

**Kenergy Corp. Case No. 2021-00066**  
**Streamlined Rate Adjustment Procedure Pilot Program**  
**Filing Requirements / Exhibit List**

**Exhibit 10**

**807 KAR 5:001 Section 16(4)(b)**  
**Sponsoring Witness: William Steven Seelye**

**Description of Filing Requirement:**

*If the utility has gross annual revenues greater than \$5,000,000, the written testimony of each witness the utility proposes to use to support its application.*

*Excerpt from September 15, 2016 order in Case No. 2015-00312 “6. Kenergy shall perform a depreciation study within five years from the date of this Order, or in connection with the filing of its next rate case, whichever is earlier”*

**Response:**

In support of its Application, Kenergy Corp. provides written testimony from five (5) witnesses:

- Mr. Jeff Hohn, Kenergy Corp’s President and Chief Executive Officer, whose testimony is included at Exhibit 7;
- Mr. Steve Thompson, Kenergy Corp’s Vice President of Accounting and Finance, whose testimony is included at Exhibit 8;
- Mr. John Wolfram, expert consultant with Catalyst Consulting LLC, whose testimony is included at Exhibit 9;
- Mr. William Steven Seelye, expert consultant with the Prime Group, whose testimony is included in this Exhibit 10; and
- Mr. Blair Johanson, expert consultant with the Johanson Group, whose testimony is included at Exhibit 11.

**COMMONWEALTH OF KENTUCKY**  
**BEFORE THE PUBLIC SERVICE COMMISSION**

**In the Matter of:**

<b>THE ELECTRONIC APPLICATION OF</b>	)	
<b>KENERGY CORP. FOR A GENERAL</b>	)	
<b>ADJUSTMENT OF RATES PURSUANT TO</b>	)	<b>CASE NO. 2021-00066</b>
<b>STREAMLINED PROCEDURE PILOT</b>	)	
<b>PROGRAM ESTABLISHED IN CASE NO.</b>	)	
<b>2018-00407</b>	)	

**DIRECT TESTIMONY OF**  
**WILLIAM STEVEN SEELYE**  
**MANAGING PARTNER**  
**THE PRIME GROUP, LLC**

**Filed: MARCH 11, 2021**

1 **Q. Please state your name and business address.**

2 A. My name is William Steven Seelye. My business address is 2604 Sunningdale Place  
3 East, La Grange, Kentucky 40031.

4 **Q. By whom and in what capacity are you employed?**

5 A. I am the managing partner for The Prime Group, LLC, a firm located in La Grange,  
6 Kentucky, providing consulting and educational services in the areas of utility  
7 regulatory analysis, revenue requirement support, cost of service, rate design and  
8 economic analysis.

9 **Q. On whose behalf are you testifying in these proceedings?**

10 A. I am testifying on behalf of Kenergy Corp. ("Kenergy"), an electric distribution  
11 cooperative that serves approximately 58,100 members in 14 counties in the western  
12 part of Kentucky. Kenergy is a customer-owned electric cooperative that operates on  
13 a not-for-profit basis.

14 **Q. What is the purpose of your testimony?**

15 A. The purpose of my testimony is to sponsor and support the depreciation study that I  
16 prepared for Kenergy.

17 **Q. Please describe your educational and professional background.**

18 A. I received a Bachelor of Science degree in Mathematics from the University of  
19 Louisville in 1979. I have also completed 54 hours of graduate level course work in  
20 Industrial Engineering and Physics. From 2014 through 2015 I completed an  
21 additional 12 hours of Electrical Engineering coursework at the University of  
22 Louisville's Speed School of Engineering (courses in computer design,

1 microcontroller programming, digital signal processing, and computer  
2 communications). In addition, from 2012 through 2015, I was an instructor at  
3 Louisville's Walden School and a private tutor and instructor in advanced placement  
4 calculus, linear algebra, pre-calculus, college algebra and differential equations.

5 Concerning my professional background, from May 1979 until July 1996, I  
6 was employed by Louisville Gas and Electric Company ("LG&E"). From May 1979  
7 until December 1990, I held various positions within the Rate Department of LG&E.  
8 In December 1990, I became Manager of Rates and Regulatory Analysis. In May  
9 1994, I was given additional responsibilities in the marketing area and was promoted  
10 to Manager of Market Management and Rates. I left LG&E in July 1996 to form The  
11 Prime Group, LLC, with two other former employees of LG&E. Since leaving LG&E,  
12 I have performed or supervised the preparation of cost of service and rate studies for  
13 over 150 investor-owned utilities, rural electric distribution cooperatives, generation  
14 and transmission cooperatives, and municipal utilities. Therefore, including my time  
15 at LG&E, I have more than 40 years of experience in the utility industry. A more  
16 detailed description of my qualifications is included in Exhibit WSS-1.

17 **Q. Have you ever testified before any state or federal regulatory commissions?**

18 A. Yes. I have testified in over 75 regulatory and court proceedings in 13 different  
19 jurisdictions. I have testified before the Kentucky Public Service Commission  
20 ("Commission") on behalf of LG&E, Kentucky Utilities Company ("KU"), Big  
21 Rivers Electric Corporation ("BREC"), East Kentucky Power Cooperative ("EKPC"),  
22 South Kentucky Rural Electric Cooperative, as well as other utilities. A listing of my

1 testimony in other proceedings is included in Exhibit WSS-1 of my testimony.

2 **Q. Did you prepare a report describing the depreciation study that was performed**  
3 **for Kenergy?**

4 A. Yes. The report describing the depreciation study is included in Exhibit WSS-3 of  
5 my testimony.

6 **Q. Why were you asked to prepare a depreciation study for Kenergy?**

7 A. The Commission has stated that it expects Kenergy to update its depreciation study  
8 the earlier of five years from its last study or its next base rate application.

9 **Q. Please provide some background on Kenergy's previous depreciation studies.**

10 A. Kenergy filed its first depreciation study with the Commission in 2006. The 2006  
11 study established individual depreciation rates for each distribution account and began  
12 a transition plan to depreciation rates that reflected the appropriate Average Service  
13 Lives ("ASL") and net salvage percentages for all distribution plant. The 2010 study  
14 approved on November 17, 2011, in Case No. 2011-0035 continued the transition to  
15 reflect the appropriate service lives and net salvage. The transition was completed in  
16 the 2015 study approved on September 15, 2016, in Case No. 2015-00312. These  
17 previous studies were performed by Robert N. Welsh of the Welsh Group, LLC. I  
18 was asked to update the depreciation study to determine whether Mr. Welsh's  
19 recommendations approved by the Commission in Kenergy's previous rate case are  
20 still reasonable.

21 **Q. What are your conclusions about the reasonableness of Kenergy's current**  
22 **depreciation rates?**

1 A. The depreciation study that I performed confirms that the depreciation rates  
2 recommended by the Welsh Group, LLC, in the study filed in Case No. 2015-00312,  
3 are still appropriate. While I am recommending small but offsetting changes to the  
4 service lives and net salvage percentages, it is my conclusion that Kenergy's current  
5 depreciation rates are still appropriate.

6 **Q. Please describe the process used to perform the depreciation study.**

7 A. The current study updated Kenergy's historical plant and reserve data from the 2015  
8 Depreciation Study and updated it with 2015 to 2019 activity. The compiled data  
9 were then analyzed along with other information to determine new ASLs and net  
10 salvage percentages. The service life analysis was based on a simulated property  
11 records (SPR) analysis. The net salvage analysis was based on historical removal  
12 costs and salvage values.

13 **Q. Please identify the method, procedure, and technique used to develop the**  
14 **proposed depreciation rates for Kenergy.**

15 A. The depreciation rates were developed using the straight-line method, broad group  
16 procedure, and whole life technique. These are the standard approaches used by  
17 electric cooperatives. They were also used in Kenergy's prior depreciation studies.

18 **Q. Please describe the depreciation study report submitted in this proceeding.**

19 A. The depreciation study submitted in this proceeding provides a detailed description of  
20 the methodologies used to determine Kenergy's proposed depreciation rates. The  
21 study is based on a comprehensive examination of Kenergy's service lives, net salvage  
22 percentages, and proposed depreciation rates. The report describing the depreciation

1 study is included in Exhibit WSS-3 of my testimony. The report consists of a  
2 narrative, an average service life analysis, a net salvage analysis, a depreciation rate  
3 analysis, an analysis of depreciation expense impacts, and a five-year forecasted  
4 reserve ratio analysis. The results of the SPR analysis and the analysis of net salvage  
5 for each distribution plant account are provided in the report.

6 **Q. Have your prepared an exhibit summarizing the recommended survivor curve,**  
7 **service life, net salvage percentage and recommended depreciation rate for each**  
8 **distribution plant account?**

9 A. Yes. Exhibit WSS-2 shows the current and proposed survivor curves, ASLs, net  
10 salvage percentages and recommended depreciation rates for each distribution plant  
11 account. As can be seen from the exhibit, while I am recommending changes in  
12 certain survivor curves, service lives, and net salvage percentages, I am not  
13 recommending changes to Kenergy's current depreciation. Based on my analysis,  
14 Kenergy's current depreciation rates are appropriate.

15 **Q. What is your recommendation to the Commission?**

16 A. It is my recommendation that Kenergy be allowed to continue to apply its current  
17 depreciation rates.

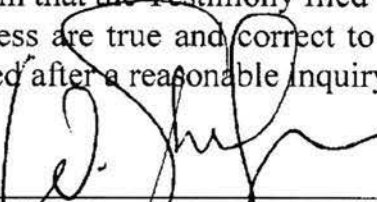
18 **Q. Does this conclude your testimony?**

19 A. Yes, it does.

CASE NO. 2021-00066

VERIFICATION

I verify, state and affirm that the Testimony filed with this verification and for which I am listed as a witness are true and correct to the best of my knowledge, information and belief formed after a reasonable inquiry.

  
\_\_\_\_\_  
William Steven Seelye  
Managing Partner  
The Prime Group LLC

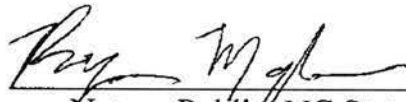
STATE OF NORTH CAROLINA

COUNTY OF: BUNCOMBE

The foregoing was signed, acknowledged and sworn to before me on this 2<sup>nd</sup> day of March, 2021, by William Steven Seelye

My commission expires

9/22/2025

  
\_\_\_\_\_  
Notary Public, NC State at Large

(seal)

**Ryan Meagher**  
Notary Public  
Henderson County, NC  
My Commission Expires 9/22/25



Exhibit WSS-1  
Seelye Qualifications

**WILLIAM STEVEN SEELYE**

**Summary of Qualifications**

Provides consulting services to numerous investor-owned utilities, rural electric cooperatives, municipal utilities, and public service commissions regarding utility rate and regulatory filings, cost of service and wholesale and retail rate designs; and develops revenue requirements for utilities in general rate cases, including the preparation of analyses supporting pro-forma adjustments and the development of rate base. Mr. Seelye has performed or supervised the preparation of cost of service studies and rate design studies for over 150 electric, gas and water utilities.

**Employment**

*Principal and Managing Partner*  
The Prime Group, LLC  
(1996 to 2012) (2015-Present )  
(Associate Member 2012-2015)

Provides consulting services in the areas of tariff development, regulatory analysis, revenue requirements, cost of service studies, rate design, fuel and power procurement, depreciation studies, lead-lag studies, and mathematical modeling.

Assists utilities with developing strategic resource and marketing plans. Assist with resource planning and cost benefit analyses for generation investment projects. Performs economic analyses evaluating the costs and benefits of an electric generation projects; performs business practice audits for electric utilities, gas utilities, and independent transmission organizations, including audits of production cost modeling, fuel procurement practices and controls, and wholesale marketing procedures. Assists investor-owned utilities in the development of testimony regarding the prudence of power supply decisions and of investments in specific generation and distribution assets.

Provides utility clients assistance regarding regulatory policy and strategy; project management support for utilities involved in complex regulatory proceedings; process audits; state and federal regulatory filing development; cost of service development and support; the development of innovative rates to achieve strategic objectives;

unbundling of rates and the development of menus of rate alternatives for use with customers; performance-based rate development.

Prepared retail and wholesale rate schedules and filings submitted to the Federal Energy Regulatory Commission (FERC) and state regulatory commissions for numerous of electric and gas utilities. Performed cost of service or rate studies for over 150 utilities throughout North America. Prepared market power analyses in support of market-based rate filings submitted to the FERC for utilities and their marketing affiliates. Performed business practice audits for electric utilities, gas utilities, and independent transmission organizations (ISOs), including audits of production cost modeling, retail utility tariffs, retail utility billing practices, and ISO billing processes and procedures.

*Instructor in Mathematics*  
Walden School and Private Instruction  
(2012-2015)

Taught advanced placement calculus, linear algebra, pre-calculus, college algebra and differential equations.

*Manager of Rates and Other Positions*  
Louisville Gas & Electric Co.  
(May 1979 to July 1996)

Held various positions in the Rate Department of LG&E. In December 1990, promoted to Manager of Rates and Regulatory Analysis. In May 1994, given additional responsibilities in the marketing area and promoted to Manager of Market Management and Rates.

**Education**

Bachelor of Science Degree in Mathematics, University of Louisville, 1979  
66 Hours of Graduate Level Course Work in Electrical and Industrial Engineering and Physics.

**Associations**

Member of the Society for Industrial and Applied Mathematics

**Expert Witness Testimony**

- Alabama: Testified in Docket 28101 on behalf of Mobile Gas Service Corporation concerning rate design and pro-forma revenue adjustments.
- Colorado: Testified in Consolidated Docket Nos. 01F-530E and 01A-531E on behalf of Intermountain Rural Electric Association in a territory dispute case.
- Submitted expert report in No. 14-CV-30031 before District Court, Prowers County, State of Colorado, on behalf of Arkansas River Power Authority in the *City of Lamar et al v. Arkansas River Power Authority regarding power planning and operations.*
- FERC: Submitted direct and rebuttal testimony in Docket No. EL02-25-000 et al. concerning Public Service of Colorado's fuel cost adjustment.
- Submitted direct and responsive testimony in Docket No. ER05-522-001 concerning a rate filing by Bluegrass Generation Company, LLC to charge reactive power service to LG&E Energy, LLC.
- Submitted testimony in Docket Nos. ER07-1383-000 and ER08-05-000 concerning Duke Energy Shared Services, Inc.'s charges for reactive power service.
- Submitted testimony in Docket No. ER08-1468-000 concerning changes to Vectren Energy's transmission formula rate.
- Submitted testimony in Docket No. ER08-1588-000 concerning a generation formula rate for Kentucky Utilities Company.
- Submitted testimony in Docket No. ER09-180-000 concerning changes to Vectren Energy's transmission formula rate.
- Submitted testimony in Docket No. ER11-2127-000 concerning transmission rates proposed by Terra-Gen Dixie Valley, LLC.
- Submitted testimony in Docket No. ER11-2779 on behalf of Southern Illinois Power Cooperative concerning wholesale distribution service charges proposed by Ameren Services Company.
- Submitted testimony in Docket No. ER11-2786 on behalf of Norris Electric Cooperative concerning wholesale distribution service charges proposed by Ameren Services Company.
- Florida: Testified in Docket No. 981827 on behalf of Lee County Electric Cooperative, Inc. concerning Seminole Electric Cooperative Inc.'s wholesale rates and cost of service.

- Illinois: Submitted direct, rebuttal, and surrebuttal testimony in Docket No. 01-0637 on behalf of Central Illinois Light Company (“CILCO”) concerning the modification of interim supply service and the implementation of black start service in connection with providing unbundled electric service.
- Indiana: Submitted direct testimony and testimony in support of a settlement agreement in Cause No. 42713 on behalf of Richmond Power & Light regarding revenue requirements, class cost of service studies, fuel adjustment clause and rate design.
- Submitted direct and rebuttal testimony in Cause No. 43111 on behalf of Vectren Energy in support of a transmission cost recovery adjustment.
- Submitted direct testimony in Cause No. 43773 on behalf of Crawfordsville Electric Light & Power regarding revenue requirements, class cost of service studies, fuel adjustment clause and rate design.
- Submitted direct and cross answering testimony in Cause No. 45125 on behalf of the City of New Haven regarding Fort Wayne’s revenue requirement, cost of service study and the apportionment of the water rate increase.
- Submitted direct and cross answering testimony in Cause No. 45142 on behalf of the City of Crown Point regarding Indiana-American Water Company’s cost of service study, apportionment of the revenue increase, interruptible service rates and transportation service rates.
- Submitted direct and cross answering testimony in Cause No. 45235 on behalf of the City of South Bend regarding Indiana-Michigan Power Company’s cost of service study, apportionment of the revenue increase and rate design.
- Submitted direct and cross answering testimony in Cause No. 45285 on behalf of the City of South Bend regarding Indiana-Michigan Power Company’s demand side management (DSM) plan.
- Kansas: Submitted direct and rebuttal testimony in Docket No. 05-WSEE-981-RTS on behalf of Westar Energy, Inc. and Kansas Gas and Electric Company regarding transmission delivery revenue requirements, energy cost adjustment clauses, fuel normalization, and class cost of service studies.
- Kentucky: Testified in Administrative Case No. 244 regarding rates for cogenerators and small power producers, Case No. 8924 regarding marginal cost of service, and in numerous 6-month and 2-year fuel adjustment clause proceedings.
- Submitted direct and rebuttal testimony in Case No. 96-161 and Case No. 96-362 regarding Prestonsburg Utilities’ rates.

Submitted direct and rebuttal testimony in Case No. 99-046 on behalf of Delta Natural Gas Company, Inc. concerning its rate stabilization plan.

Submitted direct and rebuttal testimony in Case No. 99-176 on behalf of Delta Natural Gas Company, Inc. concerning cost of service, rate design and expense adjustments in connection with Delta's rate case.

Submitted direct and rebuttal testimony in Case No. 2000-080, testified on behalf of Louisville Gas and Electric Company concerning revenue requirements, cost of service, rate design, and pro-forma adjustments to revenues and expenses.

Submitted rebuttal testimony in Case No. 2000-548 on behalf of Louisville Gas and Electric Company regarding the company's prepaid metering program.

Testified on behalf of Louisville Gas and Electric Company in Case No. 2002-00430 and on behalf of Kentucky Utilities Company in Case No. 2002-00429 regarding the calculation of merger savings.

Submitted direct and rebuttal testimony in Case No. 2003-00433 on behalf of Louisville Gas and Electric Company and in Case No. 2003-00434 on behalf of Kentucky Utilities Company regarding revenue requirements, pro-forma revenue, expense and plant adjustments, class cost of service studies, and rate design.

Submitted direct and rebuttal testimony in Case No. 2004-00067 on behalf of Delta Natural Gas Company regarding pro-forma adjustments, depreciation rates, class cost of service studies, and rate design.

Testified on behalf of Kentucky Utilities Company in Case No. 2006-00129 and on behalf of Louisville Gas and electric Company in Case No. 2006-00130 concerning methodologies for recovering environmental costs through base electric rates.

Testified on behalf of Delta Natural Gas Company in Case No. 2007-00089 concerning cost of service, temperature normalization, year-end normalization, depreciation expenses, allocation of the rate increase, and rate design.

Submitted testimony on behalf of Big Rivers Electric Corporation and E.ON U.S. LLC in Case No 2007-00455 and Case No. 2007-00460 regarding the design and implementation of a Fuel Adjustment Clause, Environmental Surcharge, Unwind Surcredit, Rebate Adjustment, and Member Rate Stability Mechanism for Big Rivers Electric Corporation in connection with the unwind of a lease and purchase power transaction with E.ON U.S. LLC.

Submitted testimony in Case No. 2008-00251 on behalf of Kentucky Utilities Company and in Case No. 2008-00252 on behalf of Louisville Gas and Electric Company regarding pro-forma revenue and expense adjustments, electric and gas temperature normalization, jurisdictional separation, class cost of service studies, and rate design.

Submitted testimony in Case No. 2008-00409 on behalf of East Kentucky Power Cooperative, Inc., concerning revenue requirements, pro-forma adjustments, cost of service, and rate design.

Submitted testimony in Case No. 2009-00040 on behalf of Big Rivers Electric Corporation regarding revenue requirements and rate design.

Submitted testimony on behalf of Columbia Gas Company of Kentucky in Case No. 2009-00141 regarding the demand side management program costs and cost recovery mechanism.

Submitted testimony in Case No. 2009-00548 on behalf of Kentucky Utilities Company and in Case No. 2009-00549 on behalf of Louisville Gas and Electric Company regarding pro-forma revenue and expense adjustments, electric and gas temperature normalization, jurisdictional separation, class cost of service studies, and rate design.

Submitted testimony in Case No. 2010-00116 on behalf of Delta Natural Gas Company concerning cost of service, temperature normalization, year-end normalization, depreciation expenses, allocation of the rate increase, and rate design.

Submitted testimony in Case No. 2011-00036 on behalf of Big Rivers Electric Cooperative concerning cost of service, rate design, pro-forma TIER adjustments, temperature normalization, and support of MISO Attachment O.

Submitted testimony in Case No. 2016-00107 on behalf of Columbia Gas Company of Kentucky regarding a tariff application to continue its energy efficiency and conservation rider and programs.

Submitted testimony in Case No. 2016-00274 on behalf of Kentucky Utilities Company and Louisville Gas and Electric Company in support of community solar rates.

Submitted direct and rebuttal testimony in Case No. 2016-00370 on behalf of Kentucky Utilities Company and in Case No. 2016-00371 on behalf of Louisville Gas and Electric Company regarding electric and gas class cost of service studies and proposed rates.

Submitted rebuttal testimony in Case No. 2018-00050 on behalf of South Kentucky Rural Electric Cooperative Corporation regarding the regulatory application of the filed rate doctrine and cost shifts to other electric cooperatives related to a proposed purchased power agreement.

Submitted testimony in Case No. 2018-00044 on behalf of Columbia Gas Company of Kentucky regarding an assessment of its energy efficiency and conservation rider and programs.

Submitted direct and rebuttal testimony in Case No. 2018-00294 on behalf of Kentucky Utilities Company and in Case No. 2018-00295 on behalf of Louisville Gas and Electric Company regarding electric and gas class cost of service studies, apportionment of the revenue increase, pilot school rates, demand ratchets, late payment charges, residential customer charges, excess facilities charges, LED lighting rates, and lead-lag studies.

Submitted direct and rebuttal testimony in Case No. 2020-00294 on behalf of Kentucky Utilities Company and in Case No. 2020-00295 on behalf of Louisville Gas and Electric Company regarding electric and gas class cost of service studies, apportionment of the revenue increase, residential demand rates, electric vehicle rates, net metering, late payment charges, residential customer charges, excess facilities charges, LED lighting rates, and lead-lag studies.

Maryland Submitted direct testimony in PSC Case No. 9234 on behalf of Southern Maryland Electric Cooperative regarding a class cost of service study.

Nevada: Submitted direct and rebuttal testimony in Case No. 03-10001 on behalf of Nevada Power Company regarding cash working capital, depreciation adjustments, and other rate base adjustments.

Submitted direct and rebuttal testimony in Case No. 03-12002 on behalf of Sierra Pacific Power Company regarding cash working capital.

Submitted direct and rebuttal testimony in Case No. 05-10003 on behalf of Nevada Power Company regarding cash working capital for an electric general rate case.

Submitted direct and rebuttal testimony in Case No. 05-10005 on behalf of Sierra Pacific Power Company regarding cash working capital for a gas general rate case.

Submitted direct and rebuttal testimony in Case Nos. 06-11022 and 06-11023 on behalf of Nevada Power Company regarding cash working capital for a gas general rate case.



Submitted direct and rebuttal testimony in Case No. 07-12001 on behalf of Sierra Pacific Power Company regarding cash working capital for an electric general rate case.

Submitted direct testimony in Case No. Docket No. 08-12002 on behalf of Nevada Power Company regarding cash working capital for an electric general rate case.

Submitted direct testimony in Case No. Docket No. 10-06001 on behalf of Sierra Pacific Power Company regarding cash working capital for an electric general rate cases.

Submitted direct testimony in Case No. Docket No. 11-06006 on behalf of Nevada Power Company regarding cash working capital for an electric general rate case.

New Mexico Submitted testimony in support of filing of Advice Notice No. 60 on behalf of Kit Carson Electric Cooperative, Inc.

Submitted direct testimony in Case No. 15-00375-UT on behalf of Kit Carson Electric Cooperative, Inc. regarding revenue requirements, the need for a rate increase, class cost of service study, apportionment of the revenue increase to the classes of service, and rate design.

Submitted testimony in Advice Notices in Case No. 15-00087-UT on behalf of Jemez Mountain Electric Cooperative in support of tribal right of way cost recovery surcharge mechanisms.

Submitted direct testimony in Case No. 16-00065-UT on behalf of Kit Carson Electric Cooperative in support of an application for continuation of its fuel and purchased power cost adjustment clause.

Submitted direct testimony, rebuttal testimony, and testimony in support of an uncontested comprehensive stipulation in Case No. 19-00170-UT on behalf of the New Mexico Public Regulation Commission Utility Division Staff regarding revenue requirements, depreciation rates, class cost of service, allocation of the revenue increase, and rate design in a Southwest Power Company rate case.

Nova Scotia: Testified on behalf of Nova Scotia Power Company in NSUARB – NSPI – P-887 regarding the development and implementation of a fuel adjustment mechanism.

Submitted testimony in NSUARB – NSPI – P-884 regarding Nova Scotia Power Company's application to approve a demand-side management plan and cost recovery mechanism.

Submitted testimony in NSUARB – NSPI – P-888 regarding a general rate application filed by Nova Scotia Power Company.

Submitted testimony on behalf of Nova Scotia Power Company in the matter of the approval of backup, top-up and spill service for use in the Wholesale Open Access Market in Nova Scotia.

Submitted testimony in NSUARB – NSPI – P-884 (2) on behalf of Nova Scotia Power Company's regarding a demand-side management cost recovery mechanism.

Virginia: Submitted testimony in Case No. PUE-2008-00076 on behalf of Northern Neck Electric Cooperative regarding revenue requirements, class cost of service, jurisdictional separation and an excess facilities charge rider.

Submitted testimony in Case No. PUE-2009-00029 on behalf of Old Dominion Power Company regarding class cost of service, jurisdictional separation, allocation of the revenue increase, general rate design, time of use rates, and excess facilities charge rider.

Submitted testimony in Case No. PUE-2009-00065 on behalf of Craig-Botetourt Electric Cooperative regarding revenue requirements, class cost of service, jurisdictional separation and an excess facilities charge rider.

Submitted testimony in Case No. PUE-2011-00013 on behalf of Old Dominion Power Company regarding class cost of service, jurisdictional separation, allocation of the revenue increase, and rate design.

Exhibit WSS-2  
Analysis of Depreciation Rates

**Kenergy**  
**Analysis of Depreciation Rates**

Account	Description	Survivor Curve		Average Service Life (ASL)		Net Salvage	
		Current	Proposed	Current	Proposed	Current	Proposed
362	Station Equipment	R1	R1	44	42	16	20
362.1	Equipment			20	20		
362.2	Microwave Equipment			20	20		
362.223	Microwave Towers			32	32	10	10
362.3	Fiber in Substations			25	25		
362.4	Owensboro Fiber			25	25		
364	Poles Towers & Fixtures	R1	R3.5	32	34	-51	-60
365	Overhead Conductor & Devices	R3	R3.5	36	37	-44	-48
366	Underground Conduit	S0	S0	45	45	0	0
367	Underground Conductor & Devices	S0.5	S3	40	41	-31	-35
368	Line Transformers	L0.5	L2.5	40	41	-39	-42
369	Services	R2.5	R5	33	34	-32	-35
370	Meters - AMI	S0.5		15	15	-12	-12
371	Installations of Consumer Premises	R1	R1	30	26	-54	-32
373	Street Lighting & Signal Systems	L5	L1	25	26	-15	-20

Depreciation Rates	
Current	Recommended
1.9%	1.9%
5.0%	5.0%
5.0%	5.0%
2.8%	2.8%
4.0%	4.0%
4.0%	4.0%
4.7%	4.7%
4.0%	4.0%
2.2%	2.2%
3.3%	3.3%
3.5%	3.5%
4.0%	4.0%
7.5%	7.5%
5.1%	5.1%
4.6%	4.6%

Exhibit WSS-3  
Depreciation Study Report  
and Appendices to Report

The Prime Group LLC

# 2021 Depreciation Study Kenergy Corp

February 2021

William Steven Seelye  
Managing Partner  
The Prime Group LLC<sup>©</sup>

## Executive Summary

The Prime Group LLC (“The Prime Group”) prepared a depreciation study for Kenergy Corp (“Kenergy”). In developing its recommended depreciation rates, The Prime Group performed a Simulated Property Records (“SPR”) analysis to identify the appropriate survivor curve and average service life (“ASL” or “service life”) that most accurately matched Kenergy’s historical retirement data. The Prime Group also performed an analysis of historical salvage values and removal costs to estimate net salvage percentages. In calculating the proposed depreciation rates the average service life depreciation procedure, the straight-line method, and the whole life basis were utilized.

