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Issues:	Depreciation
Witness:	William M. Stout
Sponsoring Party:	Union Electric Company
Type of Exhibit:	Surrebuttal Testimony
Case No.:	ER-2007-0002
Date Testimony Prepared:	February 27, 2007

MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. ER-2007-0002

SURREBUTTAL TESTIMONY

OF

WILLIAM M. STOUT, P.E.

ON

BEHALF OF

UNION ELECTRIC COMPANY
d/b/a AmerenUE

St. Louis, Missouri
February, 2007

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WILLIAM M. STOUT, P.E.

CASE NO. ER-2007-0002

I. INTRODUCTION

Q. Please state your name and business address.

A. My name is William M. Stout. My business address is 207 Senate Avenue, Camp Hill, Pennsylvania.

Q. Have you previously submitted testimony in this proceeding?

A. Yes. My Direct Testimony was submitted in July 2006 and my Rebuttal Testimony was submitted in January 2007.

Q. What is the purpose of your Surrebuttal Testimony?

A. My testimony is in response to the Rebuttal Testimony of Missouri Public Service Commission Staff (Staff) witness Guy C. Gilbert, the Rebuttal Testimony of Missouri Industrial Energy Consumers (MIEC) witness James T. Selecky, and the Rebuttal Testimony of Office of the Public Counsel (OPC) witness William Dunkel.

Q. What are the subjects of your Surrebuttal Testimony?

A. The subjects of my Surrebuttal Testimony are the estimation of life spans for power plants and the incorporation of future inflation in estimates of future net salvage.

II. ESTIMATION OF POWER PLANT LIFE SPANS

Q. Have you reviewed the Rebuttal Testimony of Staff Witness Gilbert related to life span property?

A. Yes, I have.

Q. What does Mr. Gilbert have to say about AmerenUE's power production plant?

A. Mr. Gilbert states that it would be "unprecedented for an electric utility company of AmerenUE's size" to "replace the vast majority, if not all, of its generating capacity in the next twenty years."

Q. Did the life span estimates used by Mr. Wiedmayer in his Direct Testimony anticipate that the "vast majority, if not all, of AmerenUE's generating capacity would be replaced in the next twenty years?

A. No, they did not. As I described in my Direct Testimony, the 2026 probable retirement date for the steam production plants represented the mid-point of a period during which the replacement of these plants would take place. The estimates anticipated that some of the capacity would be replaced prior to 2026 and that some would be replaced after 2026. The replacements after 2026 would not be within the next twenty years.

Q. Do the life span estimates used by Mr. Wiedmayer in his Rebuttal Testimony anticipate that the "vast majority, if not all," of AmerenUE's generating capacity will be replaced in the next twenty years?

A. No, they do not. The estimates used by Mr. Wiedmayer in his Rebuttal Testimony anticipate that replacement of the existing capacity will begin in 14 years, 2021, and be completed in 2046, 39 years from 2007. That is, the current estimated life spans

anticipate that none of the existing capacity will be replaced for the next 14 years and then will be replaced over a period of 25 years ending in 2046.

Q. Would it be unprecedented for a utility of AmerenUE's size to replace the vast majority of its existing capacity over a period of 25 years?

A. No, it would not. Between 1961 and 1984, a period of 23 years, AmerenUE built the fourth unit at Meramec, Sioux, Labadie, Rush Island, and Callaway. The capacity of these units is 6,313 MW. This capacity represents 87 percent of AmerenUE's base load capacity, certainly the vast majority.

Q. Mr. Gilbert also states that the use of life spans "minimizes the time ratepayers have to return the Company's investment and net salvage." Is this a reasonable characterization?

A. No, it is not. Although the use of a life span rather than the assumption of infinite life results in a shorter remaining life, it is inappropriate to characterize this as minimization. In my opinion, the use of life spans results in the ratepayer returning the service value of the power plant during the period of time that it renders service. That is, it maximizes the matching of depreciation expense and the consumption of service value.

Q. Please summarize your testimony related to Mr. Gilbert's comments on power plant life spans.

A. Mr. Gilbert has suggested that the estimated life spans used by AmerenUE are not credible in that they anticipate the replacement of the "vast majority, if not all" of the existing capacity within the next twenty years. This is not the case with either the estimated life spans used in the direct case or those used in the rebuttal case. Instead, the estimates submitted with the Rebuttal Testimony reflect the replacement of the capacity over a 25-year

period beginning in 14 years. This is a longer period than the 23-year period during which AmerenUE constructed 87 percent of its current capacity.

The use of life spans for power plants, a recognized life span property, is the mainstream practice for calculating depreciation rates. These plants will experience concurrent retirement of all facilities at the station and that fact should be recognized in setting depreciation rates. Reasonable estimates of the life span can be made based on experience and the outlook of management and the industry. The use of such estimates is far more equitable to customers than the calculation of depreciation rates without the use of life spans, i.e., the assumption of infinite life.

III. INCORPORATION OF FUTURE INFLATION

Q. Both Messrs. Selecky and Dunkel have adjusted the net salvage estimates of Ms. Mathis in a manner similar to their adjustments of Mr. Wiedmayer's estimates of net salvage in order to reduce the amount of future inflation that is reflected in such estimates. Is such an adjustment appropriate?

A. Generally not, although there is one account where adjustment of Ms. Mathis' estimate is appropriate, only not to the extent that Mr. Dunkel has adjusted it.

Ms. Mathis' estimates of future net salvage are based on historical analyses of net salvage as a percent of the original cost of the facilities that are retired. In order to rely on these historical percents as a basis for forecasting future net salvage percents, the total amount of inflation that is reflected in the historical retirements and the total amount of inflation that will be reflected in future retirements should be approximately the same. By the total amount of inflation I mean the change in price level between the time plant is installed and the time plant is retired.

