,215	2.53%	2.43%	2,000,679	1,925,160	(75,519)
3691	Services- Overhead	6,734,064	5.96%	3.89%	401,350	262,260	(139,090)
3692	Services- Underground	11,590,524	2.33%	2.29%	270,059	265,788	(4,271)
370	Meters	45,515,894	4.49%	4.60%	2,043,664	2,092,636	48,972
3722	Leased Property on Cust. Prem- Light	1,897,008	13.26%	6.46%	251,543	122,582	(128,962)
373	Street Lighting and Signal Systems	2,791,556	1.96%	3.21%	54,714	89,508	34,793
		908,563,912			27,160,169	27,502,081	341,912

# APPENDIX II

**MINNESOTA POWER  
Transmission and Distribution  
Property  
Book Depreciation Accrual  
Rate Study  
At December 31, 2012**



MINNESOTA POWER  
TRANSMISSION AND DISTRIBUTION PROPERTY  
BOOK DEPRECIATION RATE STUDY  
AT DECEMBER 31, 2012

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## **PURPOSE**

The purpose of this study is to develop functional depreciation rates for the depreciable transmission and distribution property as recorded on the books of Minnesota Power as of December 31, 2012. The depreciation rates were designed to recover the total remaining undepreciated investment, adjusted for net salvage, over the remaining life of Minnesota Power's transmission and distribution property on a straight-line basis. Non-depreciable property and property that is amortized, such as intangible software, were excluded from this study. The Company is engaged in the transmission and distribution of electricity within northeastern Minnesota. Minnesota Power provides regulated utility electric service in northeastern Minnesota to approximately 143,000 retail customers. Minnesota Power's non-affiliated municipal customers consist of 16 municipalities in Minnesota.

Assets for Minnesota Power in 2012 include: 500 kV (8 miles), 345 kV (29 miles), 250 kV (465 miles), 230 kV (698 miles), 161 kV (43 miles), 138 kV (128 miles), 115 kV (1,244 miles) and less than 115 kV (6,233 miles). The Company owns and operates 170 substations with a total capacity of 11,322 MVA. Some of the Company's transmission and distribution lines interconnect with other utilities. In addition, the Company needs associated equipment such as feeders, primary switches, poles, conductor, line transformers, services, meters, and streetlights to serve its customers.

## **STUDY RESULTS**

Recommended depreciation rates for all Minnesota Power transmission and distribution depreciable property are shown in Appendix A. These rates translate into an annual depreciation accrual for Transmission and Distribution plant of \$27.5 million. These accruals are based on Minnesota Power's depreciable investment at December 31, 2012 (test year-end) as shown in Appendix C. The proposed lives and curves on which these calculations are based are shown in Appendix B. The annual depreciation expense calculated by the same method using the existing approved depreciation rates was \$27.2 million for Transmission and Distribution plant. Appendix C shows the effect of the change in lives and curves on depreciation accrual by account. Appendix D addresses the detailed net salvage transactions for all plant accounts.

## GENERAL DISCUSSION

### Definition

The term "depreciation" as used in this study is considered in the accounting sense; that is, a system of accounting that distributes the cost of assets, less net salvage (if any), over the estimated useful life of the assets in a systematic and rational manner. It is a process of allocation, not valuation. This expense is systematically allocated to accounting periods over the life of the properties. The amount allocated to any one accounting period does not necessarily represent the loss or decrease in value that will occur during that particular period. The Company accrues depreciation on the basis of the original cost of all depreciable property included in each functional property group. At retirement, the full cost of depreciable property, less the net salvage value, is charged to the depreciation reserve.

### Basis of Depreciation Estimates

Annual and accrued depreciation were calculated in this study by the straight-line, broad group, remaining-life depreciation system. In this system, the annual depreciation expense for each group is computed by dividing the original cost of the asset group less allocated depreciation reserve less estimated net salvage by its respective average remaining life. The resulting annual accrual amounts of all depreciable property within a function were accumulated and the total was divided by the original cost of all functional depreciable property to determine the depreciation rate. The calculated remaining lives and annual depreciation accrual rates were based on attained ages of plant in service and the estimated service life and salvage characteristics of each depreciable group, and were computed in a direct weighting by multiplying each vintage or account balance times its remaining life and dividing by the plant investment in service at December 31, 2012. The computations of the annual functional depreciation rates are shown in Appendix A, and the weighted remaining life calculations are shown in Appendix B.

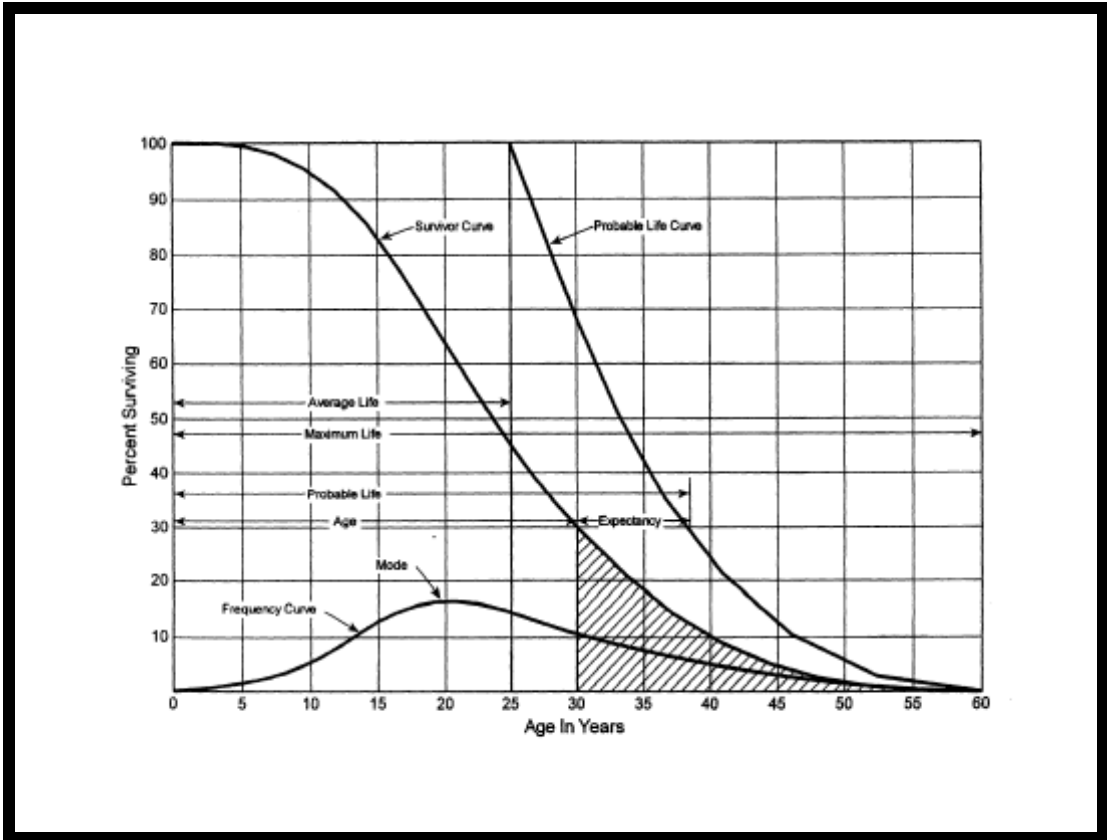
A variety of life estimation approaches were available to incorporate into analyses of Minnesota Power's data. Both Simulated Plant Record (SPR) analysis



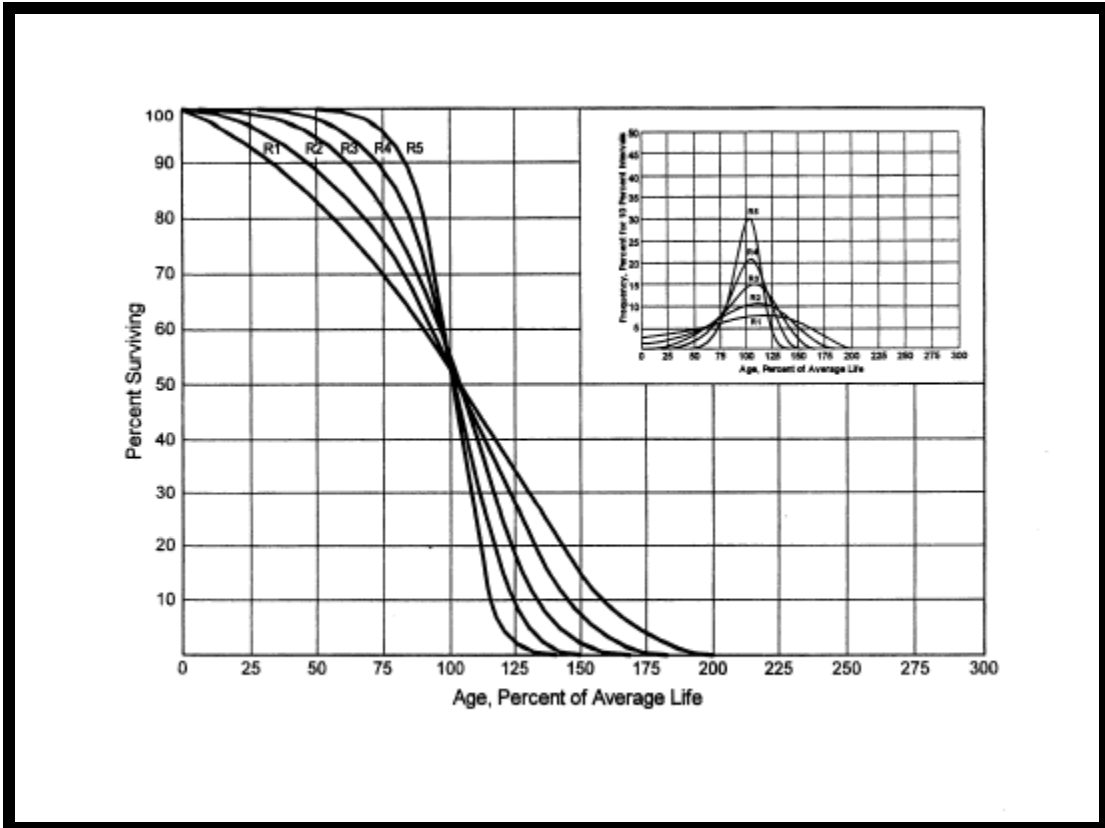
and Actuarial Analysis are commonly used mortality analysis techniques for electric utility property. Historically, Minnesota Power has used SPR analysis to evaluate lives of its transmission and distribution assets. Vintaged data is available since the Company converted to its current accounting system in 2000. However, twelve years of transactional history is insufficient to develop actuarial life estimates for such long-lived property. Judgment was used to a greater or lesser degree on all accounts. Each approach used in this study is more fully described in a later section.

### **Survivor Curves**

To fully understand depreciation projections in a regulated utility setting, there must be a basic understanding of survivor curves. Individual assets within a group do not normally have identical lives or investment amounts. The average life of a group can be determined by comparing actual experience against various survivor curves. A survivor curve represents the percentage of property remaining in service at various age intervals. The most widely used set of representative survivor curves are the Iowa Survivor Curves (Iowa Curves). The Iowa Curves are the result of an extensive investigation of life characteristics of physical property made at Iowa State College Engineering Experiment Station in the first half of the twentieth century. Through common usage, revalidation, and regulatory acceptance, these curves have become a descriptive standard for the life characteristics of industrial property. An example of an Iowa Curve is shown below.



There are four families in the Iowa Curves which are distinguished by the relation of the age at the retirement mode (largest annual retirement frequency) and the average life. The four families are designated as “R”— Right, “S” — Symmetric, “L” — Left, and “O” — Origin Modal. First, for distributions with the mode age greater than the average life, an "R" designation (i.e., Right modal) is used. The family of “R” moded curves is shown below.



Second, an "S" designation (i.e., Symmetric modal) is used for the family whose mode age is symmetric about the average life. Third, an "L" designation (i.e., Left modal) is used for the family whose mode age is less than the average life. Fourth, a special case of left modal dispersion is the "O" or origin modal curve family. Within each curve family, numerical designations are used to describe the relative magnitude of the retirement frequencies at the mode. A "6" indicates that the retirements are not greatly dispersed from the mode (i.e., high mode frequency) while a "1" indicates a large dispersion about the mode (i.e., low mode frequency). For example, a curve with an average life of 30 years and an "L3" dispersion is a moderately dispersed, left modal curve that can be designated as a 30 L3 Curve. An SQ, or square, survivor curve occurs where no dispersion is present (i.e., units of common age retire simultaneously).

For Transmission and Distribution property accounts, a survivor curve pattern was selected based on analyses of historical data, as well as other factors, such as general changes relevant to the Company's operations. The blending of judgment concerning current conditions and future trends, along with the matching of historical data permits the depreciation analyst to make an informed selection of an account's average life and retirement dispersion pattern. Iowa Curves were used to depict the estimated survivor curves for each account.

## **Simulated Plant Record Procedure**

The SPR - Balances approach is one of the commonly accepted approaches to analyze mortality characteristics of utility property. SPR was applied to all Minnesota Power accounts due to the limited amount of vintaged transactional data.

In this method, an Iowa Curve and average service life are selected as a starting point of the analysis and its survivor factors applied to the actual annual additions to give a sequence of annual balance totals. These simulated balances are compared with the actual balances by using both graphical and statistical analysis. Through multiple comparisons, the mortality characteristics (as defined by an average life and Iowa Curve) that are the best match to the property in the account can be found.

The Conformance Index (CI) is one measure used to evaluate various SPR analyses. CIs are also used to evaluate the "goodness of fit" between the actual data and the Iowa Curve being referenced. The sum of squares difference (SSD) is a summation of the difference between the calculated balances and the actual balances for the band or test year being analyzed. This difference is squared and then summed to arrive at the SSD.

$$SSD = \sum_1^n (Calculated\ Balance_i - Observed\ Balance_i)^2$$

Where n is the number of years in the test band.

This calculation can then be used to develop other calculations, which the analyst feels might give a better indication for the "goodness of fit" for the representative curve under consideration. The residual measure (RM) is the square root of the average squared differences as developed above. The residual measure is calculated as follows:

$$RM = \sqrt{\left( \frac{SSD}{n} \right)}$$

The CI is developed from the residual measure and the average observed plant balances for the band or test year being analyzed. The calculation of conformance index is shown below:

$$CI = \frac{\sum_i^n Balances_i / n}{RM}$$

The retirement experience index (REI) gives an indication of the maturity of the account and is the percent of the property retired from the oldest vintage in the band at the end of the test year. Retirement indices range from 0 percent to 100 percent and an REI of 100 percent indicates that a complete curve was used. A retirement index less than 100 percent indicates that the survivor curve was truncated at that point. The originator of the SPR method, Alex Bauhan, suggests ranges of value for the CI and REI. The relationship for CI proposed by Bauhan is shown below<sup>1</sup>:

CI	Value
Over 75	Excellent
50 to 75	Good
25 to 50	Fair
Under 25	Poor

The relationship for REI proposed by Bauhan<sup>2</sup> is shown below:

REI	Value
Over 75	Excellent
50 to 75	Good
33 to 50	Fair
17 to 33	Poor
Under 17	Valueless

Despite the fact there has not been empirical research to validate Bauhan's conclusions, depreciation analysts have used these measures in analyzing SPR results for 60 years, since the SPR method was developed.

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1 Public Utility Depreciation Practices, p. 96.

2 Public Utility Depreciation Practices, p. 97.

Each of these statistics provides the analyst with a different perspective of the comparison between a band of simulated or calculated balances and the observed or actual balances in the account being studied. Although one statistic is not necessarily superior over the others, the conformance index is the one many analysts use in depreciation studies. The depreciation analyst should carefully weigh the data from REIs to ensure that a mature curve is being used to estimate life.

Statistics are useful in analyzing mortality characteristics of accounts as well as determining a range of service lives to be analyzed using the detailed graphical method. However, these statistics boil all the information down to one, or at most, a few numbers for comparison. Visual matching through comparison between actual and calculated balances expands the analysis by permitting the analyst to view many points of data at a time. The goodness of fit should be visually compared to plots of other Iowa Curve dispersions and average lives for the selection of the appropriate curve and life. Detailed information for each account is shown later in this study and in workpapers.

### **Judgment**

Any depreciation study requires informed judgment by the analyst conducting the study. A knowledge of the property being studied, company policies and procedures, general trends in technology and industry practice, and a sound basis of understanding depreciation theory are needed to apply this informed judgment. In this depreciation study, judgment was used in areas such as survivor curve modeling and selection, depreciation method selection, simulated plant record method analysis, and net salvage analysis.

Where there are multiple factors, activities, actions, property characteristics, statistical inconsistencies, property mix in accounts or a multitude of other considerations that affect the analysis (potentially in various directions), judgment is used to take all of these considerations and synthesize them into a general direction or understanding of the characteristics of the property. Individually, no one

consideration in these cases may have a substantial impact on the analysis, but overall, the collective effect of these considerations may shed light on the use and characteristics of assets. Judgment may also be defined as deduction, inference, wisdom, common sense, or the ability to make sensible decisions. There is no single correct result from statistical analysis; hence, there is no answer absent judgment.

### **Theoretical Depreciation Reserve**

The book accumulated provision for depreciation for each account was used to compute depreciation rates for each account. This study used a reserve model that relied on a prospective concept relating future retirement and accrual patterns for property, given current life and salvage estimates.

The theoretical reserve of a property group is developed from the estimated remaining life of the group, the total life of the group, and estimated net salvage. The theoretical reserve represents the portion of the group cost that would have been accrued if current forecasts were used throughout the life of the group for future depreciation accruals. The computation involves multiplying the vintage balances within the group by the theoretical reserve ratio for each vintage. The straight-line remaining-life theoretical reserve ratio at any given age (RR) is calculated as:

$$RR = 1 - \frac{(Average\ Remaining\ Life)}{(Average\ Service\ Life)} * (1 - Net\ Salvage\ Ratio)$$



## DETAILED DISCUSSION

### Depreciation Study Process

This depreciation study encompassed four distinct phases. The first phase involved data collection and field interviews. The second phase was where the initial data analysis occurred. The third phase was where the information and analysis was evaluated. After the first three stages were complete, the fourth phase began. This phase involved the calculation of deprecation rates and documenting the corresponding recommendations.

During the Phase I data collection process, historical data was compiled from continuing property records and general ledger systems. Data was validated for accuracy by extracting and comparing to multiple financial system sources: Projects System (construction ledger), Fixed Asset System (continuing property ledger), General Ledger, and interfaces from other operating systems. Audit of this data was validated against historical data from prior periods, historical general ledger sources, and field personnel discussions. This data was reviewed extensively so that it could be put in the proper format for a depreciation study. Further discussion on data review and adjustment is found in the Salvage Consideration section of this study. Also as part of the Phase I data collection process, numerous discussions were conducted with engineers and field operations personnel to obtain information that would be helpful in formulating life and salvage recommendations in this study. One of the most important elements in performing a proper depreciation study is to understand how the Company utilizes assets and the environment of those assets. Understanding industry and geographical norms for mortality characteristics are important factors in selecting life and salvage recommendations; however, care must be used not to apply them rigorously to any particular company since no two companies would have the same exact forces of retirement acting upon their assets. Interviews with engineering and operations personnel are important ways to allow the analyst to obtain information that is helpful when evaluating the output from the life and net salvage programs in relation to the Company's actual asset utilization and environment. Information that was gleaned in these discussions is found both in

the Detailed Discussion portions of the Life Analysis and Salvage Analysis sections and also in workpapers. In addition, Alliance personnel possess a significant understanding of the property and its forces of retirement due to years of day-to-day exposure to property and operations of electric utility property.

Phase 2 is where the SPR and actuarial analysis are performed. Phase 2 and Phase 3 (to be discussed in the next paragraph) overlap to a significant degree. The detailed property records information is used in Phase 2 to develop observed life tables for life analysis and SPR graphs and statistics. It is possible that the analyst would cycle back to this phase based on the evaluation process performed in Phase 3. Net salvage analysis consists of compiling historical salvage and removal data by functional group and account to determine values and trends in gross salvage and removal cost. This information was then carried forward into Phase 3 for the evaluation process.

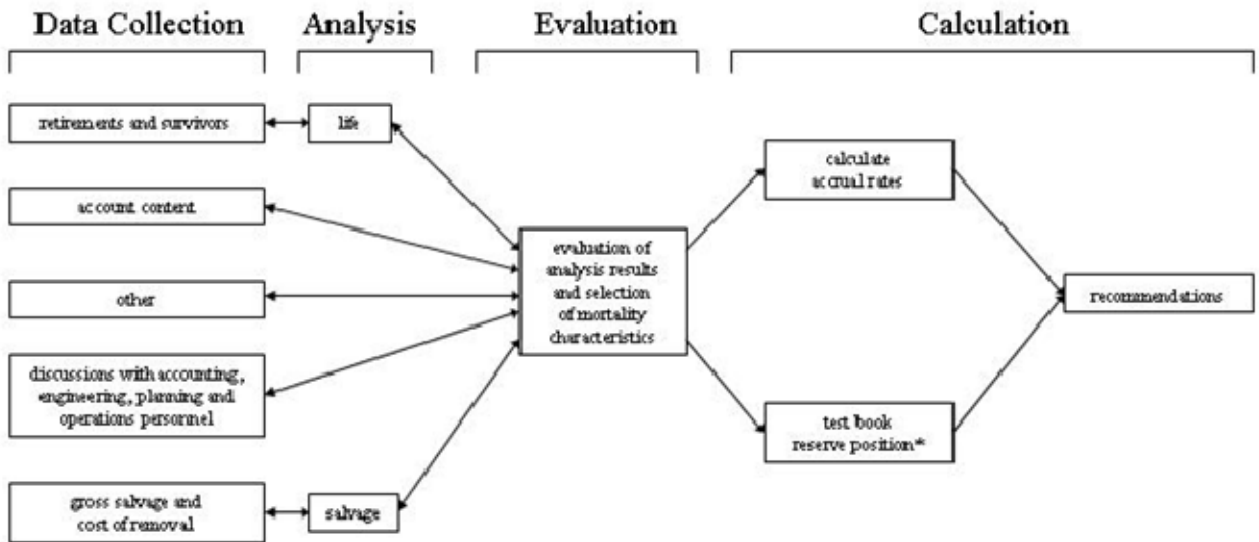
Phase 3 is the evaluation process, which synthesizes analysis, interviews, and operational characteristics into a final selection of asset lives and net salvage parameters. The historical analysis from Phase 2 is further enhanced by the incorporation of recent or future changes in the characteristics or operations of assets that were revealed in Phase 1. The preliminary results are then reviewed by the depreciation analyst and discussed with accounting and operations personnel. Phases 2 and 3 allow the depreciation analyst to validate the asset characteristics as seen in the accounting transactions with Company operational experience.

Finally, Phase 4 involved the calculation of accrual rates, making recommendations and documenting the conclusions in a final report. The calculation of accrual rates is found in Appendix A. Recommendations for the various accounts are contained within the Detailed Discussion of this report. The depreciation study flow diagram shown as Figure 1<sup>3</sup> documents the steps used in conducting this study. Depreciation Systems by Wolf and Fitch on page 289 documents the same basic processes in performing a depreciation study.

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<sup>3</sup> Public Utility Finance & Accounting, A Reader

## Book Depreciation Study Flow Diagram



Source: Public Utility Finance & Accounting  
A Reader

\*not required if remaining life rate are calculated

## **ALLETE DEPRECIATION STUDY PROCESS**

## **Transmission and Distribution Calculation Process**

Annual depreciation expense amounts for Transmission and Distribution accounts were calculated by the straight line, remaining life procedure.

In a whole life representation, the annual accrual rate is computed by the following equation,

$$AnnualAccrualRate = \frac{(100\% - NetSalvagePercent)}{AverageServiceLife}$$

Use of the remaining life depreciation system adds a self-correcting mechanism, which accounts for any differences between theoretical and book depreciation reserve over the remaining life of the group. With the straight line, remaining life, average life group system using Iowa Curves, composite remaining lives were calculated according to standard broad group expectancy techniques, noted in the formula below:

$$CompositeRemainingLife = \frac{\sum OriginalCost - Theoretical Reserve}{\sum WholeLifeAnnualAccrual}$$

For each plant account, the difference between the surviving investment, adjusted for estimated net salvage, and the allocated book depreciation reserve, was divided by the composite remaining life to yield the annual depreciation expense as noted in this equation.

$$AnnualDepreciationExpense = \frac{OriginalCost - Book Reserve - (OriginalCost) * (1 - NetSalvage\%)}{Composite RemainingLife}$$

where the net salvage percent represents future net salvage.

Within a group, the sum of the group annual depreciation expense amounts, as a percentage of the depreciable original cost investment summed, gives the annual depreciation rate as shown below:

$$AnnualDepreciationRate = \frac{\sum AnnualDepreciationExpense}{\sum OriginalCost}$$

These calculations are shown in Appendix A. The calculations of the

theoretical depreciation reserve values and the corresponding remaining life calculations are shown in the workpapers for this study. Book depreciation reserves are maintained on a plant account level basis and theoretical reserve computation was used to compute composite remaining life for each account.