The depreciation study rates were determined using standard methodologies used in the electric utility industry and accepted by the Kentucky Public Service Commission for electric cooperatives in Kentucky. Based on its study, The Prime Group found that the depreciation rates determined in Kenergy’s last depreciation study are still appropriate. While The Prime Group is recommending changes in certain ASL values and net salvage percentages, the effect of those changes have offsetting effects, thus resulting in no recommended changes to Kenergy’s current depreciation rates.

Kenergy filed its first depreciation study with the Kentucky Public Service Commission (“KYPSC” or “Commission”) in 2006. The 2006 study established individual depreciation rates for each distribution account and started a transition plan to depreciation rates that reflected the appropriate ASLs and net salvage percentages for all distribution plant. The 2010 study approved on November 17, 2011, in Case No. 2011-0035 continued the transition to reflect the appropriate service lives and net salvage. The transition was completed in the 2015 study approved on September 15, 2016, in Case No. 2015-00312. In the current study, The Prime Group confirms that the depreciation rates recommended the Welsh Group, LLC, in the study filed in Case No. 2015-00312 are still appropriate. The Prime Group is recommending small but offsetting changes to the service lives and net salvage percentages but has determined that Kenergy’s current depreciation rates are still appropriate.

The primary purpose of performing a depreciation study is to ensure that there is an appropriate matching between the recovery of the original cost of plant and the useful economic life of the property. A service life that is too short places excessive burden on current customers to the benefit of future customers by charging current customers depreciation expenses that are overstated. A service life that is too long creates a risk that the utility may not be able to recover its costs, creates long-term exposure to risks of realizing stranded costs, and places an inappropriate burden on future customers.

## Description of Kenergy

Kenergy is an electric distribution cooperative established in July 1999 through the consolidation of Henderson Union Electric Cooperative Corp., which was formed in 1936,

## **Kenergy 2021 Depreciation Study**

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and Green River Electric Corporation, which was formed in 1937. Kenergy serves approximately 58,100 residential, commercial and industrial members. Kenergy operates in 14 counties in the western part of Kentucky and has 7,178 miles of energized electric lines. Kenergy is a customer-owned electric cooperative that operates on a not-for-profit basis. Kenergy purchases electric power from wholesale providers and distributes the power to customers with its service territory.

### **Description of Life Methodology**

The purpose of performing a depreciation study is to ensure that the depreciation expenses recorded by the utility and included in cost of service represent a reasonably accurate and systematic measurement of the annual accrual levels necessary to distribute plant costs, less salvage and removal, over the estimated useful life of the assets.

In performing this study, data was compiled showing plant additions, retirements and transfers going back as far as 1939 shortly after when the cooperative was formed. For certain plant accounts, such as for poles, overhead conductor, transformers, and services data were available going back to 1936. For outdoor and street lighting and underground conductor, annual plant additions, retirements, were not available until the late 1960s.

Where sufficient data was available, the average service lives (“ASLs”) were determined by identifying the survivor curve and associated ASL that best fit the pattern of retirements or plant balances from the historical data provided by Kenergy. A computer software model was used to perform a Simulated Property Records (“SPR”) analysis using the plant additions and retirements for each major plant account. For each of 40 standard survivor curves, the SPR model calculated the (a) the sum of square differences (SSDs) between the actual retirements and simulated retirements, (b) the sum of absolute differences (SADs) between the actual retirements and simulated retirements, and (c) the SSDs between the actual plant balances and simulated plant balances for the years 2013, 2016, and 2019. The computer model also produces a graph of the simulated plant and simulated retirements compared to actual plant and retirements. These graphs are used in validating the survivor curve.

The survivor curves utilized in this study correspond to the “Iowa Curves” that were developed under the direction of Robley Winfrey at Iowa State University, as described in various bulletins and publications. These curves are still widely used within the electric utility industry.

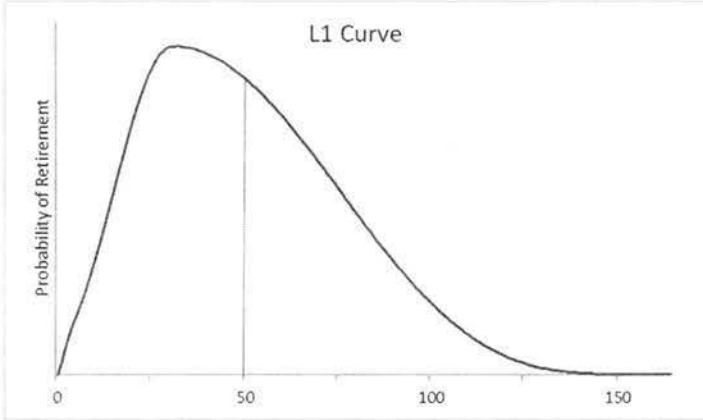
The original Iowa State publications identified four classes of survivor curves: (i) Left-Model Curves (“L” curves), (ii) Right-Model Curves (“R” curves), (iii) Symmetrical Curves (“S” curves), and (iv) Origin Model Curves (“O” curves).



# Kenergy 2021 Depreciation Study

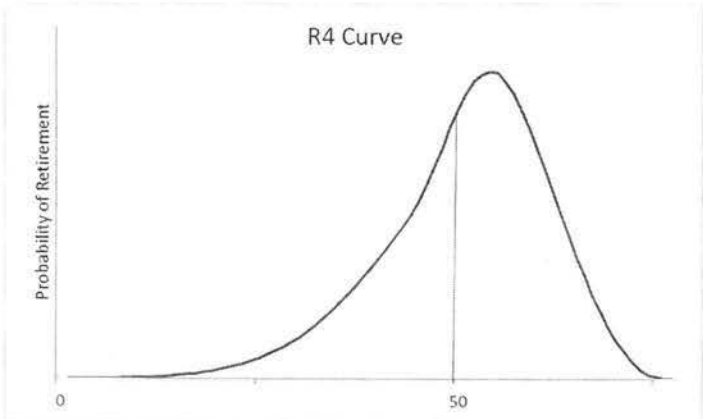
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With the “L” curve, most of the property is retired prior to the ASL; therefore, the probability density curve is skewed toward the left, as illustrated in the following graph showing an L1 curve with an ASL of 50 years:



A characteristic of the “L” class of survivor curves is that while the high percentage of the property is retired prior to the average service life, the longer the property has been in service the less likely it is to fail, as illustrated by the long tail of the probability density curve on the right.

With an “R” curve, most of the property is retired after the ASL; therefore, the probability density curve is skewed to the right. This is illustrated in the following graph showing the R1 curve with an ASL of 50 years:



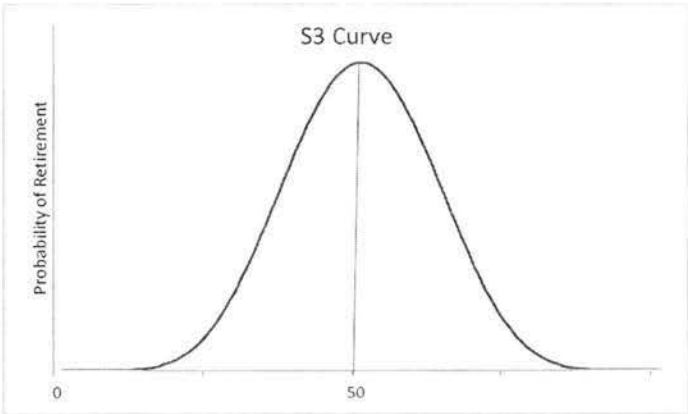
A characteristic of the “R” class of survivor curves is that most of the property is retired after the average service life. However, the longer the property has been in service the

# Kenergy 2021 Depreciation Study

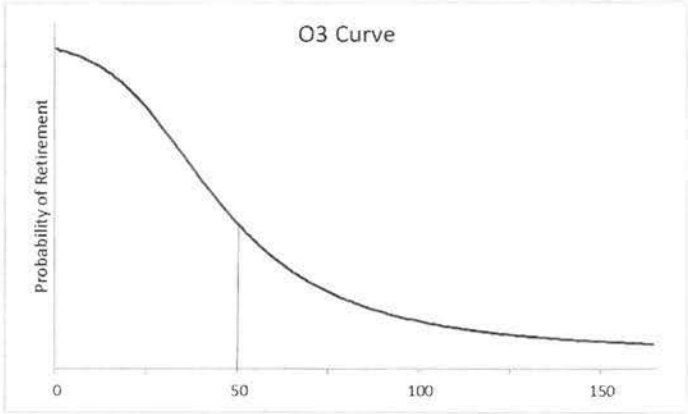
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more likely it is to fail, as illustrated by the short tail of the probability density curve on the right.

With the “S” curves, the retirements are distributed symmetrically about the ASL, in a manner similar to the bell-shaped Gaussian or Normal curve. This is illustrated in the following graph showing the S3 curve with an ASL of 50 years:



With the “O” class of curves, most of the plant is retired in the earliest years of the plant life, as illustrated in the following graph showing the O3 curve with an ASL of 50 years:



In addition to the curves identified in the Iowa State publications, so-called “half curves” were also utilized in the SPR analysis. Half curves are simple averages between two curves within the same class of Iowa Curves. For example, The S1.5 curve represents the simple average of an S1 and S2 curve.

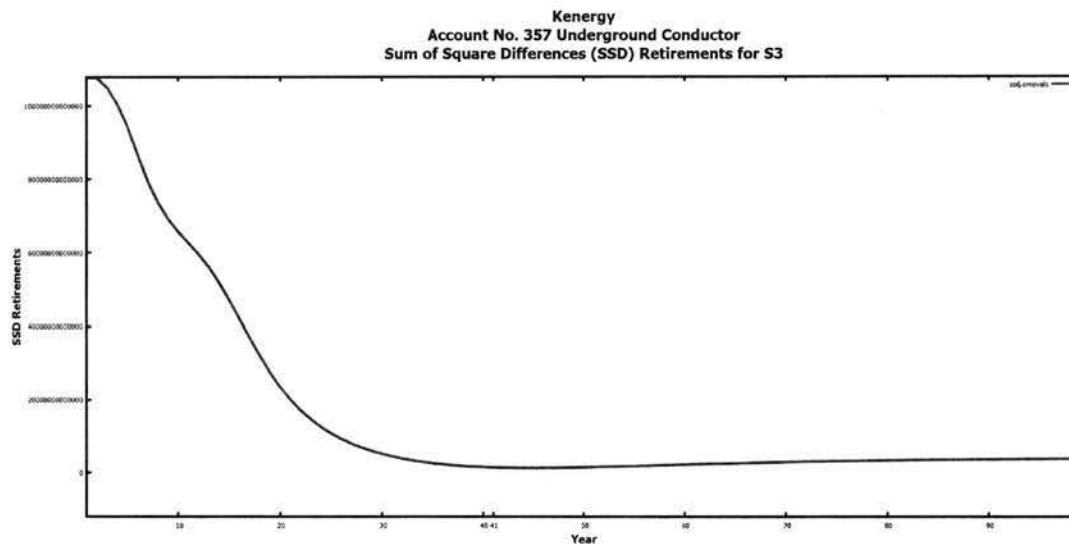
The following is a list of the Iowa Curves used in the SPR analysis:

## Kenergy 2021 Depreciation Study

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- **L Curves (11):** L0, L0.5, L1, L1.5, L2, L2.5, L3, L3.5, L4, L4.5, L5
- **R Curves (9):** R1, R1.5, R2, R2.5, R3, R3.5, R4, R4.5, R5
- **S Curves (13):** S0, S0.5, S1, S1.5, S2, S2.5, S3, S3.5, S4, S4.5, S5, S5.5, S6
- **O Curves (7):** O1, O1.5, O2, O2.5, O3, O3.5, O4

For each survivor curve, the SPR model identifies the ASL that “optimizes” the SSD between simulated and actual retirements by determining the ASL that generates the minimum SSD for each curve. The model also calculates the sum of absolute differences (SAD) for the optimal curve determined based on minimum SSD. This optimization process is illustrated in the graph showing the SSD between actual retirements and simulated retirements based on an S3 Iowa Curve for Kenergy’s plant data for Underground Conductor plant.



As can be seen from the above graph, the SSDs between simulated and actual retirements are minimized when the ASL is equal to approximately 41 years. This process is similar to the minimization of the sum of squares (“least squares”) used in linear regression models.

The proposed Iowa Curves and associated ASLs for the major property groups were developed based on the information included in the SPR analysis while also considering qualitative information obtained from discussions with Kenergy’s executive and engineering staff. The selection of the Iowa Curves and ASLs was guided by the minimum SSDs for retirements and plant balances.

### Net Salvage Methodology

Net Salvage is the result of adding the gross salvage received for plant removed from service and the cost of removal. The trend in the industry is that removal costs are increasing more rapidly than salvage. Typically, net salvage is analyzed over the most recent five-year, ten-year or longer periods of time. Net Salvage is often adjusted if there is a discernable trend in the data.

Kenergy began accounting for salvage and removal costs in 2002. In this study, 18 years of annual salvage amounts and removal accounts were analyzed for the distribution accounts. A net salvage percentage was calculated for each of the 18 years. The negative net salvage percentage is calculated as follows:

$$\text{Negative Net Salvage Percentage} = \frac{\text{Gross Salvage} - \text{Removal Cost}}{\text{Plant Retirements}}$$

Average net salvage percentages were also calculated for the 18-year period and the most recent five and ten years. Comparison of the 5-year average net salvage percentages to the 10- and 18-year average net salvage percentages generally indicated an increase in the negative net salvage percentages (i.e., becoming more negative). An exception to this was for Account 371 – Installations on Consumer Premises, which indicated downward trend in the negative net salvage percentage (i.e., becoming less negative.)

### Depreciation Rate Methodology

The depreciation accrual rates are calculated using the average service life depreciation procedure, the straight-line method, and the whole life basis. Using this approach, the whole life annual accrual for each category of plant is determined by dividing one less the net salvage percentage (stated as a ratio) by the ASL, as follows:

$$\text{Depreciation Rate} = \frac{1 - \text{Net Salvage Ratio}}{\text{ASL}}$$

The Prime Group is not proposing to modify the depreciation rates for plant accounts in which sufficient retirement data are unavailable. The ASLs and net salvage percentages

## **Kenergy 2021 Depreciation Study**

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for these accounts appear to be reasonable based on comparisons with other utilities in Kentucky.

### **Analysis of Property Records**

The service life analysis was based on accounting data for the years 1939 to 2019, which reflects the data utilized in Kenergy's 2015 Depreciation Study updated to include the 2015 to 2019 accounting data. In Kenergy's previous depreciation studies, adjustments were made to eliminate storm related failures that occurred in 2009. This adjustment was also made in the current depreciation study.

As with the 2015 Depreciation, for Account 362 – Station Equipment, the regular station equipment was analyzed using the SPR model. But the following five specialized sub-accounts do not have enough plant activity with which to perform a meaningful SPR analysis: Account 362.1 – Equipment; Account 362.2 – Microwave Equipment; Account 362.223 – Microwave Towers; Account 362.3 – Fiber in Substations; Account 362 – Owensboro Fiber. In prior studies, the depreciation rates for these subaccounts were based on informed expert opinion. After reviewing the prescribed depreciation rates, The Prime Group concluded that they are reasonable.

With Account 364 – Poles, Towers and Fixtures, the SPR analysis supported an increase in the service life. The Prime Group recommends increasing the service life from 32 years to 34 years. However, the impact is offset by the increase in the negative net salvage supported by the data. Specifically, The Prime Group is proposing to adjust the negative net salvage from -51% to -60%.

For Account 365 – Overhead Conductor & Devices, the SPR analysis supported an increase in the service life. The Prime Group recommends increasing the service life from 36 years to 37 years. This is consistent with the trend described in the 2015 Depreciation Study. The impact is offset by the increase in the negative net salvage supported by the data. The Prime Group is proposing to adjust the negative net salvage from -44% to -48%.

There was insufficient activity in Account 366 – Underground Conduit for which to perform an SPR analysis. Kenergy currently uses a 45-year life for this account with zero net salvage, which is consistent with lives typically used in the industry. The Prime Group is not recommending any changes to the ASL, net salvage or depreciation rate for this account.

For Account 367 – Underground Conductor & Devices, the SPR analysis supported an increase in the service life. The Prime Group recommends increasing the ASL for Account 367 from 40 years to 41 years. The impact is offset by the increase in the negative net salvage supported by the data. The Prime Group is proposing to adjust the negative net salvage from -31% to -35%.

## **Kenergy 2021 Depreciation Study**

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With Account 368 – Line Transformers, the SPR analysis supported an increase in the service life. The Prime Group recommends increasing the service life from 40 years to 41 years. This is consistent with the trend described in the 2015 Depreciation Study. However, the impact is offset by the increase in the negative net salvage supported by the data. The Prime Group is proposing to adjust the negative net salvage from -39% to -42%.

With Account 369 – Services, the SPR analysis supported an increase in the service life. The Prime Group recommends increasing the service life from 33 years to 34 years. This is consistent with the trend described in the 2015 Depreciation Study. However, the impact is offset by the increase in the negative net salvage supported by the data. The Prime Group is proposing to adjust the negative net salvage from -32% to -35%.

Regarding Account 379 – Meters, Kenergy began implementing an Advanced Metering Infrastructure (AMI) program in 2015. The program is now essentially complete. Because Kenergy's AMI meters are new, there is insufficient data for which to perform an SPR analysis. As with many electric cooperatives, Kenergy is currently using an ASL of 15 years for its AMI meters. The net salvage percentage for meters is -12. The Prime Group has concluded that these values are reasonable and is not recommending any changes to the depreciation rate for meters.

For Account 371 – Installations on Consumer Premises, the SPR analysis supported a decrease in the service life. Outdoor lighting equipment is charged to this account. The Prime Group recommends decreasing the ASL for Account 371 from 30 years to 26 years. Kenergy is in the process of transitioning its outdoor lights to light emitting diode (LED) fixtures. Most cooperative utilities are assuming that LED fixtures will have a life in the 20- to 30-year range. The recommended service life for Account 371 is consistent with this range. The impact of lowering the service life for this account is offset by the decrease in the negative net salvage supported by the data. The Prime Group is proposing to adjust the negative net salvage from -54% to -32%.

With Account 373 – Streetlighting, the SPR analysis supported a decrease in the service life, which is likely understated due to the replacement of conventional fixtures, such as high-pressure sodium (HPS) fixtures. Because Kenergy is in the process of transitioning its outdoor lights to LED fixtures, The Prime Group is proposing to use the same ASL for Account 373 as recommended for Account 371. Therefore, the recommended service life for Account 373 is 26 years. The impact of lowering the service life for this account is offset by the increase in the negative net salvage supported by the data. The Prime Group is proposing to adjust the negative net salvage from -15% to -20%.

The parameter results from the depreciation property record analysis, as discussed above, are shown in the following table (TABLE1):

**TABLE 1**  
**Summary of Depreciation Parameters**

Account	Description	Survivor Curve		Average Service Life (ASL)		Net Salvage	
		Current	Proposed	Current	Proposed	Current	Proposed
362	Station Equipment	R1	R1	44	42	16	20
362.1	Equipment			20	20		
362.2	Microwave Equipment			20	20		
362.223	Microwave Towers			32	32	10	10
362.3	Fiber in Substations			25	25		
362.4	Owensboro Fiber			25	25		
364	Poles Towers & Fixtures	R1	R3.5	32	34	-51	-60
365	Overhead Conductor & Devices	R3	R3.5	36	37	-44	-48
366	Underground Conduit	S0	S0	45	45	0	0
367	Underground Conductor & Devices	S0.5	S3	40	41	-31	-35
368	Line Transformers	L0.5	L2.5	40	41	-39	-42
369	Services	R2.5	R5	33	34	-32	-35
370	Meters - AMI	S0.5		15	15	-12	-12
371	Installations of Consumer Premises	R1	R1	30	26	-54	-32
373	Street Lighting & Signal Systems	L5	L1	25	26	-15	-20

## Recommended Depreciation Rates

In its previous depreciation studies, the whole life method was used to determine Kenergy's depreciation rates. This is a standard methodology for electric distribution cooperatives. As discussed above, the recommended service lives were developed based on an SPR analysis and the net salvage percentages were developed based on empirical data. The following table (TABLE 2) is a summary of the current depreciation rates and the recommended depreciation rates. As discussed above, while The Prime Group is recommending changes to most of the service lives, the proposed changes in the net salvage percentages offset the impact of the changes in the service lives in the calculation of the depreciation rates.

**TABLE 2**  
**Summary of Depreciation Rates**

Account	Description	Depreciation Rates	
		Current	Recommended
362	Station Equipment	1.9%	1.9%
362.1	Equipment	5.0%	5.0%
362.2	Microwave Equipment	5.0%	5.0%
362.223	Microwave Towers	2.8%	2.8%
362.3	Fiber in Substations	4.0%	4.0%
362.4	Owensboro Fiber	4.0%	4.0%
364	Poles Towers & Fixtures	4.7%	4.7%
365	Overhead Conductor & Devices	4.0%	4.0%
366	Underground Conduit	2.2%	2.2%
367	Underground Conductor & Devices	3.3%	3.3%
368	Line Transformers	3.5%	3.5%
369	Services	4.0%	4.0%
370	Meters - AMI	7.5%	7.5%
371	Installations of Consumer Premises	5.1%	5.1%
373	Street Lighting & Signal Systems	4.6%	4.6%

In its prior depreciation studies, Kenergy has taken measured steps in adjusting its service lives and net salvage percentages. The Prime Group is recommending a continuation of this practice. While The Prime Group recommends modifying many of the service lives, empirical data supports making offsetting adjustments in the net salvage percentages, resulting in no recommended changes in the depreciation rates.

### **Depreciation Expense Impact**

Because no changes to Kenergy's current depreciation rates are being recommended, there would be no impact on annual depreciation expenses, as shown in the following table (TABLE 3):



**TABLE 3**  
**Summary of Annual Depreciation Expenses**

Account	Description	Nov. 1, 2019 Investment	Depreciation Accrual at Current Rates	Depreciation Accrual at Current Rates
362	Station Equipment	21,815,957	414,503.18	414,503.18
362.1	Equipment	1,529,708	76,485.42	76,485.42
362.2	Microwave Equipment	831,778	41,588.91	41,588.91
362.223	Microwave Towers	1,411,547	39,523.31	39,523.31
362.3	Fiber in Substations	236,722	9,468.89	9,468.89
362.4	Owensboro Fiber	917,815	36,712.60	36,712.60
364	Poles Towers & Fixtures	101,468,773	4,769,032.35	4,769,032.35
365	Overhead Conductor & Devices	66,184,261	2,647,370.45	2,647,370.45
366	Underground Conduit	14,166	311.66	311.66
367	Underground Conductor & Devices	23,729,184	783,063.07	783,063.07
368	Line Transformers	45,751,974	1,601,319.11	1,601,319.11
369	Services	37,047,947	1,481,917.86	1,481,917.86
370	Meters - AMI	12,256,783	919,258.72	919,258.72
371	Installations of Consumer Premises	7,061,340	360,128.33	360,128.33
373	Street Lighting & Signal Systems	1,630,874	75,020.22	75,020.22
	Total	334,145,614	35,561,302	35,561,302

## RUS Ranges

In its Bulletin 183-1, Rural Utility Services (“RUS”) provides a range of depreciation rates for distribution plant. Most of Kenergy’s current depreciation rates are outside the ranges recommended by RUS. However, Kenergy had filed for approval with the RUS to implement its current rates. As explained earlier in this report, while The Prime Group is recommending changes in the parameters used to in the calculation of the whole life depreciation rates, The Prime Group is not recommending any changes to the rates themselves. Consequently, it is unlikely that Kenergy will be required to seek approval of the depreciation rates recommended in this report. The following table (TABLE 4) compares the recommended rates to the ranges prescribed by RUS:

**TABLE 4**  
**Comparison with RUS Ranges**

<b>Account</b>	<b>Description</b>	<b>Proposed Rates</b>	<b>RUS Range</b>
362	Station Equipment	1.9%	2.7% - 3.2%
364	Poles Towers & Fixtures	4.7%	3.0% - 4.0%
365	Overhead Conductor & Devices	4.0%	2.3% - 2.8%
366	Underground Conduit	2.2%	1.8% - 2.3%
367	Underground Conductor & Devices	3.3%	2.4% - 2.9%
368	Line Transformers	3.5%	2.6% - 3.1%
369	Services	4.0%	3.1% - 3.6%
370	Meters - AMI	7.5%	2.9% - 3.4%
371	Installations of Consumer Premises	5.1%	3.9% - 4.4%
373	Street Lighting & Signal Systems	4.6%	3.8% - 4.3%

## Five Year Forecast

One of the RUS depreciation study requirements is a five-year forecast of the investment and associated reserves. The basis of the forecast is the end of year 2019 plant and reserve balances and the total distribution plant additions from the 2020 RUS Forecast (RUS Form 325g) for the period 2021 to 2026. To develop an account-based additions forecast, the total distribution additions were allocated to the individual accounts using an average based on the prior four years (2015 through 2019).

The forecast shows gradually increasing distribution investment and depreciation reserves. The depreciation reserve ratios in 2025 are listed in the following table:

**TABLE 5**  
**Summary of 2025 Depreciation Reserves**

Account	Five-Year Forecast Reserve Ratio	Amount To Be Depreciated	Percent Depreciated in 2025
362 Station & Equipment	33.1%	80%	41.4%
362.100 Supervisory Control Equipment	73.9%	100%	73.9%
362.200 Microwave System-Equipment	66.0%	100%	66.0%
362.223 Microwave System-Towers	113.8%	90%	126.4%
362.30 Fiber in Substations	17.0%	100%	17.0%
362.40 Owensboro Fiber	133.3%	100%	133.3%
Total Station	43.8%	100%	43.8%
364 Poles, Towers & Fixtures	56.9%	160%	35.5%
365 Overhead Conds & Devices	53.4%	148%	36.1%
366 Underground Conduit	112.9%	100%	112.9%
367 Underground Conds & Devices	42.9%	135%	31.8%
368 Line Transformers	36.1%	142%	25.4%
369 Services	54.5%	135%	40.4%
370 Meters	80.5%	112%	71.9%
371 Instal on Cons Premises	10.5%	132%	8.0%
373 St Ltg & Signal Systems	16.5%	120%	13.7%
<b>Total Distribution</b>	50.4%	100%	50.4%

Overall, the forecasted reserves are reasonable, considering the spending and retirement trends for the accounts. Three of the accounts (362.223, 362.40, and 367) are forecasted to have reserves that exceed the plant investments; however, these accounts include investments in discrete plant, whose retirement and replacements are expected to be lumpy, with replacement values expected to exceed the original plant. Because of the discrete nature of these accounts, there was not sufficient data with which to perform an SPR analysis. If property included in these accounts are not replaced in the next five years, it is recommended that the depreciation rates for these accounts or sub-accounts be re-evaluated in Kenergy's next depreciation study.

## **Study Exhibits**

On a Total Company Basis

**Appendix A -- Analysis of Depreciation Rates**

**Appendix B – Analysis of Change in Depreciation Expenses**

**Appendix C – Five Year Forecast**

**Appendix D – Depreciation Analysis by Account:**

- (a) Summary of SPR Analysis and Theoretical Reserve
- (b) Graph of Survivor Curve
- (c) Graph of Simulated Balances to Book Balances
- (d) Account Investment Summary
- (e) Net Salvage Table

**Appendix A**  
**Analysis of Depreciation Rates**

Kenergy

Analysis of Depreciation Rates

Account	Description	Survivor Curve		Average Service Life (ASL)		Net Salvage		Depreciation Rates	
		Current	Proposed	Current	Proposed	Current	Proposed	Current	Recommended
362	Station Equipment	R1	R1	44	42	16	20	1.9%	1.9%
362.1	Equipment			20	20			5.0%	5.0%
362.2	Microwave Equipment			20	20			5.0%	5.0%
362.223	Microwave Towers			32	32	10	10	2.8%	2.8%
362.3	Fiber in Substations			25	25			4.0%	4.0%
362.4	Owensboro Fiber			25	25			4.0%	4.0%
364	Poles Towers & Fixtures	R1	R3.5	32	34	-51	-60	4.7%	4.7%
365	Overhead Conductor & Devices	R3	R3.5	36	37	-44	-48	4.0%	4.0%
366	Underground Conduit	S0	S0	45	45	0	0	2.2%	2.2%
367	Underground Conductor & Devices	S0.5	S3	40	41	-31	-35	3.3%	3.3%
368	Line Transformers	L0.5	L2.5	40	41	-39	-42	3.5%	3.5%
369	Services	R2.5	R5	33	34	-32	-35	4.0%	4.0%
370	Meters - AMI	S0.5		15	15	-12	-12	7.5%	7.5%
371	Installations of Consumer Premises	R1	R1	30	26	-54	-32	5.1%	5.1%
373	Street Lighting & Signal Systems	L5	L1	25	26	-15	-20	4.6%	4.6%

**Appendix B**  
**Analysis of Change in**  
**Depreciation Expenses**

**Kenergy****Analysis of Change in Depreciation Rates**

<b>Account</b>	<b>Description</b>	<b>Nov. 1, 2019 Investment</b>	<b>Depreciation Accrual at Current Rates</b>	<b>Depreciation Accrual at Current Rates</b>
362	Station Equipment	21,815,957	414,503.18	414,503.18
362.1	Equipment	1,529,708	76,485.42	76,485.42
362.2	Microwave Equipment	831,778	41,588.91	41,588.91
362.223	Microwave Towers	1,411,547	39,523.31	39,523.31
362.3	Fiber in Substations	236,722	9,468.89	9,468.89
362.4	Owensboro Fiber	917,815	36,712.60	36,712.60
364	Poles Towers & Fixtures	101,468,773	4,769,032.35	4,769,032.35
365	Overhead Conductor & Devices	66,184,261	2,647,370.45	2,647,370.45
366	Underground Conduit	14,166	311.66	311.66
367	Underground Conductor & Devices	23,729,184	783,063.07	783,063.07
368	Line Transformers	45,751,974	1,601,319.11	1,601,319.11
369	Services	37,047,947	1,481,917.86	1,481,917.86
370	Meters - AMI	12,256,783	919,258.72	919,258.72
371	Installations of Consumer Premises	7,061,340	360,128.33	360,128.33
373	Street Lighting & Signal Systems	1,630,874	75,020.22	75,020.22
	<b>Total</b>	<b>334,145,614</b>	<b>35,561,302</b>	<b>35,561,302</b>



**Appendix C**  
**Five Year Forecast**

KENERGY

FIVE YEAR FORECAST INVESTMENT

Total Transmission Plant	2019 End of Year	2020				2021				2022			
	Investment	Additions	Retirements	End of Year	Additions	Retirements	End of Year	Additions	Retirements	End of Year	Additions	Retirements	End of Year
362 Station & Equipment	21,798,536	532,363	414,172	21,916,727	532,363	416,418	22,032,673	532,363	418,621	22,146,415			
362.100 Supervisory Control Equipm	1,529,136	155,849	45,874	1,639,110	155,849	49,173	1,745,786	155,849	52,374	1,849,261			
362.200 Microwave System-Equipme	793,888	72,831	15,878	850,842	72,831	17,017	906,656	72,831	18,133	961,355			
362.223 Microwave System-Towers	1,411,547	-	28,231	1,383,316	-	27,666	1,355,650	-	27,113	1,328,537			
362.30 Fiber in Substations	229,012	39,203	4,580	263,635	39,203	5,273	297,566	39,203	5,951	330,818			
362.40 Owensboro Fiber	917,815	-	18,356	899,459	-	17,989	881,470	-	17,629	863,840			
Total Station	26,679,934	800,247	527,092	26,953,089	800,247	533,536	27,219,799	800,247	539,821	27,480,225			
364 Poles, Towers & Fixtures	98,938,683	4,017,386	593,632	102,362,437	4,017,386	614,175	105,765,648	4,017,386	634,594	109,148,440			
365 Ohead Conds & Devices	65,369,747	2,215,314	457,588	67,127,472	2,215,314	469,892	68,872,894	2,215,314	482,110	70,606,097			
366 Underground Conduit	14,166	-	-	14,166	-	-	14,166	-	-	14,166			
367 Underground Conds & Devi	22,598,398	1,067,031	67,795	23,597,633	1,067,031	70,793	24,593,871	1,067,031	73,782	25,587,120			
368 Line Transformers	44,415,207	1,987,348	399,737	46,002,819	1,987,348	414,025	47,576,141	1,987,348	428,185	49,135,304			
369 Services	35,634,599	1,617,878	106,904	37,145,573	1,617,878	111,437	38,652,015	1,617,878	115,956	40,153,937			
370 Meters	11,572,784	686,422	115,728	12,143,478	686,422	121,435	12,708,464	686,422	127,085	13,267,801			
371 Instal on Cons Premises	6,831,583	754,192	204,947	7,380,827	754,192	221,425	7,913,594	754,192	237,408	8,430,377			
373 St Ltg & Signal Systems	1,567,635	180,923	47,029	1,701,529	180,923	51,046	1,831,407	180,923	54,942	1,957,388			
<b>Total Distribution</b>	<b>313,622,736</b>	<b>13,326,739</b>	<b>2,520,452</b>	<b>324,429,023</b>	<b>13,326,739</b>	<b>2,607,764</b>	<b>335,147,999</b>	<b>13,326,739</b>	<b>2,693,883</b>	<b>345,780,855</b>			
			0.8%			0.8%			0.8%				

FIVE YEAR FORECAST RESERVE

Total Transmission Plant	2019 End of Year	2020				2021				2022			
	Reserve	Accruals	Net Salvage	End of Year	Accruals	Net Salvage	End of Year	Accruals	Net Salvage	End of Year	Accruals	Net Salvage	End of Year
362 Station & Equipment	6,956,709	415,295	66,268	7,024,099	417,519	83,284	7,108,484	419,701	83,724	7,193,289			
362.100 Supervisory Control Equipm	1,255,759	79,206	-	1,289,091	84,622	-	1,324,540	89,876	-	1,362,042			
362.200 Microwave System-Equipme	562,308	41,118	-	587,548	43,937	-	614,469	46,700	-	643,036			
362.223 Microwave System-Towers	1,344,572	39,128	2,823	1,358,292	38,346	2,767	1,371,738	37,579	2,711	1,384,915			
362.30 Fiber in Substations	31,154	9,853	-	36,427	11,224	-	42,378	12,568	-	48,994			
362.40 Owensboro Fiber	981,400	36,345	-	999,389	35,619	-	1,017,018	34,906	-	1,034,295			
Total Station	11,131,900	620,946	69,091	11,294,845	631,267	86,050	11,478,627	641,330	86,435	11,666,571			
364 Poles, Towers & Fixtures	43,132,695	4,730,576	(302,752)	46,966,886	4,891,010	(368,505)	50,875,217	5,050,481	(380,756)	54,910,348			
365 Ohead Conds & Devices	27,829,588	2,649,944	(201,339)	29,820,605	2,720,007	(225,548)	31,845,172	2,789,580	(231,413)	33,921,229			
366 Underground Conduit	14,124	312	-	14,435	312	-	14,747	312	-	15,059			
367 Underground Conds & Devi	7,785,458	762,235	(21,017)	8,458,881	795,160	(24,778)	9,158,470	827,986	(25,824)	9,886,851			
368 Line Transformers	13,378,531	1,491,897	(155,897)	14,314,795	1,544,053	(173,891)	15,270,931	1,595,739	(179,838)	16,258,647			
369 Services	15,660,476	1,455,603	(34,209)	16,974,966	1,515,952	(39,003)	18,340,479	1,576,119	(40,585)	19,760,057			
370 Meters	3,582,158	4,774,077	(232,142)	8,008,365	931,948	(348,212)	8,470,666	974,110	(15,250)	9,302,441			
371 Instal on Cons Premises	451,531	362,416	(110,672)	498,328	390,008	(70,856)	596,055	416,771	(75,970)	699,448			
373 St Ltg & Signal Systems	248,155	75,191	(7,054)	269,262	81,258	(10,209)	289,265	87,142	(10,988)	310,477			
<b>Total Distribution</b>	<b>123,214,616</b>	<b>16,923,198</b>	<b>(995,991)</b>	<b>136,621,371</b>	<b>13,500,974</b>	<b>(1,174,951)</b>	<b>146,339,629</b>	<b>13,959,570</b>	<b>(874,189)</b>	<b>156,731,128</b>			
Composition Rate	39.3%	5.30%		42.1%	4.09%		43.7%	4.10%		45.3%			

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FIVE YEAR FORECAST INVESTMENT

Total Transmission Plant	2023			2024			2025		
	Additions	Retirements	End of Year	Additions	Retirements	End of Year	Additions	Retirements	End of Year
362 Station & Equipment	532,363	420,782	22,257,996	532,363	422,902	22,367,457	532,363	424,982	22,474,839
362.100 Supervisory Control Equipm	155,849	55,478	1,949,631	155,849	58,489	2,046,991	155,849	61,410	2,141,430
362.200 Microwave System-Equipm	72,831	19,227	1,014,959	72,831	20,299	1,067,491	72,831	21,350	1,118,973
362.223 Microwave System-Towers	-	26,571	1,301,966	-	26,039	1,275,926	-	25,519	1,250,408
362.30 Fiber in Substations	39,203	6,616	363,405	39,203	7,268	395,340	39,203	7,907	426,637
362.40 Owensboro Fiber	-	17,277	846,563	-	16,931	829,632	-	16,593	813,039
Total Station	800,247	545,951	27,734,521	800,247	551,929	27,982,838	800,247	557,759	28,225,326
364 Poles, Towers & Fixtures	4,017,386	654,891	112,510,935	4,017,386	675,066	115,853,255	4,017,386	695,120	119,175,521
365 Ohead Conds & Devices	2,215,314	494,243	72,327,168	2,215,314	506,290	74,036,192	2,215,314	518,253	75,733,252
366 Underground Conduit	-	-	14,166	-	-	14,166	-	-	14,166
367 Underground Conds & Devi	1,067,031	76,761	26,577,389	1,067,031	79,732	27,564,688	1,067,031	82,694	28,549,025
368 Line Transformers	1,987,348	442,218	50,680,434	1,987,348	456,124	52,211,658	1,987,348	469,905	53,729,101
369 Services	1,617,878	120,462	41,651,353	1,617,878	124,954	43,144,277	1,617,878	129,433	44,632,723
370 Meters	686,422	132,678	13,821,545	686,422	138,215	14,369,751	686,422	143,698	14,912,475
371 Instal on Cons Premises	754,192	252,911	8,931,658	754,192	267,950	9,417,900	754,192	282,537	9,889,554
373 St Ltg & Signal Systems	180,923	58,722	2,079,589	180,923	62,388	2,198,125	180,923	65,944	2,313,104
Total Distribution	13,326,739	2,778,836	356,328,758	13,326,739	2,862,648	366,792,850	13,326,739	2,945,342	377,174,246
		0.8%			0.8%			0.8%	

FIVE YEAR FORECAST RESERVE

Total Transmission Plant	2023			2024			2025		
	Accruals	Net Salvage	End of Year	Accruals	Net Salvage	End of Year	Accruals	Net Salvage	End of Year
362 Station & Equipment	421,842	84,156	7,278,505	423,942	84,580	7,364,125	426,002	84,996	7,450,142
362.100 Supervisory Control Equipm	94,972	-	1,401,537	145,576	-	1,488,624	155,849	-	1,583,063
362.200 Microwave System-Equipm	49,408	-	673,217	52,061	-	704,979	54,662	-	738,291
362.223 Microwave System-Towers	36,827	2,657	1,397,828	36,090	2,604	1,410,483	35,369	2,552	1,422,885
362.30 Fiber in Substations	13,884	-	56,262	15,175	-	64,169	16,440	-	72,702
362.40 Owensboro Fiber	34,208	-	1,051,226	33,524	-	1,067,819	32,853	-	1,084,080
Total Station	651,142	86,813	11,858,576	706,368	87,184	12,100,199	721,174	87,548	12,351,162
364 Poles, Towers & Fixtures	5,208,995	(392,934)	59,071,518	5,366,558	(405,039)	63,357,972	5,523,176	(417,072)	67,768,957
365 Ohead Conds & Devices	2,858,665	(237,236)	36,048,415	2,927,267	(243,019)	38,226,372	2,995,389	(248,762)	40,454,746
366 Underground Conduit	312	-	15,370	312	-	15,682	312	-	15,994
367 Underground Conds & Devi	860,714	(26,866)	10,643,938	893,344	(27,906)	11,429,644	925,876	(28,943)	12,243,883
368 Line Transformers	1,646,960	(185,731)	17,277,658	1,697,720	(191,572)	18,327,681	1,748,023	(197,360)	19,408,439
369 Services	1,636,106	(42,162)	21,233,539	1,695,913	(43,734)	22,760,764	1,755,540	(45,301)	24,341,570
370 Meters	1,015,850	(15,921)	10,169,692	1,057,174	(16,586)	11,072,065	1,098,083	(17,244)	12,009,207
371 Instal on Cons Premises	442,732	(80,932)	808,337	467,914	(85,744)	922,557	492,340	(90,412)	1,041,949
373 St Ltg & Signal Systems	92,850	(11,744)	332,861	98,387	(12,478)	356,383	103,758	(13,189)	381,009
Total Distribution	14,414,327	(906,714)	167,459,904	14,910,957	(938,894)	178,569,320	15,363,671	(970,734)	190,016,915
Composition Rate	4.11%		47.0%	4.12%		48.7%	4.13%		50.4%

**Appendix D**  
**Depreciation Analysis by Account**

## **Account 362 – Station and Equipment**

Kenergy  
 Account 362 -- Station and Equipment

Simulated Retirements for Iowa Curve R1 with ASL = 42

Year	Additions	Actual Retirements	Actual Balance	Simmulated Retirements	Sim Balance	Difference in Retirements	Difference in Plant Balance
1939	3711	0	3711	0	3711	0	0
1940	5659	0	9370	23	9347	-23	23
1941	297	100	9567	59	9585	41	-18
1942	225	0	9792	62	9748	-62	44
1943	0	0	9792	66	9682	-66	110
1944	10011	0	19803	68	19624	-68	179
1945	0	0	19803	133	19492	-133	311
1946	5882	1825	23860	136	25238	1689	-1378
1947	1114	0	24974	177	26174	-177	-1201
1948	11324	3265	33033	189	37309	3076	-4277
1949	63188	1963	94258	265	100232	1697	-5974
1950	25967	7649	112575	668	125530	6981	-12955
1951	3649	8208	108016	844	128335	7364	-20319
1952	217637	12642	313011	894	345078	11748	-32067
1953	99364	14230	398145	2285	442157	11945	-44012
1954	90431	0	488575	2954	529634	-2954	-41059
1955	80403	11503	557476	3613	606424	7890	-48948
1956	50170	0	607645	4223	652371	-4223	-44726
1957	297697	0	905343	4660	945409	-4660	-40066
1958	48410	12927	940826	6660	987158	6267	-46333
1959	41540	0	982366	7129	1021569	-7129	-39203
1960	40047	0	1022412	7608	1054008	-7608	-31595
1961	138637	16164	1144886	8073	1184572	8091	-39687
1962	67693	1080	1211499	9161	1243105	-8081	-31605
1963	257434	89632	1379301	9822	1490716	79810	-111415
1964	-680	0	1378621	11699	1478338	-11699	-99716
1965	27617	46970	1359268	11985	1493969	34985	-134701
1966	117468	90244	1386493	12490	1598948	77754	-212455

Kenergy  
 Account 362 -- Station and Equipment

Simulated Retirements for Iowa Curve R1 with ASL = 42

Year	Additions	Actual Retirements	Actual Balance	Simulated Retirements	Sim Balance	Difference in Retirements	Difference in Plant Balance
1967	115100	24375	1477217	13549	1700499	10827	-223282
1968	158988	89545	1546661	14608	1844879	74936	-298218
1969	129648	4819	1671489	15979	1958547	-11160	-287058
1970	170973	60936	1781526	17198	2112322	43738	-330796
1971	51848	20603	1812771	18715	2145455	1888	-332684
1972	151484	47467	1916788	19526	2277413	27941	-360624
1973	119430	2557	2033662	20996	2375848	-18439	-342185
1974	164794	0	2198456	22292	2518349	-22292	-319893
1975	300560	153244	2345773	23915	2794995	129329	-449223
1976	326085	36397	2635460	26432	3094648	9966	-459188
1977	299253	71524	2863189	29166	3364735	42358	-501546
1978	801329	159570	3504948	31826	4134239	127744	-629291
1979	649581	2137	4152391	37706	4746113	-35569	-593722
1980	103316	0	4255707	42760	4806669	-42760	-550962
1981	619632	52456	4822882	44584	5381716	7872	-558834
1982	1120581	45493	5897970	49736	6452560	-4243	-554591
1983	545792	27812	6415950	58077	6940276	-30265	-524326
1984	472100	66276	6821775	63030	7349346	3246	-527571
1985	337455	145962	7013268	67747	7619054	78215	-605786
1986	1959111	1867	8970511	71700	9506465	-69833	-535953
1987	207261	82366	9095407	85910	9627816	-3544	-532409
1988	94138	8094	9181450	89353	9632601	-81259	-451150
1989	1394073	74234	10501289	92441	10934233	-18207	-432944
1990	106933	27896	10580327	103609	10937557	-75713	-357230
1991	363415	2942	10940799	106851	11194121	-103909	-253321
1992	193460	144545	10989714	111952	11275629	32594	-285915
1993	96075	52261	11033528	115972	11255732	-63711	-222205
1994	111078	47068	11097538	119471	11247339	-72403	-149801

Kenergy

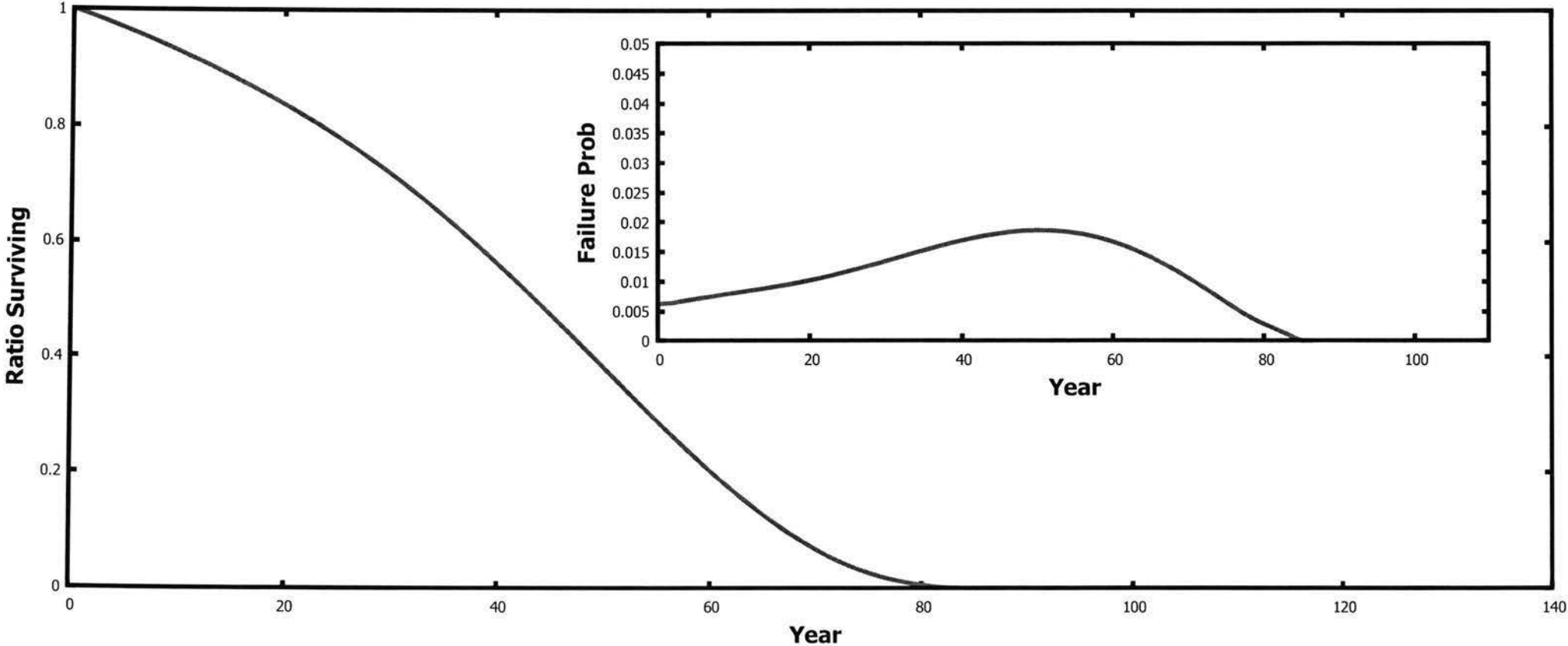
Account 362 -- Station and Equipment

Simulated Retirements for Iowa Curve R1 with ASL = 42

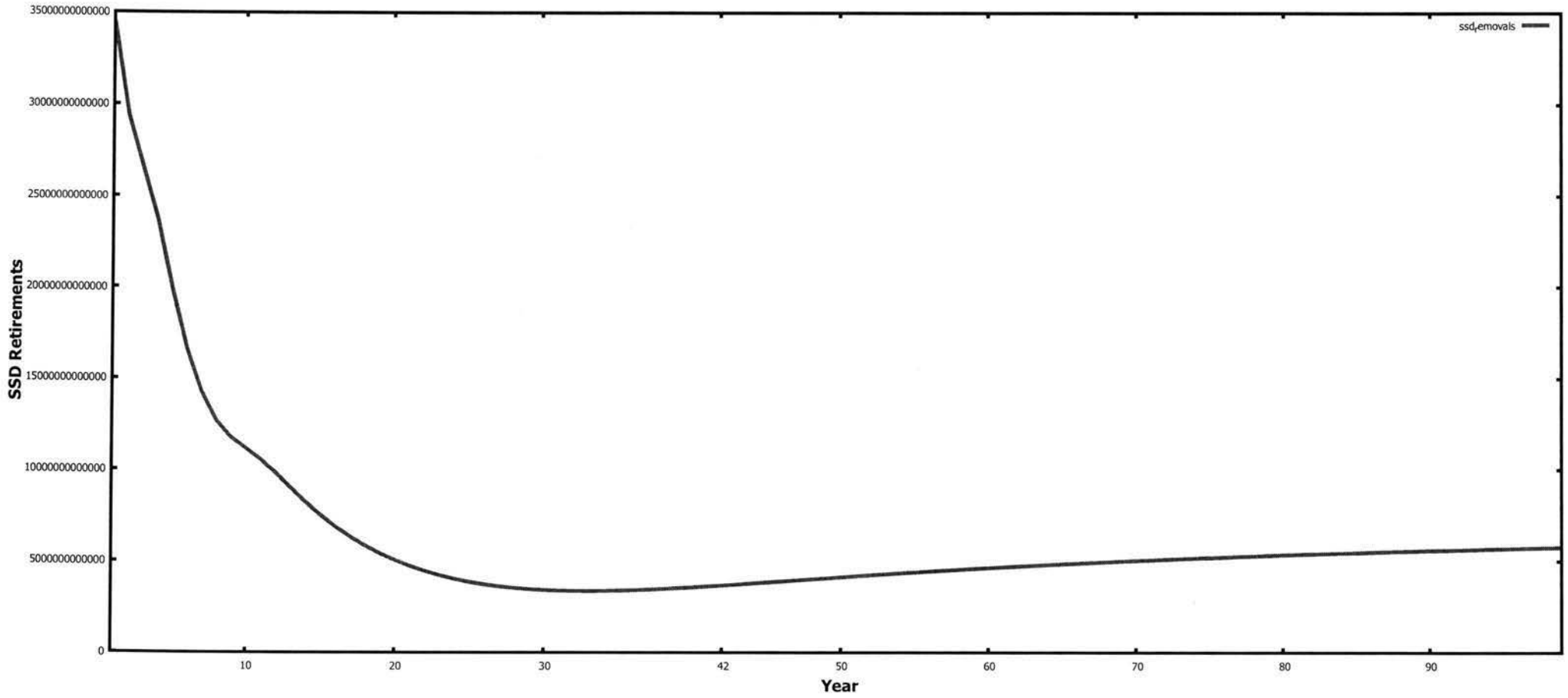
Year	Additions	Actual Retirements	Actual Balance	Simulated Retirements	Sim Balance	Difference in Retirements	Difference in Plant Balance
1995	23617	14818	11106337	123096	11147861	-108278	-41524
1996	1667996	305971	12468362	126210	12689647	179761	-221285
1997	47569	43777	12472154	139661	12597555	-95884	-125401
1998	1492598	357006	13607746	143141	13947012	213865	-339266
1999	680036	43268	14244514	155992	14471056	-112724	-226542
2000	1920326	0	16164840	163837	16227545	-163837	-62705
2001	3392238	41883	19515195	179819	19439964	-137936	75230
2002	3030882	176705	22369372	205259	22265588	-28554	103785
2003	970936	336146	23004163	229086	23007437	107059	-3275
2004	1486176	279778	24210561	240809	24252805	38969	-42244
2005	460961	464440	24207083	256216	24457550	208223	-250467
2006	946169	143650	25009602	265376	25138344	-121726	-128741
2007	136572	108269	25037905	277831	24997084	-169562	40821
2008	234857	162121	25110641	285316	24946625	-123195	164016
2009	178245	160264	25128622	293562	24831308	-133298	297314
2010	883869	1709333	24303158	301432	25413745	1407901	-1110586
2011	484485	270115	24517528	313763	25584467	-43648	-1066939
2012	1220130	1103617	24634041	323632	26480964	779985	-1846923
2013	659719	434349	24859411	338306	26802377	96043	-1942966
2014	1007343	426925	25439829	349528	27460192	77397	-2020363
2015	310161	1150065	24599925	363193	27407161	786873	-2807236
2016	1389491	455482	25533934	372570	28424083	82912	-2890148
2017	1305270	333363	26505841	388915	29340437	-55552	-2834596
2018	592846	447051	26651636	404814	29528469	42237	-2876833
2019	244541	216243	26679934	416637	29356374	-200394	-2676440