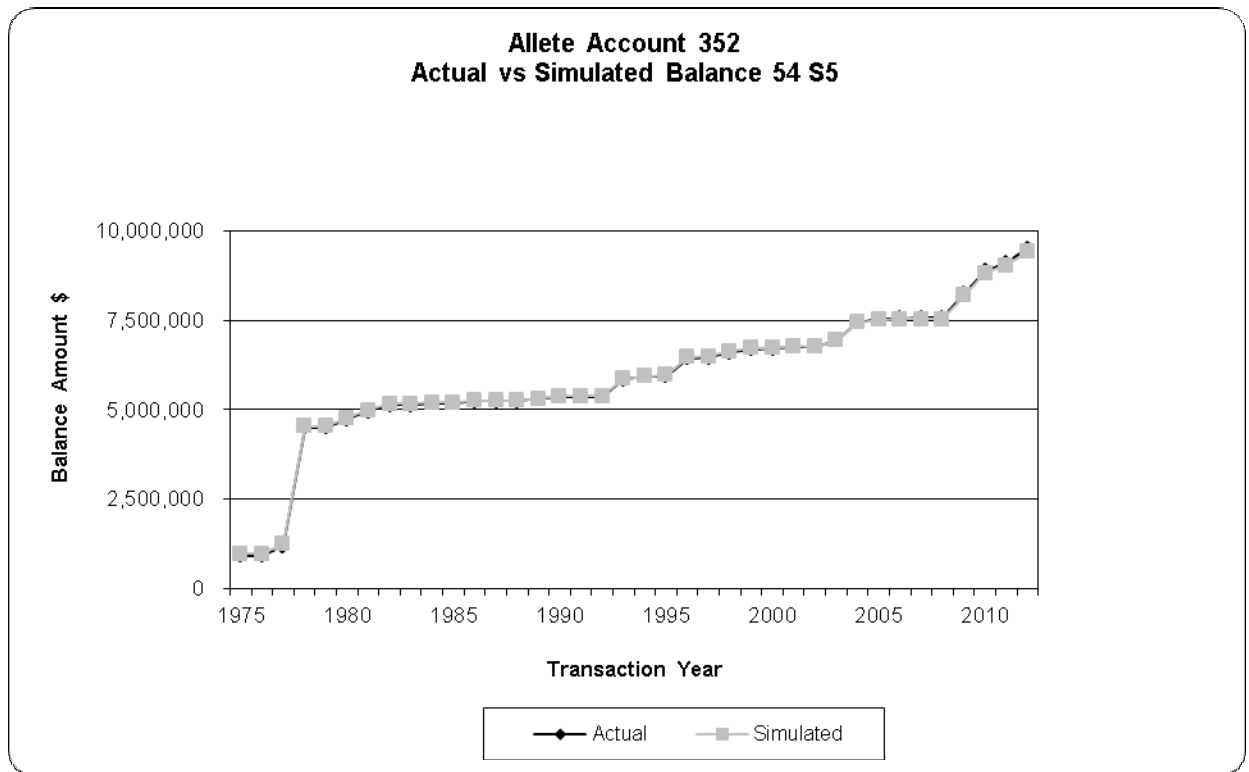
### **LIFE ANALYSIS**

#### **Transmission Accounts, FERC Accounts 3520-3590**

Minnesota Power has a wide service territory across northeastern Minnesota. In recent years the Company has seen growth in Transmission assets in substation equipment as well as poles and overhead conductor. Since the last depreciation study, Minnesota Power purchased DC tie line in 2009.

## FERC Account 3520 Transmission Substation Structures and Improvements (54 S5)

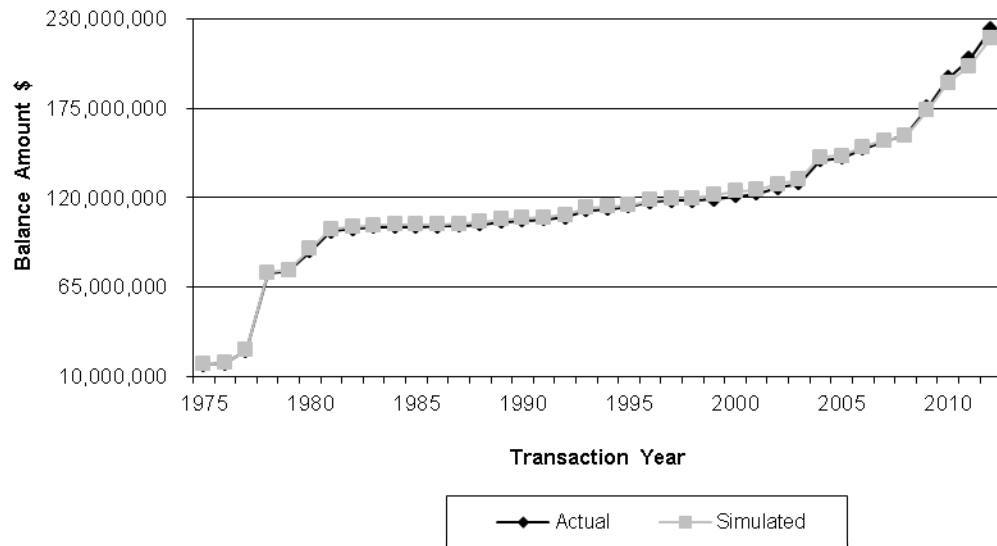
This account includes structures and improvements associated with transmission facilities. Some of the main items included are buildings, air conditioning systems, heating, plumbing, and ventilation systems. The current plant balance in the account is \$9.5 million, and the approved life and curve from the 2008 study is 50 S5. The expected average life has moved slightly longer with the same dispersion. The SPR analysis shows an S5 to be the best fit for most of the longer bands. Company personnel report that system needs may be a driver for reconfiguration or replacement, and they anticipate that life of this account may increase over time. Another factor that will impact the life of this account is the fact that substations associated with the Company's wind farm assets will retire at the age of 35 years. The plot of the 54 S5 shows a very good fit over the life of the account. This study recommends moving to a 54 year life and retaining the approved S5 dispersion. A plot of the actual vs. simulated balances for this account is shown below.



### **FERC Account 3530 Transmission Substation Equipment (44 R4)**

This account includes transformers, circuit breakers, capacitors, system operator's control installations and wiring used in a transmission substation. The current plant balance in the account is \$221.3 million, and the last depreciation study yielded a life characteristic of 42 R3. Company personnel state that this account has a variety of equipment with different life characteristics. For transformers, they estimate a life of 40 years or longer. Smaller items such as breakers, panels (new electronic) would be shorter. In 2004-2005, controls were replaced when a 25-30 year old system was retired. Currently installed life estimate for controls is 20 years based on ABB (others say 12-15). Valve halls are at end of life (30 years) and will be replaced soon. 480 volt switchgear is being replaced in 2013 at the age of 30 years. Valve cooling systems are estimated to have a 30 year life. Converter transformers are estimated to have a life of 49 years on average per ABB. Converter transformers are around 50% of cost in this account. Another factor that will impact the life of this account is the fact that substations associated with the Company's wind farm assets will retire at the age of 35 years. This study recommends moving from the approved 42 year life to a 44 year life and moving from an R3 to an R4 dispersion. A plot of the actual vs. simulated balances for this account is shown below.

**Allete Account 353  
Actual vs Simulated Balance 44 R4**



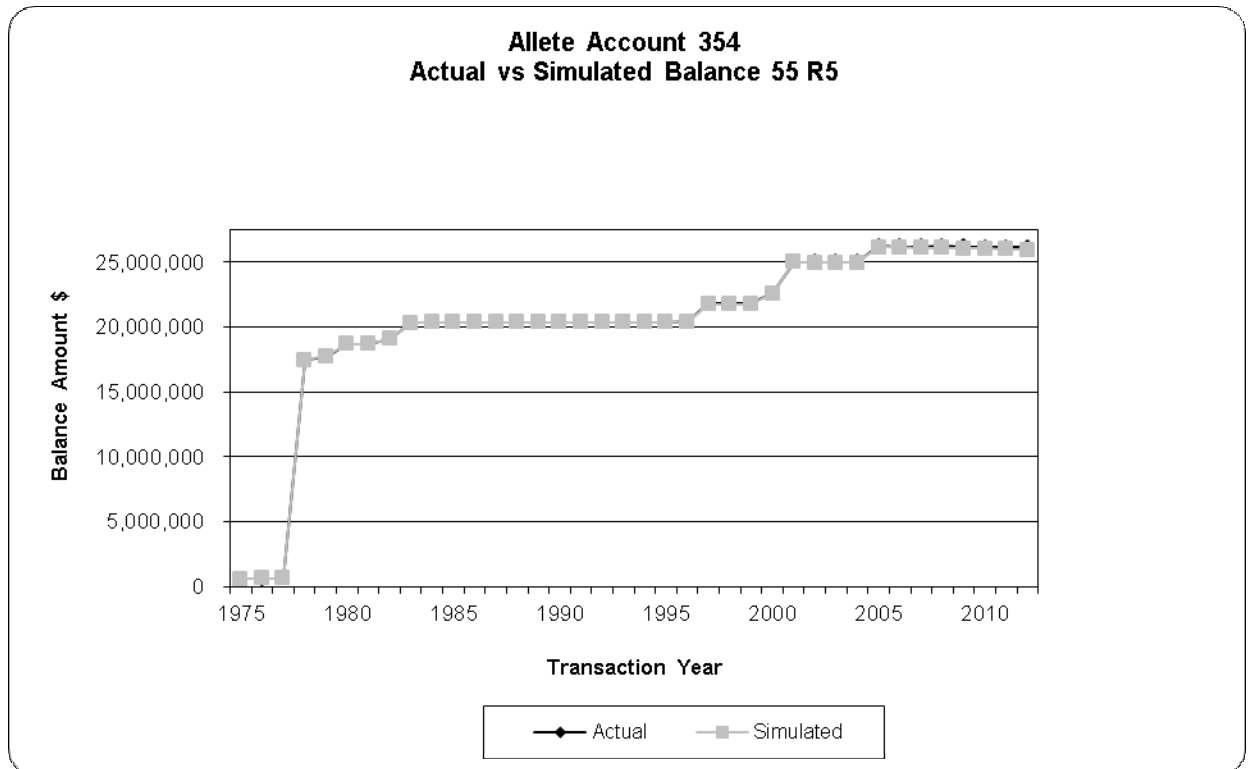


### **FERC Account 3531 Reserve Station Transformers (44 R4)**

This account contains the cost of power transformers for transmission substations held in reserve. The balance in this account is \$2.2 million, and the last depreciation study yielded a life characteristic of 42 R3 (the same as the primary 353 account.) Insufficient data exists to analyze the history on this account. Since transformers are moved out of this account into the primary 353 account, the life of 42 years with an R3 dispersion was linked to Account 353 (as was done in the previous studies). This study recommends a life of 44 years with an R4 dispersion for this account.

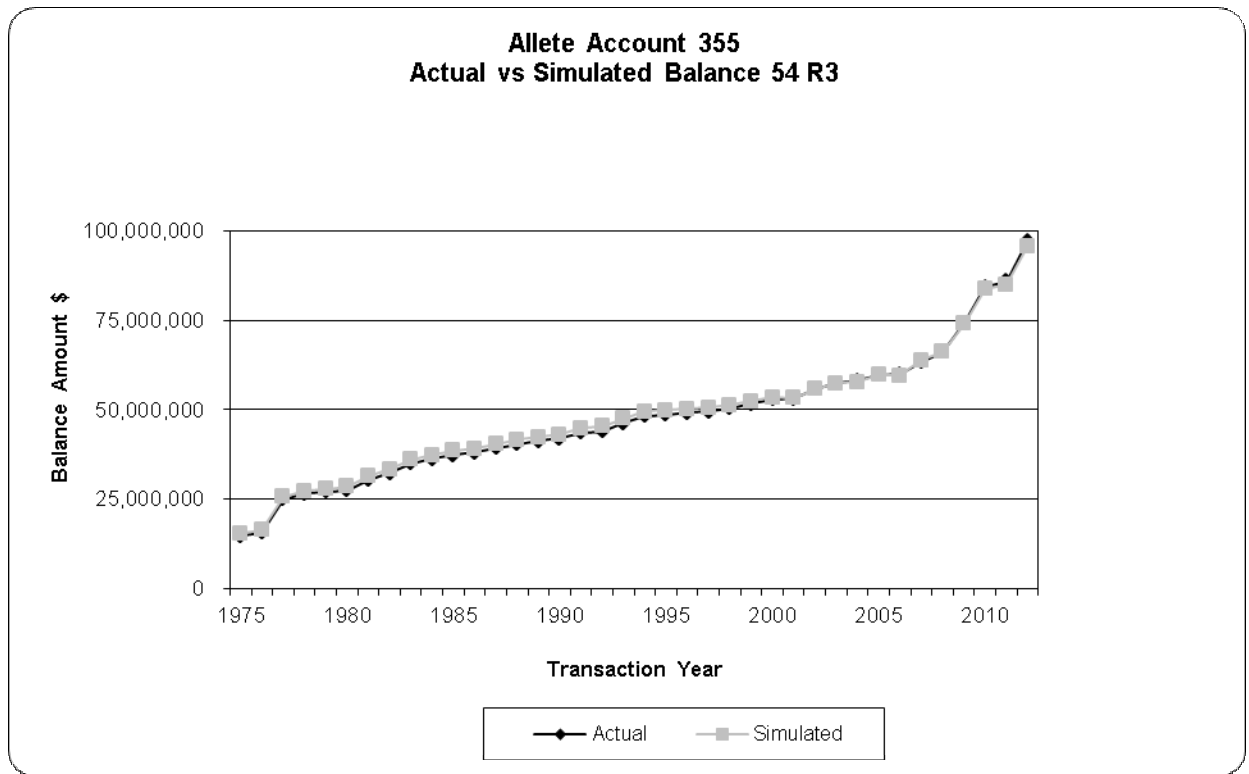
### FERC Account 3540 Transmission Towers and Fixtures (55 R5)

This account includes the installed cost of towers and fixtures supporting overhead transmission conductors, which are used to transmit electricity at transmission voltages. Most of the Transmission line assets are in FERC Account 355, poles. The current plant balance in the account is \$26.1 million, and the prior depreciation study established a 60 year life with an R4 dispersion as the approved life. Most of the towers are on the DC line, with 90% of those towers being aluminum. Company personnel feel that a 60 year life is appropriate for steel towers, but not for aluminum towers. Company subject matter experts think that aluminum will have a life of 50 to 55 years. In the estimation of Company subject matter experts, the life of aluminum poles should be no higher than wood poles. After factoring in the opinions of subject matter experts, this study recommends a 55 year life. An R5 curve is selected as being representative for this account. A plot of the actual vs simulated balances for this account is shown below.



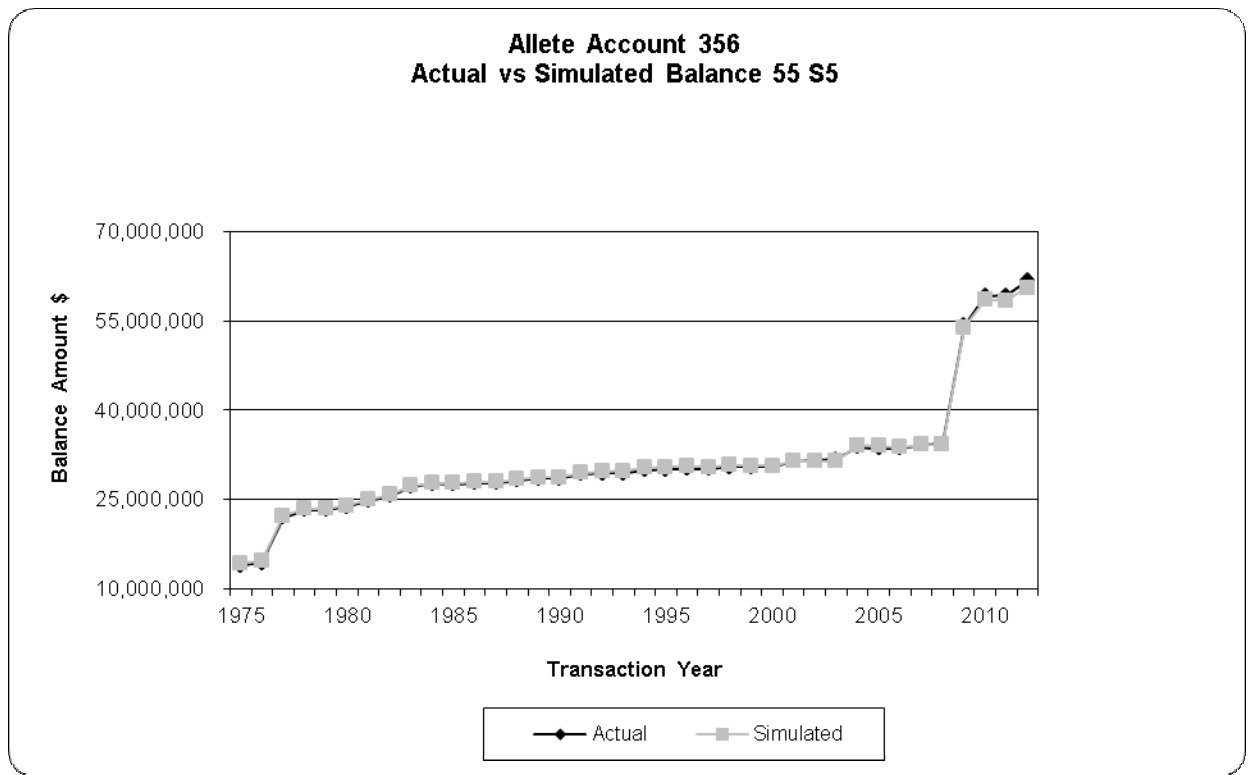
### FERC Account 3550 Transmission Poles and Fixtures (54 R3)

This account includes the installed cost of poles and fixtures used for supporting overhead transmission conductors, which are used to transmit electricity at transmission voltages. Items include wood poles, laminated columns, steel poles, cross arms, guys, platforms and x-braces. The current plant balance in the account is \$97.0 million. The 2008 depreciation study used a 50 year life with an R3 dispersion. The best life and dispersion combination with an REI of 100 is the R3 dispersion with a life of 53 or 54 years. The plot of the 54 R3 curve shows a very good fit over the entire life of the account. Based on this analysis, this study recommends moving from a 50 year life to a 54 year life while retaining the R3 dispersion for this account. A plot of the actual vs simulated balances for this account is shown below.



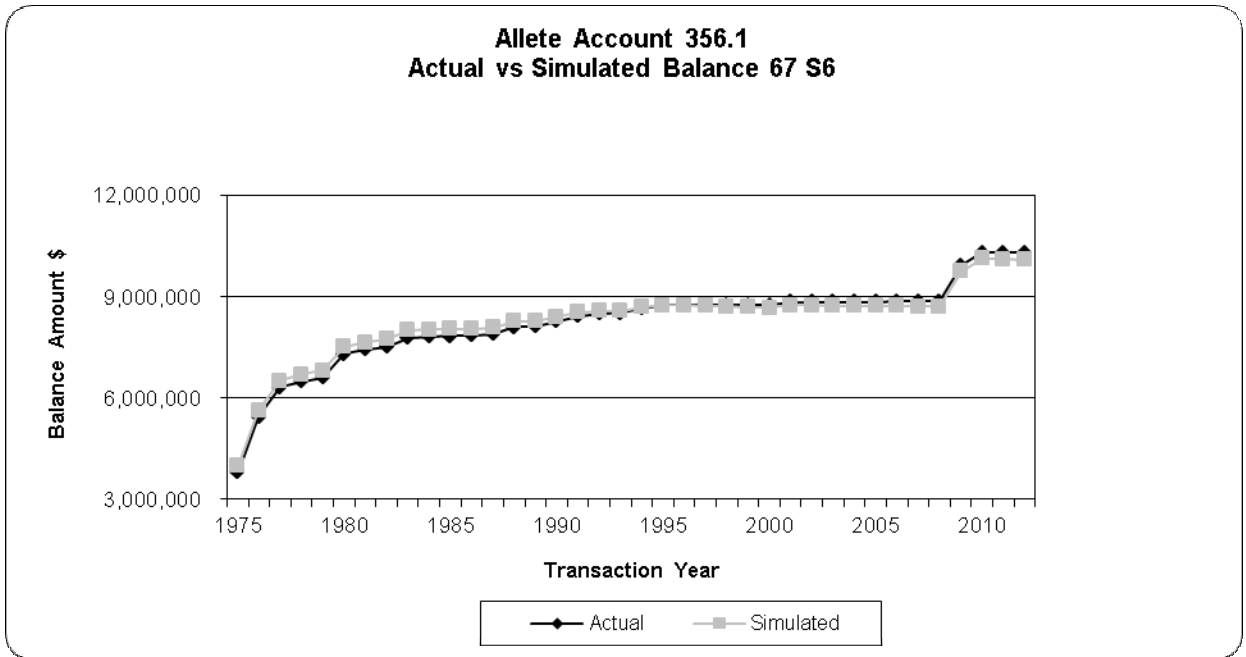
### FERC Account 3560 Transmission Overhead Conductor (55 S5)

This account includes copper and aluminum conductors, arresters and switches, which are used to transmit electricity at transmission voltages. The current plant balance in the account is \$61.7 million, and the approved life and curve for this account is a 53 year life with an R5 dispersion. High moded R and S curves with excellent CI and REI (R5 and S5) with lives of 52 to 53 years are ranked at the top of most bands. The plot of the 55 S5 curve shows a very good fit over the entire life of the account. Based on the analysis of the various SPR bands, a move from the approved 53 year life to a 55 year life and a move from the R5 dispersion to the S5 dispersion is recommended for this account.



### FERC Account 3561 Clearing Land and Rights of Way (67 S6)

This account includes initial costs of clearing land and rights of way for transmission lines with overhead conductors and devices. The current plant balance in the account is \$10.3 million. The current approved life for this account is 61 years with an S6 dispersion. In the current analysis, all Conformance Indices (“CI”) are lower than desired. The best life and dispersion combination with an REI of 100 is the 67 year life with an S6 dispersion. The plot of the 67 S6 curve shows a very good fit over the entire life of the account. Based on SPR analysis for various bands, a life of 67 years with an S6 dispersion is recommended for this account.

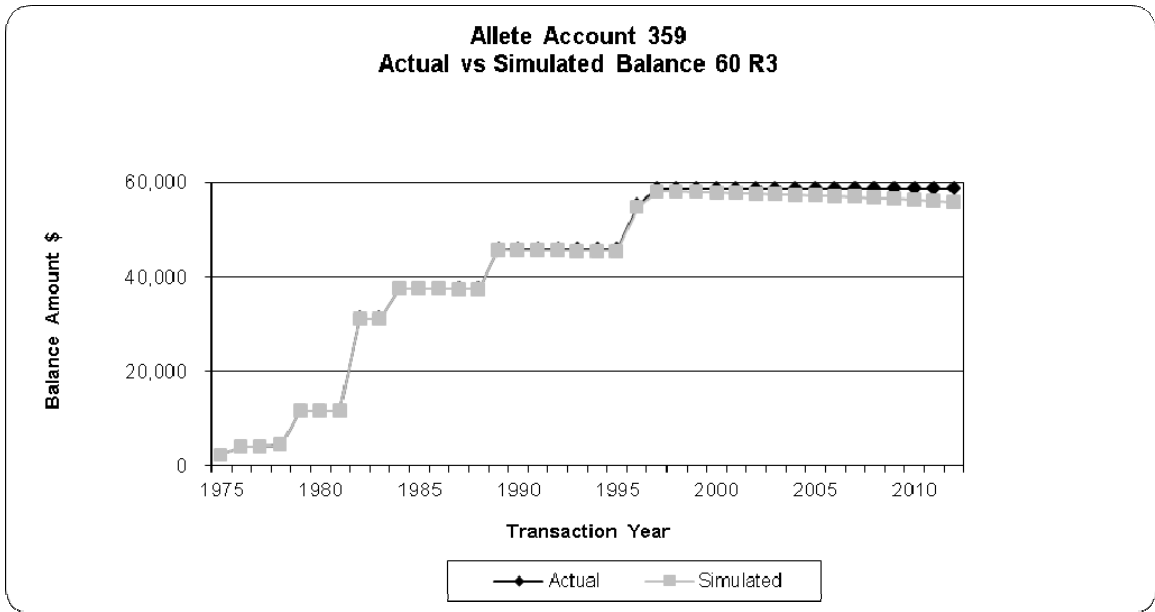


### **FERC Account 358 Transmission Underground Conductor (50 R3)**

This account consists of underground conductor used in Wind Assets (at the Company's BISON and Tac Ridge facilities) and also at the Minntac 230/155kV substation. The account balance for this account is \$3.0 million. This account was not included in the Company's last depreciation study. The current life being used for depreciation purposes is 50 years based the life estimate for account 356 approved in the 2000 depreciation study. The two Wind Assets are estimated to have a 35 year life. There has been no retirement activity over the study period, rendering both actuarial and SPR analysis of no aid in examining life characteristic. Using judgment, this study recommends retaining the current life of 50 years and assigning an R3 dispersion for this account which is representative of transmission property.

### FERC Account 3590 Roads and Trails (60 R3)

This account includes installed costs of roads, trails, bridges and culverts on transmission plant property. The current plant balance in the account is \$58 thousand. The prior depreciation study established a life of 60 years with an R3 dispersion. Insufficient transactional information was available to analyze this account using SPR analysis. Judgment was used to retain the approved 60 year life with an R3 dispersion for this account.



### **Distribution Accounts, FERC Accounts 3610-3730**

Minnesota Power has a wide service territory. There are significant Distribution assets in substation equipment, poles, overhead conductor, services, line transformers, meters, and street lighting.