**Account No. 362 -- Station Equipment**  
**Iowa Curve: R1 ASL: 42 Years**



**Kenergy**  
**Account No. 362 Station Equipent**  
**Sum of Square Differences (SSD) Retirements for R1**



KENERGY  
ACCOUNT INVESTMENT SUMMARY

Account 362

	Balance	Additions	Retirements	Reclassifications		Balance
	<u>Beg of Year</u>			<u>Debit</u>	<u>Credit</u>	<u>End of Year</u>
1939		3,711				3,711
1940	3,711	5,659				9,370
1941	9,370	297	100			9,567
1942	9,567	225				9,792
1943	9,792					9,792
1944	9,792	10,011				19,803
1945	19,803					19,803
1946	19,803	5,882	1,825			23,860
1947	23,860	1,114				24,974
1948	24,974	11,324	3,265			33,033
1949	33,033	64,550	1,963		1,363	94,258
1950	94,258	33,140	7,649	250	7,423	112,575
1951	112,575		8,208	3,649		108,016
1952	108,016	217,637	12,642			313,011
1953	313,011	86,467	14,230	26,578	13,681	398,145
1954	398,145	90,431				488,575
1955	488,575	80,403	11,503			557,476
1956	557,476	50,170				607,645
1957	607,645	299,881			2,184	905,343
1958	905,343	64,562	12,927	552	16,704	940,826
1959	940,826	40,741		799		982,366
1960	982,366	40,047				1,022,412
1961	1,022,412	138,637	16,164			1,144,886
1962	1,144,886	67,693	1,080			1,211,499
1963	1,211,499	257,050	89,632	384		1,379,301
1964	1,379,301	583			1,263	1,378,621
1965	1,378,621	27,703	46,970	1,652	1,738	1,359,268
1966	1,359,268	120,129	90,244		2,660	1,386,493
1967	1,386,493	115,100	24,375			1,477,217
1968	1,477,217	158,988	89,545			1,546,661
1969	1,546,661	129,648	4,819			1,671,489
1970	1,671,489	193,158	60,936		22,185	1,781,526
1971	1,781,526	67,718	20,603		15,870	1,812,771
1972	1,812,771	166,837	47,467		15,352	1,916,788
1973	1,916,788	134,419	2,557		14,989	2,033,662
1974	2,033,662	164,794				2,198,456
1975	2,198,456	308,558	153,244		7,997	2,345,772
1976	2,345,772	341,074	36,397		14,989	2,635,460
1977	2,635,460	308,357	71,524		9,104	2,863,189
1978	2,863,189	814,955	159,570		13,626	3,504,948
1979	3,504,948	649,581	2,137		0	4,152,391
1980	4,152,391	103,316				4,255,707
1981	4,255,707	619,632	52,456			4,822,882
1982	4,822,882	1,162,117	45,493		41,537	5,897,969
1983	5,897,969	545,792	27,812			6,415,950
1984	6,415,950	472,100	66,276			6,821,774
1985	6,821,774	337,455	145,962			7,013,267
1986	7,013,267	1,959,111	1,867			8,970,511
1987	8,970,511	207,261	82,366			9,095,406
1988	9,095,406	94,138	8,094			9,181,450
1989	9,181,450	1,394,073	74,234			10,501,289
1990	10,501,289	106,933	27,896			10,580,326
1991	10,580,326	363,415	2,942			10,940,799
1992	10,940,799	193,460	144,545			10,989,714

KENERGY  
ACCOUNT INVESTMENT SUMMARY

Account 362

	Balance	<u>Additions</u>	<u>Retirements</u>	Reclassifications		Balance
	<u>Beg of Year</u>			<u>Debit</u>	<u>Credit</u>	<u>End of Year</u>
1993	10,989,714	84,071	52,261	12,003		11,033,527
1994	11,033,527	111,078	47,068			11,097,537
1995	11,097,537	23,617	14,818			11,106,337
1996	11,106,337	1,667,996	305,971			12,468,362
1997	12,468,362	47,569	43,777			12,472,154
1998	12,472,154	1,492,598	357,006			13,607,746
1999	13,607,746	680,036	43,268			14,244,514
2000	14,244,514	1,920,326				16,164,840
2001	16,164,840	3,392,238	41,883			19,515,194
2002	19,515,194	3,030,882	176,705			22,369,372
2003	22,369,372	970,936	336,146			23,004,162
2004	23,004,162	1,486,176	279,778			24,210,561
2005	24,210,561	460,961	464,440			24,207,083
2006	24,207,083	946,169	143,650			25,009,602
2007	25,009,602	136,572	108,269			25,037,905
2008	25,037,905	234,857	162,121			25,110,641
2009	25,110,641	178,245	160,264			25,128,622
2010	25,128,622	883,869	1,709,333			24,303,158
2011	24,303,158	484,485	270,115			24,517,528
2012	24,517,528	1,220,130	1,103,617			24,634,041
2013	24,634,041	659,719	434,349			24,859,411
2014	24,859,411	1,007,343	426,925			25,439,829
2015	25,439,829	310,161	1,150,065			24,599,925
2016	24,599,925	1,389,491	455,482			25,533,934
2017	25,533,934	1,305,270	333,363			26,505,841
2018	26,505,841	592,846	447,051			26,651,636
2019	26,651,636	244,541	216,243			26,679,934



## **Account 364 – Poles**

Kenergy

Account 364 -- Poles Towers and Fixtures

Simulated Retirements for Iowa Curve R3.5 with ASL = 34

Year	Additions	Actual Retirements	Balance	Simulated Retirements	Sim Balance	Difference in Retirements	Difference in Plant Balance
1939	144658	0	144658	0	144658	0	0
1940	51706	521	195843	39	196325	482	-482
1941	29337	99362	125819	62	225601	99300	-99782
1942	1082	0	126902	87	226597	-87	-99695
1943	1271	12526	115647	111	227757	12415	-112110
1944	24829	5189	135287	139	252447	5050	-117160
1945	25422	10	160699	180	277689	-170	-116990
1946	19738	1466	178971	231	297196	1235	-118225
1947	18942	345	197568	288	315850	56	-118282
1948	71546	6347	262767	361	387035	5986	-124268
1949	1193274	25763	1430278	458	1579852	25306	-149574
1950	510132	24864	1915546	878	2089106	23986	-173560
1951	106440	11790	2010196	1206	2194340	10584	-184143
1952	365274	31372	2344099	1516	2558098	29855	-213999
1953	203149	24578	2522669	1975	2759272	22604	-236603
1954	181341	46568	2657442	2464	2938149	44105	-280707
1955	246247	80837	2822852	3060	3181337	77777	-358484
1956	203982	61234	2965600	3790	3381528	57444	-415928
1957	234618	57684	3142535	4629	3611518	53055	-468983
1958	308124	95455	3355204	5657	3913985	89798	-558781
1959	211857	71994	3495067	6859	4118982	65134	-623915
1960	232862	74490	3653440	8270	4343574	66219	-690134
1961	238913	44175	3848178	9919	4572568	34255	-724390
1962	-1721228	54892	2072058	11821	2839519	43071	-767461
1963	2165459	72697	4164821	13536	4991443	59161	-826622
1964	189822	53640	4301003	16470	5164795	37170	-863792
1965	232066	82868	4450200	19347	5377513	63522	-927313
1966	262207	88093	4624314	22651	5617070	65442	-992755

Kenergy  
Account 364 -- Poles Towers and Fixtures

Simulated Retirements for Iowa Curve R3.5 with ASL = 34

Year	Additions	Actual Retirements	Actual Balance	Simulated Retirements	Sim Balance	Difference in Retirements	Difference in Plant Balance
1967	424543	117456	4931402	26424	6015188	91031	-1083787
1968	362639	126830	5167211	30763	6347065	96067	-1179854
1969	994275	111271	6050215	35591	7305749	75680	-1255534
1970	435608	105684	6380138	41397	7699959	64287	-1319821
1971	519151	146254	6753036	47674	8171436	98579	-1418400
1972	462515	111672	7103879	54875	8579076	56797	-1475197
1973	483065	108931	7478014	62700	8999441	46231	-1521428
1974	566828	114948	7929894	71233	9495036	43715	-1565142
1975	744458	100882	8573470	80450	10159044	20432	-1585574
1976	468841	134561	8907751	90248	10537637	44313	-1629887
1977	858370	131693	9634428	100635	11295372	31058	-1660945
1978	1249703	207494	10676637	111758	12433317	95736	-1756680
1979	1467091	252144	11891583	123886	13776522	128259	-1884939
1980	2130091	547578	13474096	137575	15769038	410003	-2294942
1981	2192119	629251	15036965	152788	17808369	476463	-2771405
1982	1226990	363390	15900564	169567	18865792	193823	-2965228
1983	1450138	343234	17007468	186575	20129355	156659	-3121887
1984	1454539	379167	18082841	204239	21379655	174928	-3296815
1985	1636854	451344	19268351	220713	22795796	230631	-3527445
1986	1663688	565391	20366648	236860	24222624	328530	-3855976
1987	1620674	609191	21378132	251205	25592093	357986	-4213962
1988	1126207	487931	22016408	264367	26453933	223563	-4437525
1989	586075	492387	22110097	276438	26763571	215948	-4653474
1990	1774558	598656	23285999	287360	28250768	311296	-4964769
1991	2082241	689304	24678936	298139	30034870	391165	-5355934
1992	2143548	804224	26018260	309026	31869393	495198	-5851132
1993	2037980	710945	27345295	319194	33588179	391752	-6242884
1994	1953455	572931	28725820	331235	35210399	241696	-6484579

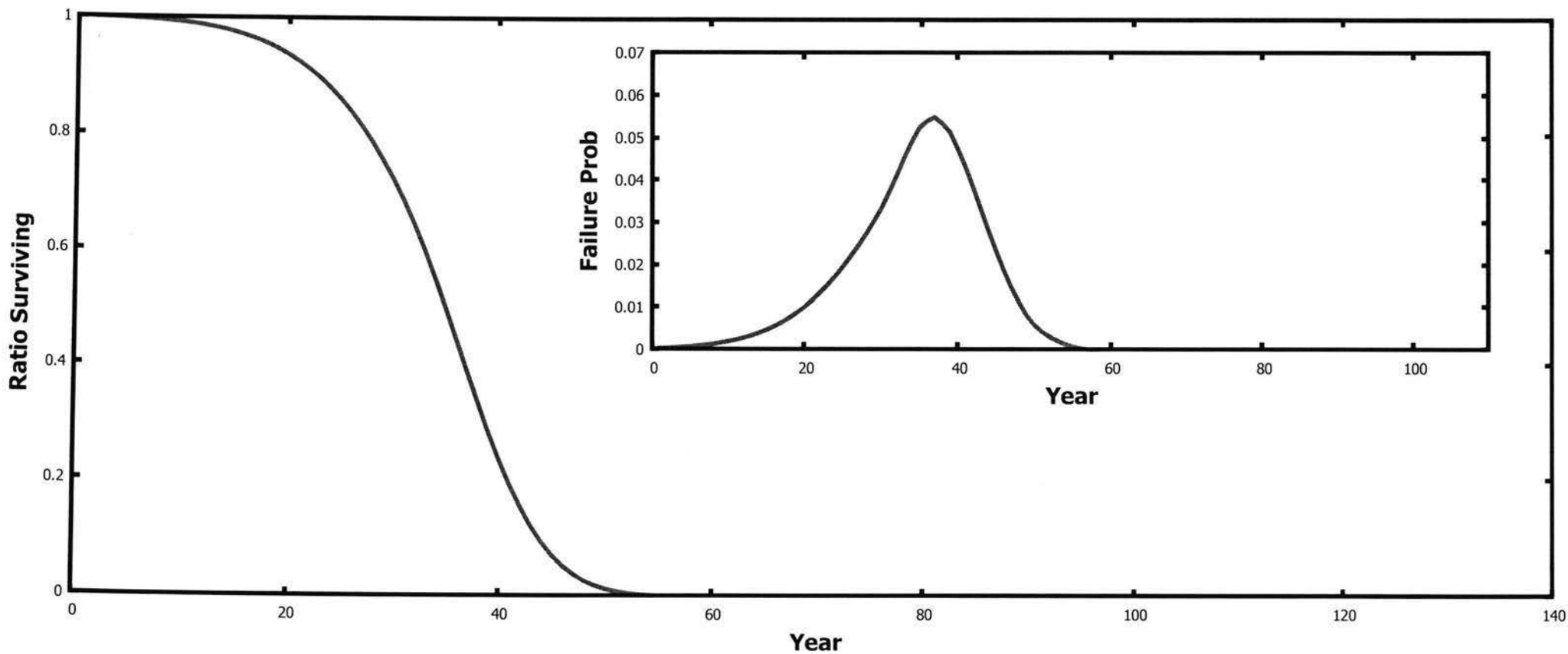


Kenergy  
 Account 364 -- Poles Towers and Fixtures

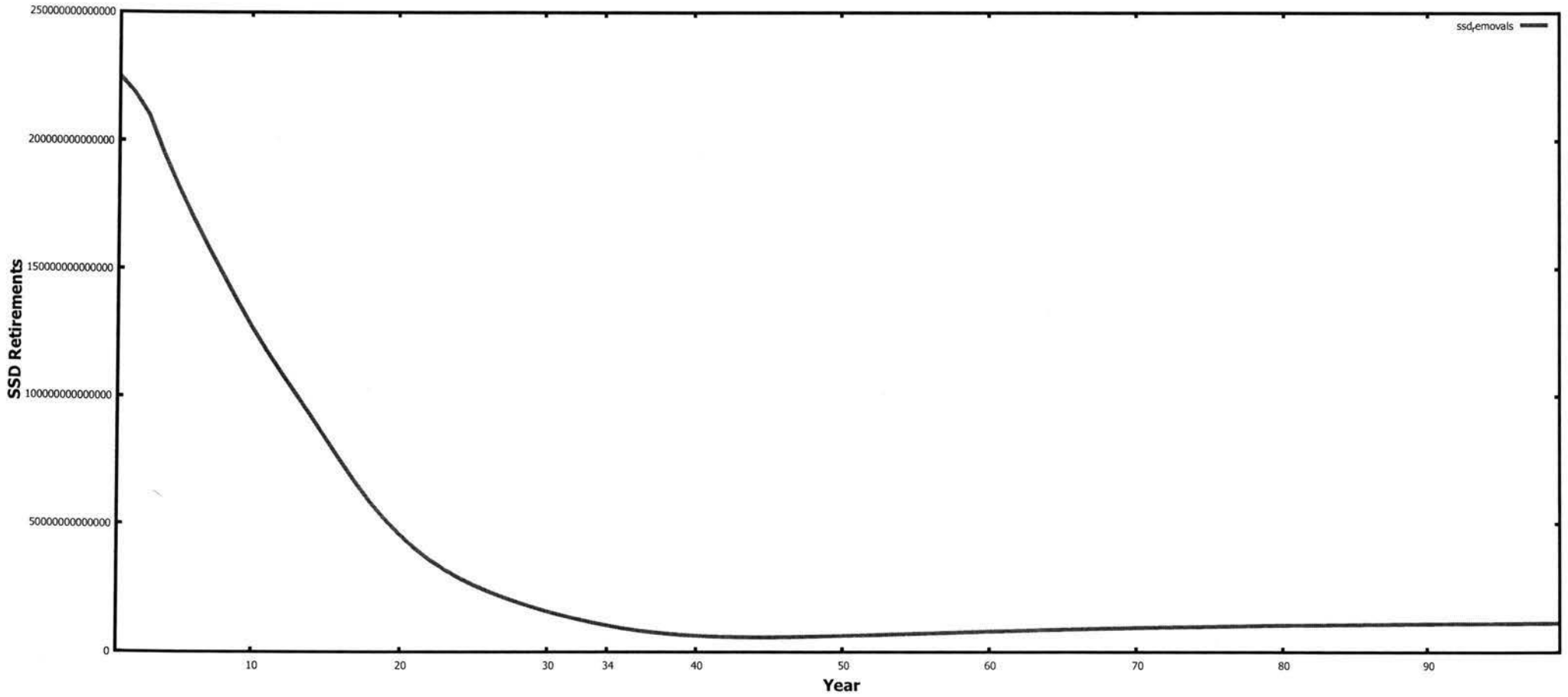
Simulated Retirements for Iowa Curve R3.5 with ASL = 34

Year	Additions	Actual Retirements	Actual Balance	Simulated Retirements	Sim Balance	Difference in Retirements	Difference in Plant Balance
1995	2042966	555076	30213710	344445	36908920	210631	-6695210
1996	2160547	481842	31892415	360698	38708769	121144	-6816355
1997	2480828	595760	33777483	379700	40809898	216060	-7032415
1998	2822431	693537	35906377	403352	43228977	290185	-7322600
1999	3796564	779629	38923312	428599	46596941	351030	-7673630
2000	4098084	709103	42312292	461424	50233602	247680	-7921309
2001	3373974	571020	45115246	494635	53112941	76386	-7997695
2002	3518166	518002	48115409	533921	56097186	-15919	-7981776
2003	3445497	466149	51094757	574139	58968543	-107990	-7873787
2004	3018608	375698	53737667	618226	61368926	-242527	-7631260
2005	2451937	500536	55689068	663939	63156925	-163403	-7467857
2006	3861410	602436	58948042	712698	66305637	-110262	-7357595
2007	3332114	423159	61856997	763561	68874190	-340402	-7017193
2008	3132748	482124	64507621	817481	71189457	-335357	-6681836
2009	4730906	1128832	68109695	874322	75046041	254510	-6936346
2010	3424342	522010	71012027	934386	77535997	-412376	-6523970
2011	2829072	337845	73503254	999304	79365765	-661459	-5862511
2012	4615259	510662	77607851	1067212	82913812	-556550	-5305961
2013	3351473	414732	80544592	1138885	85126400	-724153	-4581808
2014	3328389	415695	83457286	1213312	87241477	-797617	-3784191
2015	4801716	353534	87905468	1288347	90754846	-934813	-2849378
2016	3242933	440935	90707465	1363766	92634012	-922832	-1926546
2017	3033028	327331	93413163	1437267	94229773	-1109936	-816610
2018	2893993	263084	96044072	1508900	95614866	-1245816	429206
2019	3313493	418882	98938683	1577676	97350682	-1158795	1588001

**Account No. 364 -- Poles Towers and Fixtures**  
**Iowa Curve: R3.5 ASL: 34 Years**



**Kenergy**  
**Account No. 364 Poles, Towers and Fixtures**  
**Sum of Square Differences (SSD) Retirements for R3.5**



KENERGY  
ACCOUNT INVESTMENT SUMMARY

Account 364

	Balance <u>Beg of Year</u>	<u>Additions</u>	<u>Retirements</u>	Reclassifications		Balance <u>End of Year</u>
				<u>Debit</u>	<u>Credit</u>	
1939		144,658				144,658
1940	144,658	51,706	521			195,843
1941	195,843	29,337	99,362			125,819
1942	125,819	1,082				126,902
1943	126,902	1,271	12,526			115,647
1944	115,647	24,829	5,189			135,287
1945	135,287	25,422	10			160,699
1946	160,719	19,718	1,466			178,971
1947	178,971	18,942	345			197,568
1948	197,568	71,546	6,347			262,767
1949	473,420	992,512	25,763		9,891	1,430,278
1950	1,430,278	510,132	24,864	2,383	2,383	1,915,546
1951	1,915,546	99,398	11,790	7,553	511	2,010,196
1952	2,010,196	365,274	31,372			2,344,099
1953	2,334,099	225,320	24,578	564	12,735	2,522,669
1954	2,532,669	191,051	46,568	102	19,812	2,657,442
1955	2,657,442	246,514	80,837		267	2,822,852
1956	2,822,852	206,687	61,234	6,206	8,911	2,965,600
1957	2,965,600	231,157	57,684	3,462		3,142,535
1958	3,142,535	308,124	95,455			3,355,204
1959	3,355,174	211,897	71,994	1	11	3,495,067
1960	3,495,067	232,304	74,490	558		3,653,440
1961	3,653,440	244,278	44,175		5,365	3,848,178
1962	1,973,080	166,544	54,892		12,674	2,072,058
1963	3,927,157	308,665	72,697	1,696		4,164,821
1964	4,164,821	190,991	53,640		1,169	4,301,003
1965	4,301,003	233,111	82,868		1,045	4,450,200
1966	4,450,200	262,348	88,093		141	4,624,314
1967	4,624,314	424,543	117,456			4,931,402
1968	4,931,402	362,639	126,830			5,167,211
1969	5,167,211	457,353	111,271	536,922		6,050,215
1970	6,050,215	435,607	105,684			6,380,138
1971	6,380,138	519,576	146,254		425	6,753,036
1972	6,753,036	462,515	111,672			7,103,879
1973	7,103,879	483,065	108,931			7,478,014
1974	7,478,014	574,571	114,948		7,743	7,929,894
1975	7,929,894	744,458	100,882			8,573,470
1976	8,573,470	468,477	134,561	364		8,907,751
1977	8,907,751	858,370	131,693			9,634,428
1978	9,634,428	1,249,703	207,494			10,676,637
1979	10,676,637	1,468,872	252,144		1,781	11,891,583
1980	11,891,583	2,130,091	547,578			13,474,096
1981	13,474,096	2,188,406	629,251	3,713		15,036,965
1982	15,030,299	1,233,656	363,390			15,900,564
1983	15,900,564	1,450,138	343,234			17,007,468
1984	16,955,683	1,506,325	379,167			18,082,841
1985	18,082,841	1,638,433	451,344		1,579	19,268,351
1986	19,268,351	1,663,688	565,391			20,366,648
1987	20,366,648	1,620,674	609,191			21,378,132
1988	21,378,132	1,627,151	487,931		500,944	22,016,408
1989	22,016,408	1,586,090	492,387		1,000,014	22,110,097

**KENERGY  
ACCOUNT INVESTMENT SUMMARY**

Account 364

	Balance	<u>Additions</u>	<u>Retirements</u>	Reclassifications		Balance
	<u>Beg of Year</u>			<u>Debit</u>	<u>Credit</u>	<u>End of Year</u>
1990	22,110,097	1,774,558	598,656			23,285,999
1991	23,285,999	1,971,933	689,304	110,307		24,678,936
1992	24,678,936	2,143,548	804,224			26,018,260
1993	26,018,260	2,037,980	710,945			27,345,295
1994	27,345,295	1,953,455	572,931			28,725,820
1995	28,725,820	2,042,966	555,076			30,213,710
1996	30,213,710	2,160,547	481,842			31,892,415
1997	31,892,415	2,480,828	595,760			33,777,483
1998	33,777,483	2,824,024	693,537		1,592	35,906,377
1999	35,906,377	3,798,297	779,629		1,733	38,923,312
2000	38,923,312	4,098,084	709,103			42,312,292
2001	42,312,292	3,373,974	571,020			45,115,246
2002	45,115,246	3,518,166	518,002			48,115,409
2003	48,115,409	3,445,497	466,149			51,094,757
2004	51,094,757	3,018,608	375,698			53,737,667
2005	53,737,667	3,451,887	500,536		999,949	55,689,068
2006	55,689,068	3,861,410	602,436			58,948,042
2007	58,948,042	3,332,114	423,159			61,856,997
2008	61,856,997	3,132,748	482,124			64,507,621
2009	64,507,621	4,730,906	1,128,832			68,109,695
2010	68,109,695	3,424,342	522,010			71,012,027
2011	71,012,027	2,829,072	337,845			73,503,254
2012	73,503,254	4,615,259	510,662			77,607,851
2013	77,607,851	3,351,473	414,732			80,544,592
2014	80,544,592	3,328,389	415,695			83,457,286
2015	83,457,286	4,801,716	353,534			87,905,468
2016	87,905,468	3,242,933	440,935			90,707,465
2017	90,707,465	3,033,028	327,331			93,413,163
2018	93,413,163	2,893,993	263,084			96,044,072
2019	96,044,072	3,313,493	418,882			98,938,683

## Kenergy Annual Retirements and Net Salvage

Acct 364  
Poles, Towers & Fixtures

	<u>Plant in Service</u>	<u>Retirements</u>	<u>Retirement Ratio</u>	<u>Gross Salvage</u>	<u>Cost of Removal</u>	<u>Net Salvage</u>	<u>Net Salvage Percent</u>
2002	47,793,322	518,002	1.1%	58,565	532,996	(474,431)	-91.6%
2003	50,423,671	466,149	0.9%	67,744	533,470	(465,726)	-99.9%
2004	52,737,717	375,698	0.7%	49,830	405,802	(355,972)	-94.7%
2005	55,689,068	500,536	0.9%	71,560	358,756	(287,197)	-57.4%
2006	58,948,042	602,436	1.0%	84,455	638,450	(553,995)	-92.0%
2007	61,856,998	423,159	0.7%	120,053	499,465	(379,412)	-89.7%
2008	64,507,621	482,124	0.7%	34,454	482,762	(448,308)	-93.0%
2009	68,109,695	1,128,831	1.7%	18,669	341,510	(322,841)	-28.6%
2010	71,012,027	522,010	0.7%	28,891	445,874	(416,983)	-79.9%
2011	73,503,254	337,845	0.5%	37,084	380,065	(342,981)	-101.5%
2012	77,607,851	510,662	0.7%	91,600	583,299	(491,699)	-96.3%
2013	80,544,592	414,732	0.5%	50,131	521,281	(471,150)	-113.6%
2014	83,457,286	415,695	0.5%	47,035	509,578	(462,543)	-111.3%
2015	87,905,468	353,535	0.4%	51,259	482,401	(431,142)	-122.0%
2016	90,707,465	440,935	0.5%	25,534	579,298	(553,764)	-125.6%
2017	93,413,163	327,331	0.4%	30,316	487,024	(456,709)	-139.5%
2018	96,044,072	263,084	0.3%	10,192	399,094	(388,902)	-147.8%
2019	98,938,683	418,882	0.4%	15,355	648,515	(633,160)	-151.2%
Total	1,313,199,994	8,501,645	0.6%	892,726	8,829,640	(7,936,914)	-93.4%
						Five Year Average Net Salvage	-136.6%
						Ten Year Average Net Salvage	-116.1%
						Adjustment Factor	81%
						Adjusted Ten Year Net Salvage	-94%
						Previous	-51%
						Current Net Salvage	-51%
						Recommend Net Salvage	-60%

## **Account 365 – Overhead Conductor**

Kenergy  
 Account 365 -- Overhead Conductor and Devices

Simulated Retirements for Iowa Curve R3.5 with ASL = 37

Year	Additions	Actual Retirements	Actual Balance	Simulated Retirements	Sim Balance	Difference in Retirements	Difference in Plant Balance
1939	212852	0	212852	0	212852	0	0
1940	23379	0	236232	53	236179	-53	53
1941	145908	243	381897	68	382020	175	-123
1942	491	63383	319005	122	382388	63260	-63383
1943	5606	9731	314880	151	387843	9580	-72963
1944	64500	5770	373611	188	452156	5582	-78545
1945	196041	0	569651	250	647946	-250	-78295
1946	19985	1008	588628	350	667581	658	-78953
1947	21944	322	610251	434	689091	-112	-78840
1948	-246937	6930	356383	531	441623	6399	-85239
1949	1050207	33050	1373540	587	1491243	32463	-117703
1950	462647	20681	1815507	964	1952927	19717	-137420
1951	81052	9573	1886987	1263	2032716	8310	-145729
1952	336717	27642	2196062	1544	2367889	26098	-171827
1953	205628	28004	2373686	1954	2571563	26050	-197878
1954	201339	40173	2534852	2388	2770514	37785	-235663
1955	162713	56743	2640822	2913	2930315	53831	-289493
1956	126857	37575	2730104	3514	3053657	34061	-323554
1957	158718	41489	2847332	4209	3208166	37279	-360833
1958	236354	64701	3018985	5031	3439488	59670	-420503
1959	155279	47063	3127201	5990	3588777	41073	-461576
1960	154903	46064	3236040	7100	3736580	38963	-500540
1961	130711	23736	3343015	8348	3858943	15388	-515927
1962	383847	32119	3694744	9819	4232971	22300	-538227
1963	-43799	41306	3609640	11506	4177667	29800	-568027
1964	134298	35926	3708012	13386	4298579	22540	-590567
1965	184258	49197	3843073	15498	4467338	33699	-624265
1966	195791	55731	3983133	17961	4645168	37770	-662035