Minnesota Power converted to its current Continuing Property Record (CPR) system in 2000. At that time, the Company changed its practice of mass property retirement from individual pricing for a vintage to FIFO (first in, first out) that generally affecting only distribution assets. FIFO pricing can create problems for the depreciation analyst in recognizing the actual life of assets. As noted by Wolf and Fitch in Depreciation Systems (1994, p. 214):

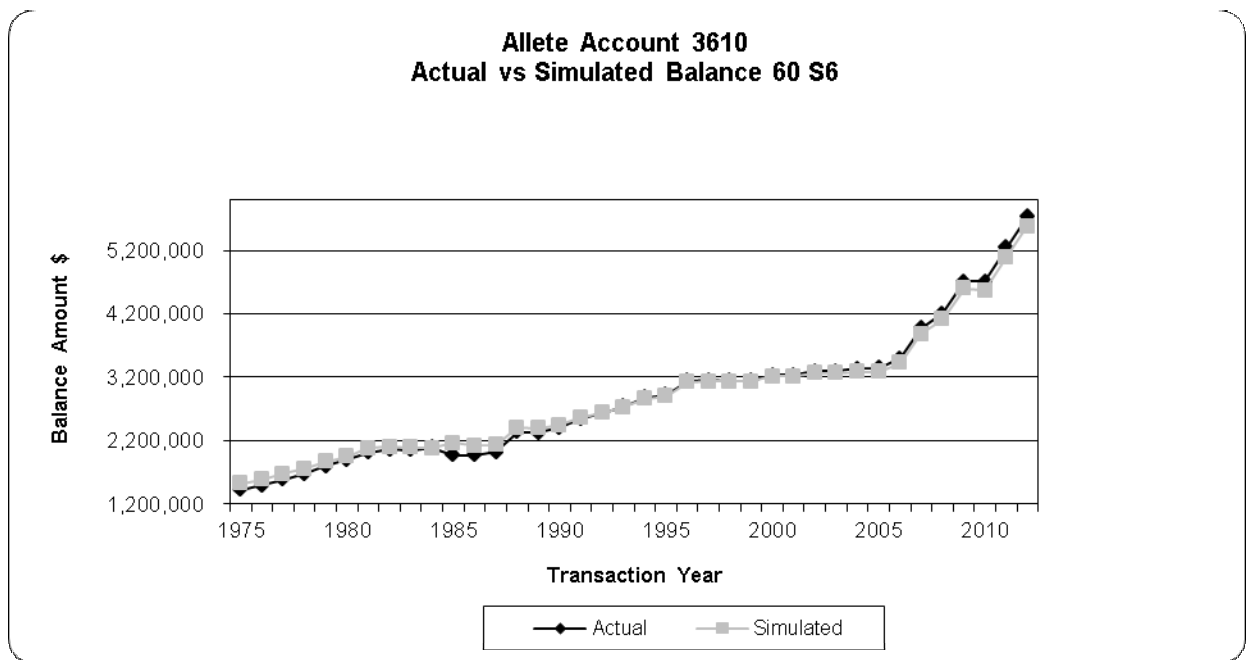
When a property group is growing, the average age of the annual retirements is less than the average life of the property. Thus, the greater the growth in an account, the poorer the assumption that the retirement is the oldest unit. In most cases, the FIFO system will *overestimate* the age and, assuming a *positive* rate of inflation, will *under price* the retirement.

The Company moved to pricing retirement based on the life and dispersion in 2008. For distribution accounts, the few years of FIFO pricing misrepresent lives in the analysis. To create continuity between data prior through 2000 and 2001-2007 FIFO data, information between 2001-2007 was adjusted to average pricing for life and net salvage analysis. This adjustment creates consistency and produces reasonable results from the analysis. This adjustment was made in the 2008 depreciation study, and those findings were incorporated in the Commission's decision in that case.



## FERC Account 3610 Distribution Substation Structures and Improvements (60 S6)

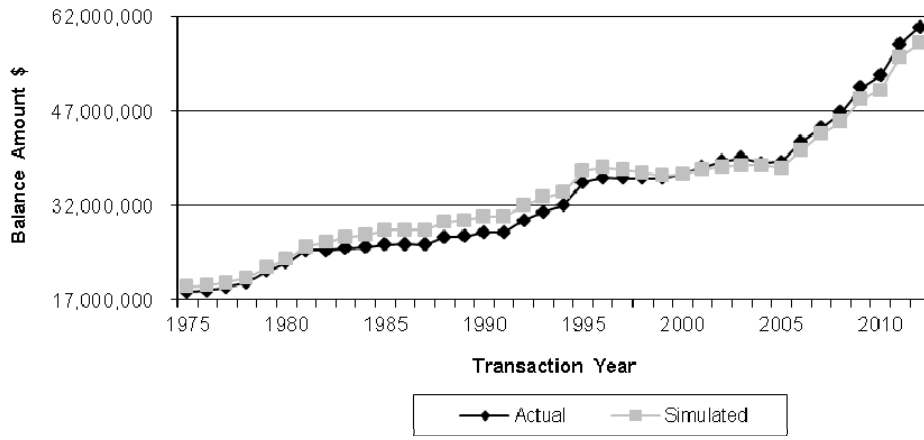
This account includes the cost of structures and improvements used in conjunction with distribution substation operations. The current plant balance in the account is \$5.7 million, and the approved life and curve from the 2008 study is a 58 year life with an S6 dispersion. The plot of the 60 S6 curve shows a very good fit over the entire life of the account. This study recommends moving from the approved 58 year life to a 60 year life while retaining the approved S6 dispersion.



### **FERC Account 3620 Distribution Substations (46 R1)**

This account includes the cost of bus compartments, conduit, control equipment, conversion equipment, condensers, switchboards, switching equipment and general station equipment. The current plant balance in the account is \$59.3 million. The last depreciation study yielded a life characteristic of 42 R1.5. Company personnel report that station equipment has very limited SF6 use, mostly vacuum and oil are used. They expect transformer life to be much longer than the 42 year average life for the account. Newer transformers (with close tolerances) will not last as long, and they believe the life for breakers is in the 40 year range. All controls are electronic in the substations now, and electronics do not last as long as other assets. They don't like overvoltage. Other station components such as batteries and chargers are estimated to have a 7 year life and 20 year life respectively. No life and curve combination produced good results for the longer bands. Although with only a fair to good CI but an excellent REI in the shorter bands, the 46 year life with an R1 dispersion is highly ranked with the highest REI in most of the recent bands. The plot of the 46 R1 curve shows a good fit over the entire life of the account. This study recommends moving from the approved 42 year life to a 46 year life and moving from an R1.5 dispersion to a R1 dispersion for this account based on input from Company experts and SPR life analysis. .

**Allete Account 3620  
Actual vs Simulated Balance 46 R1**



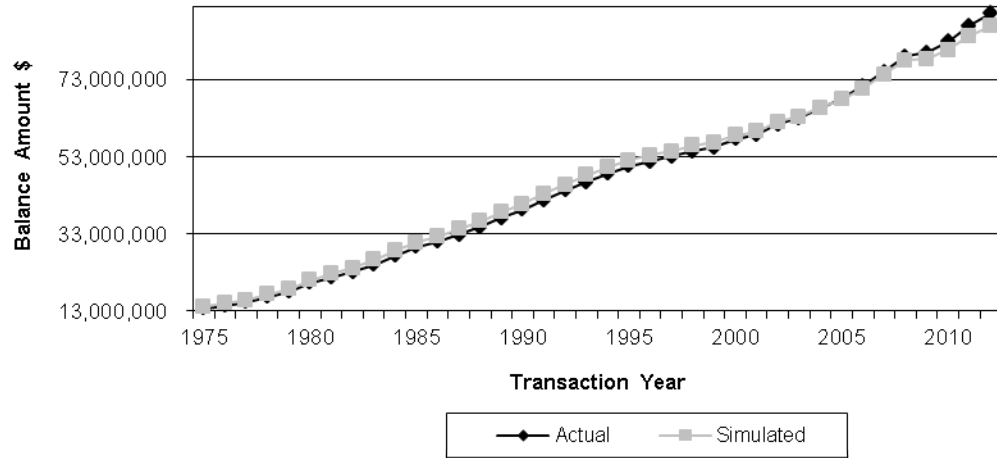
### **FERC Account 3621 Reserve Distribution Substation Transformers (46 R1)**

This account includes the cost of transformer banks and the reserve for distribution station transformers held in reserve. The balance in this account is \$1.2 million, and the last depreciation study yielded a life characteristic of 42 R1.5. Insufficient data exists to analyze the history on this account. Since transformers are moved out of this account into the primary 3620 account, the life of 46 years with an R1 dispersion was linked to Account 3620 (as was done in the previous study). This study recommends a life of 46 years with a R1 dispersion.

### **FERC Account 3640 Distribution Poles, Towers, and Fixtures (40 S6)**

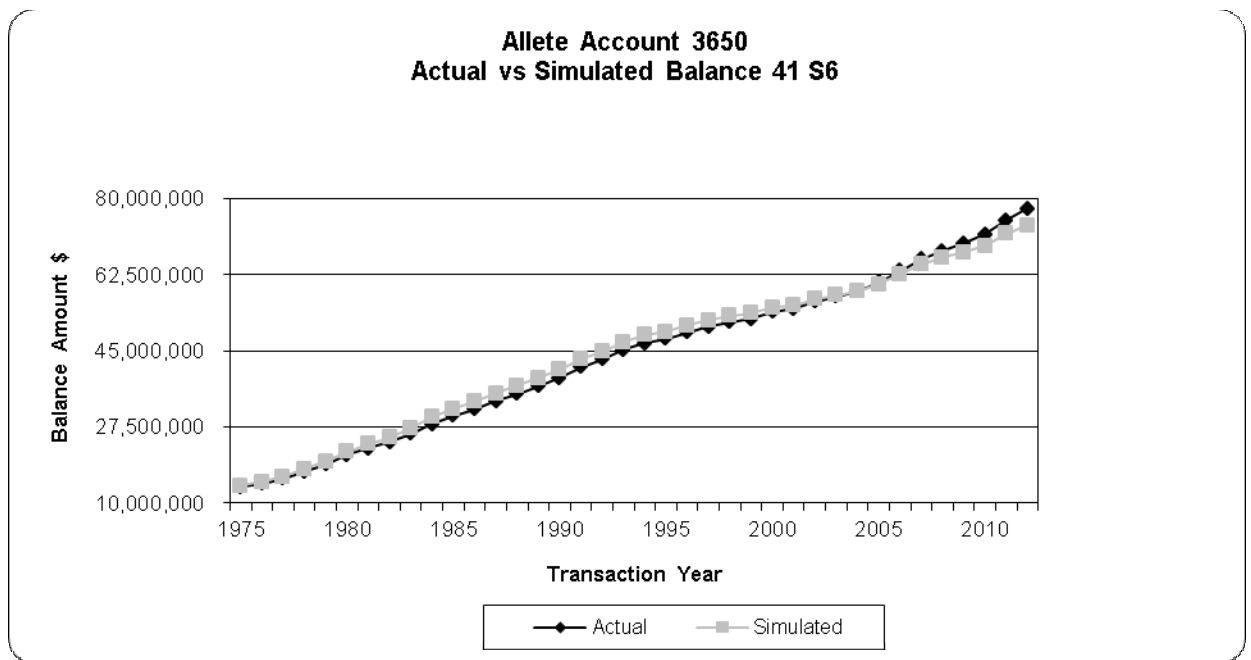
This account includes the cost of poles, towers and appurtenant fixtures used to support overhead distribution conductors and service wires. Specific items are anchors, brackets, cross arms, wood and steel poles, towers and transformer racks. Most of the poles across the system are made of wood but there are a few steel poles in use. The height of these assets can range generally from 30 feet to 70 feet with the prevalent sizes being 35 feet and 40 feet. The current plant balance in the account is \$91.1 million. The currently approved life for this account is a 40 year life with a S5 dispersion. The Company has sustained the life of poles by its inspection and treatment program. Ten percent of the poles are inspected annually, so that over 10 year period all poles have been evaluated. Relocations are consistent through time and projected to be steady. The Company changed specifications on poles to pine in the 1990s. Originally Company personnel thought the life of poles would decrease but inspection and treatment programs in place are maintaining the life of this account. In addition, the Minnesota environment helps the longevity of poles. The S6 dispersion is the best ranked curve for all bands. The plot of the 40 S6 curve shows a good fit over the entire life of the account. This study recommends retaining the approved 40 year life with a S6 dispersion for this account. The Final Order in Docket E015-D-08-422 specified that life for this account remain at 40 years. In this account, 40 years is supported by life analysis and Company subject matter experts.

**Allete Account 3640  
Actual vs Simulated Balance 40 S6**



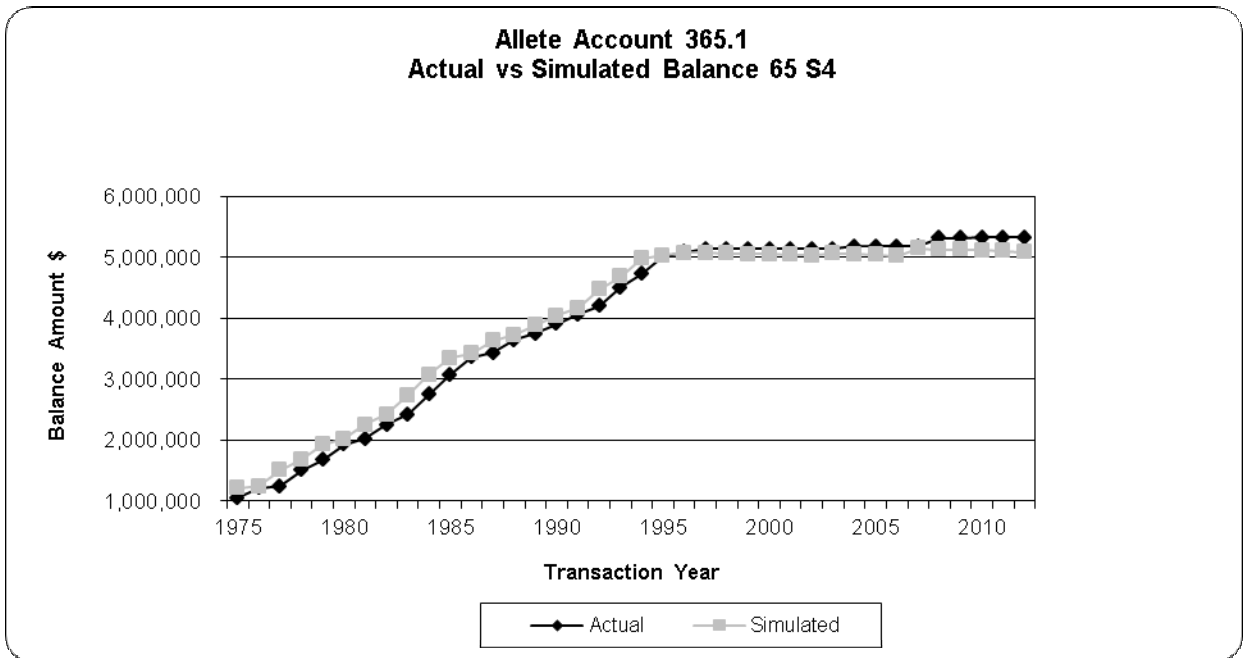
### FERC Account 3650 Distribution Overhead Conductor (41 S6)

This account includes the cost of overhead conductors and devices used for distribution purposes including conductors, ground wire insulators, reclosers, highway crossing guards, switches and other line devices. The current plant balance in the account is \$77.6 million. The currently approved life for this account is 40 S6. The S6 dispersion is the best ranked curve for most bands. The plot of the 41 S6 curve shows a good fit over the entire life of the account. This study recommends moving to a 41 year life and S6 dispersion for this account.



### FERC Account 3651 Clearing Land and Rights of Way (65 S4)

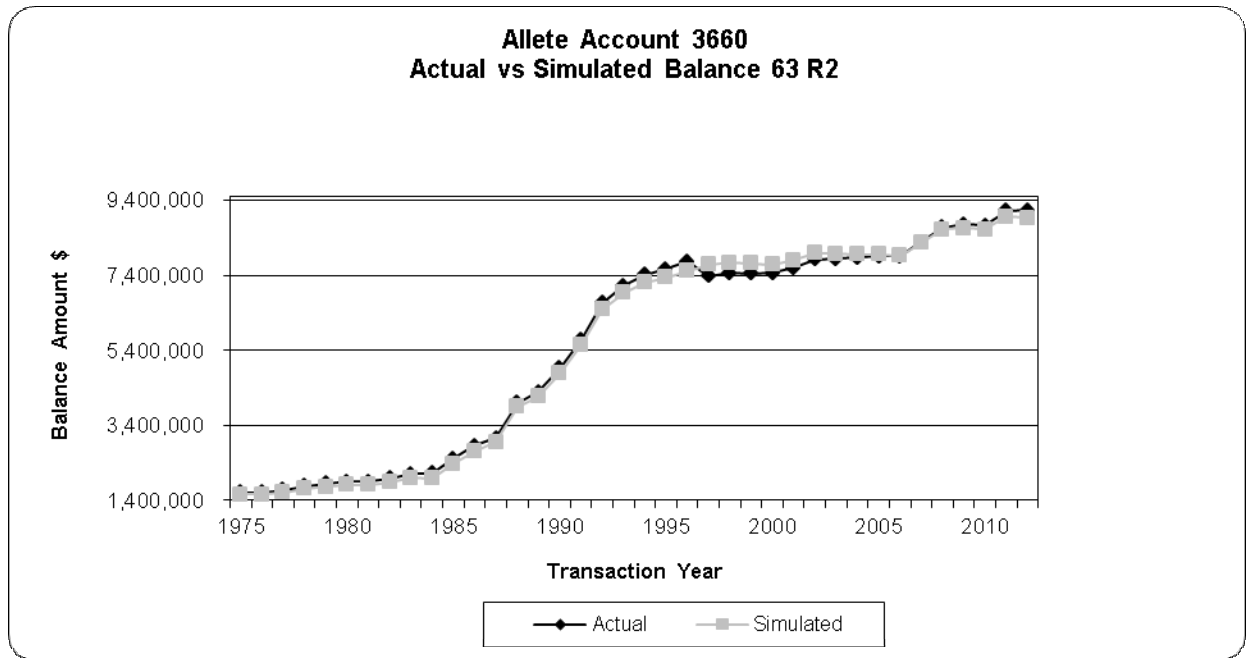
This account consists of land obtained for distribution facilities and cost to clear such land. It is retired when at least one mile of right of way is retired. The current plant balance in the account as of 2011 is \$5.3 million. The currently approved life estimate is 65 S4. Insufficient transactional information was available to analyze this account using SPR analysis. Judgment was used to retain the approved 65 year life with an S4 dispersion for this account.





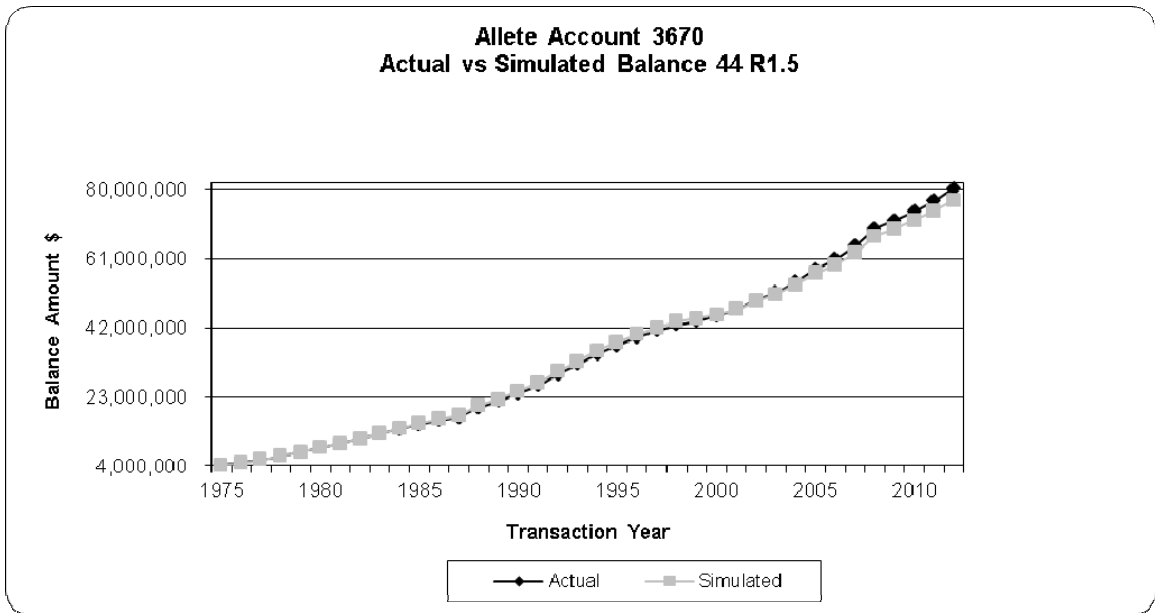
### FERC Account 3660 Distribution Underground Conduit (63 R2)

This account includes the cost of underground conduit and tunnels used for housing distribution, cables or wires. Specifically it consists of conduit, excavation, foundations and settings, lighting systems, manholes, sewer connections, pumps and ventilation equipment. The current plant balance in the account is \$9.1 million. The currently approved life estimate is 63 R2. The Company replaces a small portion of the underground system each year. No life and curve combination produced good results for the longer bands. Although with only a fair to good CI but an excellent REI in the shorter bands, the R2 dispersion was the highest ranked curve with an excellent REI. The plot of the 63 R2 curve shows a good fit over the entire life of the account. This study recommends retaining the approved 63 year life with an R2 dispersion for this account.



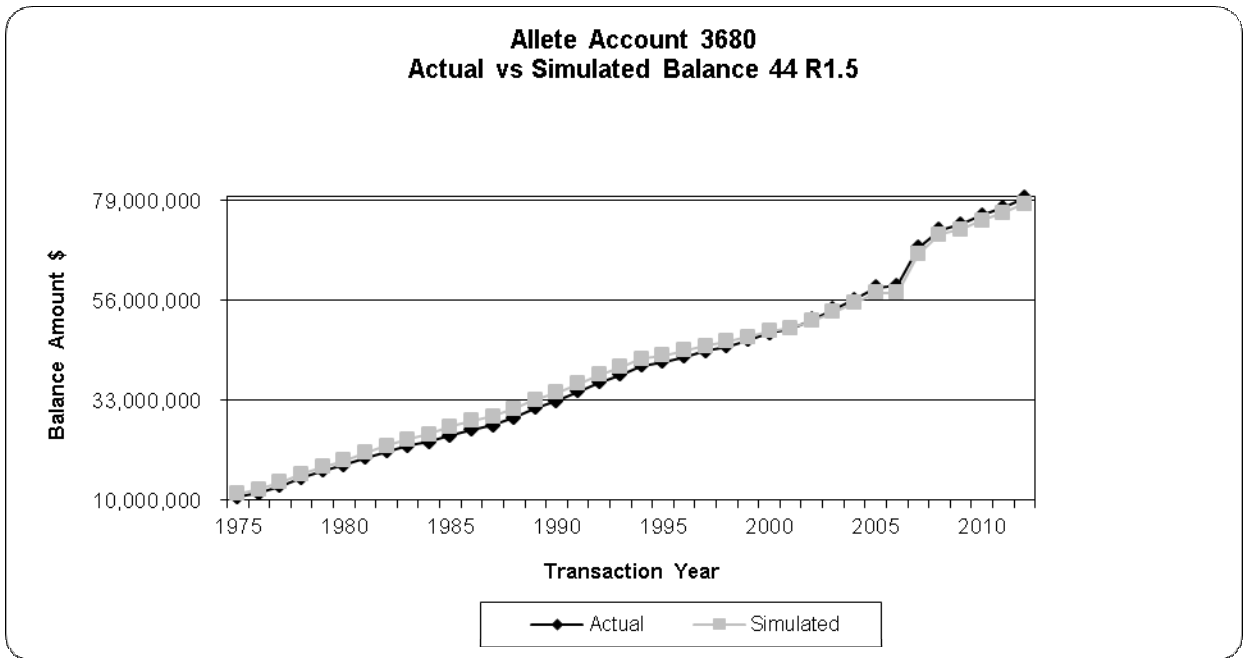
### FERC Account 3670 Distribution Underground Conductor (44 R1.5)

This account includes the cost of underground conductors and devices used for distribution, specifically: armored conductors, cables, circuit breakers, hollow core oil-filled cable, pressure tanks, air tanks, switches and other line devices. The current plant balance in the account is \$80.3 million. The currently approved life estimate is 44 R1.5. The Company does not use cable cure. When assets are at the age that treatment would be effective, the preferred option is to replace the equipment which consists of old spec XLP and bare concentric conductor. The Company has used EPR for the last 25 years. The major reasons the EPR equipment fails are installation related issues and dig-ins. Company personnel do not recommend moving beyond 44 years until more experience with EPR is known. The plot of the 44 R1.5 curve shows a good fit over the entire life of the account. This study recommends retaining the approved 44 year life with a R1.5 dispersion for this account.



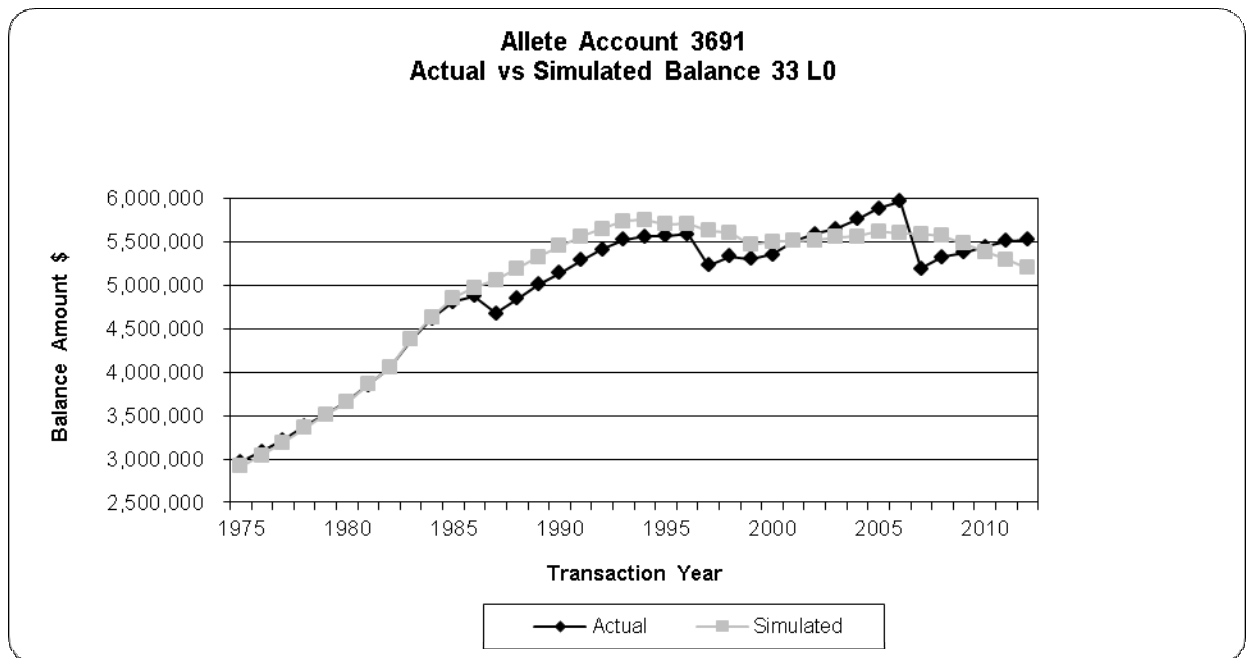
### FERC Account 3680 Distribution Line Transformer (44 R1.5)

This account includes the cost of overhead and underground distribution line transformers, pull type and underground voltage regulators, capacitors and network protectors. The current plant balance in the account is \$79.1 million. The currently approved life is 42 R1.5. Company personnel report changed transformer specifications to DOE spec for efficiency. They do not anticipate that would have much change in the life for this account. The plot of the 44 R1.5 curve shows a good fit over the entire life of the account. This study recommends moving from the approved 42 year life to a 44 year life and retaining a R1.5 dispersion for this account.



### FERC Account 3691 Distribution Services-Overhead (33 L0)

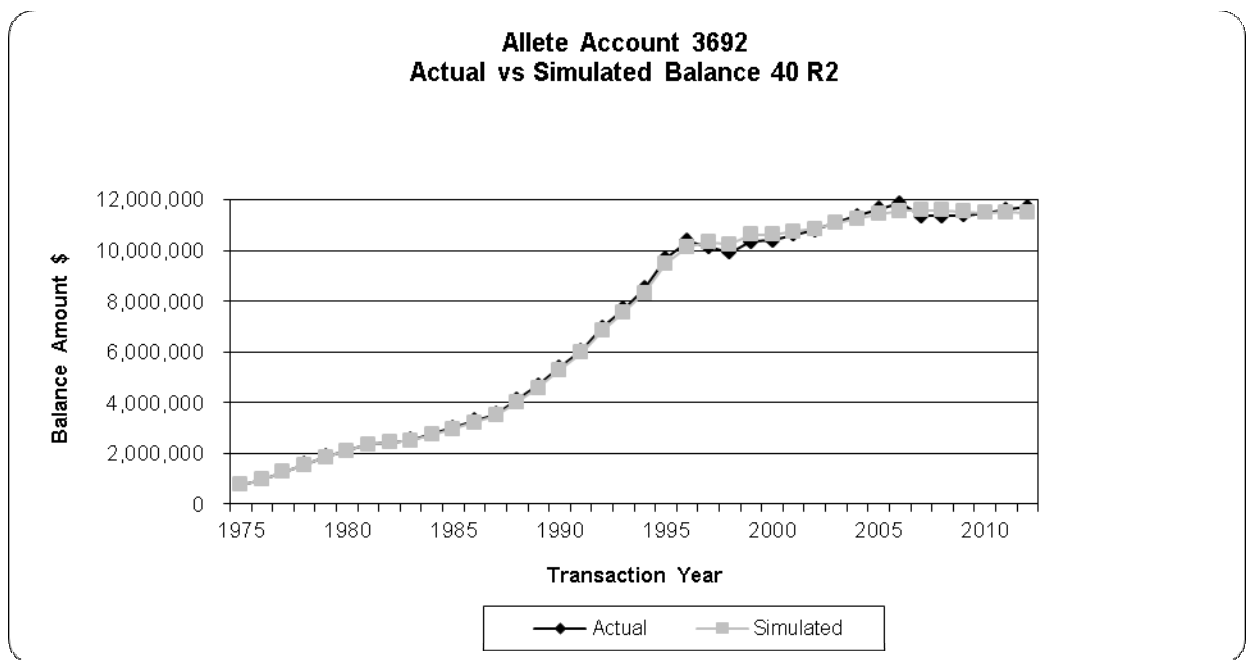
This account includes the cost of overhead conductors leading from a point where wires leave the last pole of the overhead system or to the point of connection with the customer's outlet or wiring. Specifically, the items are brackets, cables and wires, insulators, and suspension wire. The current plant balance in the account is \$6.7 million. The currently approved life for this account is 30 R0.5. Company personnel do not believe that much has changed with overhead services, and they anticipate a shorter life for overhead equipment. Storm damage and icing are among the primary causes for failure of overhead services. The CI is poor for all but the very shortest bands. The L0 dispersion was ranked highly with excellent REI for all bands. The plot of the 33 L0 curve shows a good fit over the entire life of the account. This study recommends moving from the current 30 year life with a R0.5 dispersion to a 33 L0 dispersion for this account.



## FERC Account 3692 Distribution Services- Underground (40 R2)

This account includes the cost of underground conductors leading to a point where wires leave the distribution box or manhole to the point of connection with customer's outlet or wiring. Conduit used for underground service conductors is included. Specifically, the items are brackets, cables and wires, conduit, insulators and pavement disturbed. The current plant balance in the account is \$11.6 million. The currently approved life for this account is 41 R2. Company personnel report that underground services became more common in the 1980s. In 1995, "lot line" became the standard. The customer owns conductor from meter pedestal to house.

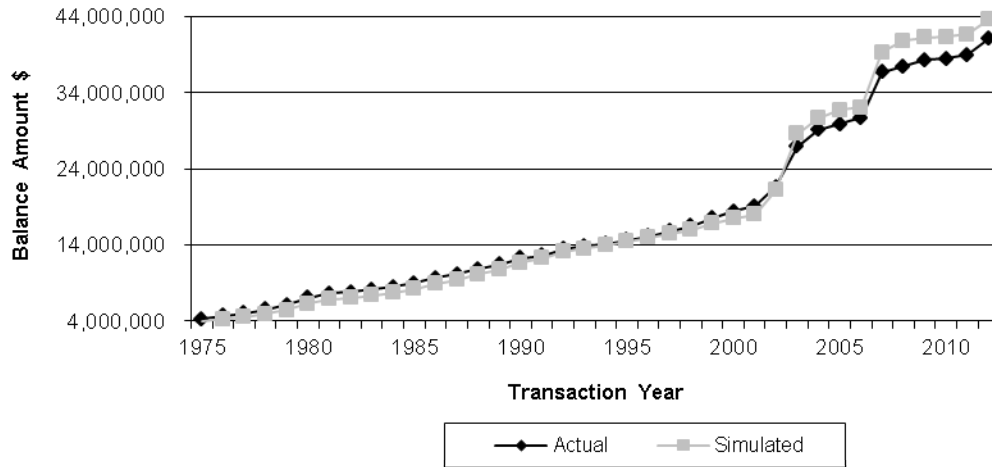
Service is from secondary to meter pedestal. Before this change, 125 feet was the average service length, with lot line metering at 25 feet or less. Although with only a fair to good CI for nearly all bands but with an excellent REI, the 40 year life with an R2 dispersion was the highest ranked curve with the best REI for all bands. The plot of the 40 R2 curve shows a good fit over the entire life of the account. This study recommends moving from the approved 41 year life to a 40 year life while retaining the R2 dispersion for this account.



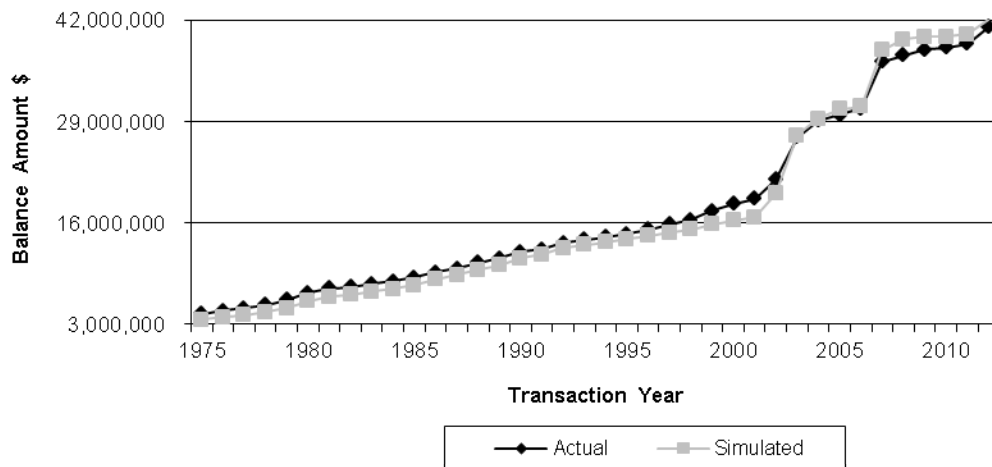
### **FERC Account 370 Distribution Meters (24 S6)**

This account includes the cost of meters or devices used in measuring electricity delivered to its users. The current plant balance in the account is \$45.5 million. The currently approved life for this account is 24 S6. Minnesota Power recently changed out its meters from electromechanical to electronic meters. The life cycle of electronic meters is generally thought to be from 10 to 20 years. The Company is in the process of purchasing AMI meters. In the last two years, they have been working on a smart grid program which is 50% DOE funded. AMR meters are failing at a very high rate. From 2001-2006, the majority of the activity was a retrofit of electromechanical meters. In 2008, The Company piloted a new generation – RF based system. (AMR – Powerline carrier – one way read, AMI - RF system – two way read). Since 2008, all are electronic meters. 99.8% of meters are automated. When electronic component fails, they will junk electromechanical meter and replace with a digital meter. The Final Order in Docket E015-D-08-422 specified that life for this account remain at 24 years. In this account, SPR analysis shows a 22 year life with an S6 dispersion. In compliance with the Final Order, this study uses a 24 year life with an S6 dispersion of this account. This study recommends that Minnesota Power monitor its meter life in future studies to take into account the impact of electronic meters. Below two graphs are shown: the first is the Final Order recommended life and dispersion. The second is a shorter life, 22 S6, which matches recent experience since the last study better than the ordered life and dispersion.

**Allete Account 3700  
Actual vs Simulated Balance 24 S6**

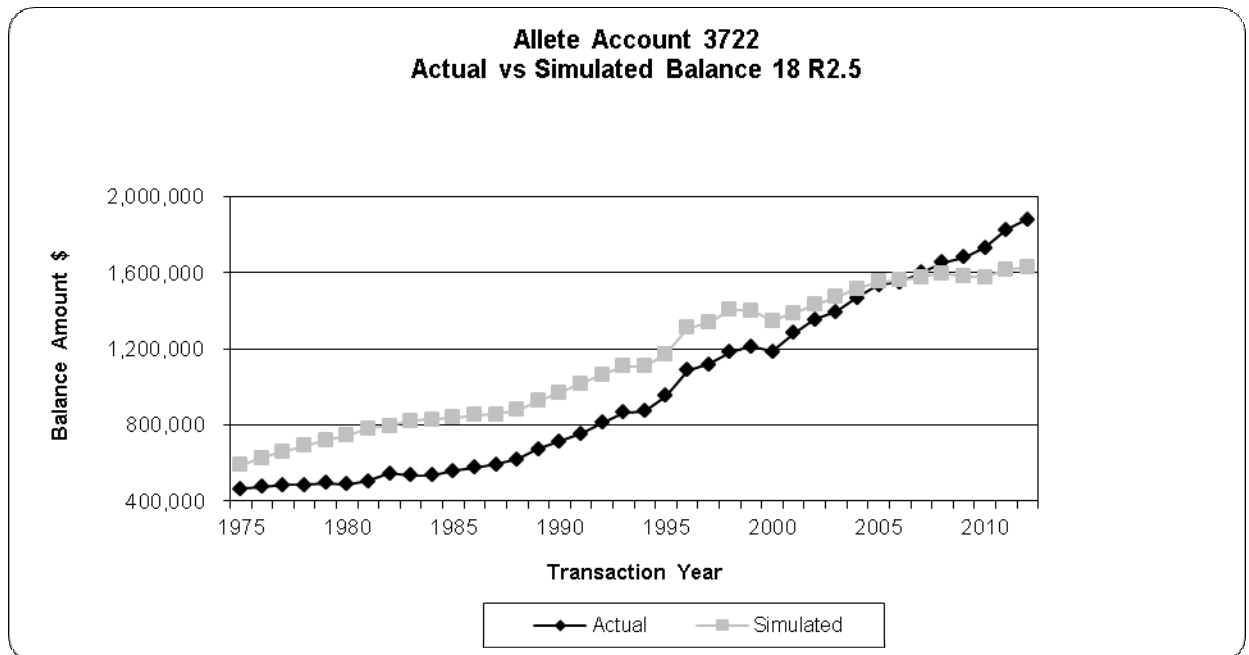


**Allete Account 3700  
Actual vs Simulated Balance 22 S6**



## FERC Account 3722 Leased Property on Customer Premises - Lighting (18 R2.5)

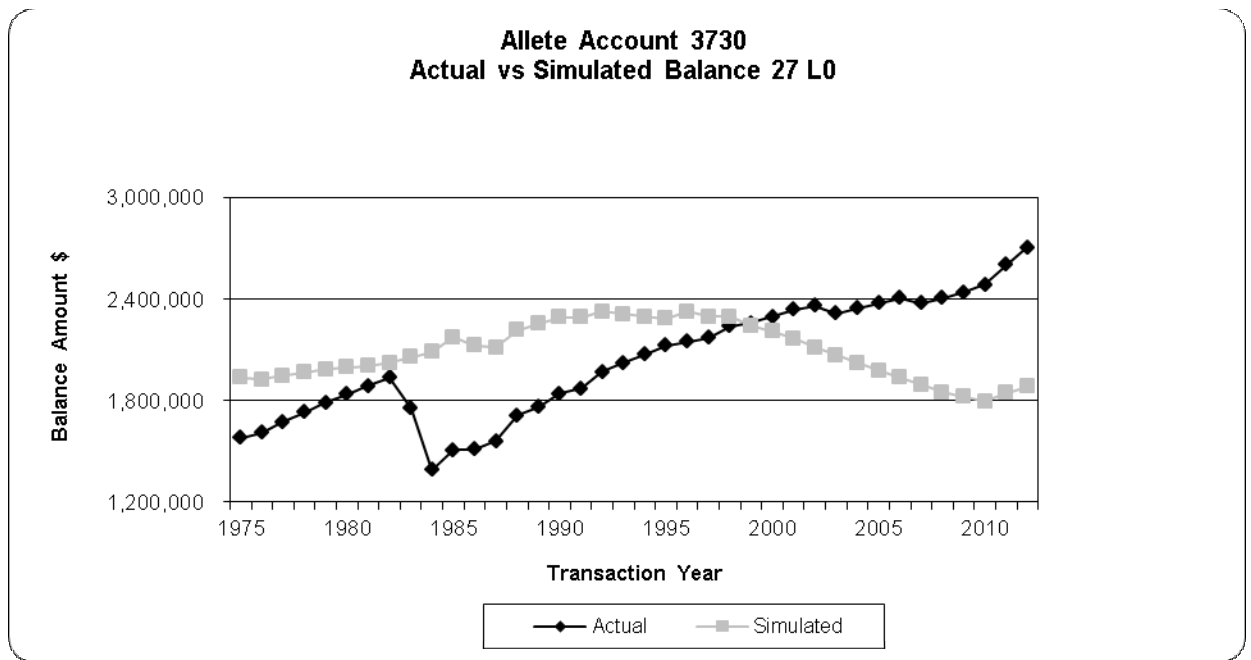
This account includes the costs of lighting fixtures leased to customers but not including property held for sale. The current plant balance in the account is \$1.9 million. The current life is 14 S6. The SPR analysis shows a shift in the characteristics of this account between 1977 and 1982. Since last rate case, the Company has changed from four options in lighting to two. They will junk the equipment when it is pulled. There has been little change in luminaires. The Company no longer offers mercury vapor and uses HPS as the standard. The CI was uniformly poor for all bands. Although poor, the CI seems to indicate a low to medium modal dispersion with a longer life than the currently approved 14 years. The plot of the 18 R2.5 curve shows a reasonably good fit over significant portions of the life of the account. Therefore, this study recommends an 18 year life with a R2.5 dispersion.





### FERC Account 3730 Distribution Street Lighting and Signal Systems (27 L0)

This account includes the cost of equipment used wholly for public street and highway lighting or traffic, fire alarm, police and other signal systems. The current plant balance in the account is \$2.8 million. The current life is 20 L0. Equipment in this account is moving from mercury vapor to HPS. SPR results show a low modal curve with a longer life than the currently approved 20 year life. The CI was uniformly poor for all bands. No curve plot matches well. This study recommends moving to a 27 year life with a L0 dispersion.



## Salvage Analysis

When a capital asset is retired, physically removed from service, and finally disposed of, terminal retirement is said to have occurred. The residual value of a terminal retirement is called gross salvage. Net salvage is the difference between the gross salvage (what the asset was sold for) and the removal cost (cost to remove and dispose of the asset).

Gross salvage and cost of removal related to retirements are recorded to the general ledger in the accumulated provision for depreciation at the time retirements occur within the system.

Net salvage data by plant account for Transmission and Distribution plant is shown in Appendix D. Removal cost percentages are calculated by dividing the current cost of removal by the original installed cost of the asset. Some plant assets can experience significant negative removal cost percentages due to the timing of the addition versus the retirement. For example, a Transmission asset in FERC Account 356 with a current installed cost of \$500 (2012) would have had an installed cost of \$55<sup>4</sup> in 1957. A removal cost of \$50 for the asset calculated (incorrectly) on current installed cost would only have a negative 10 percent removal cost (\$50/\$500). However, a correct removal cost calculation would show a negative 102.0 percent removal cost for that asset (\$50/\$49). Inflation from the time of installation of the asset until the time of its removal must be taken into account in the calculation of the removal cost percentage because the depreciation rate, which includes the removal cost percentage, will be applied to the original installed cost of assets.

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4 Using the Handy-Whitman Bulletin No. 176, E-3, line 37, \$49 = \$500 x 64/ 658.

## **Salvage - Transmission Property**

Increasing levels of removal cost are experienced in nearly all accounts in this function. As seen in the salvage analysis, nearly all accounts have exhibited a swing in salvage received and removal cost in the last 24 years. The salvage received for retired assets has decreased over that time while the removal cost of assets has increased. Also, asset lives have generally lengthened over the past 24 years which has the effect of increasing the net removal cost (creating a more negative net salvage percentage) for the assets.

Moving averages, which smooth out yearly fluctuations between retirements and net salvage, are used to examine data over the 1988 to 2012 period and determine net salvage estimates for each account. Detailed analysis and results by account are shown in Appendix D and individual account results are discussed below.

### **FERC Account 3520 Transmission Substation Structures and Improvements (- 10%)**

The currently approved net salvage for this account is negative 10 percent. This account has seen few retirements in recent years. The ten year average is negative 11.34 percent through 2009 and the full history shows a negative 18.5 percent net salvage. This study recommends retaining a negative 10 percent net salvage for this account.

### **FERC Account 3530 Transmission Station Equipment (- 12%)**

The currently approved net salvage for this account is negative 10 percent. There has been a consistent level of retirement over the entire history of this account. Salvage has dropped off in recent years. The five and ten year averages are negative 22.17 percent and negative 16.84 percent, respectively. This study recommends a conservative move to negative 12 percent net salvage for this account.

### **FERC Account 3531 Reserve Station Transformers (0%)**

This account contains reserve transformers used in a transmission substation. The currently approved net salvage for this account is 0 percent. There is no transactional history for this account. Generally, transformers are moved into the main 3530 account when placed in a field location. Therefore, this study recommends retaining 0 percent net salvage for this account.

### **FERC Account 3540 Transmission Tower and Fixtures (- 10%)**

The currently approved net salvage for this account is negative 10 percent. The five and ten year averages are negative 245.81 percent and negative 210.79 percent, respectively. Retirements in this account are sparse, and the net salvage results from history exceed net salvage rates for this account by other electric utilities. Judgment was used to retain the approved negative 10 percent salvage for this account.

### **FERC Account 3550 Transmission Poles and Fixtures (-35%)**

The currently approved net salvage for these accounts is negative 23 percent. The five and ten year averages are negative 86.92 percent and negative 46.31 percent, respectively. This study recommends moving from the currently approved negative 23 percent net salvage to a negative 35 percent net salvage for this account.

### **FERC Account 3560 Transmission Overhead Conductor (- 30%)**

The currently approved net salvage for this account is negative 23 percent. The five and ten year averages are negative 96.58 percent and negative 39.70. This study recommends moving from the currently approved negative 23 percent net salvage to a negative 30 percent net salvage for this account.

**FERC Account 3561 Clearing Land and Rights of Way (0%)**

This account clearing land and rights of way associated with transmission properties. The current approved life for this account is 0 percent. Based on judgment, the same net salvage percent of 0 is retained for this account.

**FERC Account 358 Transmission Underground Conductor (0%)**

This account consists of underground conductor used in in Wind Assets (at the Company's BISON and Tac Ridge facilities) and also at the Minntac 230/155kV substation. This account was not included in the last depreciation study. The Company input a rate into the accounting system in 2000 with negative 20 percent net salvage, based on overhead conductor's parameter at that time. Typically these assets are abandoned in place. This study recommends 0 percent net salvage for this account.

**FERC Account 3590 Roads and Trails (0%)**

This account consists of roads and trails associated with transmission properties. The currently approved net salvage for this account is 0 percent. Based on judgment, the same net salvage percent of 0 is retained for this account.

## **Salvage - Distribution Property**

Increasing levels of removal cost are experienced in all accounts in this function. As seen in the salvage analysis, many accounts have exhibited a significant swing in salvage received and removal cost in recent years. The salvage received for retired assets has decreased over that time while the removal cost of assets has increased dramatically. As discussed earlier, conversion to a new property accounting system as well as a change in pricing methodology renders data from 2001-2007 different than data from prior periods. An adjustment was made to distribution accounts to adjust the price of retired assets using average pricing. After making this adjustment for consistency, adjusted net salvage data was analyzed.

Moving averages, which smooth out yearly fluctuations between retirements and net salvage, are used to examine data over the 1988 to 2012 period and determine net salvage estimates for each account. Detailed analysis and results by account are shown in Appendix D and individual account results are discussed below.

### **FERC Account 3610 Distribution Substation Structures and Improvements (- 15%)**

The currently approved net salvage for this account is negative 15 percent. The five and ten year averages are negative 128.07 percent and negative 128.11. Although the averages appear to be increasing, there is very little activity in this account. The last 6 years (with less than \$59,000 in retirements) are driving the increasingly negative net salvage. Many of the prior years reflect a slightly less negative net salvage (in the negative 15 percent range). This study recommends retaining the currently approved negative 15 percent net salvage for this account.

### **FERC Account 3620 Distribution Substation Equipment (- 25%)**

The currently approved net salvage for this account is negative 25 percent. The five and ten year averages are negative 31.16 percent and negative 24.10. Many of the prior-year rolling net salvage percentages in bands of 5 years or greater are at or above negative 25 percent. This study recommends retaining the currently approved negative 25 percent net salvage for this account.

### **FERC Account 3621 Reserve Distribution Substation Transformers (0%)**

This account contains reserve transformers used in a distribution substation. The currently approved net salvage for this account is 0 percent. There is little salvage or removal cost reflected in this account. Generally, transformers are moved into the main 3620 account when placed in a field location. Therefore, this study recommends retaining the 0 percent net salvage for this account.

### **FERC Account 3640 Distribution Poles, Towers, and Fixtures (- 50%)**

The currently approved net salvage for this account is negative 40 percent. The five and ten year averages are negative 425.70 percent and negative 295.68 percent, respectively, and the full history shows a negative 111.58 percent net salvage. With the implementation of the CUE work management system in the early 2000's, removal cost has been more effectively captured for distribution accounts. However, this account is also significantly affected by the FIFO accounting treatment in the past few years. Therefore, this study recommends a conservative move from the currently approved negative 40 percent net salvage to a negative 50 percent net salvage for this account.

### **FERC Account 365 Distribution Overhead Conductor and Devices (- 50%)**

The currently approved net salvage for this account is negative 40 percent. The five and ten year averages are negative 200.24 percent and negative 289.91 percent, respectively, and the full history shows a negative 82.68 percent net salvage. With the implementation of the CUE work management system in the early 2000's, removal cost has been more effectively captured for distribution accounts. However, this account is also significantly affected by the FIFO accounting treatment in the past few years. Therefore, this study recommends a conservative move from the currently approved negative 40 percent net salvage to a negative 50 percent net salvage for this account.

### **FERC Account 3651 Clearing Land and Rights of Way (0%)**

This account consists of Distribution clearing land and rights of way. The current approved life for this account is 0 percent. Based on judgment, the same net salvage percent of 0 is retained for this account.