Kenergy  
 Account 365 -- Overhead Conductor and Devices

Simulated Retirements for Iowa Curve R3.5 with ASL = 37

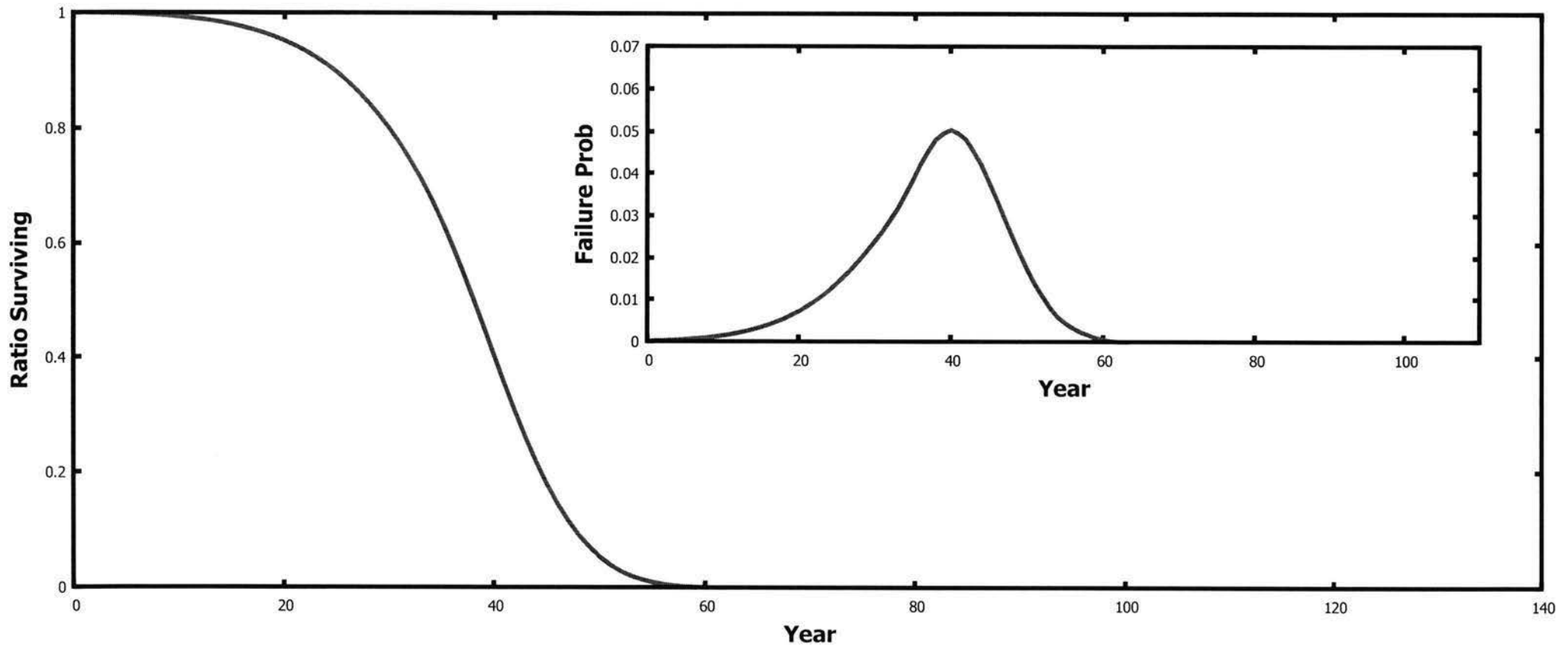
Year	Additions	Actual Retirements	Actual Balance	Simulated Retirements	Sim Balance	Difference in Retirements	Difference in Plant Balance
1967	303507	80454	4206186	20664	4928012	59791	-721825
1968	277708	48393	4435501	23789	5181931	24604	-746430
1969	252008	92381	4595128	27203	5406736	65178	-811608
1970	207557	35742	4766943	31048	5583245	4694	-816302
1971	234905	58671	4943176	35286	5782864	23385	-839688
1972	138853	42509	5039521	40007	5881710	2501	-842189
1973	153684	38575	5154629	45322	5990072	-6747	-835442
1974	141372	54218	5241783	51111	6080333	3108	-838550
1975	321172	36188	5526767	57589	6343917	-21401	-817149
1976	224722	44595	5706895	64441	6504198	-19847	-797303
1977	309776	51458	5965214	71879	6742095	-20421	-776881
1978	466123	82831	6348505	79487	7128730	3344	-780225
1979	653956	144473	6857988	87675	7695011	56798	-837023
1980	1264486	390145	7732329	95772	8863724	294372	-1131395
1981	842735	169708	8405356	104635	9601824	65072	-1196468
1982	516756	105890	8816222	113191	10005389	-7301	-1189167
1983	677100	130013	9363309	122735	10559753	7278	-1196445
1984	709767	131626	9941450	132350	11137170	-725	-1195720
1985	704201	130413	10515238	142796	11698574	-12383	-1183337
1986	654102	169534	10999806	153086	12199591	16448	-1199785
1987	673837	164102	11509541	163589	12709840	514	-1200299
1988	2094776	169790	13434527	173175	14631440	-3385	-1196914
1989	2268653	205742	15497438	182826	16717267	22915	-1219829
1990	1273949	267403	16503984	190998	17800219	76405	-1296234
1991	1493957	268988	17728954	198454	19095722	70534	-1366768
1992	1193606	292968	18629591	204539	20084788	88428	-1455197
1993	1088260	261147	19456704	209942	20963106	51205	-1506402
1994	970449	197735	20229418	214579	21718976	-16844	-1489558

Kenergy  
 Account 365 -- Overhead Conductor and Devices

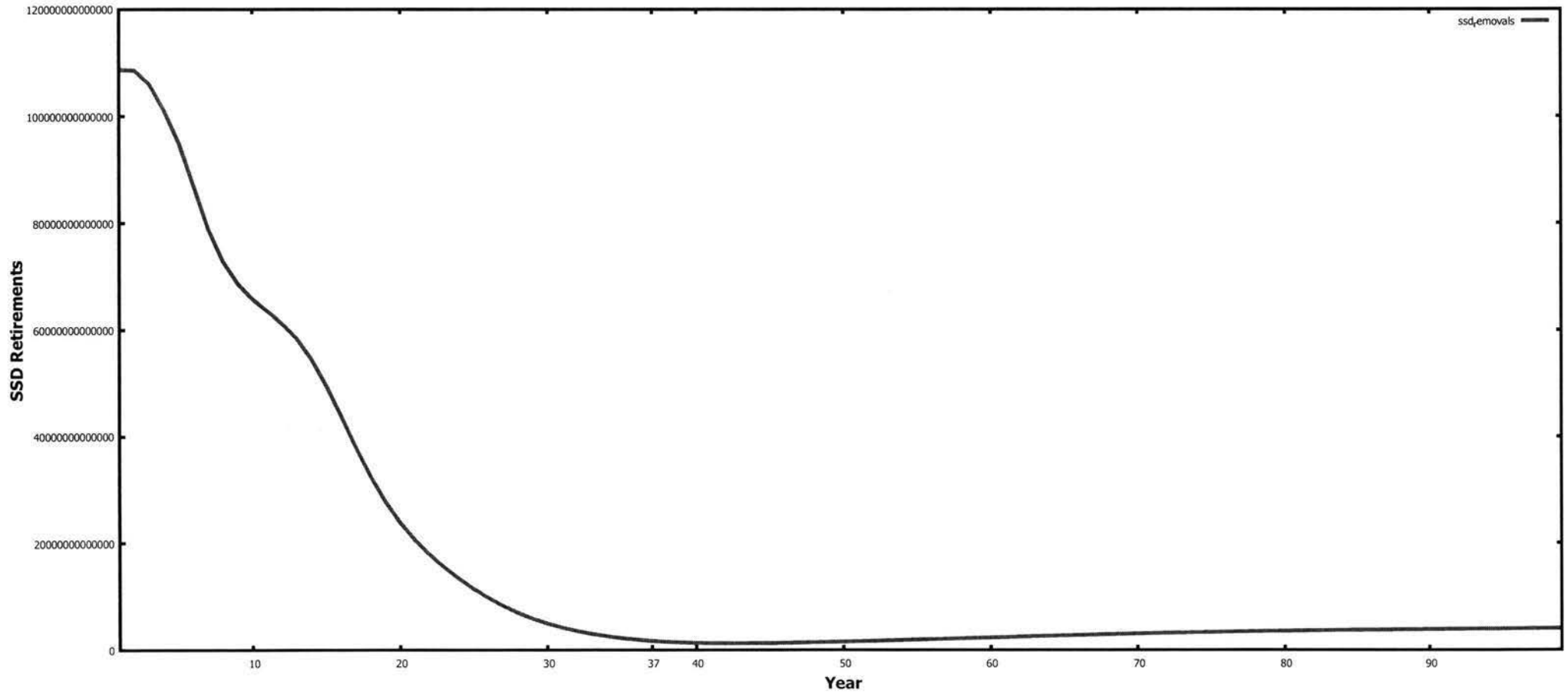
Simulated Retirements for Iowa Curve R3.5 with ASL = 37

Year	Additions	Actual Retirements	Actual Balance	Simulated Retirements	Sim Balance	Difference in Retirements	Difference in Plant Balance
1995	1294266	272033	21251652	218734	22794509	53299	-1542857
1996	1494547	217145	22529054	222938	24066118	-5793	-1537064
1997	2130735	345257	24314531	227093	25969759	118164	-1655228
1998	2435129	423651	26326009	231805	28173084	191847	-1847075
1999	3469509	598463	29197055	237165	31405428	361298	-2208373
2000	3467283	428487	32235851	243715	34628996	184772	-2393144
2001	3437752	338525	35335078	251690	37815058	86836	-2479980
2002	3218322	334663	38218737	261377	40772002	73286	-2553266
2003	2997954	286773	40929918	272600	43497356	14173	-2567438
2004	2320965	247719	43003165	286296	45532026	-38577	-2528861
2005	1184923	278876	43909211	301850	46415099	-22974	-2505887
2006	1688223	298501	45298933	319301	47784020	-20800	-2485087
2007	2008677	365743	46941867	338967	49453730	26776	-2511863
2008	1053894	245143	47750618	360794	50146830	-115651	-2396212
2009	1636064	511423	48875259	384754	51398140	126669	-2522881
2010	1300753	395822	49780190	411335	52287558	-15513	-2507368
2011	2299796	417912	51662074	440647	54146707	-22735	-2484633
2012	3565566	873046	54354594	473523	57238750	399523	-2884156
2013	2800545	599648	56555491	510250	59529044	89398	-2973553
2014	1936723	296190	58196024	550902	60914865	-254712	-2718841
2015	2211337	216444	60190917	595202	62531000	-378758	-2340083
2016	1769543	226722	61733738	643269	63657274	-416547	-1923536
2017	1051819	194018	62591540	694513	64014580	-500496	-1423040
2018	1487603	207207	63871936	748239	64753943	-541033	-882008
2019	1851839	354028	65369747	804163	65801619	-450135	-431872

**Account No. 365 -- Overhead Conductors and Devices**  
**Iowa Curve: R3.5 ASL: 37 Years**



**Kenergy**  
**Account No. 365 Overhead Conductor and Devices**  
**Sum of Square Differences (SSD) Retirements for R3.5**



KENERGY  
ACCOUNT INVESTMENT SUMMARY

Account 365

	Balance			Reclassifications		Balance End of Year
	<u>Beq of Year</u>	<u>Additions</u>	<u>Retirements</u>	<u>Debit</u>	<u>Credit</u>	
1939	155,127	57,726				212,852
1940	212,852	23,379				236,232
1941	236,232	145,908	243			381,897
1942	381,897	491	63,383			319,005
1943	319,005	5,606	9,731			314,880
1944	314,880	64,500	5,770			373,611
1945	549,214	20,438				569,651
1946	569,651	19,985	1,008			588,628
1947	588,628	21,944	322			610,251
1948	310,251	53,063	6,930			356,383
1949	445,730	968,525	33,050		7,664	1,373,540
1950	1,373,540	466,382	20,681	2,737	6,472	1,815,507
1951	1,815,507	75,409	9,573	6,059	415	1,886,987
1952	1,886,987	336,717	27,642			2,196,062
1953	2,196,062	212,603	28,004		6,975	2,373,686
1954	2,373,686	209,971	40,173		8,632	2,534,852
1955	2,534,852	166,541	56,743		3,827	2,640,822
1956	2,640,822	127,178	37,575	944	1,266	2,730,104
1957	2,730,104	158,561	41,489	156		2,847,332
1958	2,847,332	239,894	64,701		3,540	3,018,985
1959	3,019,046	158,535	47,063	11	3,328	3,127,201
1960	3,127,201	154,767	46,064	307	172	3,236,040
1961	3,236,040	129,773	23,736	1,149	211	3,343,015
1962	3,628,141	96,297	32,119	2,425		3,694,744
1963	3,409,618	252,266	41,306		10,939	3,609,640
1964	3,609,640	131,487	35,926	2,811		3,708,012
1965	3,708,012	184,758	49,197		500	3,843,073
1966	3,843,073	195,704	55,731	87		3,983,133
1967	3,983,133	303,507	80,454			4,206,186
1968	4,206,186	277,708	48,393			4,435,501
1969	4,435,501	308,036	92,381		56,028	4,595,128
1970	4,595,128	202,830	35,742	4,728		4,766,943
1971	4,766,943	236,239	58,671		1,334	4,943,176
1972	4,943,176	138,853	42,509			5,039,521
1973	5,039,520	153,684	38,575			5,154,629
1974	5,154,629	201,800	54,218		60,428	5,241,783
1975	5,241,783	319,522	36,188	1,650		5,526,767
1976	5,526,767	225,511	44,595		789	5,706,895
1977	5,706,895	309,776	51,458			5,965,214
1978	5,965,214	462,451	82,831	3,672		6,348,505
1979	6,348,505	654,346	144,473		390	6,857,988
1980	6,857,988	1,264,486	390,145			7,732,329
1981	7,732,329	841,947	169,708	1,168	381	8,405,356
1982	8,403,019	484,839	105,890	34,254		8,816,222
1983	8,816,222	677,100	130,013			9,363,309
1984	9,415,094	657,981	131,626			9,941,450
1985	9,941,450	704,201	130,413			10,515,238
1986	10,514,248	655,092	169,534			10,999,806
1987	10,999,806	673,837	164,102			11,509,541

KENERGY  
ACCOUNT INVESTMENT SUMMARY

Account 365

	Balance	<u>Additions</u>	<u>Retirements</u>	Reclassifications		Balance
	<u>Beg of Year</u>			<u>Debit</u>	<u>Credit</u>	<u>End of Year</u>
1988	11,509,541	924,478	169,790	1,170,298		13,434,527
1989	13,434,527	940,482	205,742	1,328,171		15,497,438
1990	15,497,438	1,273,949	267,403			16,503,984
1991	16,503,984	1,449,851	268,988	44,106		17,728,954
1992	17,728,954	1,193,606	292,968			18,629,591
1993	18,629,591	1,088,260	261,147			19,456,704
1994	19,456,704	970,449	197,735			20,229,418
1995	20,229,418	1,294,266	272,033			21,251,652
1996	21,251,652	1,494,547	217,145			22,529,054
1997	22,529,054	2,130,735	345,257			24,314,531
1998	24,314,531	2,435,556	423,651		428	26,326,009
1999	26,326,009	3,470,548	598,463		1,039	29,197,055
2000	29,197,055	3,467,283	428,487			32,235,851
2001	32,235,851	3,437,752	338,525			35,335,078
2002	35,335,078	3,218,322	334,663			38,218,737
2003	38,218,737	2,997,954	286,773			40,929,918
2004	40,929,918	2,320,965	247,719			43,003,165
2005	43,003,165	1,656,779	278,876		471,856	43,909,211
2006	43,909,211	1,688,223	298,501			45,298,933
2007	45,298,933	2,008,677	365,743			46,941,867
2008	46,941,867	1,053,894	245,143			47,750,618
2009	47,750,618	1,636,064	511,423			48,875,259
2010	48,875,259	1,300,753	395,822			49,780,190
2011	49,780,190	2,299,796	417,912			51,662,074
2012	51,662,074	3,565,566	873,046			54,354,594
2013	54,354,594	2,800,545	599,648			56,555,491
2014	56,555,491	1,936,723	296,190			58,196,024
2015	58,196,024	2,211,337	216,444			60,190,917
2016	60,190,917	1,769,543	226,722			61,733,738
2017	61,733,738	1,051,819	194,018			62,591,540
2018	62,591,540	1,487,603	207,207			63,871,936
2019	63,871,936	1,851,839	354,028			65,369,747



## **Account 367 – Underground Conductor**



Kenergy

Account 367 -- Underground Conductor and Devices

Simulated Retirements for Iowa Curve S3 with ASL = 41

Year	Additions	Actual Retirements	Actual Balance	Simulated Retirements	Sim Balance	Difference in Retirements	Difference in Plant Balance
1964	850	0	850	0	850	0	0
1965	6432	0	7282	0	7282	0	0
1966	17663	0	24945	0	24945	0	-0
1967	30630	0	55576	0	55576	0	0
1968	17241	770	72047	0	72817	770	-770
1969	71922	1612	142357	0	144739	1612	-2382
1970	46293	1432	187218	0	191032	1432	-3815
1971	50235	5394	232059	0	241268	5394	-9209
1972	41527	1122	272464	0	282794	1122	-10330
1973	57943	16	330391	0	340737	15	-10346
1974	13472	650	343213	1	354208	649	-10995
1975	82200	1212	424202	2	436406	1210	-12205
1976	74335	272	498264	5	510736	267	-12472
1977	238410	3388	733286	10	749137	3379	-15851
1978	175079	13705	894660	18	924198	13687	-29538
1979	177548	13959	1058249	31	1101715	13928	-43466
1980	135040	25035	1168255	52	1236703	24982	-68448
1981	99666	4186	1263735	84	1336285	4102	-72550
1982	69922	2321	1331336	131	1406076	2190	-74740
1983	145954	2704	1474585	195	1551834	2509	-77249
1984	203044	5314	1672315	288	1754590	5026	-82275
1985	261092	9204	1924204	409	2015273	8794	-91069
1986	165687	7040	2082850	577	2180383	6463	-97532
1987	104731	15421	2172160	788	2284326	14633	-112165
1988	287095	6979	2452276	1072	2570349	5907	-118073
1989	503670	105007	2850940	1417	3072602	103589	-221662
1990	474106	57709	3267337	1871	3544836	55838	-277500
1991	250809	51308	3466838	2409	3793236	48899	-326398

Kenergy  
 Account 367 -- Underground Conductor and Devices

Simulated Retirements for Iowa Curve S3 with ASL = 41

Year	Additions	Actual Retirements	Actual Balance	Simulated Retirements	Sim Balance	Difference in Retirements	Difference in Plant Balance
1992	381040	30344	3817534	3095	4171181	27248	-353647
1993	264848	16860	4065521	3895	4432134	12966	-366612
1994	336592	31201	4370913	4888	4763839	26313	-392925
1995	468861	161324	4678450	6027	5226673	155297	-548223
1996	402882	37208	5044124	7406	5622148	29802	-578024
1997	492933	32622	5504434	8970	6106111	23652	-601676
1998	593368	40596	6057206	10818	6688660	29778	-631454
1999	61941	72973	6046174	12897	6737704	60076	-691530
2000	441730	36775	6451130	15302	7164133	21473	-713003
2001	588176	33469	7005836	17987	7734321	15481	-728485
2002	548554	7603	7546787	21036	8261839	-13433	-715052
2003	821960	16260	8352487	24420	9059378	-8161	-706891
2004	891199	32904	9210782	28196	9922381	4707	-711598
2005	638194	33541	9815435	32372	10528202	1168	-712767
2006	959106	52113	10722428	36961	11450347	15152	-727919
2007	1035633	92495	11665566	42009	12443971	50486	-778405
2008	931526	46633	12550459	47490	13328007	-857	-777548
2009	600887	34370	13116976	53479	13875415	-19109	-758439
2010	1023153	79099	14061030	59916	14838651	19183	-777621
2011	808167	30525	14838672	66909	15579909	-36384	-741237
2012	868954	61153	15646473	74356	16374506	-13203	-728033
2013	830432	29502	16447403	82400	17122538	-52898	-675135
2014	1079908	31725	17495586	90910	18111536	-59185	-615950
2015	1040186	25832	18509940	100042	19051680	-74210	-541740
2016	803847	46565	19267222	109663	19745864	-63098	-478642
2017	1296477	56274	20507426	119927	20922414	-63654	-414989
2018	1115607	42558	21580475	130711	21907311	-88153	-326836
2019	1082046	64123	22598398	142161	22847196	-78038	-248798

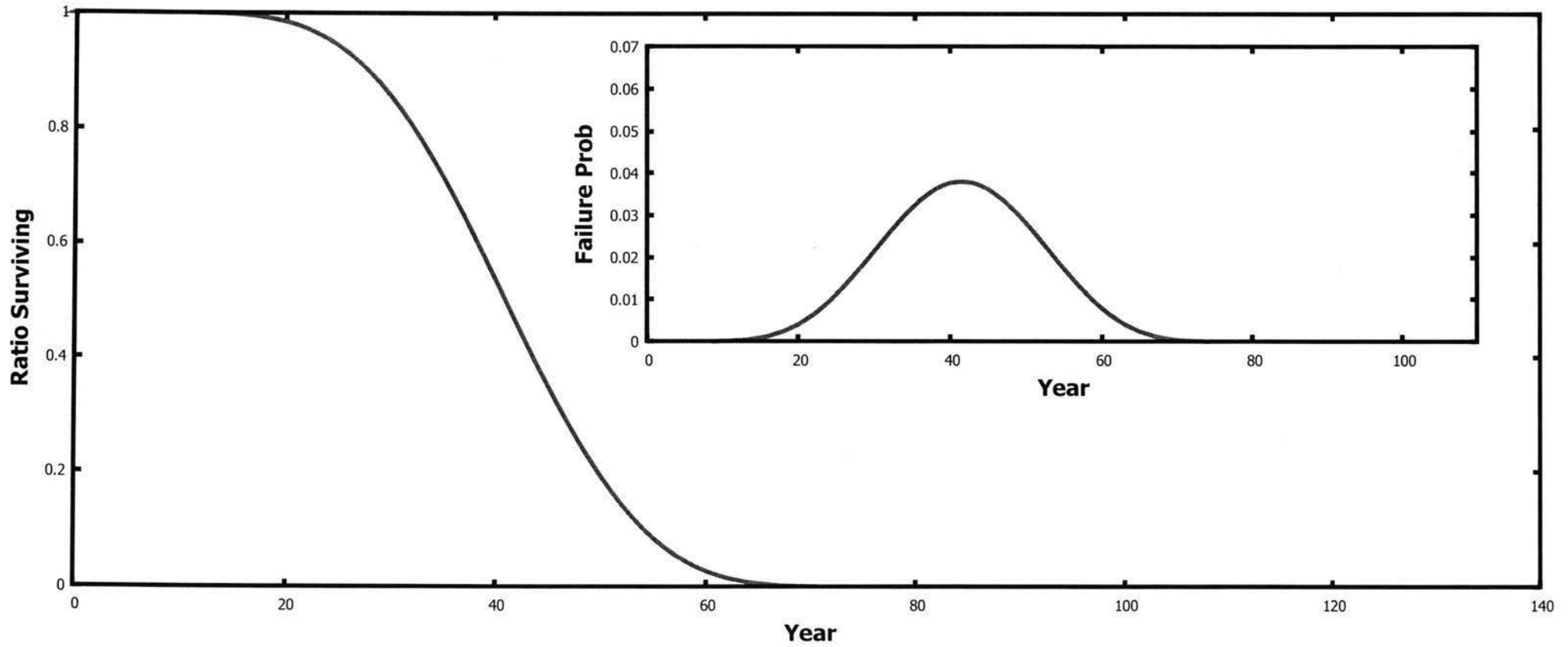
Kenergy

Account 367 -- Underground Conductor and Devices

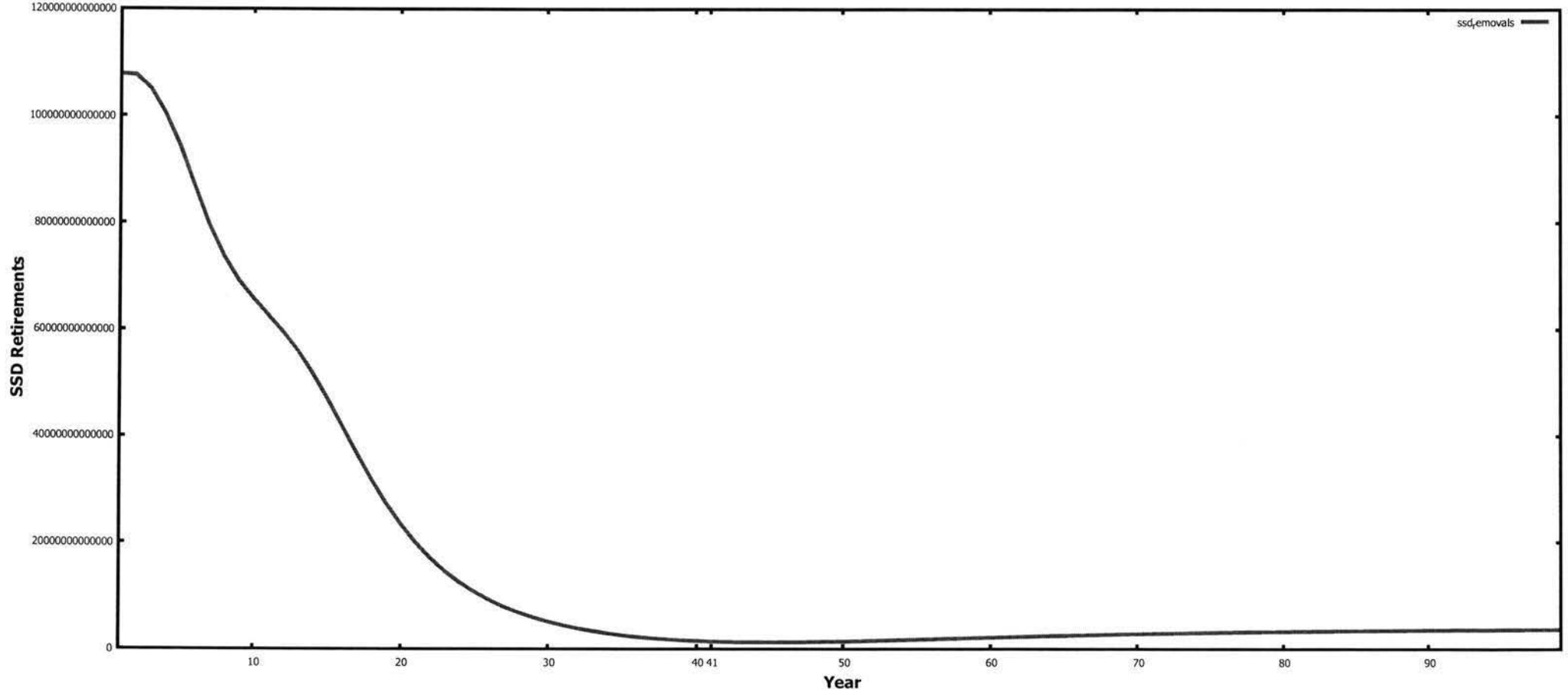
Simulated Retirements for Iowa Curve S3 with ASL = 41