### **FERC Account 3660 Distribution Underground Conduit (- 10%)**

The currently approved net salvage for this account is 0 percent. The five and ten year averages are negative 297.22 percent and negative 269.31 percent, respectively, and the full history shows an 11.47 percent net salvage. This study recommends moving from the currently approved 0 percent net salvage to negative 10 percent net salvage for this account.



**FERC Account 3670 Distribution Underground Conductor and Devices (- 22%)**

The currently approved net salvage for this account is negative 22 percent. The five and ten year averages are negative 21.66 percent and negative 24.97 percent net salvage. This study recommends retaining the currently approved negative 22 percent net salvage for this account.

**FERC Account 3680 Distribution Line Transformers (-13%)**

The currently approved net salvage for this account is negative 13 percent. The five and ten year averages are negative 4.05 percent and negative 8.24 percent, respectively. The Final Order in Docket E015-D-08-422 specified that the net salvage percentage for this account is to remain negative 13 percent. In complying with this requirement, this study recommends retaining the approved negative 13 percent net salvage and reexamining this issue in the Company's next depreciation study. From current indications, the net salvage in this account has declined from the ordered net salvage percentage.

**FERC Account 3691 Overhead Distribution Services (- 50%)**

The currently approved net salvage for this account is negative 50 percent. The five and ten year averages are negative 654.09 percent and negative 54.35 percent. This study recommends retaining currently approved negative 50 percent net salvage for this account.

**FERC Account 3692 Underground Distribution Services (- 5%)**

The currently approved net salvage for this account is negative 8 percent. The five and ten year averages are negative 16.25 percent and negative 5.80 percent, respectively. This study recommends moving from the currently approved negative 8 percent net salvage to a negative 5 percent net salvage for this account.

**FERC Account 3700 Distribution Meters (0%)**

The currently approved net salvage for this account is 0 percent. The five and ten year averages are negative 0.91 percent and negative 0.45 percent, respectively. This study recommends retaining the currently approved 0 percent net salvage for this account.

**FERC Account 3722 Distribution Installation on Customer Premises (- 60%)**

The currently approved net salvage for this account is negative 35 percent. The five and ten year averages are negative 71.27 percent and negative 60.37 percent, respectively. This study recommends moving from the currently approved negative 35 percent net salvage to a negative 60 percent net salvage for this account.

**FERC Account 3730 Distribution Street Lighting (- 35%)**

The currently approved net salvage for this account is negative 20 percent. The five and ten year averages are negative 207.77 percent and negative 58.70 percent, respectively. All of the rolling bands since the last study exhibit a greater than negative 20 percent net salvage. This study recommends moving from the currently approved negative 20 percent net salvage to a negative 35 percent net salvage for this account.

**APPENDIX A**  
**Depreciation Rate Calculations**

**Minnesota Power  
Computation of Depreciation Accrual Rate**

<b>Account</b>	<b>Description</b>	<b>Surviving Balance 12/31/2012</b>	<b>Accumulated Depreciation 12/31/2012</b>	<b>Net Salvage %</b>	<b>Net Salvage Amount</b>	<b>Unaccrued Balance</b>	<b>Remaining Life</b>	<b>Annual Accrual</b>	<b>Accrual Rate</b>
3520	Structures and Improvements	9,493,913	2,890,785	-10%	(949,391)	7,552,519	30.55	247,243	2.60%
3530	Station Equipment	221,306,591	80,058,181	-12%	(26,556,791)	167,805,200	27.43	6,117,346	2.76%
3531	Reserve Station Transformers	2,178,237	1,689,177	0%	0	489,060	13.75	35,570	1.63%
3540	Towers & Fixtures	26,118,753	15,650,757	-10%	(2,611,875)	13,079,871	25.82	506,676	1.94%
3550	Poles & Fixtures	96,966,261	40,577,486	-35%	(33,938,191)	90,326,967	37.20	2,428,148	2.50%
3560	Overhead Conductors & Devices	61,726,355	31,448,671	-30%	(18,517,907)	48,795,590	27.46	1,777,184	2.88%
3561	Clearing Land & Rights of Way	10,322,486	6,073,138	0%	0	4,249,348	33.09	128,436	1.24%
3580	Underground Conduit	2,988,455	158,921	0%	0	2,829,534	46.27	61,156	2.05%
3590	Roads and Trails	58,614	24,110	0%	0	34,504	34.90	989	1.69%
	Subtotal Transmission	<u>431,159,665</u>	<u>178,571,226</u>		<u>(82,574,156)</u>	<u>335,162,595</u>		<u>11,302,747</u>	
3610	Structures and Improvements	5,681,462	3,065,376	-15%	(852,219)	3,468,304	38.66	89,716	1.58%
3620	Station Equipment	59,317,695	24,715,074	-25%	(14,829,424)	49,432,045	33.31	1,484,179	2.50%
3621	Reserve Station Transformers	1,258,085	565,821	0%	0	692,265	24.63	28,107	2.23%
3640	Poles, Towers and Fixtures	91,143,079	49,575,189	-50%	(45,571,539)	87,139,429	21.97	3,965,490	4.35%
3650	Overhead Conductors & Devices	77,613,956	43,350,973	-50%	(38,806,978)	73,069,961	20.90	3,495,630	4.50%
3651	Clearing Land & Rights of Way	5,334,326	2,676,338	0%	0	2,657,988	34.57	76,878	1.44%
3660	Underground Conduit	9,140,238	3,569,195	-10%	(914,024)	6,485,067	42.55	152,414	1.67%
3670	Underground Conductors & Devices	80,308,143	27,876,053	-22%	(17,667,791)	70,099,881	32.62	2,148,986	2.68%
3680	Line Transformers	79,078,215	28,220,684	-13%	(10,280,168)	61,137,699	31.76	1,925,160	2.43%
3691	Services- Overhead	6,734,064	4,353,663	-50%	(3,367,032)	5,747,434	21.92	262,260	3.89%
3692	Services- Underground	11,590,524	5,659,260	-5%	(579,526)	6,510,791	24.50	265,788	2.29%
3700	Meters	45,515,894	16,379,029	0%	0	29,136,865	13.92	2,092,636	4.60%
3722	Leased Property on Cust. Prem- Light	1,897,008	1,926,787	-60%	(1,138,205)	1,108,427	9.04	122,582	6.46%
3730	Street Lighting and Signal Systems	2,791,556	2,280,072	-35%	(977,045)	1,488,529	16.63	89,508	3.21%
	Subtotal Distribution	<u>477,404,247</u>	<u>214,213,514</u>		<u>(134,983,952)</u>	<u>398,174,685</u>		<u>16,199,334</u>	
	Total	<u>908,563,912</u>	<u>392,784,740</u>		<u>(217,558,107)</u>	<u>733,337,279</u>		<u>27,502,081</u>	

**APPENDIX B**  
**Recommended Changes in Lives and Salvage**

**Minnesota Power  
Comparison of Life and Net Salvage Parameters**

Account	Description	Present			Proposed		
		Life	lowa Curve	Net Salvage	Life	lowa Curve	Net Salvage
3520	Structures and Improvements	50	S5	-10%	54	S5	-10%
3530	Station Equipment	42	R3	-10%	44	R4	-12%
3531	Reserve Station Transformers	42	R3	0%	44	R4	0%
3540	Towers & Fixtures	60	R4	-10%	55	R5	-10%
3550	Poles & Fixtures	50	R3	-23%	54	R3	-35%
3560	Overhead Conductors & Devices	53	R5	-23%	55	S5	-30%
3561	Clearing Land & Rights of Way	61	S6	0%	67	S6	0%
3580	Underground Conduit	*		-20%	50	R3	0%
3590	Roads and Trails	60	R3	0%	60	R3	0%
3610	Structures and Improvements	58	S6	-15%	60	S6	-15%
3620	Station Equipment	42	R1.5	-25%	46	R1	-25%
3621	Reserve Station Transformers	42	R1.5	0%	46	R1	0%
3640	Poles, Towers and Fixtures	40	S5	-40%	40	S6	-50%
3650	Overhead Conductors & Devices	40	S6	-40%	41	S6	-50%
3651	Clearing Land & Rights of Way	65	S4	0%	65	S4	0%
3660	Underground Conduit	63	R2	0%	63	R2	-10%
3670	Underground Conductors & Devices	44	R1.5	-22%	44	R1.5	-22%
3680	Line Transformers	42	R1.5	-13%	44	R1.5	-13%
3691	Services- Overhead	30	R0.5	-50%	33	L0	-50%
3692	Services- Underground	41	R2	-8%	40	R2	-5%
3700	Meters	24	S6	0%	24	S6	0%
3722	Leased Property on Cust. Prem- Ligh	14	S6	-35%	18	R2.5	-60%
3730	Street Lighting and Signal Systems	20	L0	-20%	27	L0	-35%

\*Account 3580 was not included in the last depreciation study. The Company based the life for that account on the life and net salvage from Account 3560 in 2000 depreciaton study.

**APPENDIX C**  
**Recommended Change in Depreciation Accrual**

**Minnesota Power  
Comparison of Depreciation Expense- Present Rates vs. Proposed**

<b>Acct</b>	<b>Acct Description</b>	<b>Plant at 12/31/2012</b>	<b>Present Accrual Rate</b>	<b>Proposed Accrual Rate</b>	<b>Depr Expense At Current Rates</b>	<b>Depr Expense At Proposed Rates</b>	<b>Difference</b>
352	Structures and Improvements	9,493,913	2.20%	2.60%	208,866	247,243	38,377
353	Station Equipment	221,306,591	2.69%	2.76%	5,953,147	6,117,346	164,198
3531	Reserve Station Transformers	2,178,237	2.08%	1.63%	45,307	35,570	(9,737)
354	Towers & Fixtures	26,118,753	1.60%	1.94%	417,900	506,676	88,776
355	Poles & Fixtures	96,966,261	2.41%	2.50%	2,336,887	2,428,148	91,261
356	Overhead Conductors & Devices	61,726,355	2.61%	2.88%	1,611,058	1,777,184	166,126
3561	Clearing Land & Rights of Way	10,322,486	1.48%	1.24%	152,773	128,436	(24,337)
358	Underground Conduit	2,988,455	2.40%	2.05%	71,723	61,156	(10,567)
359	Roads and Trails	58,614	1.72%	1.69%	1,008	989	(20)
361	Structures and Improvements	5,681,462	1.31%	1.58%	74,427	89,716	15,288
362	Station Equipment	59,317,695	2.98%	2.50%	1,767,667	1,484,179	(283,488)
3621	Reserve Station Transformers	1,258,085	2.95%	2.23%	37,114	28,107	(9,007)
364	Poles, Towers and Fixtures	91,143,079	3.95%	4.35%	3,600,152	3,965,490	365,338
365	Overhead Conductors & Devices	77,613,956	4.49%	4.50%	3,484,867	3,495,630	10,764
3651	Clearing Land & Rights of Way	5,334,326	1.45%	1.44%	77,348	76,878	(469)
366	Underground Conduit	9,140,238	1.33%	1.67%	121,565	152,414	30,848
367	Underground Conductors & Devices	80,308,143	2.71%	2.68%	2,176,351	2,148,986	(27,364)
368	Line Transformers	79,078,215	2.53%	2.43%	2,000,679	1,925,160	(75,519)
3691	Services- Overhead	6,734,064	5.96%	3.89%	401,350	262,260	(139,090)
3692	Services- Underground	11,590,524	2.33%	2.29%	270,059	265,788	(4,271)
370	Meters	45,515,894	4.49%	4.60%	2,043,664	2,092,636	48,972
3722	Leased Property on Cust. Prem- Light	1,897,008	13.26%	6.46%	251,543	122,582	(128,962)
373	Street Lighting and Signal Systems	2,791,556	1.96%	3.21%	54,714	89,508	34,793
		<b>908,563,912</b>			<b>27,160,169</b>	<b>27,502,081</b>	<b>341,912</b>



**APPENDIX D**  
**Net Salvage Analysis by Account**

Minnesota Power Transmission and Distribution Power  
Net Salvage

Transaction Year	Description	Retirements	Gross Salvage	Cost of Removal	Net Salvage	Net Salv. %	2- yr Net Salv. %	3- yr Net Salv. %	4- yr Net Salv. %	5- yr Net Salv. %	6- yr Net Salv. %	7- yr Net Salv. %	8- yr Net Salv. %	9- yr Net Salv. %	10- yr Net Salv. %
1987	352.0 Structure And Improvements	0	0	0	0	NA									
1988	352.0 Structure And Improvements	0	0	0	0	NA	NA								
1989	352.0 Structure And Improvements	2,458	0	438	(438)	-17.81%	-17.81%	-17.81%							
1990	352.0 Structure And Improvements	0	0	0	0	NA	-17.81%	-17.81%	-17.81%						
1991	352.0 Structure And Improvements	7,050	0	104	(104)	-1.47%	-1.47%	-5.69%	-5.69%	-5.69%					
1992	352.0 Structure And Improvements	25	0	825	(825)	-3254.48%	-13.13%	-13.13%	-14.33%	-14.33%	-14.33%				
1993	352.0 Structure And Improvements	2,088	0	241	(241)	-11.55%	-50.44%	-12.77%	-12.77%	-13.83%	-13.83%	-13.83%			
1994	352.0 Structure And Improvements	123	0	0	0	0.00%	-10.90%	-47.65%	-12.60%	-12.60%	-13.69%	-13.69%	-13.69%		
1995	352.0 Structure And Improvements	21,233	0	6,081	(6,081)	-28.64%	-28.48%	-26.97%	-30.45%	-23.76%	-23.76%	-23.32%	-23.32%	-23.32%	
1996	352.0 Structure And Improvements	7,602	0	0	0	0.00%	-21.09%	-21.00%	-20.36%	-23.00%	-19.02%	-19.02%	-18.95%	-18.95%	-18.95%
1997	352.0 Structure And Improvements	0	0	0	0	NA	0.00%	-21.09%	-21.00%	-20.36%	-23.00%	-19.02%	-19.02%	-18.95%	-18.95%
1998	352.0 Structure And Improvements	0	0	0	0	NA	NA	0.00%	-21.09%	-21.00%	-20.36%	-23.00%	-19.02%	-19.02%	-18.95%
1999	352.0 Structure And Improvements	0	0	0	0	NA	NA	NA	0.00%	-21.09%	-21.00%	-20.36%	-23.00%	-19.02%	-19.02%
2000	352.0 Structure And Improvements	2,323	0	263	(263)	-11.34%	-11.34%	-11.34%	-11.34%	-2.65%	-20.36%	-20.28%	-19.74%	-22.19%	-18.58%
2001	352.0 Structure And Improvements	0	0	0	0	NA	-11.34%	-11.34%	-11.34%	-11.34%	-2.65%	-20.36%	-20.28%	-19.74%	-22.19%
2002	352.0 Structure And Improvements	0	0	0	0	NA	NA	NA	-11.34%	-11.34%	-11.34%	-2.65%	-20.36%	-20.28%	-19.74%
2003	352.0 Structure And Improvements	0	0	0	0	NA	NA	NA	-11.34%	-11.34%	-11.34%	-11.34%	-2.65%	-20.36%	-20.28%
2004	352.0 Structure And Improvements	0	0	0	0	NA	NA	NA	NA	-11.34%	-11.34%	-11.34%	-2.65%	-20.36%	
2005	352.0 Structure And Improvements	0	0	0	0	NA	NA	NA	NA	NA	-11.34%	-11.34%	-11.34%	-2.65%	
2006	352.0 Structure And Improvements	0	0	0	0	NA	NA	NA	NA	NA	NA	-11.34%	-11.34%	-11.34%	
2007	352.0 Structure And Improvements	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	-11.34%	-11.34%	
2008	352.0 Structure And Improvements	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	-11.34%	-11.34%
2009	352.0 Structure And Improvements	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	-11.34%
2010	352.0 Structure And Improvements	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2011	352.0 Structure And Improvements	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2012	352.0 Structure And Improvements	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1987	353.0 Station Equipment	154,645	2,923	27,415	(24,492)	-15.84%									
1988	353.0 Station Equipment	251,140	8,174	32,790	(24,617)	-9.80%	-12.10%								
1989	353.0 Station Equipment	50,325	427	8,470	(8,044)	-15.98%	-10.83%	-12.53%							
1990	353.0 Station Equipment	79,523	1,280	3,941	(2,661)	-3.35%	-8.24%	-9.27%	-11.17%						
1991	353.0 Station Equipment	195,956	2,573	9,932	(7,359)	-3.76%	-3.64%	-5.54%	-7.40%	-9.18%					
1992	353.0 Station Equipment	356,654	5,737	28,138	(22,401)	-6.28%	-5.39%	-5.13%	-5.93%	-6.97%	-8.23%				
1993	353.0 Station Equipment	324,970	38,123	29,204	8,919	2.74%	-1.98%	-2.37%	-2.46%	-3.13%	-4.46%	-5.71%			
1994	353.0 Station Equipment	201,015	14,470	50,618	(36,148)	-17.98%	-5.18%	-5.62%	-5.28%	-5.15%	-5.60%	-6.32%	-7.24%		
1995	353.0 Station Equipment	176,735	0	20,024	(20,024)	-11.33%	-14.87%	-6.72%	-6.58%	-6.13%	-5.97%	-6.33%	-6.87%	-7.64%	
1996	353.0 Station Equipment	394,837	14,528	76,577	(62,049)	-15.72%	-14.36%	-15.30%	-9.96%	-9.06%	-8.43%	-8.19%	-8.41%	-8.59%	-9.10%
1997	353.0 Station Equipment	858,357	4,758	42,443	(37,684)	-4.39%	-7.96%	-8.38%	-9.56%	-7.51%	-7.32%	-7.05%	-6.93%	-7.10%	-7.34%
1998	353.0 Station Equipment	596,801	108,600	161,654	(53,054)	-8.89%	-6.24%	-8.26%	-8.53%	-9.38%	-7.84%	-7.65%	-7.40%	-7.30%	-7.43%
1999	353.0 Station Equipment	1,837,278	0	204,882	(204,882)	-11.15%	-10.60%	-8.98%	-9.70%	-9.77%	-10.18%	-9.22%	-9.00%	-8.79%	-8.71%
2000	353.0 Station Equipment	834,009	240,620	70,048	170,571	20.45%	-1.28%	-2.67%	-3.03%	-4.14%	-4.41%	-4.97%	-4.49%	-4.60%	-4.57%
2001	353.0 Station Equipment	239,767	0	17,867	(17,867)	-7.45%	14.22%	-1.79%	-3.00%	-3.27%	-4.31%	-4.56%	-5.08%	-4.62%	-4.72%
2002	353.0 Station Equipment	483,666	0	88,907	(88,907)	-18.38%	-14.76%	4.10%	-4.16%	-4.86%	-4.78%	-5.60%	-5.79%	-6.23%	-5.74%
2003	353.0 Station Equipment	845,405	0	42,593	(42,593)	-5.04%	-9.89%	-9.52%	0.88%	-4.33%	-4.89%	-4.82%	-5.52%	-5.69%	-6.07%
2004	353.0 Station Equipment	584,534	0	105,787	(105,787)	-18.10%	-10.38%	-12.40%	-11.85%	-2.83%	-6.00%	-6.32%	-6.05%	-6.63%	-6.75%
2005	353.0 Station Equipment	263,271	0	21,753	(21,753)	-8.26%	-15.04%	-10.05%	-11.90%	-11.46%	-3.27%	-6.12%	-6.41%	-6.14%	-6.69%
2006	353.0 Station Equipment	986,257	0	154,581	(154,581)	-15.67%	-14.11%	-15.38%	-12.12%	-13.08%	-12.68%	-6.16%	-7.67%	-7.78%	-7.39%
2007	353.0 Station Equipment	813,488	0	118,524	(118,524)	-14.57%	-15.17%	-14.29%	-15.13%	-12.69%	-13.38%	-13.04%	-7.51%	-8.48%	-8.52%
2008	353.0 Station Equipment	629,789	0	126,588	(126,588)	-20.10%	-16.98%	-16.45%	-15.65%	-16.09%	-13.82%	-14.30%	-13.96%	-8.91%	-9.46%
2009	353.0 Station Equipment	257,562	0	55,495	(55,495)	-21.55%	-20.52%	-17.67%	-16.94%	-16.17%	-16.48%	-14.28%	-14.68%	-14.34%	-9.46%
2010	353.0 Station Equipment	467,563	0	232,415	(232,415)	-49.71%	-39.70%	-30.59%	-24.58%	-21.80%	-20.75%	-20.37%	-17.69%	-17.76%	-17.31%
2011	353.0 Station Equipment	706,378	0	137,893	(137,893)	-19.52%	-31.54%	-29.75%	-26.80%	-23.34%	-21.38%	-20.54%	-20.24%	-17.93%	-17.96%
2012	353.0 Station Equipment	660,272	0	50,880	(50,880)	-7.71%	-13.81%	-22.96%	-22.79%	-22.17%	-20.42%	-19.38%	-18.77%	-18.70%	-16.84%

Minnesota Power Transmission and Distribution Power  
Net Salvage

Transaction Year	Description	Retirements	Gross Salvage	Cost of Removal	Net Salvage	Net Salv. %	2- yr Net Salv. %	3- yr Net Salv. %	4- yr Net Salv. %	5- yr Net Salv. %	6- yr Net Salv. %	7- yr Net Salv. %	8- yr Net Salv. %	9- yr Net Salv. %	10- yr Net Salv. %
1993	353.1 Station Equipment - Reserve Eq	0	0	0	0	NA									
1994	353.1 Station Equipment - Reserve Eq	0	0	0	0	NA	NA								
1995	353.1 Station Equipment - Reserve Eq	0	0	0	0	NA	NA	NA							
1996	353.1 Station Equipment - Reserve Eq	0	0	0	0	NA	NA	NA	NA						
1997	353.1 Station Equipment - Reserve Eq	0	0	0	0	NA	NA	NA	NA	NA					
1998	353.1 Station Equipment - Reserve Eq	0	0	0	0	NA	NA	NA	NA	NA	NA				
1999	353.1 Station Equipment - Reserve Eq	0	0	0	0	NA	NA	NA	NA	NA	NA	NA			
2000	353.1 Station Equipment - Reserve Eq	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA		
2001	353.1 Station Equipment - Reserve Eq	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	
2002	353.1 Station Equipment - Reserve Eq	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2003	353.1 Station Equipment - Reserve Eq	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2004	353.1 Station Equipment - Reserve Eq	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2005	353.1 Station Equipment - Reserve Eq	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2006	353.1 Station Equipment - Reserve Eq	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2007	353.1 Station Equipment - Reserve Eq	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2008	353.1 Station Equipment - Reserve Eq	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2009	353.1 Station Equipment - Reserve Eq	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2010	353.1 Station Equipment - Reserve Eq	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2011	353.1 Station Equipment - Reserve Eq	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2012	353.1 Station Equipment - Reserve Eq	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1987	354.0 Towers And Fixtures	19,550	0	13,401	(13,401)	-68.55%									
1988	354.0 Towers And Fixtures	0	0	0	0	NA	-68.55%								
1989	354.0 Towers And Fixtures	0	0	0	0	NA	NA	-68.55%							
1990	354.0 Towers And Fixtures	0	0	0	0	NA	NA	NA	-68.55%						
1991	354.0 Towers And Fixtures	0	0	0	0	NA	NA	NA	NA	-68.55%					
1992	354.0 Towers And Fixtures	0	0	0	0	NA	NA	NA	NA	NA	-68.55%				
1993	354.0 Towers And Fixtures	0	0	0	0	NA	NA	NA	NA	NA	NA	-68.55%			
1994	354.0 Towers And Fixtures	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	-68.55%		
1995	354.0 Towers And Fixtures	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	-68.55%	
1996	354.0 Towers And Fixtures	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	-68.55%
1997	354.0 Towers And Fixtures	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1998	354.0 Towers And Fixtures	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1999	354.0 Towers And Fixtures	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2000	354.0 Towers And Fixtures	65,757	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
2001	354.0 Towers And Fixtures	0	0	0	0	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
2002	354.0 Towers And Fixtures	0	0	0	0	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
2003	354.0 Towers And Fixtures	0	0	0	0	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
2004	354.0 Towers And Fixtures	0	0	0	0	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
2005	354.0 Towers And Fixtures	0	0	0	0	NA	NA	NA	NA	NA	0.00%	0.00%	0.00%	0.00%	0.00%
2006	354.0 Towers And Fixtures	17,780	4,059	3,701	358	2.01%	2.01%	2.01%	2.01%	2.01%	2.01%	0.43%	0.43%	0.43%	0.43%
2007	354.0 Towers And Fixtures	0	0	0	0	NA	2.01%	2.01%	2.01%	2.01%	2.01%	2.01%	0.43%	0.43%	0.43%
2008	354.0 Towers And Fixtures	0	0	0	0	NA	NA	2.01%	2.01%	2.01%	2.01%	2.01%	2.01%	0.43%	0.43%
2009	354.0 Towers And Fixtures	48,466	0	5,568	(5,568)	-11.49%	-11.49%	-11.49%	-7.87%	-7.87%	-7.87%	-7.87%	-7.87%	-7.87%	-3.95%
2010	354.0 Towers And Fixtures	21,416	0	74,760	(74,760)	-349.09%	-114.95%	-114.95%	-114.95%	-91.23%	-91.23%	-91.23%	-91.23%	-91.23%	-91.23%
2011	354.0 Towers And Fixtures	30,099	2,275	94,016	(91,741)	-304.80%	-323.21%	-172.10%	-172.10%	-172.10%	-145.81%	-145.81%	-145.81%	-145.81%	-145.81%
2012	354.0 Towers And Fixtures	8,031	0	93,438	(93,438)	-1163.49%	-485.66%	-436.54%	-245.81%	-245.81%	-245.81%	-210.79%	-210.79%	-210.79%	-210.79%