Year	Additions	Actual Retirements	Actual Balance	Simulated Retirements	Sim Balance	Difference in Retirements	Difference in Plant Balance
1995	1294266	272033	21251652	154172	23987290	117860	-2735638
1996	1494547	217145	22529054	166873	25314965	50273	-2785911
1997	2130735	345257	24314531	180178	27265522	165080	-2950991
1998	2435129	423651	26326009	194211	29506440	229440	-3180431
1999	3469509	598463	29197055	208885	32767064	389578	-3570009
2000	3467283	428487	32235851	224331	36010016	204156	-3774165
2001	3437752	338525	35335078	240449	39207320	98076	-3872241
2002	3218322	334663	38218737	257384	42168257	77279	-3949521
2003	2997954	286773	40929918	275016	44891196	11757	-3961278
2004	2320965	247719	43003165	293499	46918662	-45780	-3915498
2005	1184923	278876	43909211	312715	47790870	-33839	-3881659
2006	1688223	298501	45298933	332811	49146281	-34310	-3847348
2007	2008677	365743	46941867	353695	50801263	12048	-3859396
2008	1053894	245143	47750618	375512	51479646	-130369	-3729028
2009	1636064	511423	48875259	398211	52717499	113212	-3842240
2010	1300753	395822	49780190	421945	53596306	-26123	-3816116
2011	2299796	417912	51662074	446715	55449387	-28803	-3787313
2012	3565566	873046	54354594	472697	58542256	400349	-4187662
2013	2800545	599648	56555491	499929	60842871	99719	-4287380
2014	1936723	296190	58196024	528626	62250968	-232436	-4054944
2015	2211337	216444	60190917	558842	63903463	-342398	-3712546
2016	1769543	226722	61733738	590824	65082182	-364103	-3348444
2017	1051819	194018	62591540	624623	65509378	-430605	-2917839
2018	1487603	207207	63871936	660476	66336505	-453269	-2464569
2019	1851839	354028	65369747	698416	67489928	-344388	-2120182

**Account No. 367 -- Underground Conductor and Devices**  
**Iowa Curve: S3 ASL: 41 Years**



**Kenergy**  
**Account No. 367 Underground Conductor and Devices**  
**Sum of Square Differences (SSD) Retirements for S3**



KENERGY  
ACCOUNT INVESTMENT SUMMARY

Account 367

	Balance	<u>Additions</u>	<u>Retirements</u>	Reclassifications		Balance
	<u>Beq of Year</u>			<u>Debit</u>	<u>Credit</u>	<u>End of Year</u>
1964		850				850
1965	850	2,828		3,605		7,282
1966	7,282	17,663				24,945
1967	26,520	29,056				55,576
1968	55,576	17,241	770			72,047
1969	72,047	21,023	1,612	50,900		142,357
1970	145,137	43,513	1,432			187,218
1971	187,218	50,235	5,394			232,059
1972	232,059	41,817	1,122		290	272,464
1973	264,014	66,798	16		405	330,391
1974	330,391	20,350	650		6,878	343,213
1975	343,213	82,200	1,212			424,202
1976	424,202	75,293	272		958	498,264
1977	498,264	238,410	3,388			733,286
1978	733,286	175,079	13,705			894,660
1979	894,660	180,039	13,959		2,491	1,058,249
1980	1,058,249	135,040	25,035			1,168,255
1981	1,168,255	99,666	4,186			1,263,735
1982	1,263,735	69,922	2,321			1,331,336
1983	1,331,336	145,954	2,704			1,474,585
1984	1,474,585	203,044	5,314			1,672,315
1985	1,672,315	261,665	9,204		573	1,924,204
1986	1,922,299	167,591	7,040			2,082,850
1987	2,082,850	104,731	15,421			2,172,160
1988	2,172,160	304,510	6,979		17,415	2,452,276
1989	2,452,276	441,450	105,007	62,221		2,850,940
1990	2,850,940	474,106	57,709			3,267,337
1991	3,267,337	438,245	51,308		187,436	3,466,838
1992	3,466,838	381,040	30,344			3,817,534
1993	3,817,534	264,848	16,860			4,065,521
1994	4,065,521	336,592	31,201			4,370,913
1995	4,370,913	468,861	161,324			4,678,450
1996	4,678,450	402,882	37,208			5,044,124
1997	5,044,124	492,933	32,622			5,504,434
1998	5,504,434	612,046	40,596		18,678	6,057,206
1999	6,057,206	61,941	72,973			6,046,174
2000	5,922,292	565,613	36,775			6,451,130
2001	6,451,130	588,176	33,469			7,005,836
2002	7,005,836	548,554	7,603			7,546,787
2003	7,546,787	821,960	16,260			8,352,487
2004	8,352,487	891,199	32,904			9,210,782
2005	9,210,782	928,958	33,541		290,764	9,815,435
2006	9,815,435	959,106	52,113			10,722,428
2007	10,722,428	1,035,633	92,495			11,665,566
2008	11,665,566	931,526	46,633			12,550,459
2009	12,550,459	600,887	34,370			13,116,976
2010	13,116,976	1,023,153	79,099			14,061,030

KENERGY  
ACCOUNT INVESTMENT SUMMARY

Account 367

	<u>Balance</u> <u>Beg of Year</u>	<u>Additions</u>	<u>Retirements</u>	<u>Reclassifications</u>		<u>Balance</u> <u>End of Year</u>
				<u>Debit</u>	<u>Credit</u>	
2011	14,061,030	808,167	30,525			14,838,672
2012	14,838,672	868,954	61,153			15,646,473
2013	15,646,473	830,432	29,502			16,447,403
2014	16,447,403	1,079,908	31,725			17,495,586
2015	17,495,586	1,040,186	25,832			18,509,940
2016	18,509,940	803,847	46,565			19,267,222
2017	19,267,222	1,296,477	56,274			20,507,426
2018	20,507,426	1,115,607	42,558			21,580,475
2019	21,580,475	1,082,046	64,123			22,598,398

## Kenergy Annual Retirements and Net Salvage

Acct 367  
Underground Conds & Devices

	<u>Plant in Service</u>	<u>Retirements</u>	<u>Retirement Ratio</u>	<u>Gross Salvage</u>	<u>Cost of Removal</u>	<u>Net Salvage</u>	<u>Net Salvage Percent</u>
2002	7,453,132	7,603	0.1%	(1,574)	4,726	(6,300)	-82.9%
2003	8,157,350	16,260	0.2%	(3,368)	6,060	(9,428)	-58.0%
2004	8,920,019	32,904	0.4%	(2,033)	6,446	(8,479)	-25.8%
2005	9,815,435	33,541	0.3%	(3,177)	650	(3,827)	-11.4%
2006	10,722,428	52,113	0.5%	349	29,084	(28,735)	-55.1%
2007	11,665,566	92,495	0.8%	8,500	49,338	(40,838)	-44.2%
2008	12,550,459	46,633	0.4%	4,495	10,976	(6,481)	-13.9%
2009	13,116,976	34,370	0.3%	1,870	17,153	(15,283)	-44.5%
2010	14,061,030	79,099	0.6%	167	30,569	(30,402)	-38.4%
2011	14,838,672	30,525	0.2%	272	19,087	(18,815)	-61.6%
2012	15,646,473	61,153	0.4%	3,710	16,865	(13,155)	-21.5%
2013	16,447,403	29,502	0.2%	214	14,895	(14,681)	-49.8%
2014	17,495,586	31,725	0.2%	30	16,513	(16,483)	-52.0%
2015	18,509,940	25,832	0.1%	(688)	26,219	(26,907)	-104.2%
2016	19,267,222	46,565	0.2%	(2,807)	30,015	(32,822)	-70.5%
2017	20,507,426	56,274	0.3%	(981)	70,376	(71,357)	-126.8%
2018	21,580,475	42,558	0.2%	(1,263)	21,488	(22,751)	-53.5%
2019	22,598,398	64,123	0.3%	(2,547)	33,299	(35,846)	-55.9%
Total	263,353,990	783,274	0.3%	1,171	403,761	(402,590)	-51.4%
						Five Year Average Net Salvage	-80.6%
						Ten Year Average Net Salvage	-60.6%
						Adjustment Factor	81%
						Adjusted Net Salvage	-49%
						Previous	-30%
						Current Net Salvage	-31%
						Recommend Net Salvage	-35%



## **Account 368 – Transformers**

Kenergy  
 Account 368 -- Line Transformers

Simulated Retirements for Iowa Curve L2.5 with ASL = 41

Year	Additions	Actual Retirements	Actual Balance	Simulated Retirements	Sim Balance	Difference in Retirements	Difference in Plant Balance
1939	68195	0	68195	0	68195	0	0
1940	58707	124	126778	2	126900	122	-122
1941	30207	1068	155916	5	157102	1064	-1186
1942	38612	0	194528	13	195701	-13	-1173
1943	10328	470	204387	31	205998	438	-1611
1944	27629	1381	230634	57	233570	1324	-2935
1945	19273	170	249737	92	252751	78	-3013
1946	38074	1478	286334	139	290685	1339	-4352
1947	256502	329	542507	198	546989	131	-4483
1948	179214	5213	716507	279	725924	4935	-9418
1949	288482	4857	1000132	374	1014032	4482	-13900
1950	267232	13863	1253501	511	1280753	13352	-27252
1951	103169	24432	1332239	694	1383229	23738	-50990
1952	200861	20335	1512765	927	1583162	19408	-70397
1953	162484	51567	1623683	1233	1744414	50334	-120731
1954	182245	37101	1768827	1613	1925046	35488	-156219
1955	198228	36889	1930166	2077	2121196	34811	-191030
1956	281918	34620	2177464	2654	2400461	31967	-222997
1957	276518	40375	2413607	3339	2673640	37037	-260033
1958	286333	26002	2673938	4154	2955819	21848	-281881
1959	254852	20438	2908353	5101	3205571	15337	-297218
1960	171076	26583	3052845	6198	3370448	20385	-317603
1961	219654	12540	3259959	7455	3582647	5085	-322688
1962	248286	69583	3438662	8897	3822036	60686	-383374
1963	212037	29528	3621172	10531	4023543	18997	-402371
1964	181111	31361	3770922	12411	4192242	18949	-421320
1965	203130	119350	3854702	14535	4380837	104815	-526135
1966	249867	56476	4048094	16947	4613757	39529	-565664

Kenergy  
Account 368 -- Line Transformers

Simulated Retirements for Iowa Curve L2.5 with ASL = 41

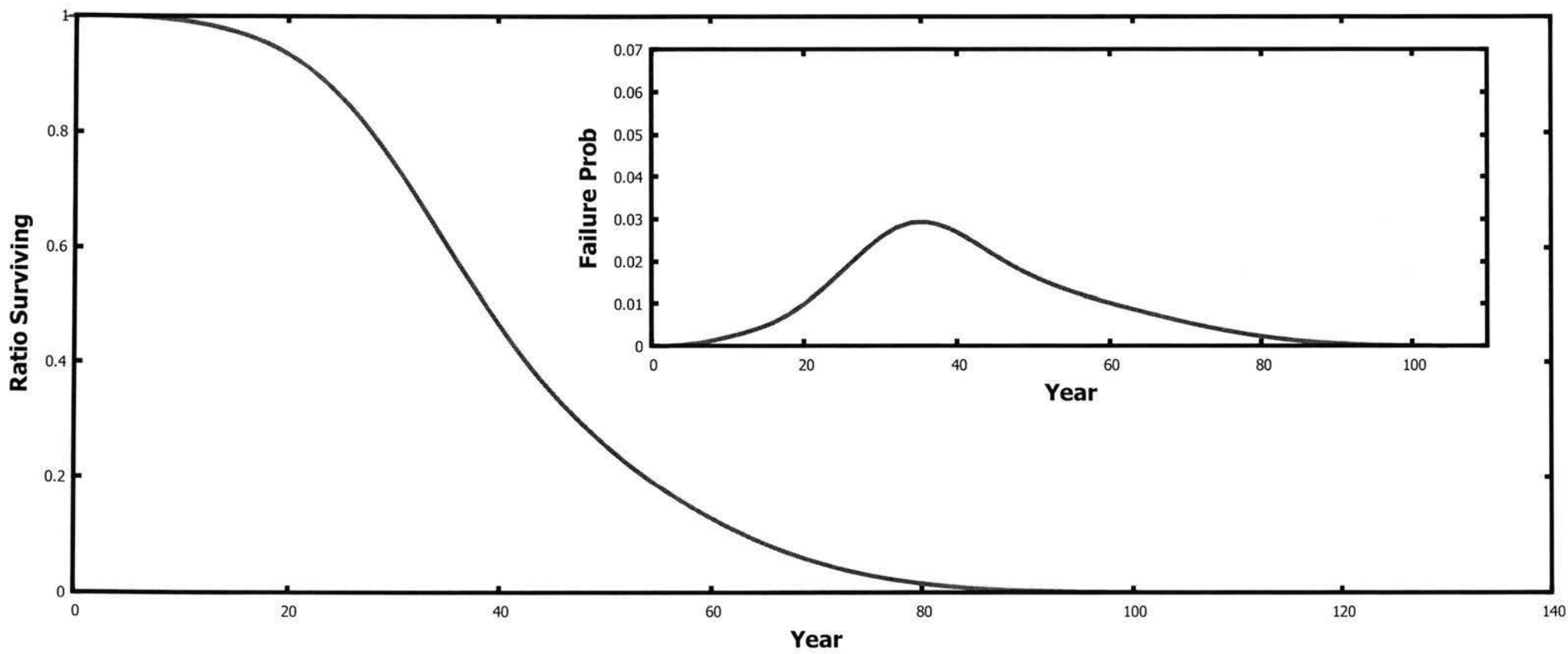
Year	Additions	Actual Retirements	Actual Balance	Simulated Retirements	Sim Balance	Difference in Retirements	Difference in Plant Balance
1967	288260	59583	4276771	19638	4882380	39945	-605609
1968	328411	179574	4425607	22621	5188169	156953	-762562
1969	355567	167929	4613245	25915	5517822	142015	-904577
1970	391279	108461	4896063	29522	5879579	78939	-983515
1971	351786	99957	5147892	33467	6197897	66490	-1050005
1972	411255	121532	5437615	37743	6571410	83789	-1133795
1973	478326	89210	5826730	42391	7007344	46819	-1180614
1974	444326	104728	6166329	47372	7404299	57356	-1237970
1975	442614	88811	6520131	52722	7794191	36090	-1274059
1976	566506	94181	6992457	58381	8302316	35799	-1309859
1977	857778	150591	7699643	64384	9095710	86207	-1396066
1978	1092878	170078	8622443	70650	10117937	99428	-1495494
1979	738252	132985	9227711	77211	10778979	55774	-1551268
1980	679038	222176	9684573	84007	11374010	138169	-1689437
1981	786271	174460	10296383	91074	12069206	83386	-1772823
1982	505918	164219	10638082	98364	12476761	65856	-1838679
1983	592403	183733	11046751	105829	12963334	77905	-1916583
1984	697307	141867	11602191	113510	13547132	28358	-1944941
1985	855862	179653	12278400	121355	14281638	58298	-2003238
1986	749534	227449	12800485	129392	14901780	98057	-2101295
1987	768703	195267	13373921	137582	15532901	57685	-2158980
1988	260500	235708	13398713	145986	15647414	89721	-2248701
1989	574090	181698	13791105	154573	16066931	27125	-2275826
1990	639075	207875	14222305	163388	16542618	44487	-2320313
1991	617336	251268	14588373	172418	16987537	78850	-2399163
1992	765559	205087	15148845	181727	17571369	23360	-2422524
1993	722058	244227	15626677	191407	18102020	52820	-2475343
1994	767058	178741	16214994	201483	18667594	-22743	-2452600

Kenergy  
 Account 368 -- Line Transformers

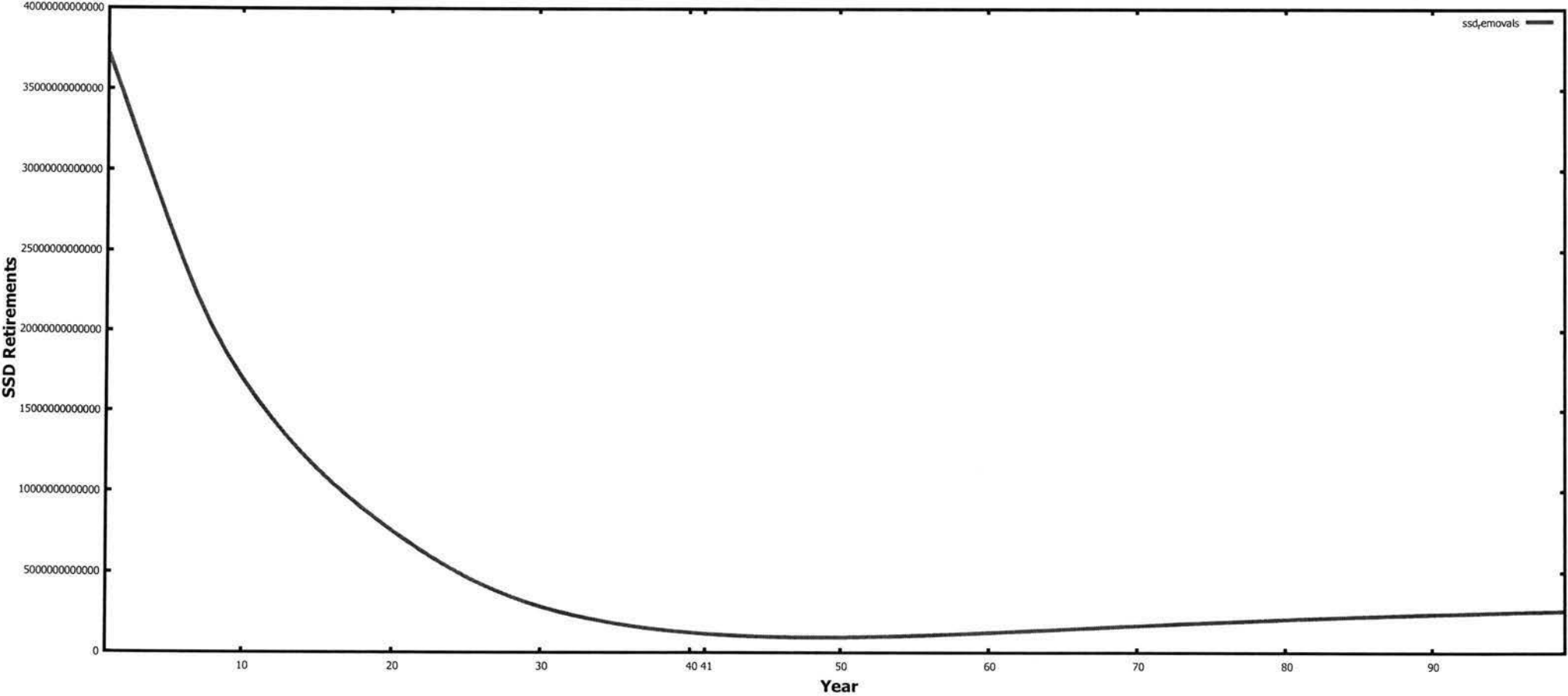
Simulated Retirements for Iowa Curve L2.5 with ASL = 41

Year	Additions	Actual Retirements	Actual Balance	Simulated Retirements	Sim Balance	Difference in Retirements	Difference in Plant Balance
1995	948813	210595	16953212	212053	19404354	-1459	-2451142
1996	1325860	163959	18115113	223113	20507101	-59154	-2391987
1997	1051898	122390	19044621	234722	21324277	-112331	-2279656
1998	1530626	241574	20333673	246902	22608002	-5327	-2274329
1999	1700761	388619	21645815	259685	24049078	128934	-2403262
2000	1630254	331922	22944147	273125	25406207	58798	-2462060
2001	817472	311480	23450138	287191	25936488	24290	-2486349
2002	1139637	394443	24195333	301961	26774164	92482	-2578831
2003	775448	218669	24752112	317328	27232283	-98660	-2480171
2004	1074882	252757	25574237	333286	27973879	-80529	-2399643
2005	930266	214478	26290025	349602	28554544	-135124	-2264519
2006	1200669	349539	27141155	366356	29388857	-16817	-2247702
2007	1080139	213569	28007725	383305	30085691	-169736	-2077966
2008	1589000	284485	29312240	400459	31274232	-115974	-1961992
2009	1494756	796058	30010938	417640	32351348	378418	-2340410
2010	990238	331302	30669874	434846	32906740	-103544	-2236866
2011	1524996	331762	31863108	452025	33979711	-120263	-2116603
2012	1999382	330963	33531527	469153	35509941	-138190	-1978414
2013	1931494	245547	35217474	486358	36955077	-240811	-1737603
2014	1722695	176208	36763961	503502	38174271	-327294	-1410310
2015	1713133	177847	38299247	521014	39366390	-343166	-1067143
2016	1671147	263442	39706952	538638	40498899	-275196	-791947
2017	1712460	230727	41188685	556835	41654524	-326108	-465839
2018	1628819	221675	42595829	575185	42708159	-353509	-112330
2019	2146878	327500	44415207	594296	44260740	-266797	154467

**Account No. 368 -- Line Transformers**  
**Iowa Curve: L2.5 ASL: 41 Years**



**Kenergy**  
**Account No. 368 Line Transformers**  
**Sum of Square Differences (SSD) Retirements for L2.5**



KENERGY  
ACCOUNT INVESTMENT SUMMARY

Account 368

	Balance			Reclassifications		Balance	
	<u>Beg of Year</u>	<u>Additions</u>	<u>Retirements</u>	<u>Debit</u>	<u>Credit</u>	<u>End of Year</u>	
1939	47,027	21,168				68,195	47,027
1940	98,195	28,707	124			126,778	30,000
1941	126,777	30,208	1,068			155,916	(1)
1942	155,916	38,612				194,528	-
1943	194,528	10,328	470			204,387	-
1944	204,387	27,629	1,381			230,634	-
1945	230,634	19,273	170			249,737	-
1946	249,737	38,074	1,478			286,334	-
1947	286,334	256,502	329			542,507	-
1948	542,507	179,214	5,213			716,507	-
1949	716,507	398,668	4,857	2,550	112,735	1,000,132	-
1950	1,000,132	284,314	13,863	5,514	22,596	1,253,501	-
1951	1,253,501	152,533	24,432	30,310	79,674	1,332,239	-
1952	1,332,239	202,049	20,335	1,892	3,081	1,512,765	-
1953	1,512,765	181,713	51,567		19,229	1,623,683	-
1954	1,623,683	183,154	37,101		909	1,768,827	-
1955	1,768,827	200,523	36,889		2,296	1,930,166	-
1956	1,930,166	282,872	34,620		954	2,177,464	-
1957	2,177,464	281,227	40,375		4,709	2,413,607	-
1958	2,413,607	283,996	26,002	5,090	2,753	2,673,938	-
1959	2,673,932	275,336	20,438	780	21,258	2,908,353	(6)
1960	2,908,353	180,709	26,583	608	10,240	3,052,845	-
1961	3,052,845	220,839	12,540	1,445	2,631	3,259,959	-
1962	3,259,959	246,006	69,583	4,323	2,043	3,438,662	-
1963	3,438,662	212,539	29,528		502	3,621,172	-
1964	3,621,172	199,046	31,361		17,936	3,770,922	-
1965	3,770,922	204,388	119,350		1,258	3,854,702	-
1966	3,854,702	248,293	56,476	1,574		4,048,094	-
1967	4,049,180	287,174	59,583			4,276,771	1,086
1968	4,276,771	328,411	179,574			4,425,607	-
1969	4,425,607	357,108	167,929	317	1,858	4,613,245	-
1970	4,613,245	377,635	108,461	17,457	3,812	4,896,063	(0)
1971	4,896,063	339,410	99,957	15,870	3,494	5,147,892	-
1972	5,147,892	396,493	121,532	15,352	590	5,437,615	0
1973	5,437,615	463,554	89,210	14,989	217	5,826,730	0
1974	5,826,730	395,986	104,728	48,341		6,166,329	-
1975	6,166,329	439,651	88,811	6,347	3,384	6,520,131	-
1976	6,520,132	551,099	94,181	15,406		6,992,457	1
1977	6,992,456	849,138	150,591	8,641		7,699,643	(1)
1978	7,699,643	1,082,332	170,078	10,546		8,622,443	-
1979	8,622,433	738,262	132,985			9,227,711	(10)
1980	9,230,212	678,778	222,176		2,241	9,684,573	2,501
1981	9,684,573	786,271	174,460			10,296,383	-
1982	10,295,956	499,106	164,219	7,239		10,638,082	(427)
1983	10,638,082	592,403	183,733			11,046,751	-
1984	11,046,751	697,307	141,867			11,602,191	-
1985	11,602,191	855,862	179,653			12,278,400	-
1986	12,277,827	750,107	227,449			12,800,485	(573)
1987	12,800,485	768,703	195,267			13,373,921	-
1988	13,373,921	694,391	235,708		433,891	13,398,713	-
1989	13,398,713	867,211	181,698		293,121	13,791,105	-
1990	13,791,105	639,075	207,875			14,222,305	-
1991	14,222,305	609,677	251,268	7,659		14,588,373	-
1992	14,588,373	765,559	205,087			15,148,845	-
1993	15,148,845	734,062	244,227		12,003	15,626,677	-
1994	15,626,677	767,058	178,741			16,214,994	-

KENERGY  
ACCOUNT INVESTMENT SUMMARY

Account 368

	Balance			Reclassifications		Balance	
	<u>Beg of Year</u>	<u>Additions</u>	<u>Retirements</u>	<u>Debit</u>	<u>Credit</u>	<u>End of Year</u>	
1995	16,214,994	948,813	210,595			16,953,212	-
1996	16,953,212	1,325,860	163,959			18,115,113	-
1997	18,115,113	1,051,898	122,390			19,044,621	-
1998	19,044,621	1,559,802	241,574		29,176	20,333,673	-
1999	20,333,673	1,704,766	388,619		4,005	21,645,815	-
2000	21,645,815	1,630,254	331,922			22,944,147	-
2001	22,944,147	817,472	311,480			23,450,138	-
2002	23,450,138	1,139,637	394,443			24,195,333	-
2003	24,195,333	775,448	218,669			24,752,112	-
2004	24,752,112	1,074,882	252,757			25,574,237	-
2005	25,574,237	991,614	214,478		61,347	26,290,025	-
2006	26,290,025	1,200,669	349,539			27,141,155	0
2007	27,141,155	1,080,139	213,569			28,007,725	-
2008	28,007,725	1,589,000	284,485			29,312,240	-
2009	29,312,240	1,494,756	796,058			30,010,938	-
2010	30,010,938	990,238	331,302			30,669,874	-
2011	30,669,874	1,524,996	331,762			31,863,108	-
2012	31,863,108	1,999,382	330,963			33,531,527	-
2013	33,531,527	1,931,494	245,547			35,217,474	-
2014	35,217,474	1,722,695	176,208			36,763,961	-
2015	36,763,961	1,713,133	177,847			38,299,247	-
2016	38,299,247	1,671,147	263,442			39,706,952	-
2017	39,706,952	1,712,460	230,727			41,188,685	-
2018	41,188,685	1,628,819	221,675			42,595,829	-
2019	42,595,829	2,146,878	327,500			44,415,207	-



## Kenergy Annual Retirements and Net Salvage

Acct 368  
Line Transformers

	<u>Plant in Service</u>	<u>Retirements</u>	<u>Retirement Ratio</u>	<u>Gross Salvage</u>	<u>Cost of Removal</u>	<u>Net Salvage</u>	<u>Net Salvage Percent</u>
2002	24,175,573	394,443	1.6%	17,224	222,083	(204,859)	-51.9%
2003	24,710,940	218,669	0.9%	13,660	136,092	(122,432)	-56.0%
2004	25,512,889	252,757	1.0%	(4,122)	157,064	(161,186)	-63.8%
2005	26,290,025	214,478	0.8%	6,363	115,691	(109,328)	-51.0%
2006	27,141,155	349,539	1.3%	3,416	201,623	(198,207)	-56.7%
2007	28,007,724	213,569	0.8%	10,053	135,384	(125,331)	-58.7%
2008	29,312,240	284,485	1.0%	156,967	219,363	(62,396)	-21.9%
2009	30,010,938	796,058	2.7%	26,346	289,878	(263,532)	-33.1%
2010	30,669,874	331,302	1.1%	18,721	262,597	(243,876)	-73.6%
2011	31,863,108	331,762	1.0%	46,219	259,343	(213,124)	-64.2%
2012	33,531,527	330,963	1.0%	56,952	282,153	(225,201)	-68.0%
2013	35,217,474	245,547	0.7%	39,328	261,699	(222,371)	-90.6%
2014	36,763,961	176,208	0.5%	34,529	191,663	(157,134)	-89.2%
2015	38,299,247	177,848	0.5%	14,917	175,947	(161,030)	-90.5%
2016	39,706,952	263,442	0.7%	(5,679)	281,094	(286,773)	-108.9%
2017	41,188,685	230,727	0.6%	4,452	264,113	(259,661)	-112.5%
2018	42,595,829	221,675	0.5%	4,207	214,253	(210,046)	-94.8%
2019	44,415,207	327,500	0.7%	21,597	420,095	(398,499)	-121.7%
Total	589,413,348	5,360,971	0.9%	465,150	4,090,136	(3,624,986)	-67.6%
						Five Year Average Net Salvage	-107.8%
						Ten Year Average Net Salvage	-90.2%
						Adjustment Factor	81%
						Adjusted Net Salvage	-73%
						Previous	-33%
						Current Net Salvage	39%
						Recommend Net Salvage	-42%

## **Account 369 – Services**

Kenergy  
 Account 369 -- Services

Simulated Retirements for Iowa Curve R5 with ASL = 34

Year	Additions	Actual Retirements	Balance	Simmulated Retirements	Sim Balance	Difference in Retirements	Difference in Plant Balance
1939	35658	0	35658	0	35658	0	0
1940	8542	42	44158	0	44200	42	-42
1941	12017	10868	45308	0	56217	10868	-10909
1942	7692	4	52995	0	63909	4	-10914
1943	1460	2126	52329	0	65369	2126	-13040
1944	9842	1366	60805	0	75210	1366	-14406
1945	3373	0	64178	0	78584	0	-14406
1946	2721	209	66689	0	81304	209	-14615
1947	2205	72	68823	0	83509	72	-14687
1948	12969	1169	80623	0	96478	1169	-15856
1949	146641	2933	224331	0	243120	2933	-18789
1950	97117	4235	317213	0	340237	4235	-23024
1951	33461	3585	347088	0	373697	3585	-26609
1952	69269	3898	412459	0	442966	3898	-30507
1953	77586	7082	482963	0	520552	7082	-37589
1954	38564	8639	512888	2	559114	8637	-46226
1955	62542	17052	558378	5	621651	17047	-63274
1956	55044	14456	598966	13	676682	14443	-77717
1957	61330	16339	643956	25	737988	16315	-94031
1958	47831	17003	674784	50	785768	16952	-110984
1959	49618	17076	707326	84	835302	16992	-127976
1960	51287	18993	739620	142	886447	18851	-146826
1961	56338	17369	778589	217	942568	17152	-163978
1962	43279	16517	805352	324	985523	16193	-180171
1963	69738	18331	856760	468	1054794	17863	-198034
1964	71231	15766	912225	646	1125378	15119	-213154
1965	77787	25166	964846	905	1202261	24262	-237416
1966	80653	29352	1016147	1230	1281685	28122	-265538

Kenergy  
 Account 369 -- Services

Simulated Retirements for Iowa Curve R5 with ASL = 34

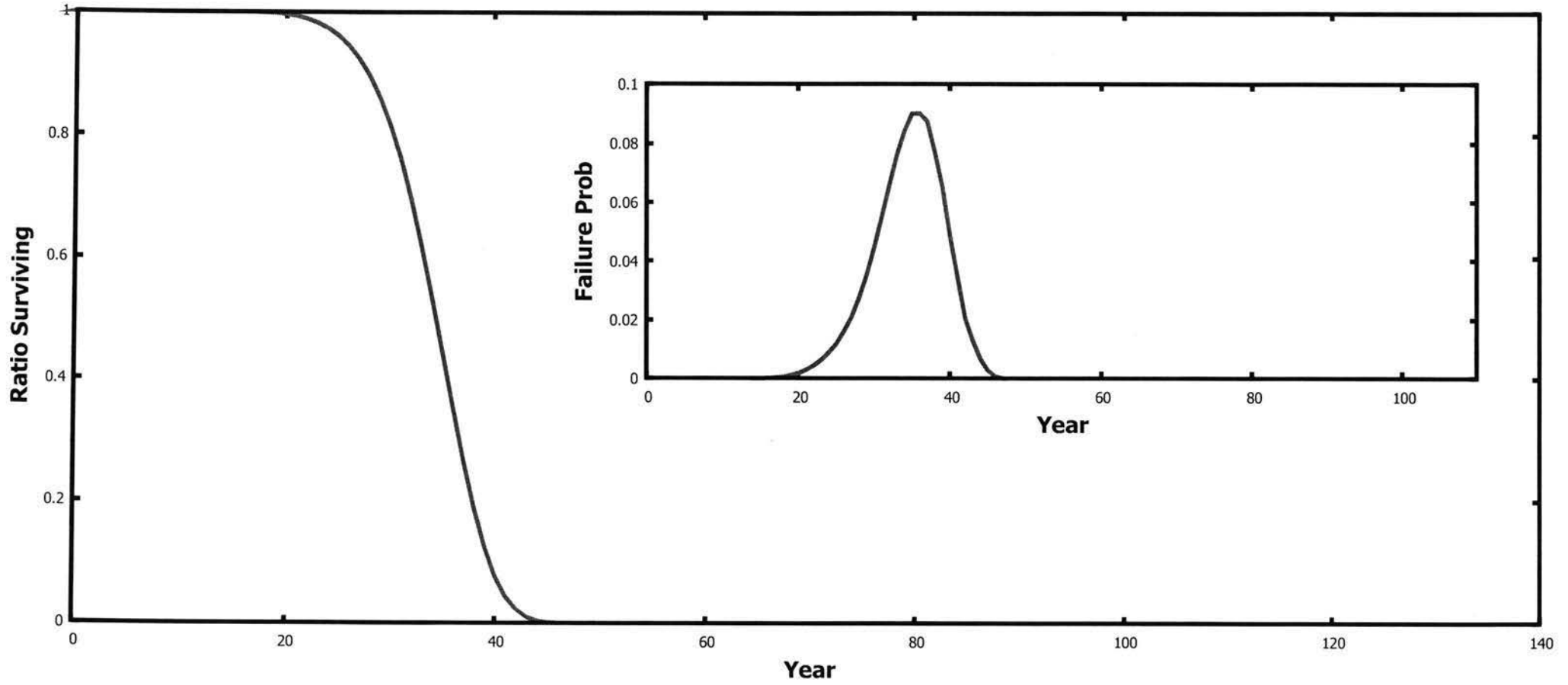
Year	Additions	Actual Retirements	Actual Balance	Simulated Retirements	Sim Balance	Difference in Retirements	Difference in Plant Balance
1967	72375	29664	1058857	1686	1352374	27978	-293516
1968	71813	32822	1097848	2285	1421902	30538	-324054
1969	93003	29609	1161243	3047	1511858	26561	-350615
1970	97155	30981	1227417	4027	1604986	26953	-377569
1971	104339	35525	1296231	5200	1704125	30326	-407894
1972	97146	34946	1358431	6576	1794695	28369	-436264
1973	106693	39952	1425172	8143	1893245	31810	-468073
1974	129796	35768	1519200	9866	2013175	25902	-493975
1975	166720	36804	1649116	11733	2168162	25071	-519046
1976	137727	41503	1745341	13833	2292056	27669	-546716
1977	250308	43683	1951966	16092	2526272	27590	-574306
1978	306061	58126	2199902	18777	2813556	39349	-613655
1979	370545	74492	2495955	21819	3162282	52673	-666328
1980	311745	82459	2725241	25497	3448531	56962	-723290
1981	290474	74847	2940868	29770	3709234	45077	-768367
1982	262730	65476	3138122	34646	3937318	30830	-799197
1983	368529	66754	3439897	39844	4266003	26910	-826106
1984	374928	74113	3740712	45122	4595810	28991	-855098
1985	361060	88221	4013551	49930	4906939	38291	-893389
1986	330776	102926	4241401	54157	5183559	48769	-942158
1987	283822	97246	4427977	57185	5410196	40061	-982219
1988	166029	98652	4495354	59089	5517135	39563	-1021781
1989	423251	89358	4829247	59786	5880600	29572	-1051354
1990	416055	92324	5152978	59801	6236854	32523	-1083876
1991	438307	103212	5488072	59350	6615811	43863	-1127739
1992	419430	110392	5797110	59289	6975952	51103	-1178842
1993	425680	92682	6130108	59417	7342215	33265	-1212107
1994	498643	79177	6549574	60004	7780854	19173	-1231280

Kenergy  
Account 369 -- Services

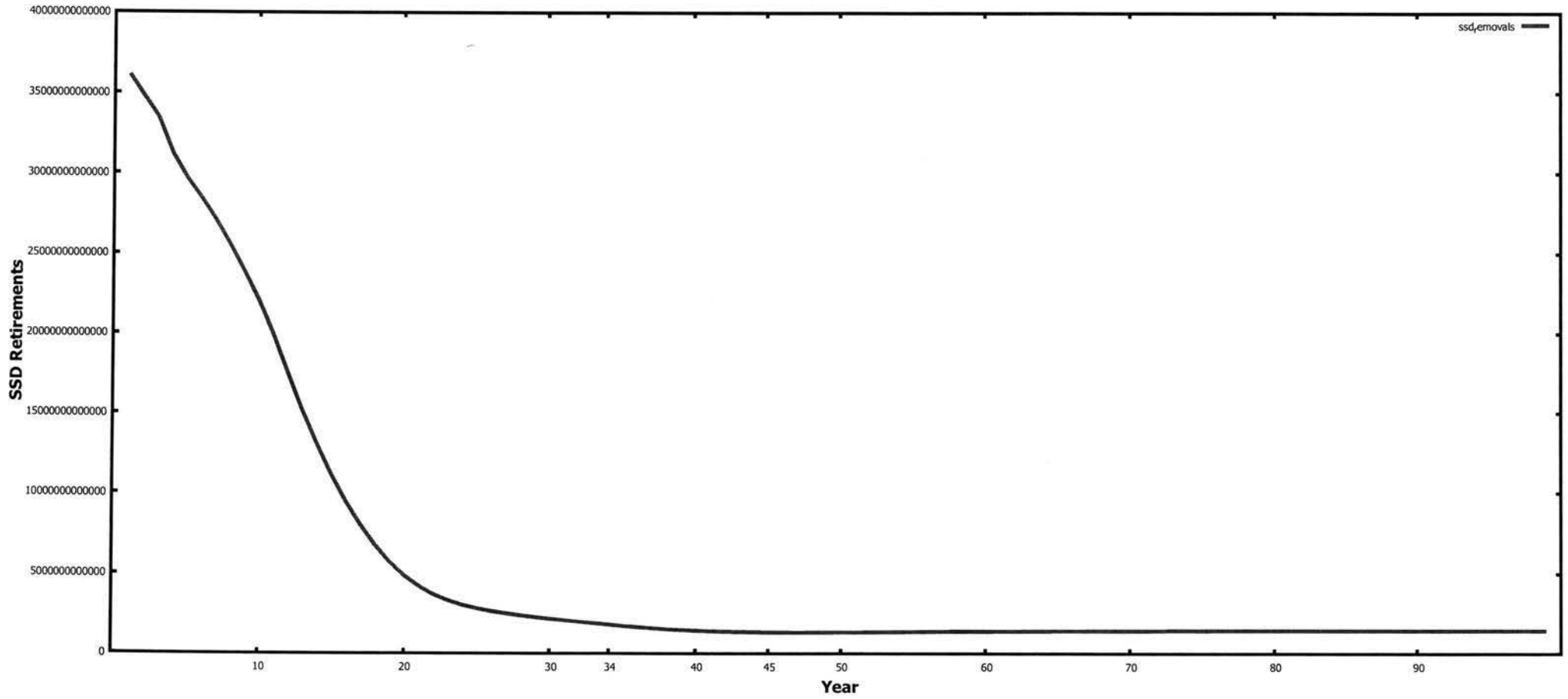
Simulated Retirements for Iowa Curve R5 with ASL = 34

Year	Additions	Actual Retirements	Actual Balance	Simulated Retirements	Sim Balance	Difference in Retirements	Difference in Plant Balance
1995	553447	124747	6978274	61187	8273114	63560	-1294840
1996	610516	86922	7501868	63223	8820407	23699	-1318539
1997	648283	100836	8049316	65872	9402818	34964	-1353502
1998	691345	104498	8636163	69404	10024760	35094	-1388597
1999	1466578	120136	9982605	73598	11417740	46538	-1435135
2000	873554	109178	10746982	78668	12212626	30510	-1465645
2001	944720	89066	11602636	84436	13072911	4630	-1470275
2002	1210999	78305	12735330	91049	14192861	-12744	-1457531
2003	1486747	63940	14158137	98544	15581064	-34605	-1422927
2004	1463444	1042818	14578763	107098	16937410	935720	-2358647
2005	1121428	-51920	15752111	116873	17941965	-168793	-2189854
2006	1896955	-94129	17743195	128186	19710734	-222315	-1967539
2007	1808181	-73291	19624667	141158	21377758	-214449	-1753091
2008	1460250	-52155	21137072	155916	22682091	-208071	-1545019
2009	1171797	34095	22274774	172375	23681513	-138280	-1406739
2010	1491159	73130	23692803	190401	24982271	-117271	-1289468
2011	1228735	54575	24866963	209536	26001470	-154961	-1134507
2012	1258304	-265031	26390298	229488	27030286	-494519	-639988
2013	1099396	62717	27426977	249270	27880412	-186553	-453435
2014	1379248	54889	28751336	268443	28991217	-213554	-239881
2015	1526086	46005	30231417	285997	30231306	-239992	111
2016	1247882	90285	31389014	301812	31177376	-211528	211639
2017	1391321	55872	32724464	315386	32253311	-259514	471152
2018	1437171	46916	34114719	327671	33362811	-280755	751908
2019	1582047	62167	35634599	338536	34606322	-276369	1028277

**Account No. 369 -- Services: R5 ASL: 34 Years**



**Kenergy**  
**Account No. 369 Services**  
**Sum of Square Differences (SSD) Retirements for R5**



KENERGY  
ACCOUNT INVESTMENT SUMMARY

Account 369

	Balance	<u>Additions</u>	<u>Retirements</u>	Reclassifications		Balance
	<u>Beg of Year</u>			<u>Debit</u>	<u>Credit</u>	<u>End of Year</u>
1939	12,904	22,754				35,658
1940	35,658	8,542	42			44,158
1941	44,159	12,016	10,868			45,308
1942	45,308	7,692	4			52,995
1943	52,995	1,460	2,126			52,329
1944	52,329	9,842	1,366			60,805
1945	60,805	3,373				64,178
1946	64,178	2,721	209			66,689
1947	66,689	2,205	72			68,823
1948	68,823	12,969	1,169			80,623
1949	80,623	147,945	2,933		1,304	224,331
1950	224,331	97,217	4,235	260	359	317,213
1951	317,213	31,103	3,585	2,424	67	347,088
1952	347,088	69,269	3,898			412,459
1953	412,459	58,785	7,082	18,801		482,963
1954	482,963	38,662	8,639	409	507	512,888
1955	512,888	62,466	17,052	76		558,378
1956	558,378	55,450	14,456	964	1,371	598,966
1957	598,966	55,523	16,339	5,833	26	643,956
1958	643,956	47,831	17,003			674,784
1959	674,738	52,429	17,076		2,765	707,326
1960	707,326	51,335	18,993	56	104	739,620
1961	739,620	56,743	17,369		404	778,589
1962	778,589	45,111	16,517		1,831	805,352
1963	805,352	69,726	18,331	13		856,760
1964	856,760	67,396	15,766	3,836		912,225
1965	912,225	81,454	25,166		3,667	964,846
1966	964,846	77,993	29,352	2,660		1,016,147
1967	1,011,912	76,609	29,664			1,058,857
1968	1,058,856	71,814	32,822			1,097,848
1969	1,097,849	91,456	29,609	1,680	134	1,161,243
1970	1,161,243	97,155	30,981			1,227,417
1971	1,227,417	104,339	35,525			1,296,231
1972	1,296,231	96,856	34,946	290		1,358,431
1973	1,358,431	106,693	39,952			1,425,172
1974	1,425,172	119,169	35,768	10,852	226	1,519,200
1975	1,519,200	166,720	36,804			1,649,116
1976	1,649,116	137,726	41,503	1		1,745,341
1977	1,745,341	250,783	43,683		475	1,951,966
1978	1,951,966	306,653	58,126		591	2,199,902
1979	2,199,901	370,963	74,492		418	2,495,955
1980	2,495,955	311,745	82,459			2,725,241
1981	2,725,241	290,625	74,847		151	2,940,868
1982	2,940,867	262,731	65,476			3,138,122
1983	3,138,122	368,529	66,754			3,439,897
1984	3,439,897	374,928	74,113			3,740,712
1985	3,740,712	361,060	88,221			4,013,551



KENERGY  
ACCOUNT INVESTMENT SUMMARY

Account 369

	Balance	<u>Additions</u>	<u>Retirements</u>	Reclassifications		Balance
	<u>Beg of Year</u>			<u>Debit</u>	<u>Credit</u>	<u>End of Year</u>
1986	4,013,541	330,786	102,926			4,241,401
1987	4,241,401	283,822	97,246			4,427,977
1988	4,427,977	351,028	98,652		184,999	4,495,354
1989	4,495,354	423,251	89,358			4,829,247
1990	4,829,247	416,055	92,324			5,152,978
1991	5,152,978	422,902	103,212	15,404		5,488,072
1992	5,488,072	419,430	110,392			5,797,110
1993	5,797,110	425,680	92,682			6,130,108
1994	6,130,108	498,643	79,177			6,549,574
1995	6,549,574	553,447	124,747			6,978,274
1996	6,978,274	610,516	86,922			7,501,868
1997	7,501,868	648,283	100,836			8,049,316
1998	8,049,316	695,661	104,498		4,316	8,636,163
1999	8,636,163	1,466,842	120,136		264	9,982,605
2000	9,982,605	873,554	109,178			10,746,982
2001	10,746,982	944,720	89,066			11,602,636
2002	11,602,636	1,210,999	78,305			12,735,330
2003	12,735,330	1,486,747	63,940			14,158,137
2004	14,158,137	1,463,444	1,042,818			14,578,763
2005	14,578,763	1,620,734	(51,920)		499,306	15,752,111
2006	15,752,111	1,896,955	(94,129)			17,743,195
2007	17,743,195	1,808,181	(73,291)			19,624,667
2008	19,624,667	1,460,250	(52,155)			21,137,072
2009	21,137,072	1,171,797	34,095			22,274,774
2010	22,274,774	1,491,159	73,130			23,692,803
2011	23,692,803	1,228,735	54,575			24,866,963
2012	24,866,963	1,258,304	(265,031)			26,390,298
2013	26,390,298	1,099,396	62,717			27,426,977
2014	27,426,977	1,379,248	54,889			28,751,336
2015	28,751,336	1,526,086	46,005			30,231,417
2016	30,231,417	1,247,882	90,285			31,389,014
2017	31,389,014	1,391,321	55,872			32,724,464
2018	32,724,464	1,437,171	46,916			34,114,719
2019	34,114,719	1,582,047	62,167			35,634,599

**Kenergy  
Annual Retirements and Net Salvage**

Acct 369  
Services

	<u>Plant in Service</u>	<u>Retirements</u>	<u>Retirement Ratio</u>	<u>Gross Salvage</u>	<u>Cost of Removal</u>	<u>Net Salvage</u>	<u>Net Salvage Percent</u>
2002	12,574,502	78,305	0.6%	13,746	85,301	(71,555)	-91.4%
2003	13,823,043	63,940	0.5%	14,844	94,743	(79,899)	-125.0%
2004	14,079,457	68,988	0.5%	12,735	94,882	(82,147)	-119.1%
2005	15,752,111	79,430 *	0.5%	12,035	16,602 **	(4,567)	-5.7%
2006	17,743,194	93,439 *	0.5%	22,595	38,982 **	(16,387)	-17.5%
2007	19,624,667	82,752 *	0.4%	27,860	43,216 **	(15,356)	-18.6%
2008	19,624,667	74,204 *	0.4%	15,915	36,387 **	(20,472)	-27.6%
2009	22,259,887	54,827 *	0.2%	2,567	68,084 **	(65,517)	-119.5%
2010	23,692,803	90,468 *	0.4%	3,685	88,483	(84,798)	-93.7%
2011	24,866,963	54,838 *	0.2%	10,591	81,633	(71,042)	-129.5%
2012	26,390,298	66,761 *	0.3%	10,994	92,434	(81,440)	-122.0%
2013	27,426,977	62,717	0.2%	3,882	117,689 #	(113,807)	-181.5%
2014	28,751,336	54,889	0.2%	2,352	102,477 #	(100,125)	-182.4%
2015	30,231,417	46,005	0.2%	2,643	102,257	(99,615)	-216.5%
2016	31,389,015	90,285	0.3%	3,738	165,892	(162,155)	-179.6%
2017	32,724,464	55,872	0.2%	4,297	119,025	(114,729)	-205.3%
2018	34,114,719	46,916	0.1%	316	108,827	(108,511)	-231.3%
2019	35,634,599	62,167	0.2%	4,349	131,107	(126,758)	-203.9%
Total	430,704,118	1,226,802	0.3%	169,142	1,588,022	(1,164,324)	-94.9%
						Five Year Average Net Salvage	-203.1%
						Ten Year Average Net Salvage	-168.5%
						Previous	-32%
						Current Net Salvage	-32%
						Recommend Net Salvage	-35%

\* Adjusted to remove the impact of the idle services adjustment in 2004

\*\* Adjusted below to have cost of removal consistent with the retirement adjustment.

# Actual Cost of Removal for 2013 was \$117,689 and \$102,477 for 2014. For this analysis these amounts were adjusted to the average of the prior five years (2008 to 2012).

## **Account 370 – Meters**

KENERGY  
ACCOUNT INVESTMENT SUMMARY

Account 370

	<u>Balance</u> <u>Beg of Year</u>	<u>Additions</u>	<u>Retirements</u>	<u>Reclassifications</u>		<u>Balance</u> <u>End of Year</u>
				<u>Debit</u>	<u>Credit</u>	
2017	10,028,724	582,300	22,309			10,588,715
2018	10,588,715	404,572	9,483			10,983,803
2019	10,983,803	603,579	14,599			11,572,784



## **Account 371 – Installations on Customer Premises**

## Kenergy

Account 371 -- Installations on Consumer Premises

Simulated Retirements for Iowa Curve R1 with ASL = 26

Year	Additions	Actual Retirements	Balance	Simulated Retirements	Sim Balance	Difference in Retirements	Difference in Plant Balance
1961	8292	513	7779	0	8292	513	-513
1962	21451	231	28999	84	29659	147	-660
1963	45235	2230	72004	306	74589	1924	-2584
1964	10340	1552	80792	780	84149	772	-3356
1965	17426	2492	95727	924	100651	1568	-4924
1966	15515	1708	109534	1147	115019	561	-5485
1967	20037	2340	127232	1359	133698	981	-6466
1968	22664	1795	148101	1624	154737	171	-6637
1969	30730	2219	176612	1926	183541	293	-6930
1970	351408	6986	521033	2322	532627	4665	-11594
1971	90688	8523	603198	5986	617329	2537	-14131
1972	93340	12036	684502	7184	703486	4853	-18984
1973	96230	9895	770837	8475	791241	1421	-20404
1974	75255	8243	837848	9842	856654	-1598	-18806
1975	93533	11126	920255	11051	939136	76	-18882
1976	57465	13572	964148	12489	984112	1083	-19965
1977	90536	12529	1042155	13613	1061036	-1084	-18881
1978	84818	17737	1109237	15109	1130746	2628	-21509
1979	82185	18357	1173065	16599	1196332	1758	-23267
1980	70909	30435	1213539	18128	1249113	12307	-35574
1981	59916	39177	1234277	19612	1289417	19566	-55140
1982	57341	32760	1258859	21052	1325706	11708	-66848
1983	55418	28604	1285672	22533	1358591	6071	-72919
1984	71119	28102	1328689	24065	1405644	4037	-76956
1985	58474	28954	1358209	25828	1438291	3126	-80081
1986	90938	42292	1406855	27538	1501690	14753	-94835
1987	65636	36577	1435914	29650	1537676	6927	-101762
1988	64067	40199	1459782	31589	1570153	8610	-110372

Kenergy  
 Account 371 -- Installations on Consumer Premises

Simulated Retirements for Iowa Curve R1 with ASL = 26

Year	Additions	Actual Retirements	Actual Balance	Simulated Retirements	Sim Balance	Difference in Retirements	Difference in Plant Balance
1989	77514	39139	1498157	33583	1614084	5555	-115927
1990	80414	40018	1538554	35774	1658724	4243	-120170
1991	89102	37469	1590187	38055	1709772	-585	-119585
1992	121426	65589	1646024	40478	1790720	25111	-144696
1993	127287	56571	1716740	43275	1874731	13296	-157991
1994	124438	49525	1791653	46183	1952986	3342	-161333
1995	128980	56857	1863775	49105	2032861	7753	-169086
1996	131616	43553	1951838	52103	2112374	-8550	-160536
1997	126453	43613	2034678	55144	2183683	-11531	-149005
1998	151011	43291	2142398	58131	2276563	-14840	-134166
1999	153539	38435	2257501	61351	2368751	-22916	-111250
2000	98931	36284	2320148	64580	2403103	-28295	-82954
2001	102064	29166	2393046	67224	2437943	-38058	-44897
2002	170433	32235	2531244	69819	2538556	-37584	-7312
2003	132927	26220	2637951	73020	2598463	-46800	39488
2004	128918	30123	2736746	75777	2651604	-45654	85142
2005	94708	35376	2796078	78405	2667907	-43029	128171
2006	184777	42577	2938278	80572	2772113	-37995	166165
2007	158788	31761	3065305	83518	2847383	-51757	217922
2008	155502	36343	3184464	86107	2916778	-49764	267686
2009	139272	36738	3286998	88558	2967492	-51820	319506
2010	155960	41803	3401155	90726	3032726	-48923	368429
2011	249052	54355	3595852	92936	3188842	-38581	407010
2012	292010	87808	3800054	95986	3384866	-8178	415188
2013	297139	79488	4017705	99410	3582595	-19922	435110
2014	453737	130237	4341205	102843	3933489	27394	407716
2015	843117	240340	4943982	107841	4668765	132499	275217
2016	864546	332499	5476029	116890	5416421	215609	59609