Minnesota Power Transmission and Distribution Power  
Net Salvage

Transaction Year	Description	Retirements	Gross Salvage	Cost of Removal	Net Salvage	Net Salv. %	2- yr Net Salv. %	3- yr Net Salv. %	4- yr Net Salv. %	5- yr Net Salv. %	6- yr Net Salv. %	7- yr Net Salv. %	8- yr Net Salv. %	9- yr Net Salv. %	10- yr Net Salv. %
1987	355.0 Poles And Fixtures	129,158	29,063	135,447	(106,385)	-82.37%									
1988	355.0 Poles And Fixtures	95,240	1,638	33,880	(32,242)	-33.85%	-61.78%								
1989	355.0 Poles And Fixtures	65,328	6,728	27,563	(20,835)	-31.89%	-33.06%	-55.04%							
1990	355.0 Poles And Fixtures	67,612	12,710	105,876	(93,166)	-137.80%	-85.75%	-64.09%	-70.70%						
1991	355.0 Poles And Fixtures	204,964	15,165	99,077	(83,912)	-40.94%	-64.96%	-58.57%	-53.14%	-59.85%					
1992	355.0 Poles And Fixtures	385,133	9,032	195,330	(186,298)	-48.37%	-45.79%	-55.25%	-53.14%	-50.89%	-55.18%				
1993	355.0 Poles And Fixtures	141,587	10,337	94,238	(83,902)	-59.26%	-51.30%	-48.40%	-52.52%	-54.14%	-52.13%	-55.71%			
1994	355.0 Poles And Fixtures	129,984	23,359	65,977	(42,618)	-32.79%	-46.59%	-47.63%	-46.04%	-52.72%	-51.35%	-49.82%	-53.27%		
1995	355.0 Poles And Fixtures	64,861	1,200	46,934	(45,735)	-70.51%	-45.35%	-51.20%	-49.69%	-47.76%	-53.88%	-52.52%	-50.98%	-54.14%	
1996	355.0 Poles And Fixtures	94,466	2,858	56,927	(54,069)	-57.24%	-62.64%	-49.23%	-52.52%	-50.56%	-48.63%	-54.17%	-52.91%	-51.46%	-54.35%
1997	355.0 Poles And Fixtures	134,482	255	15,904	(15,649)	-11.64%	-30.45%	-39.30%	-37.30%	-42.80%	-45.06%	-44.33%	-49.49%	-48.60%	-47.59%
1998	355.0 Poles And Fixtures	68,951	42	27,281	(27,239)	-39.50%	-21.08%	-32.55%	-39.33%	-37.61%	-42.44%	-44.68%	-44.05%	-48.96%	-48.14%
1999	355.0 Poles And Fixtures	45,860	0	187,831	(187,831)	-409.57%	-187.33%	-92.55%	-82.85%	-80.89%	-69.28%	-67.19%	-60.39%	-57.25%	-61.32%
2000	355.0 Poles And Fixtures	71,829	0	36,226	(36,226)	-50.43%	-190.38%	-134.64%	-83.13%	-77.24%	-76.33%	-67.06%	-65.59%	-59.76%	-56.89%
2001	355.0 Poles And Fixtures	12,060	0	9,106	(9,106)	-75.51%	-54.04%	-179.70%	-131.05%	-82.85%	-77.19%	-76.31%	-67.23%	-65.75%	-59.93%
2002	355.0 Poles And Fixtures	89,797	1,141	42,748	(41,607)	-46.33%	-49.79%	-50.06%	-125.15%	-104.68%	-75.10%	-71.84%	-71.69%	-64.59%	-63.71%
2003	355.0 Poles And Fixtures	197,367	12,328	251,883	(239,555)	-121.38%	-97.91%	-97.01%	-87.99%	-123.36%	-111.46%	-89.82%	-85.52%	-84.27%	-76.91%
2004	355.0 Poles And Fixtures	60,854	32,656	25,246	7,410	12.18%	-89.90%	-78.66%	-78.55%	-73.88%	-106.10%	-97.70%	-80.71%	-77.85%	-77.29%
2005	355.0 Poles And Fixtures	679,865	68,483	192,737	(124,255)	-18.28%	-15.77%	-37.99%	-38.72%	-39.15%	-39.88%	-54.52%	-53.68%	-49.52%	-50.02%
2006	355.0 Poles And Fixtures	238	0	107	(107)	-45.08%	-18.29%	-15.78%	-37.99%	-38.72%	-39.15%	-39.88%	-54.52%	-53.68%	-49.52%
2007	355.0 Poles And Fixtures	1,249,840	0	436,667	(436,667)	-34.94%	-34.94%	-29.07%	-27.81%	-36.25%	-36.65%	-36.85%	-37.26%	-44.36%	-44.22%
2008	355.0 Poles And Fixtures	26,477	0	5,952	(5,952)	-22.48%	-34.68%	-34.68%	-28.98%	-27.74%	-36.08%	-36.48%	-36.69%	-37.10%	-44.12%
2009	355.0 Poles And Fixtures	157,790	18,634	91,047	(72,413)	-45.89%	-42.53%	-35.91%	-35.91%	-30.24%	-29.06%	-36.74%	-37.09%	-37.27%	-37.64%
2010	355.0 Poles And Fixtures	95,660	502	142,734	(142,231)	-148.68%	-84.69%	-78.80%	-42.96%	-42.97%	-35.37%	-34.10%	-41.08%	-41.26%	-41.42%
2011	355.0 Poles And Fixtures	237,795	6,594	218,755	(211,681)	-89.02%	-106.13%	-86.78%	-83.50%	-49.16%	-49.16%	-40.58%	-39.30%	-45.29%	-45.32%
2012	355.0 Poles And Fixtures	24,369	0	38,899	(38,899)	-159.62%	-95.58%	-109.78%	-90.23%	-86.92%	-50.66%	-50.66%	-41.76%	-40.46%	-46.31%
1987	356.0 Overhead Conductors & Devices	31,486	16,664	36,147	(19,483)	-61.88%									
1988	356.0 Overhead Conductors & Devices	54,763	7,269	13,220	(5,951)	-10.87%	-29.49%								
1989	356.0 Overhead Conductors & Devices	251	(12,994)	4,426	(17,419)	-6939.76%	-42.48%	-49.54%							
1990	356.0 Overhead Conductors & Devices	86,837	12,886	34,144	(21,257)	-24.48%	-44.41%	-31.46%	-36.99%						
1991	356.0 Overhead Conductors & Devices	53,509	13,129	26,959	(13,830)	-25.85%	-25.00%	-37.35%		-34.36%					
1992	356.0 Overhead Conductors & Devices	149,815	9,013	52,586	(43,573)	-29.08%	-28.23%	-27.11%	-33.08%	-29.56%	-32.26%				
1993	356.0 Overhead Conductors & Devices	169,143	13,696	141,009	(127,313)	-75.27%	-53.58%	-49.59%	-44.84%	-48.61%	-44.59%	-45.59%			
1994	356.0 Overhead Conductors & Devices	59,654	6,375	48,853	(42,478)	-71.21%	-74.21%	-56.35%	-52.58%	-47.87%	-51.21%	-47.36%	-48.11%		
1995	356.0 Overhead Conductors & Devices	4,293	506	3,249	(2,742)	-63.88%	-70.72%	-74.02%	-56.44%	-52.69%	-48.01%	-51.31%	-47.48%	-48.22%	
1996	356.0 Overhead Conductors & Devices	59,546	4,074	12,598	(8,524)	-14.31%	-17.65%	-43.52%	-61.87%	-50.77%	-48.08%	-44.56%	-47.53%	-44.38%	-45.21%
1997	356.0 Overhead Conductors & Devices	8,123	0	0	0	0.00%	-12.60%	-15.66%	-40.83%	-60.20%	-49.85%	-47.31%	-43.95%	-46.88%	-43.83%
1998	356.0 Overhead Conductors & Devices	54,889	0	3,185	(3,185)	-5.80%	-5.05%	-9.55%	-11.39%	-30.52%	-51.80%	-45.07%	-43.23%	-40.71%	-43.39%
1999	356.0 Overhead Conductors & Devices	4,856	0	12,933	(12,933)	-266.33%	-26.98%	-23.75%	-19.34%	-20.79%	-36.51%	-54.69%	-47.18%	-45.15%	-42.39%
2000	356.0 Overhead Conductors & Devices	0	0	0	0	NA	-266.33%	-26.98%	-23.75%	-19.34%	-20.79%	-36.51%	-54.69%	-47.18%	-45.15%
2001	356.0 Overhead Conductors & Devices	3,956	0	1,725	(1,725)	-43.61%	-43.61%	-166.34%	-28.01%	-24.84%	-20.07%	-21.46%	-36.65%	-54.57%	-47.15%
2002	356.0 Overhead Conductors & Devices	3,587	1,339	5,692	(4,353)	-121.36%	-80.58%	-80.58%	-153.33%	-32.99%	-29.43%	-22.76%	-24.03%	-38.18%	-55.23%
2003	356.0 Overhead Conductors & Devices	19,217	0	19,581	(19,581)	-101.89%	-104.95%	-95.89%	-95.89%	-122.07%	-48.29%	-44.15%	-32.63%	-33.47%	-43.79%
2004	356.0 Overhead Conductors & Devices	756,185	11,948	305,740	(293,792)	-38.85%	-40.41%	-40.79%	-40.80%	-40.80%	-42.19%	-39.82%	-39.44%	-37.80%	-37.92%
2005	356.0 Overhead Conductors & Devices	360,640	46,508	52,794	(6,287)	-1.74%	-26.87%	-28.14%	-28.43%	-28.48%	-28.48%	-29.49%	-28.41%	-28.22%	-27.57%
2006	356.0 Overhead Conductors & Devices	84	0	44	(44)	-52.64%	-1.76%	-26.87%	-28.14%	-28.43%	-28.49%	-28.49%	-29.49%	-28.41%	-28.22%
2007	356.0 Overhead Conductors & Devices	38,186	0	43,580	(43,580)	-114.12%	-113.99%	-12.51%	-29.76%	-30.94%	-31.21%	-31.25%	-31.25%	-32.21%	-31.05%
2008	356.0 Overhead Conductors & Devices	115,882	0	116,213	(116,213)	-100.29%	-103.72%	-103.69%	-32.27%	-36.19%	-37.16%	-37.40%	-37.42%	-37.42%	-38.27%
2009	356.0 Overhead Conductors & Devices	34,490	0	8,217	(8,217)	-23.82%	-82.75%	-89.10%	-89.09%	-31.74%	-35.86%	-36.82%	-37.05%	-37.07%	-37.07%
2010	356.0 Overhead Conductors & Devices	24,773	0	43,334	(43,334)	-174.93%	-86.99%	-95.79%	-99.07%	-99.05%	-37.92%	-38.45%	-39.35%	-39.57%	-39.58%
2011	356.0 Overhead Conductors & Devices	3,806	70	2,609	(2,539)	-66.71%	-160.52%	-85.76%	-95.17%	-98.50%	-98.48%	-38.11%	-38.53%	-39.43%	-39.65%
2012	356.0 Overhead Conductors & Devices	1,939	0	4,395	(4,395)	-226.70%	-120.70%	-164.72%	-89.97%	-96.58%	-99.64%	-99.62%	-38.74%	-38.80%	-39.70%



Minnesota Power Transmission and Distribution Power  
Net Salvage

Transaction Year	Description	Retirements	Gross Salvage	Cost of Removal	Net Salvage	Net Salv. %	2- yr Net Salv. %	3- yr Net Salv. %	4- yr Net Salv. %	5- yr Net Salv. %	6- yr Net Salv. %	7- yr Net Salv. %	8- yr Net Salv. %	9- yr Net Salv. %	10- yr Net Salv. %
Data for 361-373 Reflects Qty and Avg Price Adjustment															
1988	3610 Structure & Improvements	9,547	66,791	781	66,010										
1989	3610 Structure & Improvements	42,154	48,750	34,291	14,459	34.30%									
1990	3610 Structure & Improvements	8,860	0	12,258	(12,258)	-138.35%	4.32%								
1991	3610 Structure & Improvements	3,248	(0)	15,000	(15,001)	-461.81%	-225.12%	-23.59%							
1992	3610 Structure & Improvements	12,120	9	666	(657)	-5.42%	-101.88%	-115.22%	-20.27%						
1993	3610 Structure & Improvements	2,058	0	323	(323)	-15.72%	-6.91%	-91.71%	-107.43%	-20.13%					
1994	3610 Structure & Improvements	0	0	0	0	NA	-15.72%	-6.91%	-91.71%	-107.43%	-20.13%				
1995	3610 Structure & Improvements	11,397	(150)	1,188	(1,339)	-11.75%	-11.75%	-12.35%	-9.07%	-60.09%	-78.49%	-18.94%			
1996	3610 Structure & Improvements	2,636	0	1,114	(1,114)	-42.25%	-17.48%	-17.48%	-17.25%	-12.17%	-58.59%	-76.12%	-19.68%		
1997	3610 Structure & Improvements	0	0	0	0	NA	-42.25%	-17.48%	-17.48%	-17.25%	-12.17%	-58.59%	-76.12%	-19.68%	
1998	3610 Structure & Improvements	3,930	509	142	367	9.33%	9.33%	-11.38%	-11.61%	-11.61%	-12.03%	-9.54%	-51.05%	-68.53%	-18.36%
1999	3610 Structure & Improvements	0	0	0	0	NA	9.33%	9.33%	-11.38%	-11.61%	-12.03%	-9.54%	-51.05%	-68.53%	-18.36%
2000	3610 Structure & Improvements	1,788	0	231	(231)	-12.91%	-12.91%	2.37%	2.37%	-11.71%	-11.73%	-11.73%	-12.11%	-9.72%	-49.22%
2001	3610 Structure & Improvements	3,759	0	1,764	(1,764)	-46.92%	-35.96%	-35.96%	-17.18%	-17.18%	-22.63%	-17.36%	-17.36%	-17.22%	-13.43%
2002	3610 Structure & Improvements	3,656	0	150	(150)	-4.12%	-25.81%	-23.31%	-23.31%	-13.54%	-13.54%	-18.34%	-15.57%	-15.57%	
2003	3610 Structure & Improvements	0	0	0	0	NA	-4.12%	-25.81%	-23.31%	-23.31%	-13.54%	-13.54%	-18.34%	-15.57%	-15.57%
2004	3610 Structure & Improvements	937	0	6,994	(6,994)	-746.15%	-746.15%	-155.55%	-106.66%	-90.13%	-90.13%	-62.35%	-62.35%	-59.18%	-39.94%
2005	3610 Structure & Improvements	2,916	0	457	(457)	-15.69%	-193.38%	-193.38%	-101.24%	-83.12%	-73.50%	-73.50%	-54.34%	-54.34%	-52.71%
2006	3610 Structure & Improvements	0	0	138	(138)	NA	-20.41%	-196.95%	-196.95%	-103.07%	-84.34%	-74.56%	-74.56%	-55.15%	-55.15%
2007	3610 Structure & Improvements	6,163	43	5,306	(5,262)	-85.38%	-87.61%	-64.51%	-128.30%	-128.30%	-95.10%	-84.71%	-78.03%	-78.03%	-63.20%
2008	3610 Structure & Improvements	17,759	0	48,327	(48,327)	-272.13%	-224.01%	-224.59%	-201.89%	-220.26%	-220.26%	-195.12%	-179.29%	-171.24%	-171.24%
2009	3610 Structure & Improvements	1,817	4	17,559	(17,556)	-966.00%	-336.54%	-276.40%	-276.94%	-250.35%	-266.06%	-266.06%	-237.26%	-217.92%	-208.47%
2010	3610 Structure & Improvements	0	0	363	(363)	NA	-986.00%	-338.40%	-277.81%	-278.35%	-251.62%	-267.29%	-267.29%	-238.35%	-218.90%
2011	3610 Structure & Improvements	10,481	0	391	(391)	-3.73%	-7.20%	-148.89%	-221.70%	-198.51%	-198.89%	-185.24%	-198.36%	-198.36%	-182.12%
2012	3610 Structure & Improvements	22,536	0	718	(718)	-3.19%	-3.36%	-4.46%	-54.63%	-128.07%	-123.59%	-123.83%	-118.71%	-128.11%	-128.11%
1988	3620 Station Equipment	389,242	66,791	51,632	15,159										
1989	3620 Station Equipment	513,835	64,648	85,605	(20,957)	-4.08%									
1990	3620 Station Equipment	279,967	74,052	53,377	20,675	7.38%	-0.04%								
1991	3620 Station Equipment	359,511	247,513	37,180	210,333	58.51%	36.12%	18.21%							
1992	3620 Station Equipment	268,090	194,907	44,146	150,761	56.24%	57.54%	42.07%	25.38%						
1993	3620 Station Equipment	456,828	8,516	54,335	(45,819)	-10.03%	14.48%	29.07%	24.62%	16.77%					
1994	3620 Station Equipment	163,390	13,229	37,470	(24,241)	-14.84%	-11.30%	9.08%	23.32%	20.40%	14.24%				
1995	3620 Station Equipment	194,256	(2,276)	31,294	(33,571)	-17.28%	-16.16%	-12.72%	4.35%	17.85%	16.15%	11.50%			
1996	3620 Station Equipment	281,319	2,413	47,835	(45,422)	-16.15%	-16.61%	-16.16%	-13.60%	0.13%	12.30%	11.62%	8.41%		
1997	3620 Station Equipment	68,115	128	40,495	(40,367)	-59.26%	-24.55%	-21.95%	-20.31%	-16.27%	-2.70%	9.58%	9.29%	6.63%	
1998	3620 Station Equipment	84,193	5,382	12,658	(7,276)	-8.64%	-31.28%	-21.46%	-20.17%	-19.07%	-15.76%	-3.03%	8.76%	8.59%	6.15%
1999	3620 Station Equipment	24,433	0	10,355	(10,355)	-42.38%	-16.23%	-32.82%	-22.58%	-21.00%	-19.77%	-16.27%	-3.65%	8.11%	8.01%
2000	3620 Station Equipment	152,612	0	38,390	(38,390)	-25.16%	-27.53%	-21.44%	-29.27%	-23.22%	-21.79%	-20.62%	-17.22%	-5.59%	5.63%
2001	3620 Station Equipment	109,539	0	34,878	(34,878)	-31.84%	-27.95%	-29.18%	-24.52%	-29.91%	-24.53%	-22.99%	-21.76%	-18.27%	-7.19%
2002	3620 Station Equipment	42,036	0	45,405	(45,405)	-108.01%	-52.97%	-39.01%	-39.26%	-33.02%	-36.74%	-29.14%	-26.73%	-24.99%	-20.66%
2003	3620 Station Equipment	244,580	0	264,359	(264,359)	-108.09%	-108.08%	-87.00%	-69.80%	-68.63%	-60.95%	-60.79%	-48.32%	-43.30%	-39.89%
2004	3620 Station Equipment	1,351,987	0	118,549	(118,549)	-8.77%	-23.98%	-26.14%	-26.50%	-26.39%	-26.59%	-25.84%	-26.94%	-25.65%	-25.01%
2005	3620 Station Equipment	68,704	0	30,658	(30,658)	-44.62%	-10.50%	-24.83%	-26.88%	-27.18%	-27.02%	-27.21%	-26.46%	-27.50%	-26.19%
2006	3620 Station Equipment	194,709	14,000	69,569	(55,569)	-28.54%	-32.73%	-12.68%	-25.22%	-27.05%	-27.31%	-27.16%	-27.33%	-26.64%	-27.59%
2007	3620 Station Equipment	959,660	1,037	77,845	(76,808)	-8.00%	-11.47%	-13.33%	-10.94%	-19.36%	-20.66%	-21.08%	-21.28%	-21.44%	-21.11%
2008	3620 Station Equipment	92,527	0	104,678	(104,678)	-113.13%	-17.25%	-19.01%	-20.35%	-14.48%	-22.34%	-23.56%	-23.86%	-23.92%	-24.06%
2009	3620 Station Equipment	275,783	644	195,314	(194,670)	-70.59%	-81.28%	-28.33%	-28.35%	-29.06%	-19.74%	-26.52%	-27.58%	-27.72%	-27.60%
2010	3620 Station Equipment	197,043	16,875	93,301	(76,426)	-38.79%	-57.34%	-66.47%	-29.68%	-29.55%	-30.13%	-20.93%	-27.23%	-28.22%	-28.33%
2011	3620 Station Equipment	1,041,866	0	198,051	(198,051)	-19.01%	-22.15%	-30.97%	-35.70%	-25.35%	-25.57%	-26.03%	-20.45%	-25.29%	-26.07%
2012	3620 Station Equipment	285,798	0	15,963	(15,963)	-5.59%	-16.12%	-19.05%	-26.94%	-31.16%	-23.37%	-23.70%	-24.16%	-19.50%	-24.10%

Minnesota Power Transmission and Distribution Power  
Net Salvage

Transaction Year	Description	Retirements	Gross Salvage	Cost of Removal	Net Salvage	Net Salv. %	2-yr Net Salv. %	3-yr Net Salv. %	4-yr Net Salv. %	5-yr Net Salv. %	6-yr Net Salv. %	7-yr Net Salv. %	8-yr Net Salv. %	9-yr Net Salv. %	10-yr Net Salv. %
1989	3621 Station Equipment Reserve Equi	0	0	0	0	NA									
1990	3621 Station Equipment Reserve Equi	11,511	884	580	304	2.64%	2.64%								
1991	3621 Station Equipment Reserve Equi	48,943	6,028	0	6,028	12.32%	10.47%	10.47%							
1992	3621 Station Equipment Reserve Equi	0	0	0	0	0.00%	12.32%	10.47%	10.47%						
1993	3621 Station Equipment Reserve Equi	0	0	0	0	NA	0.00%	12.32%	10.47%	10.47%					
1994	3621 Station Equipment Reserve Equi	23,627	14,386	0	14,386	60.89%	60.89%	60.89%	28.13%	24.64%	24.64%				
1995	3621 Station Equipment Reserve Equi	0	0	0	0	NA	60.89%	60.89%	60.89%	28.13%	24.64%	24.64%			
1996	3621 Station Equipment Reserve Equi	0	201	0	201	60796.97%	60796.97%	61.74%	61.74%	28.41%	24.88%	24.88%			
1997	3621 Station Equipment Reserve Equi	8,370	71	0	70	0.84%	3.24%	3.24%	45.81%	45.81%	45.81%	25.56%	22.70%	22.70%	
1998	3621 Station Equipment Reserve Equi	11,177	255	0	255	2.28%	1.66%	2.69%	2.69%	34.54%	34.54%	34.54%	22.73%	20.50%	20.50%
1999	3621 Station Equipment Reserve Equi	0	0	0	0	NA	2.28%	1.66%	2.69%	34.54%	34.54%	34.54%	34.54%	22.73%	20.50%
2000	3621 Station Equipment Reserve Equi	0	0	0	0	NA	NA	2.28%	1.66%	2.69%	2.69%	34.54%	34.54%	34.54%	22.73%
2001	3621 Station Equipment Reserve Equi	1,465	0	23,394	(23,394)	-1596.60%	-1596.60%	-1596.60%	-183.03%	-109.79%	-108.83%	-108.83%	-19.00%	-19.00%	-19.00%
2002	3621 Station Equipment Reserve Equi	0	0	0	0	NA	-1596.60%	-1596.60%	-1596.60%	-183.03%	-109.79%	-108.83%	-108.83%	-19.00%	-19.00%
2003	3621 Station Equipment Reserve Equi	0	0	0	0	NA	NA	-1596.60%	-1596.60%	-1596.60%	-183.03%	-109.79%	-108.83%	-108.83%	-19.00%
2004	3621 Station Equipment Reserve Equi	74,223	850	447	404	0.54%	0.54%	0.54%	-30.38%	-30.38%	-30.38%	-26.17%	-23.80%	-23.59%	-23.59%
2005	3621 Station Equipment Reserve Equi	25,419	0	5	(5)	-0.02%	0.40%	0.40%	0.40%	0.40%	-22.74%	-22.74%	-20.25%	-18.79%	-18.62%
2006	3621 Station Equipment Reserve Equi	0	0	0	0	NA	-0.02%	0.40%	0.40%	0.40%	-22.74%	-22.74%	-22.74%	-20.25%	-18.79%
2007	3621 Station Equipment Reserve Equi	0	0	0	0	NA	NA	-0.02%	0.40%	0.40%	0.40%	-22.74%	-22.74%	-22.74%	-20.25%
2008	3621 Station Equipment Reserve Equi	2,810	0	0	0	0.00%	0.00%	0.00%	-0.02%	0.39%	0.39%	-22.13%	-22.13%	-22.13%	-22.13%
2009	3621 Station Equipment Reserve Equi	0	0	0	(0)	NA	-0.01%	-0.01%	-0.01%	-0.02%	0.39%	0.39%	0.39%	-22.13%	-22.13%
2010	3621 Station Equipment Reserve Equi	0	0	0	0	NA	NA	-0.01%	-0.01%	-0.01%	-0.02%	0.39%	0.39%	0.39%	-22.13%
2011	3621 Station Equipment Reserve Equi	0	0	0	0	NA	NA	NA	-0.01%	-0.01%	-0.01%	-0.02%	0.39%	0.39%	0.39%
2012	3621 Station Equipment Reserve Equi	98,422	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.20%	0.20%
1988	3640 Poles, Towers And Fixtures	284,324	110,369	142,171	(31,801)	-11.18%									
1989	3640 Poles, Towers And Fixtures	288,791	119,805	124,109	(4,304)	-1.49%	-6.30%								
1990	3640 Poles, Towers And Fixtures	269,961	87,305	137,083	(49,778)	-18.44%	-9.68%	-10.19%							
1991	3640 Poles, Towers And Fixtures	379,471	83,570	193,470	(109,900)	-28.96%	-24.59%	-17.48%	-16.01%						
1992	3640 Poles, Towers And Fixtures	341,137	103,150	166,015	(62,865)	-18.43%	-23.97%	-22.47%	-17.73%	-16.54%					
1993	3640 Poles, Towers And Fixtures	428,763	90,117	176,192	(86,075)	-20.08%	-19.35%	-22.52%	-21.74%	-18.32%	-17.30%				
1994	3640 Poles, Towers And Fixtures	294,935	97,013	136,442	(39,430)	-13.37%	-17.34%	-17.69%	-20.65%	-20.30%	-17.59%	-16.79%			
1995	3640 Poles, Towers And Fixtures	255,884	95,069	183,239	(88,169)	-34.46%	-23.17%	-21.81%	-20.94%	-22.73%	-22.14%	-19.50%	-18.57%		
1996	3640 Poles, Towers And Fixtures	185,830	60,362	121,174	(60,812)	-32.72%	-33.73%	-25.58%	-23.55%	-22.39%	-23.71%	-23.05%	-20.51%	-19.54%	
1997	3640 Poles, Towers And Fixtures	233,600	47,012	72,675	(25,663)	-10.99%	-20.62%	-25.86%	-22.06%	-21.45%	-20.86%	-22.31%	-21.87%	-19.68%	-18.86%
1998	3640 Poles, Towers And Fixtures	299,801	59,499	80,717	(21,218)	-7.08%	-8.79%	-14.97%	-20.09%	-18.53%	-18.92%	-18.84%	-20.42%	-20.22%	-18.41%
1999	3640 Poles, Towers And Fixtures	158,530	8,679	217,013	(208,334)	-131.42%	-50.08%	-36.88%	-36.00%	-35.65%	-31.05%	-28.52%	-26.95%	-27.25%	-26.41%
2000	3640 Poles, Towers And Fixtures	135,942	92,268	119,289	(27,021)	-19.88%	-79.92%	-43.17%	-34.09%	-33.84%	-33.97%	-30.08%	-27.93%	-26.54%	-26.88%
2001	3640 Poles, Towers And Fixtures	116,775	2,727	38,714	(35,987)	-30.82%	-24.93%	-65.98%	-41.15%	-33.69%	-33.53%	-33.70%	-30.13%	-28.09%	-26.75%
2002	3640 Poles, Towers And Fixtures	167,089	32,239	252,817	(220,579)	-132.01%	-90.38%	-67.55%	-85.06%	-58.44%	-48.46%	-46.21%	-44.27%	-39.34%	-35.72%
2003	3640 Poles, Towers And Fixtures	116,816	155,120	492,564	(337,443)	-288.87%	-196.55%	-148.25%	-115.73%	-119.31%	-85.49%	-71.32%	-66.25%	-61.38%	-54.18%
2004	3640 Poles, Towers And Fixtures	116,816	98,575	370,861	(272,287)	-233.09%	-260.98%	-207.20%	-167.40%	-136.71%	-135.68%	-101.00%	-85.37%	-78.98%	-72.61%
2005	3640 Poles, Towers And Fixtures	119,466	118,158	385,492	(267,335)	-223.77%	-228.38%	-248.39%	-211.01%	-177.97%	-150.17%	-146.98%	-112.91%	-96.66%	-89.46%
2006	3640 Poles, Towers And Fixtures	189,644	126,835	466,750	(339,915)	-179.24%	-196.45%	-206.50%	-224.23%	-202.52%	-178.26%	-155.90%	-152.43%	-121.76%	-106.12%
2007	3640 Poles, Towers And Fixtures	457,573	92,497	864,174	(771,677)	-168.65%	-171.75%	-179.86%	-186.89%	-198.80%	-189.24%	-174.84%	-160.00%	-157.13%	-133.18%
2008	3640 Poles, Towers And Fixtures	193,728	76,203	903,610	(827,407)	-427.10%	-245.52%	-230.57%	-229.73%	-230.09%	-235.84%	-223.10%	-207.90%	-192.07%	-186.64%
2009	3640 Poles, Towers And Fixtures	106,936	31,418	321,365	(289,947)	-271.14%	-371.63%	-249.13%	-235.15%	-233.88%	-233.80%	-238.74%	-226.60%	-212.17%	-196.98%
2010	3640 Poles, Towers And Fixtures	119,762	78,691	782,227	(703,536)	-587.44%	-438.24%	-433.11%	-295.28%	-274.67%	-269.55%	-266.28%	-268.14%	-253.81%	-238.54%
2011	3640 Poles, Towers And Fixtures	168,131	233,849	1,553,643	(1,319,793)	-784.98%	-702.81%	-585.89%	-533.62%	-373.98%	-344.10%	-333.49%	-325.52%	-322.83%	-304.67%
2012	3640 Poles, Towers And Fixtures	156,785	0	32,238	(32,238)	-20.56%	-416.12%	-462.26%	-425.21%	-425.70%	-327.92%	-307.67%	-301.04%	-296.17%	-295.68%

Minnesota Power Transmission and Distribution Power  
Net Salvage

Transaction Year	Description	Retirements	Gross Salvage	Cost of Removal	Net Salvage	Net Salv. %	2- yr Net Salv. %	3- yr Net Salv. %	4- yr Net Salv. %	5- yr Net Salv. %	6- yr Net Salv. %	7- yr Net Salv. %	8- yr Net Salv. %	9- yr Net Salv. %	10- yr Net Salv. %
1988	3650 Overhead Conductors & Devices	311,237	126,295	148,923	(22,628)	-7.27%									
1989	3650 Overhead Conductors & Devices	312,397	154,762	131,080	23,682	7.58%	0.17%								
1990	3650 Overhead Conductors & Devices	213,373	101,342	120,957	(19,615)	-9.19%	0.77%	-2.22%							
1991	3650 Overhead Conductors & Devices	295,718	79,992	111,487	(31,495)	-10.65%	-10.04%	-3.34%	-4.42%						
1992	3650 Overhead Conductors & Devices	186,602	100,810	108,555	(7,745)	-4.15%	-8.14%	-8.46%	-3.49%	-4.38%					
1993	3650 Overhead Conductors & Devices	261,853	80,982	120,781	(39,799)	-15.20%	-10.60%	-10.62%	-10.30%	-5.90%					
1994	3650 Overhead Conductors & Devices	270,717	92,128	107,984	(15,856)	-5.86%	-10.45%	-8.82%	-9.35%	-9.32%	-5.90%	-6.13%			
1995	3650 Overhead Conductors & Devices	191,353	130,195	97,180	33,016	17.25%	3.71%	-3.13%	-3.34%	-5.13%	-5.74%	-3.34%	-3.94%		
1996	3650 Overhead Conductors & Devices	118,427	45,308	73,839	(28,531)	-24.09%	1.45%	-1.96%	-6.07%	-5.73%	-6.83%	-7.15%	-4.67%	-5.04%	
1997	3650 Overhead Conductors & Devices	287,663	58,914	61,995	(3,081)	-1.07%	-7.78%	0.23%	-1.66%	-4.80%	-4.71%	-5.80%	-6.20%	-4.18%	-4.57%
1998	3650 Overhead Conductors & Devices	218,642	67,911	45,602	22,310	10.20%	3.80%	-1.49%	2.91%	0.72%	-2.37%	-2.58%	-3.89%	-4.44%	-2.85%
1999	3650 Overhead Conductors & Devices	130,799	5,602	82,472	(76,870)	-58.77%	-15.61%	-9.05%	-11.41%	-5.61%	-5.67%	-7.35%	-7.00%	-7.55%	-7.71%
2000	3650 Overhead Conductors & Devices	153,988	0	111,467	(111,467)	-72.39%	-66.13%	-32.98%	-21.38%	-21.73%	-14.95%	-13.16%	-13.49%	-12.53%	-12.27%
2001	3650 Overhead Conductors & Devices	1,222	5,873	33,452	(27,579)	-2257.08%	-89.59%	-75.49%	-38.36%	-24.82%	-24.73%	-17.44%	-15.16%	-15.16%	-14.03%
2002	3650 Overhead Conductors & Devices	49,312	3,405	121,170	(117,765)	-238.81%	-287.61%	-125.57%	-99.51%	-56.21%	-37.36%	-35.73%	-26.92%	-22.91%	-21.71%
2003	3650 Overhead Conductors & Devices	73,730	38,467	289,343	(250,875)	-340.26%	-299.61%	-318.85%	-182.46%	-142.91%	-89.57%	-61.76%	-57.45%	-45.78%	-38.55%
2004	3650 Overhead Conductors & Devices	51,260	12,451	214,608	(202,157)	-394.38%	-362.46%	-327.48%	-340.91%	-215.42%	-170.91%	-112.59%	-79.40%	-73.36%	-59.78%
2005	3650 Overhead Conductors & Devices	50,259	13,560	213,294	(199,734)	-397.41%	-395.88%	-372.48%	-343.13%	-353.49%	-239.51%	-193.21%	-132.22%	-95.12%	-87.71%
2006	3650 Overhead Conductors & Devices	144,168	27,694	346,703	(319,008)	-221.28%	-266.81%	-293.42%	-304.23%	-295.49%	-301.96%	-234.49%	-199.39%	-146.92%	-110.78%
2007	3650 Overhead Conductors & Devices	65,628	22,518	713,030	(690,512)	-1052.16%	-481.19%	-465.00%	-453.37%	-431.71%	-409.81%	-415.00%	-325.51%	-277.08%	-210.19%
2008	3650 Overhead Conductors & Devices	167,871	(4,324)	436,397	(440,721)	-262.54%	-484.47%	-384.00%	-385.58%	-386.52%	-380.35%	-368.76%	-372.58%	-311.55%	-274.33%
2009	3650 Overhead Conductors & Devices	61,692	19,489	110,427	(90,938)	-147.41%	-231.60%	-114.03%	-350.78%	-355.57%	-359.24%	-356.97%	-348.19%	-351.70%	-299.19%
2010	3650 Overhead Conductors & Devices	106,020	30,502	213,707	(183,205)	-172.80%	-163.46%	-213.02%	-350.28%	-316.18%	-323.04%	-328.69%	-329.87%	-324.04%	-327.10%
2011	3650 Overhead Conductors & Devices	174,709	60,052	549,768	(489,716)	-280.30%	-239.71%	-223.08%	-236.06%	-329.05%	-307.48%	-313.34%	-318.40%	-320.20%	-315.95%
2012	3650 Overhead Conductors & Devices	98,679	0	14,849	(14,849)	-15.05%	-184.56%	-181.27%	-176.54%	-200.24%	-283.12%	-272.23%	-279.47%	-285.87%	-289.91%
1988	3660 Underground Conduit	17,744	(5,315)	4,945	(10,260)	-57.82%									
1989	3660 Underground Conduit	560	(1,258)	209	(1,467)	-261.84%	-64.07%								
1990	3660 Underground Conduit	8,640	13,679	3,656	10,023	116.01%	93.00%	-6.32%							
1991	3660 Underground Conduit	5,711	27,256	1,362	25,894	453.45%	250.29%	231.05%	74.08%						
1992	3660 Underground Conduit	0	(1,783)	0	(1,783)	NA	422.23%	237.87%	219.09%	68.62%					
1993	3660 Underground Conduit	85	30,092	34	30,059	35172.64%	33086.50%	934.61%	444.68%	418.28%	160.25%				
1994	3660 Underground Conduit	0	23,982	0	23,982	NA	63234.39%	61148.24%	1348.38%	610.80%	578.20%	233.50%			
1995	3660 Underground Conduit	28	(10,513)	11	(10,525)	-37308.15%	47702.73%	38282.29%	36713.87%	1161.14%	536.85%	507.07%	201.18%		
1996	3660 Underground Conduit	2,033	874	599	275	13.51%	-497.25%	666.15%	2039.78%	1956.74%	864.18%	472.35%	448.24%	190.21%	
1997	3660 Underground Conduit	593,687	24,991	23,569	1,422	0.24%	0.28%	-1.48%	2.54%	7.59%	7.29%	11.52%	13.00%	12.75%	10.76%
1998	3660 Underground Conduit	1,960	142	167	(24)	-1.23%	0.23%	0.28%	-1.48%	2.53%	7.56%	7.26%	11.48%	12.96%	12.71%
1999	3660 Underground Conduit	15,633	268	712	(445)	-2.84%	-2.66%	0.16%	0.20%	-1.52%	2.39%	7.29%	7.00%	11.12%	12.56%
2000	3660 Underground Conduit	0	0	0	0	NA	-2.84%	-2.66%	0.16%	0.20%	-1.52%	2.39%	7.29%	7.00%	11.12%
2001	3660 Underground Conduit	0	0	0	0	NA	NA	-2.84%	-2.66%	0.16%	0.20%	-1.52%	2.39%	7.29%	7.00%
2002	3660 Underground Conduit	0	0	128	(128)	NA	NA	NA	-3.66%	-3.39%	0.14%	0.18%	-1.54%	2.37%	7.27%
2003	3660 Underground Conduit	3,089	0	953	(953)	-30.84%	-34.97%	-34.97%	-34.97%	-8.14%	-7.49%	-0.02%	0.02%	-1.68%	2.21%
2004	3660 Underground Conduit	0	0	0	0	NA	-30.84%	-34.97%	-34.97%	-8.14%	-7.49%	-0.02%	0.02%	-1.68%	2.21%
2005	3660 Underground Conduit	2,888	0	466	(466)	-16.15%	-16.15%	-23.74%	-25.88%	-25.88%	-25.88%	-9.21%	-8.55%	-0.10%	-0.05%
2006	3660 Underground Conduit	0	0	0	0	NA	-16.15%	-16.15%	-23.74%	-25.88%	-25.88%	-9.21%	-8.55%	-0.10%	-0.05%
2007	3660 Underground Conduit	0	0	1,072	(1,072)	NA	NA	-53.28%	-53.28%	-41.68%	-43.82%	-43.82%	-43.82%	-14.18%	-13.10%
2008	3660 Underground Conduit	3,521	0	0	0	0.00%	-30.46%	-30.46%	-24.01%	-24.01%	-26.23%	-27.57%	-27.57%	-27.57%	-12.19%
2009	3660 Underground Conduit	6,351	0	2,782	(2,782)	-43.80%	-28.18%	-39.04%	-39.04%	-33.86%	-33.86%	-33.27%	-34.08%	-34.08%	-34.08%
2010	3660 Underground Conduit	37,880	0	113,954	(113,954)	-300.83%	-263.92%	-244.46%	-246.71%	-246.71%	-233.56%	-233.56%	-221.91%	-222.14%	-222.14%
2011	3660 Underground Conduit	998	0	28,158	(28,158)	-2821.90%	-365.53%	-320.36%	-297.22%	-299.42%	-299.42%	-283.58%	-283.58%	-269.31%	-269.55%
2012	3660 Underground Conduit	0	0	0	0	NA	-2821.90%	-365.53%	-320.36%	-297.22%	-299.42%	-299.42%	-283.58%	-283.58%	-269.31%



Minnesota Power Transmission and Distribution Power  
Net Salvage

Transaction Year	Description	Retirements	Gross Salvage	Cost of Removal	Net Salvage	Net Salv. %	2- yr Net Salv. %	3- yr Net Salv. %	4- yr Net Salv. %	5- yr Net Salv. %	6- yr Net Salv. %	7- yr Net Salv. %	8- yr Net Salv. %	9- yr Net Salv. %	10- yr Net Salv. %
1988	3670 Underground Conductors & Devic	274,391	63,005	50,175	12,829	4.68%									
1989	3670 Underground Conductors & Devic	154,613	50,996	51,324	(328)	-0.21%	2.91%								
1990	3670 Underground Conductors & Devic	252,273	42,816	42,246	569	0.23%	0.06%	1.92%							
1991	3670 Underground Conductors & Devic	283,991	114,842	45,442	69,400	24.44%	13.05%	10.08%	8.54%						
1992	3670 Underground Conductors & Devic	133,014	26,881	26,167	714	0.54%	16.81%	10.56%	8.54%	7.57%					
1993	3670 Underground Conductors & Devic	264,346	111,916	50,633	61,283	23.18%	15.60%	19.28%	14.13%	12.10%	10.60%				
1994	3670 Underground Conductors & Devic	312,161	35,064	69,808	(34,745)	-11.13%	4.60%	3.84%	7.80%	6.92%	6.55%				
1995	3670 Underground Conductors & Devic	282,577	50,766	74,812	(24,047)	-8.51%	-9.89%	0.29%	0.32%	5.69%	4.79%	4.33%	4.38%		
1996	3670 Underground Conductors & Devic	188,277	30,470	84,125	(53,655)	-28.50%	-16.50%	-14.36%	-4.89%	-4.27%	1.29%	1.14%	1.03%	1.49%	
1997	3670 Underground Conductors & Devic	262,517	29,110	44,087	(14,976)	-5.70%	-15.22%	-12.64%	-12.19%	-5.05%	-4.53%	0.23%	0.23%	0.20%	0.71%
1998	3670 Underground Conductors & Devic	399,141	34,292	63,638	(29,346)	-7.35%	-6.70%	-11.53%	-10.77%	-10.85%	-5.59%	-5.14%	-1.19%	-1.04%	-0.99%
1999	3670 Underground Conductors & Devic	126,983	8,753	35,127	(26,374)	-20.77%	-10.59%	-8.96%	-12.73%	-11.78%	-11.65%	-6.64%	-6.15%	-2.30%	-2.04%
2000	3670 Underground Conductors & Devic	61,961	0	12,904	(12,904)	-20.83%	-20.79%	-11.67%	-9.83%	-13.21%	-12.21%	-12.00%	-7.10%	-6.60%	-2.79%
2001	3670 Underground Conductors & Devic	51	18	4,527	(4,509)	-8903.89%	-28.08%	-23.17%	-12.43%	-10.36%	-13.65%	-12.55%	-12.28%	-7.34%	-6.82%
2002	3670 Underground Conductors & Devic	130,133	263	51,175	(50,912)	-39.12%	-42.57%	-35.56%	-29.67%	-17.27%	-14.17%	-16.48%	-14.93%	-14.26%	-9.38%
2003	3670 Underground Conductors & Devic	68,434	13,184	56,988	(43,804)	-64.01%	-47.70%	-49.96%	-43.03%	-35.74%	-21.34%	-17.42%	-19.11%	-17.14%	-16.12%
2004	3670 Underground Conductors & Devic	149,044	3,583	49,071	(45,488)	-30.52%	-41.06%	-40.33%	-41.62%	-38.48%	-34.29%	-22.80%	-19.05%	-20.34%	-18.33%
2005	3670 Underground Conductors & Devic	114,320	3,494	50,386	(46,893)	-41.02%	-35.08%	-41.04%	-40.50%	-41.47%	-39.03%	-35.47%	-24.78%	-20.97%	-21.91%
2006	3670 Underground Conductors & Devic	57,137	9,422	43,806	(34,384)	-60.18%	-47.40%	-39.55%	-43.86%	-42.67%	-43.53%	-41.11%	-37.46%	-26.61%	-22.60%
2007	3670 Underground Conductors & Devic	197,236	14,868	46,068	(31,200)	-15.82%	-25.78%	-30.51%	-30.51%	-34.42%	-35.28%	-35.90%	-34.70%	-32.75%	-24.98%
2008	3670 Underground Conductors & Devic	441,830	28,016	37,157	(9,141)	-2.07%	-6.31%	-10.73%	-15.00%	-17.41%	-20.52%	-22.61%	-23.00%	-22.89%	-22.69%
2009	3670 Underground Conductors & Devic	218,413	11,971	55,092	(43,120)	-19.74%	-7.92%	-9.73%	-12.88%	-16.01%	-17.85%	-20.38%	-22.15%	-22.48%	-22.41%
2010	3670 Underground Conductors & Devic	538,331	3,510	147,040	(143,530)	-26.66%	-24.66%	-16.34%	-16.26%	-17.99%	-19.67%	-20.61%	-22.28%	-23.42%	-23.66%
2011	3670 Underground Conductors & Devic	329,844	16,596	181,649	(165,053)	-50.04%	-35.54%	-32.37%	-23.61%	-22.72%	-23.92%	-24.95%	-25.36%	-26.61%	-27.33%
2012	3670 Underground Conductors & Devic	139,817	0	422	(422)	-0.30%	-35.23%	-30.66%	-28.71%	-21.66%	-21.04%	-22.20%	-23.26%	-23.75%	-24.97%
1988	3680 Line Transformers	189,697	28,784	21,860	6,924	3.65%									
1989	3680 Line Transformers	204,975	43,188	15,111	28,077	13.70%	8.87%								
1990	3680 Line Transformers	263,749	35,618	25,934	9,684	3.67%	8.06%	6.79%							
1991	3680 Line Transformers	217,444	27,247	18,166	9,081	4.18%	3.90%	6.83%	6.14%						
1992	3680 Line Transformers	247,222	39,021	21,516	17,505	7.08%	5.72%	4.98%		6.35%					
1993	3680 Line Transformers	292,104	33,864	24,248	9,616	3.29%	5.03%	4.78%	4.50%	6.04%	5.72%				
1994	3680 Line Transformers	325,953	40,586	29,626	10,960	3.36%	3.33%	4.40%	4.36%	4.22%	5.47%	5.28%			
1995	3680 Line Transformers	231,223	28,891	30,861	(1,970)	-0.85%	1.61%	2.19%	3.29%	3.44%	3.48%	4.65%	4.56%		
1996	3680 Line Transformers	330,954	79,534	21,251	58,283	17.61%	10.02%	7.57%	6.51%	6.61%	6.29%	5.93%	6.68%	6.43%	
1997	3680 Line Transformers	235,327	38,297	9,962	28,335	12.04%	15.30%	10.61%	8.51%	7.43%	7.38%	7.01%	6.60%	7.22%	6.95%
1998	3680 Line Transformers	275,800	40,321	10,495	29,826	10.81%	11.38%	13.83%	10.67%	8.96%	7.98%	7.87%	7.50%	7.08%	7.60%
1999	3680 Line Transformers	202,932	623	(377)	1,000	0.49%	6.44%	8.29%	11.24%	9.05%	7.89%	7.18%	7.17%	6.89%	6.57%
2000	3680 Line Transformers	54,375	5	41,516	(41,511)	-76.34%	-15.74%	-2.00%	2.30%	6.91%	5.56%	5.13%	4.85%	5.10%	5.02%
2001	3680 Line Transformers	179,816	4,597	30,565	(25,967)	-14.44%	-28.81%	-15.21%	-5.14%	-0.88%	3.91%	3.18%	3.21%	3.22%	3.62%
2002	3680 Line Transformers	266,545	906	50,398	(49,492)	-18.57%	-16.91%	-23.36%	-16.48%	-8.79%	-4.76%	0.03%	-0.08%	0.45%	0.80%
2003	3680 Line Transformers	164,086	9,035	87,012	(77,977)	-47.52%	-29.60%	-25.13%	-29.32%	-22.35%	-14.35%	-9.85%	-4.53%	-4.09%	-3.02%
2004	3680 Line Transformers	296,851	24,450	67,463	(43,013)	-14.49%	-26.25%	-23.43%	-21.65%	-24.74%	-20.35%	-14.38%	-10.67%	-6.01%	-5.47%
2005	3680 Line Transformers	312,419	15,524	82,878	(67,354)	-21.56%	-18.11%	-24.35%	-22.87%	-21.63%	-23.96%	-20.60%	-15.66%	-12.38%	-8.10%
2006	3680 Line Transformers	212,126	4,289	51,339	(47,050)	-22.18%	-21.81%	-19.16%	-23.89%	-22.75%	-21.71%	-23.71%	-20.80%	-16.36%	-13.33%
2007	3680 Line Transformers	784,054	6,003	90,857	(84,854)	-10.82%	-13.24%	-15.23%	-15.09%	-18.10%	-18.16%	-17.86%	-19.26%	-17.64%	-14.78%
2008	3680 Line Transformers	1,094,558	5,891	79,557	(73,666)	-6.73%	-8.44%	-9.83%	-11.36%	-11.70%	-13.75%	-14.16%	-14.18%	-15.18%	-14.29%
2009	3680 Line Transformers	649,423	6,586	4,629	1,957	0.30%	-4.11%	-6.19%	-7.43%	-8.88%	-9.37%	-11.16%	-11.68%	-11.80%	-12.68%
2010	3680 Line Transformers	731,544	86,212	83,387	2,825	0.39%	-0.35%	-2.78%	-4.72%	-5.78%	-7.09%	-7.62%	-9.17%	-9.72%	-9.90%
2011	3680 Line Transformers	978,340	185,899	388,194	(202,295)	-20.68%	-11.67%	-8.37%	-7.85%	-8.40%	-9.06%	-9.88%	-10.15%	-11.32%	-11.67%
2012	3680 Line Transformers	704,229	137,007	34,279	102,728	14.59%	-5.92%	-4.01%	-3.09%	-4.05%	-5.13%	-5.83%	-6.73%	-7.13%	-8.24%