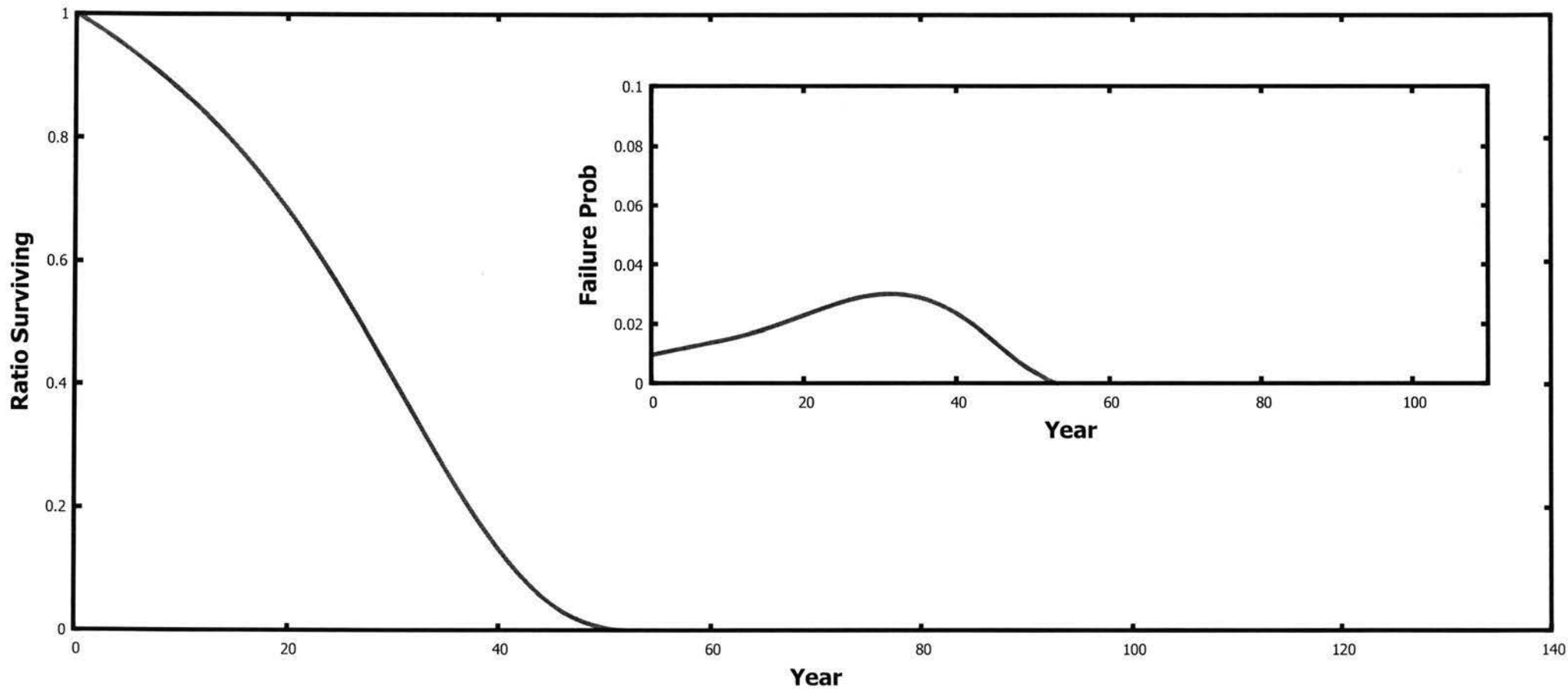
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Account 371 -- Installations on Consumer Premises

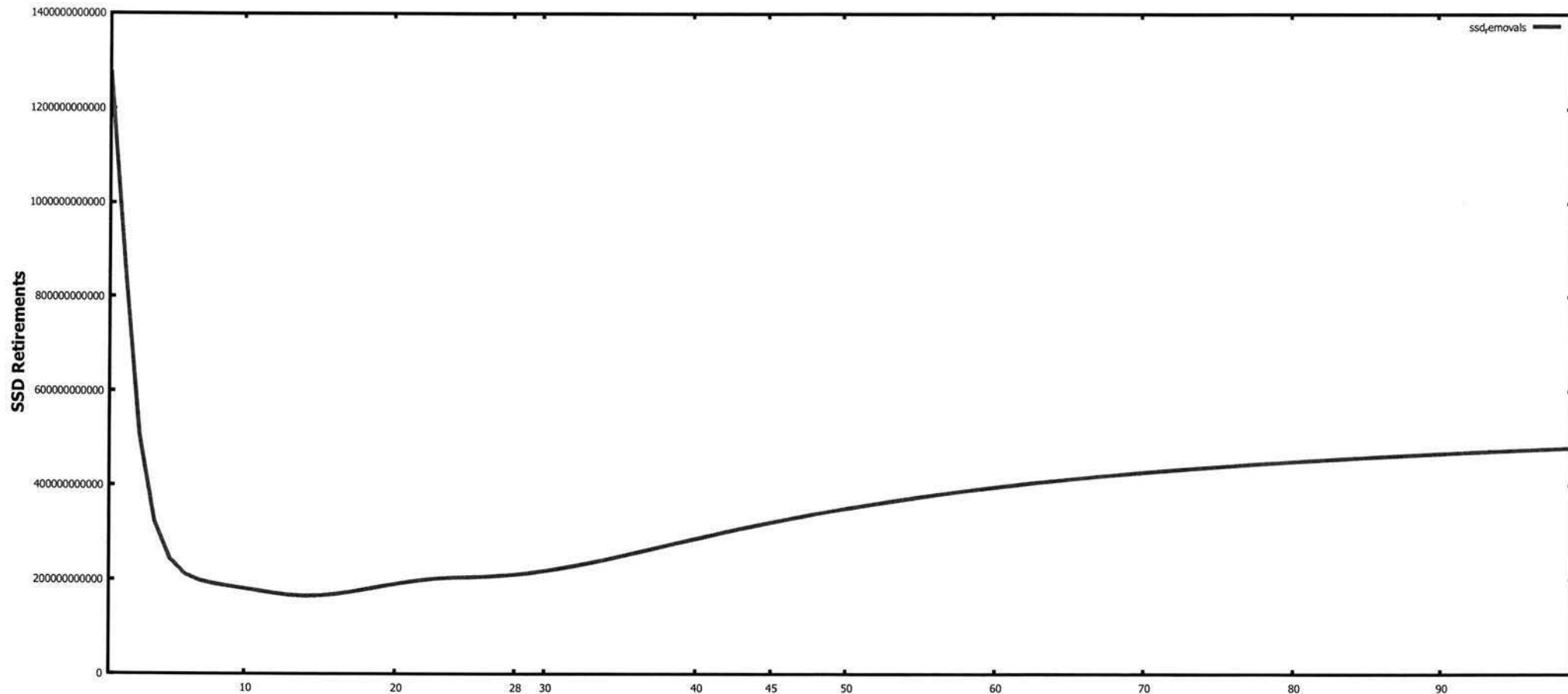
Simulated Retirements for Iowa Curve R1 with ASL = 26

Year	Additions	Actual Retirements	Balance	Simulated Retirements	Sim Balance	Difference in Retirements	Difference in Plant Balance
2017	850558	319133	6007454	126485	6140494	192649	-133040
2018	782278	333190	6456542	136281	6786490	196908	-329948
2019	720647	345606	6831583	145785	7361353	199821	-529770

**Account No. 371 -- Installations on Consumer Premises: R1 ASL: 26 Years**



**Kenergy**  
**Account No. 371 Installations on Consumer Premises**  
**Sum of Square Differences (SSD) Retirements for R1**



KENERGY  
ACCOUNT INVESTMENT SUMMARY

Account 371

	Balance	<u>Additions</u>	<u>Retirements</u>	Reclassifications		Balance
	<u>Beg of Year</u>			<u>Debit</u>	<u>Credit</u>	<u>End of Year</u>
1961		8,292	513			7,779
1962	7,779	25,001	231		3,550	28,999
1963	28,999	24,476	2,230	20,759		72,004
1964	72,004	18,397	1,552		8,057	80,792
1965	81,007	17,212	2,492			95,727
1966	95,727	15,515	1,708			109,534
1967	109,534	20,037	2,340			127,232
1968	127,232	22,664	1,795			148,101
1969	148,101	32,851	2,219		2,121	176,612
1970	457,463	70,557	6,986			521,033
1971	521,033	90,688	8,523			603,198
1972	603,198	93,340	12,036			684,502
1973	684,502	96,230	9,895			770,837
1974	770,837	75,436	8,243		181	837,848
1975	837,848	94,366	11,126		832	920,255
1976	920,255	57,465	13,572			964,148
1977	963,956	90,728	12,529			1,042,155
1978	1,042,155	84,818	17,737			1,109,237
1979	1,109,237	82,185	18,357			1,173,065
1980	1,173,065	70,909	30,435			1,213,539
1981	1,213,539	59,916	39,177			1,234,277
1982	1,234,277	57,341	32,760			1,258,859
1983	1,258,859	55,418	28,604			1,285,672
1984	1,285,672	71,119	28,102			1,328,689
1985	1,328,689	58,474	28,954			1,358,209
1986	1,358,074	91,073	42,292			1,406,855
1987	1,406,855	65,636	36,577			1,435,914
1988	1,435,914	87,587	40,199		23,520	1,459,782
1989	1,459,782	77,514	39,139			1,498,157
1990	1,498,157	80,414	40,018			1,538,554
1991	1,538,554	79,143	37,469	9,960		1,590,187
1992	1,590,187	121,426	65,589			1,646,024
1993	1,646,024	127,287	56,571			1,716,740
1994	1,716,740	124,438	49,525			1,791,653
1995	1,791,653	128,980	56,857			1,863,775
1996	1,863,775	131,616	43,553			1,951,838
1997	1,951,838	126,453	43,613			2,034,678
1998	2,034,678	151,011	43,291			2,142,398
1999	2,142,398	153,539	38,435			2,257,501
2000	2,257,501	98,931	36,284			2,320,148
2001	2,320,148	102,064	29,166			2,393,046
2002	2,393,046	170,433	32,235			2,531,244
2003	2,531,244	132,927	26,220			2,637,951
2004	2,637,951	128,918	30,123			2,736,746
2005	2,736,746	145,873	35,376		51,165	2,796,078
2006	2,796,078	184,777	42,577			2,938,278

KENERGY  
ACCOUNT INVESTMENT SUMMARY

Account 371

	Balance			Reclassifications		Balance
	<u>Beq of Year</u>	<u>Additions</u>	<u>Retirements</u>	<u>Debit</u>	<u>Credit</u>	<u>End of Year</u>
2007	2,938,278	158,788	31,761			3,065,305
2008	3,065,305	155,502	36,343			3,184,464
2009	3,184,464	139,272	36,738			3,286,998
2010	3,286,998	155,960	41,803			3,401,155
2011	3,401,155	249,052	54,355			3,595,852
2012	3,595,852	292,010	87,808			3,800,054
2013	3,800,054	297,139	79,488			4,017,705
2014	4,017,705	453,737	130,237			4,341,205
2015	4,341,205	843,117	240,340			4,943,982
2016	4,943,982	864,546	332,499			5,476,029
2017	5,476,029	850,558	319,133			6,007,454
2018	6,007,454	782,278	333,190			6,456,542
2019	6,456,542	720,647	345,606			6,831,583



## **Account 373 – Street Lighting**

Kenergy

Account 373 -- Street Lighting and Signal Systems

Simulated Retirements for Iowa Curve L1 with ASL = 26

Year	Additions	Actual Retirements	Balance	Simulated Retirements	Sim Balance	Difference in Retirements	Difference in Plant Balance
1940	-823	0	-823	0	-823	0	0
1941	823	0	0	-2	2	2	-2
1942	60	0	60	-1	63	1	-3
1943	0	0	60	-1	64	1	-4
1944	3717	0	3776	-1	3782	1	-5
1945	0	0	3776	8	3773	-8	3
1946	0	0	3776	13	3761	-13	16
1947	41	0	3818	18	3783	-18	34
1948	0	0	3818	25	3758	-25	59
1949	651	2334	2135	33	4377	2301	-2241
1950	4295	414	6016	43	8628	371	-2612
1951	315	0	6332	64	8879	-64	-2548
1952	-0	0	6332	81	8799	-81	-2467
1953	858	0	7190	98	9559	-98	-2369
1954	37	0	7227	119	9477	-119	-2250
1955	86	0	7313	139	9424	-139	-2111
1956	0	0	7313	160	9263	-160	-1951
1957	6702	3898	10116	180	15785	3718	-5668
1958	4514	758	13873	217	20082	541	-6209
1959	115	0	13988	255	19943	-255	-5955
1960	532	34	14486	286	20189	-252	-5703
1961	25834	1806	38515	320	45703	1486	-7189
1962	-92	150	38273	422	45189	-273	-6916
1963	-19954	2183	16136	487	24748	1696	-8612
1964	8090	0	24226	508	32330	-508	-8103
1965	508	1317	23418	584	32254	732	-8836
1966	1220	0	24638	647	32827	-647	-8189
1967	585	340	24883	714	32698	-374	-7815



Kenergy  
 Account 373 -- Street Lighting and Signal Systems

Simulated Retirements for Iowa Curve L1 with ASL = 26

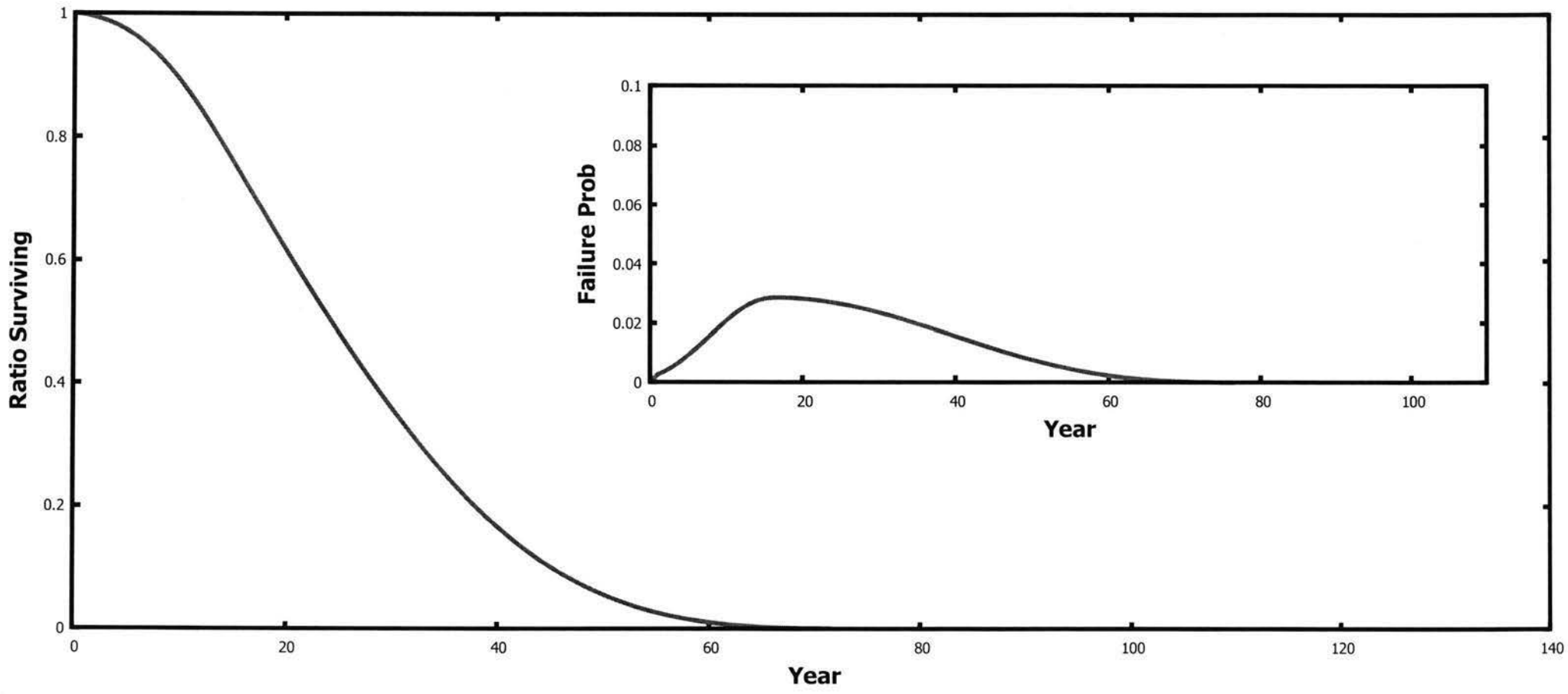
Year	Additions	Actual Retirements	Balance	Simulated Retirements	Sim Balance	Difference in Retirements	Difference in Plant Balance
1968	178	923	24138	777	32099	146	-7961
1969	4372	0	28510	837	35634	-837	-7124
1970	1291	0	29801	904	36021	-904	-6220
1971	326	0	30127	961	35387	-961	-5260
1972	2648	204	32571	1008	37026	-804	-4456
1973	7783	69	40285	1055	43755	-986	-3470
1974	3267	0	43552	1110	45912	-1110	-2360
1975	1491	220	44823	1155	46248	-935	-1425
1976	4906	1374	48355	1194	49960	180	-1605
1977	2229	2930	47655	1241	50949	1689	-3294
1978	7364	428	54591	1288	57024	-861	-2433
1979	8584	0	63175	1356	64252	-1356	-1077
1980	17957	1978	79154	1438	80772	540	-1618
1981	7081	0	86235	1555	86297	-1555	-63
1982	3159	0	89394	1667	87789	-1667	1604
1983	6682	0	96076	1782	92689	-1782	3386
1984	563	0	96639	1914	91338	-1914	5301
1985	9972	783	105827	2041	99269	-1258	6558
1986	5084	162	110749	2195	102158	-2033	8591
1987	19979	597	130132	2346	119791	-1749	10340
1988	3674	2671	131135	2539	120926	131	10209
1989	7778	778	138135	2708	125995	-1930	12139
1990	2874	972	140037	2890	125979	-1918	14058
1991	2970	1167	141840	3063	125886	-1897	15955
1992	5667	842	146665	3234	128318	-2392	18346
1993	8973	2398	153240	3405	133885	-1008	19354
1994	19665	8990	163914	3578	149972	5412	13942
1995	28471	3623	188762	3774	174670	-150	14092

Kenergy  
 Account 373 -- Street Lighting and Signal Systems

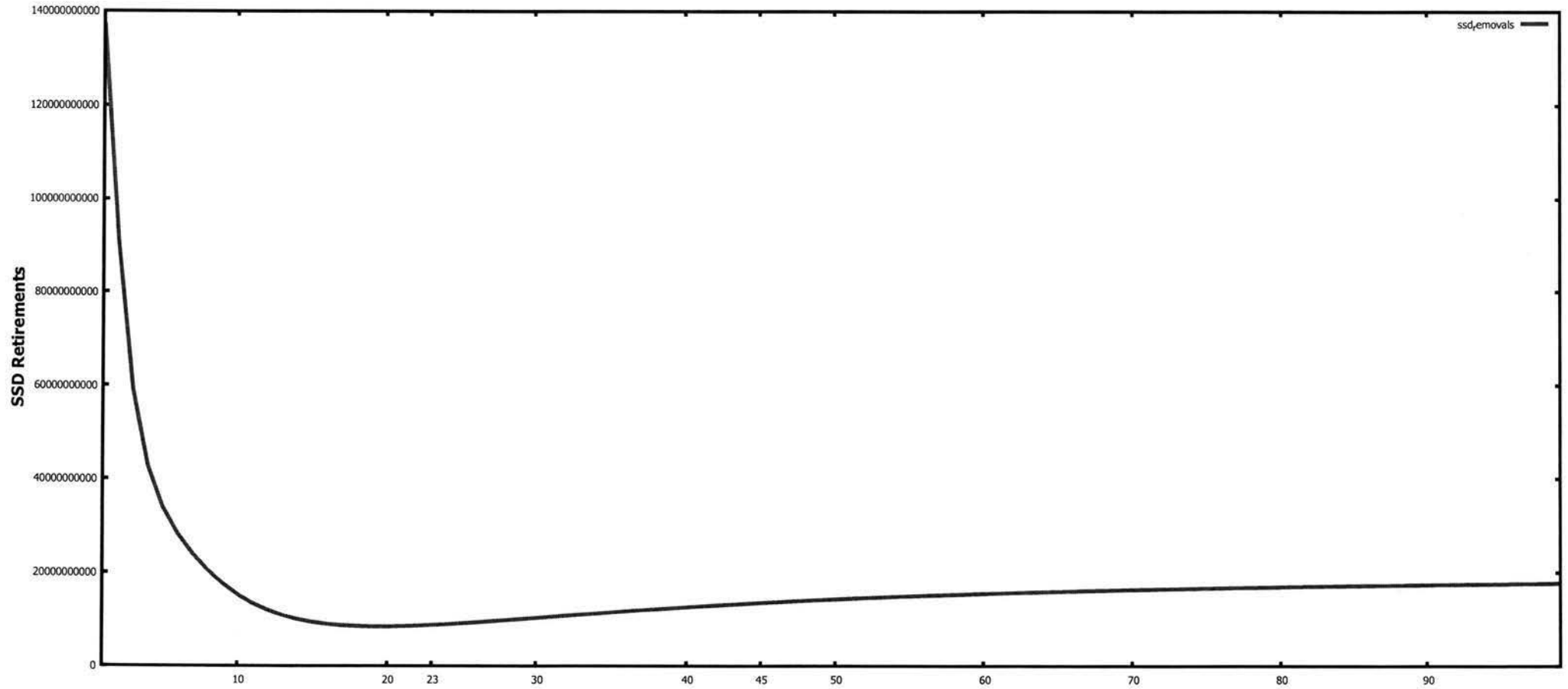
Simulated Retirements for Iowa Curve L1 with ASL = 26

Year	Additions	Actual Retirements	Actual Balance	Simulated Retirements	Sim Balance	Difference in Retirements	Difference in Plant Balance
1996	40053	21941	206874	4001	210721	17939	-3847
1997	5171	774	211270	4285	211607	-3510	-337
1998	23935	2766	232439	4522	231020	-1756	1419
1999	14442	7334	239547	4825	240637	2509	-1090
2000	89397	4143	324800	5133	324901	-990	-100
2001	31573	5464	350910	5663	350811	-199	99
2002	50660	2901	398668	6147	395324	-3245	3344
2003	80347	2741	476274	6746	468925	-4004	7349
2004	53379	8620	521033	7504	514801	1117	6232
2005	36938	7074	550896	8317	543422	-1242	7475
2006	56162	4430	602628	9191	590392	-4761	12236
2007	109515	6502	705641	10195	689712	-3693	15929
2008	71602	4171	773072	11429	749885	-7258	23187
2009	13288	1191	785169	12711	750462	-11520	34707
2010	27734	3945	808958	13945	764251	-10000	44707
2011	10887	6593	813252	15243	759894	-8650	53358
2012	56617	9528	860341	16519	799993	-6991	60348
2013	29581	9098	880824	17902	811672	-8804	69152
2014	24361	7186	897999	19219	816814	-12033	81185
2015	155152	94362	958790	20482	951484	73880	7305
2016	245359	68903	1135246	22022	1174822	46881	-39575
2017	229606	32647	1332205	23867	1380561	8780	-48355
2018	205403	46146	1491462	25883	1560081	20263	-68618
2019	113618	37445	1567635	28086	1645613	9359	-77978

### Account No. 373 -- Street Lighting: L1 ASL: 26 Years



**Kenergy**  
**Account No. 373 Streetlighting**  
**Sum of Square Differences (SSD) Retirements for L1**



KENERGY  
ACCOUNT INVESTMENT SUMMARY

Account 373

	<u>Beg of Year</u>	<u>Additions</u>	<u>Retirements</u>	<u>Debit</u>	<u>Credit</u>	<u>End of Year</u>
1940					823	(823)
1941	(823)	823				-
1942		60				60
1943	60					60
1944	60	3,717				3,776
1945	3,776					3,776
1946	3,776					3,776
1947	3,776	41				3,818
1948	3,818					3,818
1949	3,818	651	2,334			2,135
1950	2,135	4,295	414			6,016
1951	6,016	315				6,332
1952	6,332					6,332
1953	6,332			858		7,190
1954	7,190	37				7,227
1955	7,227	86				7,313
1956	7,313					7,313
1957	7,313	6,702	3,898			10,116
1958	10,116	3,404	758	1,110		13,873
1959	13,873	115				13,988
1960	13,998	522	34			14,486
1961	14,476	25,844	1,806			38,515
1962	38,515		150		92	38,273
1963	38,273	677	2,183		20,631	16,136
1964	16,136	249		7,842		24,226
1965	24,227	508	1,317			23,418
1966	23,418	1,220				24,638
1967	24,638	585	340			24,883
1968	24,883	178	923			24,138
1969	25,984	406		2,121		28,510
1970	28,510	1,291				29,801
1971	29,801	326				30,127
1972	30,127	2,648	204			32,571
1973	32,571	7,783	69			40,285
1974	40,285	3,267				43,552
1975	43,552	659	220	832		44,823
1976	44,823	4,714	1,374	192		48,355
1977	45,355	5,229	2,930			47,655
1978	47,655	7,364	428			54,591
1979	54,591	8,584				63,175
1980	63,175	17,957	1,978			79,154
1981	79,154	7,081				86,235
1982	86,235	3,159				89,394
1983	89,394	6,682				96,076
1984	96,076	563				96,639
1985	96,639	9,972	783			105,827
1986	105,827	5,084	162			110,749

KENERGY  
ACCOUNT INVESTMENT SUMMARY

Account 373

	<u>Beg of Year</u>	<u>Additions</u>	<u>Retirements</u>	<u>Debit</u>	<u>Credit</u>	<u>End of Year</u>
1987	110,749	19,979	597			130,132
1988	130,132	1,726	2,671	1,947		131,135
1989	131,135	7,778	778			138,135
1990	138,135	2,874	972			140,037
1991	140,037	2,970	1,167			141,840
1992	141,840	5,667	842			146,665
1993	146,665	8,973	2,398			153,240
1994	153,240	19,665	8,990			163,914
1995	163,914	28,471	3,623			188,762
1996	188,762	40,053	21,941			206,874
1997	206,874	5,171	774			211,270
1998	211,270	23,935	2,766			232,439
1999	232,439	14,442	7,334			239,547
2000	239,547	89,397	4,143			324,800
2001	324,800	31,573	5,464			350,910
2002	350,910	50,660	2,901			398,668
2003	398,688	80,327	2,741			476,274
2004	476,254	53,399	8,620			521,033
2005	521,033	53,586	7,074		16,648	550,896
2006	550,896	56,162	4,430			602,628
2007	602,628	109,515	6,502			705,641
2008	705,641	71,602	4,171			773,072
2009	773,072	13,288	1,191			785,169
2010	785,169	27,734	3,945			808,958
2011	808,958	10,887	6,593			813,252
2012	813,252	56,617	9,528			860,341
2013	860,341	29,581	9,098			880,824
2014	880,824	24,361	7,186			897,999
2015	897,999	155,152	94,362			958,790
2016	958,790	245,359	68,903			1,135,246
2017	1,135,246	229,606	32,647			1,332,205
2018	1,332,205	205,403	46,146			1,491,462
2019	1,491,462	113,618	37,445			1,567,635

## Kenergy Annual Retirements and Net Salvage

Acct 373  
St Ltg & Signal Systems

	<u>Plant in Service</u>	<u>Retirements</u>	<u>Retirement Ratio</u>	<u>Gross Salvage</u>	<u>Cost of Removal</u>	<u>Net Salvage</u>	<u>Net Salvage Percent</u>
2002	393,306	2,901	0.7%	118	412	(294)	-10.1%
2003	465,081	2,741	0.6%	(862)	939	(1,801)	-65.7%
2004	504,385	8,620	1.7%	1,121	4,528	(3,407)	-39.5%
2005	550,896	7,074	1.3%	46	924	(878)	-12.4%
2006	602,628	4,430	0.7%	271	2,547	(2,276)	-51.4%
2007	705,642	6,502	0.9%	-	1,851	(1,851)	-28.5%
2008	773,072	4,172	0.5%	2,252	647	1,605	38.5%
2009	786,291	1,191	0.2%	386	939	(553)	-46.4%
2010	808,958	3,945	0.5%	2,982	823	2,159	54.7%
2011	813,252	6,593	0.8%	1,633	1,229	404	6.1%
2012	860,341	9,528	1.1%	(432)	1,804	(2,236)	-23.5%
2013	880,824	9,098	1.0%	98	2,751	(2,653)	-29.2%
2014	897,999	7,186	0.8%	(1)	3,273	(3,274)	-45.6%
2015	958,790	94,362	9.8%	563	13,283	(12,721)	-13.5%
2016	1,135,246	68,903	6.1%	(224.85)	15,153.26	(15,378)	-22.3%
2017	1,332,205	32,647	2.5%	522	10,734	(10,212)	-31.3%
2018	1,491,462	46,146	3.1%	542	12,193	(11,651)	-25.2%
2019	1,567,635	37,445	2.4%	2,173	8,907	(6,733)	-18.0%
Total	15,528,013	353,485	2.3%	11,188	82,938	(71,750)	-20.3%
						Five Year Average Net Salvage	-20.3%
						Ten Year Average Net Salvage	-19.7%
						Previous	-19%
						Current Net Salvage	-15%
						Recommend Net Salvage	-20%