Minnesota Power Transmission and Distribution Power  
Net Salvage

Transaction Year	Description	Retirements	Gross Salvage	Cost of Removal	Net Salvage	Net Salv. %	2- yr Net Salv. %	3- yr Net Salv. %	4- yr Net Salv. %	5- yr Net Salv. %	6- yr Net Salv. %	7- yr Net Salv. %	8- yr Net Salv. %	9- yr Net Salv. %	10- yr Net Salv. %
1988	3691 Services - Overhead	69,351	10,844	25,224	(14,380)	-20.74%									
1989	3691 Services - Overhead	78,182	12,407	27,781	(15,374)	-19.66%	-20.17%								
1990	3691 Services - Overhead	109,937	15,321	38,105	(22,785)	-20.73%	-20.28%	-20.41%							
1991	3691 Services - Overhead	87,926	9,894	24,887	(14,993)	-17.05%	-19.09%	-19.25%	-19.55%						
1992	3691 Services - Overhead	89,451	6,569	34,418	(27,850)	-31.13%	-24.15%	-22.84%	-22.16%	-21.93%					
1993	3691 Services - Overhead	109,722	6,386	32,556	(26,170)	-23.85%	-27.12%	-24.04%	-23.12%	-22.55%	-22.32%				
1994	3691 Services - Overhead	102,024	6,303	38,494	(32,191)	-31.55%	-27.56%	-28.62%	-26.01%	-24.84%	-24.14%	-23.78%			
1995	3691 Services - Overhead	72,537	6,310	31,419	(25,108)	-34.61%	-32.82%	-29.36%	-29.79%	-27.36%	-26.08%	-25.31%	-24.87%		
1996	3691 Services - Overhead	130,879	3,659	54,650	(50,991)	-38.96%	-37.41%	-35.45%	-32.39%	-32.17%	-29.92%	-28.48%	-27.60%	-27.04%	
1997	3691 Services - Overhead	420,883	13,709	25,427	(11,718)	-2.78%	-11.37%	-14.07%	-16.52%	-17.48%	-18.80%	-18.65%	-18.85%	-18.91%	-19.01%
1998	3691 Services - Overhead	21,036	1,751	(2,587)	4,337	20.62%	-1.67%	-10.19%	-12.94%	-15.48%	-16.55%	-17.93%	-17.85%	-18.13%	-18.23%
1999	3691 Services - Overhead	24,257	1,471	23,610	(22,139)	-91.27%	-39.30%	-6.33%	-13.48%	-15.77%	-17.86%	-18.61%	-19.76%	-19.54%	-19.65%
2000	3691 Services - Overhead	134,193	0	38,096	(38,096)	-28.39%	-38.02%	-31.14%	-16.22%	-16.22%	-17.88%	-19.42%	-19.90%	-20.81%	-20.53%
2001	3691 Services - Overhead	674	211	4,651	(4,440)	-658.90%	-31.54%	-40.64%	-33.49%	-11.99%	-16.81%	-18.42%	-19.90%	-20.32%	-21.20%
2002	3691 Services - Overhead	73,624	1,374	250,061	(248,687)	-337.78%	-340.69%	-139.68%	-134.64%	-121.77%	-47.54%	-46.15%	-45.19%	-43.77%	-41.77%
2003	3691 Services - Overhead	128,652	5,572	(60,424)	65,996	51.30%	-90.32%	-92.21%	-66.80%	-68.45%	-63.55%	-31.71%	-32.73%	-32.86%	-32.74%
2004	3691 Services - Overhead	40,914	4,982	90,968	(85,986)	-210.16%	-11.79%	-110.48%	-112.00%	-82.32%	-82.86%	-77.72%	-40.36%	-40.17%	-39.79%
2005	3691 Services - Overhead	85,032	4,926	84,118	(79,193)	-93.13%	-131.15%	-38.96%	-105.99%	-107.12%	-84.31%	-84.65%	-80.30%	-45.19%	-44.42%
2006	3691 Services - Overhead	47,797	3,479	104,357	(100,877)	-211.05%	-135.57%	-153.13%	-66.16%	-119.34%	-120.31%	-96.16%	-95.94%	-91.53%	-53.30%
2007	3691 Services - Overhead	921,565	1,700	90,776	(89,076)	-9.67%	-19.60%	-25.53%	-32.42%	-23.62%	-41.45%	-41.77%	-40.52%	-41.36%	-40.48%
2008	3691 Services - Overhead	6,416	1,047	99,843	(98,797)	-1539.74%	-20.25%	-29.59%	-34.68%	-41.20%	-31.53%	-48.82%	-49.14%	-47.20%	-47.93%
2009	3691 Services - Overhead	8,489	233	38,252	(38,020)	-447.87%	-917.89%	-24.12%	-33.20%	-37.97%	-44.31%	-34.38%	-51.40%	-51.71%	-49.55%
2010	3691 Services - Overhead	1,222	1,857	78,431	(76,574)	-6265.43%	-1180.01%	-1323.13%	-32.26%	-40.93%	-45.07%	-51.15%	-40.52%	-57.18%	-57.49%
2011	3691 Services - Overhead	942	7,516	203,426	(195,910)	-20793.08%	-12589.64%	-2914.59%	-2397.80%	-53.10%	-60.75%	-63.32%	-68.72%	-56.28%	-72.04%
2012	3691 Services - Overhead	45,637	0	861	(861)	-1.89%	-422.44%	-571.83%	-553.14%	-654.09%	-50.72%	-58.15%	-60.81%	-66.09%	-54.35%
1988	3692 Services - Underground	8,186	651	2,266	(1,615)	-19.72%									
1989	3692 Services - Underground	6,873	477	3,229	(2,752)	-40.04%	-29.00%								
1990	3692 Services - Underground	32,672	681	8,441	(7,760)	-23.75%	-26.58%	-25.41%							
1991	3692 Services - Underground	24,735	2,302	6,738	(4,436)	-17.93%	-21.25%	-23.25%	-22.86%						
1992	3692 Services - Underground	16,300	498	6,577	(6,079)	-37.29%	-25.62%	-24.79%	-26.09%	-25.51%					
1993	3692 Services - Underground	15,088	9,786	4,573	5,213	34.55%	-2.76%	-9.45%	-14.71%	-16.53%	-16.78%				
1994	3692 Services - Underground	14,164	2,663	5,492	(2,829)	-19.97%	8.15%	-8.11%	-11.57%	-15.43%	-16.97%	-17.16%			
1995	3692 Services - Underground	18,002	4,689	5,805	(1,116)	-6.20%	-12.27%	2.68%	-7.57%	-10.47%	-14.06%	-15.46%	-15.71%		
1996	3692 Services - Underground	15,766	(296)	7,665	(7,960)	-50.49%	-26.88%	-24.84%	-10.62%	-16.10%	-16.54%	-18.26%	-19.30%	-19.33%	
1997	3692 Services - Underground	445,819	20,081	31,811	(11,730)	-2.63%	-4.27%	-4.34%	-4.79%	-3.62%	-4.67%	-5.26%	-6.30%	-6.69%	-6.87%
1998	3692 Services - Underground	238,275	10,978	15,306	(4,327)	-1.82%	-2.35%	-3.43%	-3.50%	-3.82%	-3.05%	-3.78%	-4.22%	-5.00%	-5.29%
1999	3692 Services - Underground	0	282	2,953	(2,670)	NA	-2.94%	-2.74%	-3.81%	-3.87%	-4.18%	-3.40%	-4.13%	-4.56%	-5.32%
2000	3692 Services - Underground	0	0	1,523	(1,523)	NA	NA	-3.58%	-2.96%	-4.03%	-4.09%	-4.39%	-3.61%	-4.33%	-4.75%
2001	3692 Services - Underground	0	0	151	(151)	NA	NA	NA	-3.64%	-2.98%	-4.05%	-4.11%	-4.41%	-3.63%	-4.35%
2002	3692 Services - Underground	5,136	13	2,600	(2,587)	-50.36%	-53.30%	-82.95%	-134.94%	-4.63%	-3.34%	-4.39%	-4.44%	-4.73%	-3.95%
2003	3692 Services - Underground	9,762	1,850	7,277	(5,427)	-55.60%	-53.79%	-54.81%	-65.03%	-82.95%	-6.59%	-4.07%	-5.09%	-5.12%	-5.40%
2004	3692 Services - Underground	4,259	17	4,444	(4,427)	-103.93%	-70.28%	-64.94%	-65.73%	-73.68%	-87.62%	-8.20%	-4.67%	-5.67%	-5.69%
2005	3692 Services - Underground	9,146	53	7,035	(6,983)	-76.35%	-85.11%	-72.68%	-68.63%	-69.16%	-74.54%	-83.98%	-10.54%	-5.59%	-6.56%
2006	3692 Services - Underground	8,674	933	(6,699)	7,632	87.99%	3.64%	-17.11%	-28.91%	-31.89%	-32.30%	-36.41%	-43.64%	-7.43%	-4.46%
2007	3692 Services - Underground	641,722	1	7,098	(7,096)	-1.11%	-1.11%	0.08%	-1.64%	-2.42%	-2.78%	-2.81%	-3.03%	-3.42%	-3.01%
2008	3692 Services - Underground	118,930	99	5,877	(5,778)	-4.86%	-1.69%	-0.68%	-1.57%	-2.13%	-2.79%	-3.09%	-3.11%	-3.30%	-3.64%
2009	3692 Services - Underground	31,723	22	1,625	(1,603)	-5.05%	-4.90%	-1.83%	-0.85%	-1.71%	-2.24%	-2.87%	-3.17%	-3.19%	-3.37%
2010	3692 Services - Underground	17,502	558	6,268	(5,710)	-32.63%	-14.86%	-7.78%	-2.49%	-1.53%	-2.36%	-2.88%	-3.49%	-3.78%	-3.79%
2011	3692 Services - Underground	29,613	254	22,604	(22,350)	-75.47%	-59.56%	-37.62%	-17.92%	-5.07%	-4.12%	-4.89%	-5.38%	-5.94%	-6.20%
2012	3692 Services - Underground	20,273	0	0	0	0.00%	-44.80%	-41.64%	-29.93%	-16.25%	-4.95%	-4.02%	-4.77%	-5.25%	-5.80%

Minnesota Power Transmission and Distribution Power  
Net Salvage

Transaction Year	Description	Retirements	Gross Salvage	Cost of Removal	Net Salvage	Net Salv. %	2- yr Net Salv. %	3- yr Net Salv. %	4- yr Net Salv. %	5- yr Net Salv. %	6- yr Net Salv. %	7- yr Net Salv. %	8- yr Net Salv. %	9- yr Net Salv. %	10- yr Net Salv. %
1988	3700 Meters	92,886	6,216	0	6,216	6.69%									
1989	3700 Meters	91,400	1,858	0	1,858	2.03%	4.38%								
1990	3700 Meters	195,455	7,923	0	7,923	4.05%	3.41%	4.21%							
1991	3700 Meters	279,176	1,248	0	1,248	0.45%	1.93%	1.95%	2.62%						
1992	3700 Meters	126,198	3,932	706	3,226	2.56%	1.10%	2.06%	2.06%	2.61%					
1993	3700 Meters	237,856	1,221	353	868	0.36%	1.12%	0.83%	1.58%	1.63%	2.09%				
1994	3700 Meters	313,297	5,192	0	5,192	1.66%	1.10%	1.37%	1.10%	1.60%	1.63%	1.99%			
1995	3700 Meters	240,082	10,321	628	9,694	4.04%	2.69%	1.99%	2.07%	1.69%	2.02%	2.02%	2.30%		
1996	3700 Meters	258,714	2,740	0	2,740	1.06%	2.49%	2.17%	1.76%	1.85%	1.58%	1.87%	1.88%	2.12%	
1997	3700 Meters	129,817	1,212	18	1,194	0.92%	1.01%	2.17%	2.00%	1.67%	1.75%	1.52%	1.80%	1.81%	2.04%
1998	3700 Meters	193,254	1,756	6	1,750	0.91%	0.91%	0.98%	1.87%	1.81%	1.56%	1.65%	1.46%	1.71%	1.73%
1999	3700 Meters	143,969	14,225	365	13,860	9.63%	4.63%	3.60%	2.69%	3.03%	2.69%	2.33%	2.34%	2.07%	2.25%
2000	3700 Meters	207,425	0	2,867	(2,867)	-1.38%	3.13%	2.34%	2.07%	1.79%	2.25%	2.12%	1.88%	1.93%	1.73%
2001	3700 Meters	415,996	2,873	(1,692)	4,565	1.10%	0.27%	2.03%	1.80%	1.70%	1.57%	1.95%	1.90%	1.73%	1.77%
2002	3700 Meters	1,298,628	530	1,020	(491)	-0.04%	0.24%	0.06%	0.73%	0.74%	0.75%	0.78%	1.05%	1.11%	1.06%
2003	3700 Meters	2,781,001	2,589	5,490	(2,901)	-0.10%	-0.08%	0.03%	-0.04%	0.25%	0.28%	0.29%	0.33%	0.49%	0.55%
2004	3700 Meters	569,685	2,479	2,724	(245)	-0.04%	-0.09%	-0.08%	0.02%	-0.04%	0.22%	0.24%	0.26%	0.29%	0.44%
2005	3700 Meters	1,021,409	1,321	(1,324)	2,645	0.26%	0.15%	-0.01%	-0.02%	0.06%	0.01%	0.23%	0.25%	0.26%	0.29%
2006	3700 Meters	7,312	3,930	15,737	(11,807)	-161.47%	-0.89%	-0.59%	-0.28%	-0.23%	-0.14%	-0.18%	0.04%	0.07%	0.08%
2007	3700 Meters	1,812,294	1,615	2,496	(881)	-0.05%	-0.70%	-0.35%	-0.30%	-0.21%	-0.18%	-0.12%	-0.15%	0.02%	0.04%
2008	3700 Meters	1,289,127	3,403	5,069	(1,666)	-0.13%	-0.08%	-0.46%	-0.28%	-0.25%	-0.20%	-0.17%	-0.12%	-0.15%	0.00%
2009	3700 Meters	210,811	385	4,220	(3,835)	-1.82%	-0.19%	-0.37%	-0.55%	-0.36%	-0.32%	-0.24%	-0.21%	-0.16%	-0.18%
2010	3700 Meters	505,513	16,681	27,708	(11,027)	-2.18%	-2.07%	-0.82%	-0.46%	-0.76%	-0.55%	-0.50%	-0.36%	-0.32%	-0.26%
2011	3700 Meters	537,723	2,306	14,359	(12,053)	-2.24%	-2.21%	-2.15%	-1.12%	-0.68%	-0.95%	-0.72%	-0.65%	-0.48%	-0.42%
2012	3700 Meters	588,843	0	0	0	0.00%	-1.07%	-1.41%	-1.46%	-0.91%	-0.60%	-0.83%	-0.65%	-0.59%	-0.45%
1988	3722 Leased Prop On Cust Pr,Lightng	38,685	9,711	12,316	(2,604)	-6.73%									
1989	3722 Leased Prop On Cust Pr,Lightng	40,665	6,952	14,171	(7,218)	-17.75%	-12.38%								
1990	3722 Leased Prop On Cust Pr,Lightng	49,472	7,570	17,516	(9,946)	-20.10%	-19.04%	-15.35%							
1991	3722 Leased Prop On Cust Pr,Lightng	59,220	8,837	16,883	(8,047)	-13.59%	-16.55%	-16.88%	-14.79%						
1992	3722 Leased Prop On Cust Pr,Lightng	38,526	7,356	17,729	(10,374)	-26.93%	-18.85%	-19.27%	-18.94%	-16.86%					
1993	3722 Leased Prop On Cust Pr,Lightng	41,399	6,540	13,462	(6,922)	-16.72%	-21.64%	-18.21%	-18.71%	-18.54%	-16.83%				
1994	3722 Leased Prop On Cust Pr,Lightng	41,071	6,910	12,048	(5,138)	-12.51%	-14.62%	-18.54%	-16.91%	-17.60%	-17.62%	-16.26%			
1995	3722 Leased Prop On Cust Pr,Lightng	38,564	6,982	16,468	(9,486)	-24.60%	-18.36%	-17.80%	-20.00%	-18.27%	-18.61%	-18.49%	-17.18%		
1996	3722 Leased Prop On Cust Pr,Lightng	51,566	7,499	19,560	(12,061)	-23.39%	-23.91%	-20.34%	-19.47%	-20.83%	-19.24%	-19.38%	-19.19%	-17.99%	
1997	3722 Leased Prop On Cust Pr,Lightng	50,289	3,152	4,745	(1,593)	-3.17%	-13.41%	-16.48%	-15.58%	-15.79%	-17.43%	-16.72%	-17.18%	-17.23%	-16.33%
1998	3722 Leased Prop On Cust Pr,Lightng	54,707	5,698	11,758	(6,060)	-11.08%	-7.29%	-12.59%	-14.97%	-14.54%	-14.86%	-16.33%	-15.90%	-16.39%	-16.51%
1999	3722 Leased Prop On Cust Pr,Lightng	20,110	1,011	7,798	(6,788)	-33.75%	-17.17%	-11.54%	-15.00%	-16.72%	-16.05%	-16.14%	-17.38%	-16.81%	-17.17%
2000	3722 Leased Prop On Cust Pr,Lightng	25,892	0	16,199	(16,199)	-62.56%	-49.97%	-28.84%	-20.29%	-21.08%	-21.64%	-20.31%	-19.85%	-20.61%	-19.62%
2001	3722 Leased Prop On Cust Pr,Lightng	529	117	1,555	(1,437)	-271.54%	-66.75%	-52.49%	-30.11%	-21.17%	-21.73%	-22.19%	-20.78%	-20.26%	-20.97%
2002	3722 Leased Prop On Cust Pr,Lightng	28,678	5,036	17,818	(12,782)	-44.57%	-48.68%	-55.20%	-49.47%	-33.30%	-24.89%	-24.56%	-24.56%	-22.97%	-22.24%
2003	3722 Leased Prop On Cust Pr,Lightng	59,029	11,523	40,995	(29,472)	-49.93%	-48.18%	-49.52%	-52.48%	-49.67%	-38.50%	-31.07%	-29.71%	-29.11%	-27.27%
2004	3722 Leased Prop On Cust Pr,Lightng	33,744	7,957	30,422	(22,465)	-66.57%	-55.98%	-53.29%	-54.24%	-55.69%	-53.07%	-42.75%	-35.46%	-33.54%	-32.59%
2005	3722 Leased Prop On Cust Pr,Lightng	33,388	5,263	29,771	(24,508)	-73.40%	-69.97%	-60.59%	-57.63%	-58.35%	-58.96%	-56.44%	-46.75%	-39.59%	-37.26%
2006	3722 Leased Prop On Cust Pr,Lightng	64,895	8,416	29,908	(21,491)	-33.12%	-46.80%	-51.86%	-51.26%	-50.39%	-50.92%	-52.14%	-50.75%	-43.99%	-38.46%
2007	3722 Leased Prop On Cust Pr,Lightng	35,972	4,493	24,406	(19,913)	-55.36%	-41.05%	-49.10%	-52.61%	-51.91%	-51.09%	-51.54%	-52.55%	-51.30%	-45.14%
2008	3722 Leased Prop On Cust Pr,Lightng	42,068	4,580	31,597	(27,017)	-64.22%	-60.14%	-47.87%	-52.70%	-54.93%	-53.83%	-52.94%	-53.33%	-54.07%	-52.88%
2009	3722 Leased Prop On Cust Pr,Lightng	36,321	1,601	7,183	(5,582)	-15.37%	-41.59%	-45.92%	-41.28%	-46.33%	-49.10%	-49.26%	-48.86%	-49.21%	-50.17%
2010	3722 Leased Prop On Cust Pr,Lightng	28,321	5,866	41,509	(35,643)	-125.86%	-63.77%	-63.95%	-61.78%	-52.82%	-55.67%	-57.01%	-55.76%	-54.87%	-55.19%
2011	3722 Leased Prop On Cust Pr,Lightng	30,050	11,279	68,705	(57,425)	-191.10%	-159.44%	-104.18%	-91.89%	-84.28%	-70.31%	-70.69%	-70.23%	-66.94%	-65.30%
2012	3722 Leased Prop On Cust Pr,Lightng	39,567	0	0	0	0.00%	-82.49%	-95.03%	-73.48%	-71.27%	-68.57%	-60.27%	-61.68%	-62.16%	-60.37%

Minnesota Power Transmission and Distribution Power  
Net Salvage

Transaction Year	Description	Retirements	Gross Salvage	Cost of Removal	Net Salvage	Net Salv. %	2- yr Net Salv. %	3- yr Net Salv. %	4- yr Net Salv. %	5- yr Net Salv. %	6- yr Net Salv. %	7- yr Net Salv. %	8- yr Net Salv. %	9- yr Net Salv. %	10- yr Net Salv. %
1988	3730 Street Lighting And Signal Sys	17,205	6,150	4,738	1,412	8.21%									
1989	3730 Street Lighting And Signal Sys	59,049	15,393	8,810	6,583	11.15%	10.48%								
1990	3730 Street Lighting And Signal Sys	33,474	9,935	4,833	5,102	15.24%	12.63%	11.94%							
1991	3730 Street Lighting And Signal Sys	44,746	8,634	5,740	2,894	6.47%	10.22%	10.62%	10.35%						
1992	3730 Street Lighting And Signal Sys	9,436	1,430	5,059	(3,629)	-38.46%	-1.36%	4.98%	7.46%	7.54%					
1993	3730 Street Lighting And Signal Sys	8,983	542	3,108	(2,566)	-28.56%	-33.63%	-5.23%	1.86%	5.39%	5.67%				
1994	3730 Street Lighting And Signal Sys	11,934	1,156	3,594	(2,438)	-20.43%	-23.92%	-28.44%	-7.64%	-0.59%	3.55%	3.98%			
1995	3730 Street Lighting And Signal Sys	12,608	1,332	5,507	(4,175)	-33.11%	-26.94%	-27.38%	-29.81%	-11.30%	-3.97%	0.98%	1.61%		
1996	3730 Street Lighting And Signal Sys	95,136	10,319	26,755	(16,436)	-17.28%	-19.13%	-19.26%	-19.91%	-21.18%	-14.41%	-9.82%	-5.33%	-4.53%	
1997	3730 Street Lighting And Signal Sys	28,860	1,821	3,388	(1,567)	-5.43%	-14.52%	-16.23%	-16.57%	-17.26%	-18.45%	-13.19%	-9.31%	-5.34%	-4.61%
1998	3730 Street Lighting And Signal Sys	12,841	2,784	2,797	(13)	-0.10%	-3.79%	-13.17%	-14.85%	-15.26%	-15.96%	-17.14%	-12.44%	-8.85%	-5.12%
1999	3730 Street Lighting And Signal Sys	6,408	224	2,323	(2,099)	-32.76%	-10.98%	-7.65%	-14.04%	-15.59%	-15.93%	-16.57%	-17.68%	-13.00%	-9.43%
2000	3730 Street Lighting And Signal Sys	5,326	0	4,828	(4,828)	-90.64%	-59.03%	-28.24%	-15.92%	-16.79%	-18.07%	-18.23%	-18.74%	-19.71%	-14.75%
2001	3730 Street Lighting And Signal Sys	0	(61)	395	(456)	NA	-99.21%	-62.92%	-30.10%	-16.77%	-17.10%	-18.35%	-18.49%	-18.99%	-19.95%
2002	3730 Street Lighting And Signal Sys	4,523	2,841	3,742	(900)	-19.91%	-29.99%	-62.79%	-50.95%	-28.51%	-17.02%	-17.18%	-18.39%	-18.53%	-19.01%
2003	3730 Street Lighting And Signal Sys	77,988	9,907	27,107	(17,200)	-22.05%	-21.94%	-22.49%	-26.62%	-27.04%	-23.81%	-19.91%	-18.82%	-19.56%	-19.60%
2004	3730 Street Lighting And Signal Sys	3,905	1,615	3,260	(1,646)	-42.14%	-23.01%	-22.85%	-23.38%	-27.28%	-27.64%	-24.45%	-20.53%	-19.21%	-19.92%
2005	3730 Street Lighting And Signal Sys	3,569	5,852	6,253	(401)	-11.23%	-27.38%	-22.52%	-22.39%	-22.90%	-26.68%	-27.06%	-24.04%	-20.30%	-19.09%
2006	3730 Street Lighting And Signal Sys	5,511	1,962	6,377	(4,415)	-80.11%	-53.03%	-49.76%	-26.01%	-25.72%	-26.20%	-29.60%	-29.79%	-26.62%	-22.51%
2007	3730 Street Lighting And Signal Sys	61,699	4,275	15,157	(10,882)	-17.64%	-22.76%	-22.18%	-23.22%	-22.63%	-22.55%	-22.84%	-25.06%	-25.35%	-23.57%
2008	3730 Street Lighting And Signal Sys	5,554	2,900	20,072	(17,172)	-309.20%	-41.71%	-44.62%	-43.06%	-43.02%	-32.68%	-32.33%	-32.61%	-34.45%	-34.39%
2009	3730 Street Lighting And Signal Sys	8,907	0	3,348	(3,348)	-37.59%	-141.90%	-41.23%	-43.86%	-42.49%	-42.47%	-32.95%	-32.60%	-32.87%	-34.61%
2010	3730 Street Lighting And Signal Sys	4,647	549	32,036	(31,487)	-677.58%	-257.00%	-272.17%	-77.83%	-77.97%	-75.32%	-73.94%	-50.38%	-49.60%	-49.86%
2011	3730 Street Lighting And Signal Sys	8,283	6,745	31,023	(24,278)	-293.11%	-431.29%	-270.70%	-278.51%	-97.84%	-96.81%	-93.70%	-91.72%	-61.55%	-60.53%
2012	3730 Street Lighting And Signal Sys	9,550	0	468	(468)	-4.90%	-138.77%	-250.15%	-189.82%	-207.77%	-88.84%	-88.38%	-85.82%	-84.30%	-58.70%

STATE OF MINNESOTA     )  
  ) ss  
COUNTY OF HENNEPIN    )

AFFIDAVIT OF SERVICE VIA  
ELECTRONIC FILING

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Roshelle Herstein of the City of Crystal, County of Hennepin, State of Minnesota, says that on the 1st day of April, 2013, she served Minnesota Power's 2013 Average Service Life Petition to the Minnesota Public Utilities Commission and the Minnesota Department of Commerce via electronic filing.

/s/ Roshelle Herstein

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Subscribed and sworn to before  
me this 1st day of April, 2013.

/s/ Jill N. Yeaman

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Notary Public - Minnesota  
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