Messrs. Selecky and Dunkel and others have an expectation that future rates of inflation will be less than they have been over the past 30 or 40 years given the high levels of inflation during the 1970's and early 1980's. Based on this expectation, they have considered the amount of inflation reflected in the historical percents as compared to the amount of inflation that they expect to occur prior to future retirements. This is an appropriate exercise. However, there are two flaws in their analyses: the average age at which historical retirements have occurred and the average age at which future retirements will occur. In their considerations, they continue to overstate the historical average age of retirement and understate the future average age of retirement, thus invalidating their conclusions.

Q. How did they overstate the average age of historical retirements?

A. The analyses of both Messrs. Selecky and Dunkel overstate the average age of historical retirements because they assume that the historical retirements occurred at an average age equal to the estimated average service life. This is simply not the case. The average age of the historical retirements is significantly less than the estimated average service life. Most of the retirements that have occurred over the past 5 years or the past 45 years have occurred during the early part of the survivor curve at ages less than the average life. Further, as a result of real and inflationary growth the younger retirements have a greater original cost. This further reduces the dollar-weighted average age of these retirements. For example, the average age of retirements in Account 369, Overhead Services, during the period 2001 to 2005 (the period relied on by Ms. Mathis in making her estimate) was not 37 years as used by Mr. Dunkel, but rather 27.1 years.

Q. How did Messrs. Selecky and Dunkel use their overstated average ages in adjusting the net salvage estimates?

A. Both Messrs. Selecky and Dunkel endeavored to remove the historical inflation from the net salvage percent and then put back an amount to reflect future inflation. In his Rebuttal Testimony, Mr. Dunkel did this for Account 369.1 Overhead Services. Their approach was to effectively develop a ratio of the amount of future inflation to the amount of historical inflation and then multiply this ratio by the net salvage percents, in the case of Mr. Selecky, or the average experienced net salvage, in the case of Mr. Dunkel.

For example, Mr. Dunkel assumed a cumulative historical inflation factor equal to 5.667 (1.04.8^37) in adjusting the net salvage estimate of Ms. Mathis for Account 369.1. That is, an increase of 5.667 times in the price level between the installation and retirement of plant. He further assumed a future cumulative inflation factor of 2.493 (1.025^37). The ratio of his estimate of future inflation to historical inflation is 0.44 (2.493/5.667). Mr. Dunkel multiplied this factor times the 2001-2005 average net salvage of negative 303 percent which is Ms. Mathis' estimate and arrived at his adjusted net salvage estimate of negative 133 percent.

Q. What is the result of overstating the average age of historical retirements?

A. The result of overstating the average age of historical retirements is the removal of far too much inflation from the historical net salvage percents before adjusting them to reflect future inflation. For example, rather than removing 37 years of inflation at 4.8 percent, Mr. Dunkel should have removed 27 (27.1) years at 4.8 percent. As a result, his adjustment would have been based on a historical cumulative inflation factor of 3.546

(1.04.8^27) and a future cumulative inflation factor of 2.493. This would suggest a need to decrease the net salvage percents by a factor of 0.70 (2.493/3.546) rather than decreasing them by using the factor of 0.44. The use of a factor of 0.70 results in an estimate of negative 212 percent which closely approximates the estimate of negative 200 percent used by Mr. Wiedmayer on behalf of AmerenUE.

Q. How did Mr. Selecky and Mr. Dunkel understate the average age of future retirements?

A. The average age of future retirements used by Messrs. Selecky and Dunkel was the average service life. This is incorrect. The average age of future retirements is not the average service life, but rather is the average probable life. The average probable life is the same as the average service life when an asset is first placed in service, but as time passes, the average probable life continues to increase beyond the average service life. This is no different than with humans who have lived for a number of years and now have life expectancies that are greater than they were at birth. The use of the probable life would result in more future inflation than was recognized by either Messrs. Selecky or Dunkel, further invalidating their conclusions and adjustments.

Q. Please explain the difference between the average life of an account and the average age of its retirements.

A. The average life of an account, when using the average life group procedure as all parties are in this proceeding, should be the dollar-weighted average of the ages of historical retirements and the ages of future retirements of plant presently in service. For example, assume that a vintage is installed in 1995 and its life characteristics are such that 5% of the original installation is retired every year for twenty years. The average life of this

vintage is 10 years, the average age of all its retirements. Now, if one were to analyze this account after it had been in service for only 10 years, the fitting of a survivor curve to the rates of retirement at ages 1 through 10 would most likely lead to an estimate of a 10 year average life. However, the average age of the retirements at that point would only be 5 years, not 10 years, as nearly all of the retirements that were experienced at that point had an age that was less than the average life.

This is often the case in studying utility property. We use the Iowa curves to enable us to forecast the rates of retirement that will occur at older vintages for which we have either limited or no experience as yet. The average age of historical retirements is less than the estimated average life because we have not had significant retirements of the long-lived assets in the account, only the short-lived assets. Further, since the investment in plant has grown over the years, as a result of both real and inflationary growth, these retirements of younger plant involve more plant at higher unit costs and lower the weighted average age to a level that is less than the average life.

So, at any point in time, the average age of the retirements up to that point will be less than the average life and the average age of the retirements of plant in service that will occur in the future is more than the average life. The average age of all of these retirements is the average life.

Q. Please illustrate this principle using AmerenUE accounts.

A. Schedule WMS-SR1 presents graphs of the average age of retirements by year for Accounts 365, Overhead Conductors and Devices, and 369.1, Overhead Services, for the period 1961 through the end of the life of the plant presently in service based on the estimated survivor curve for the account. The graph also includes a line that indicates the

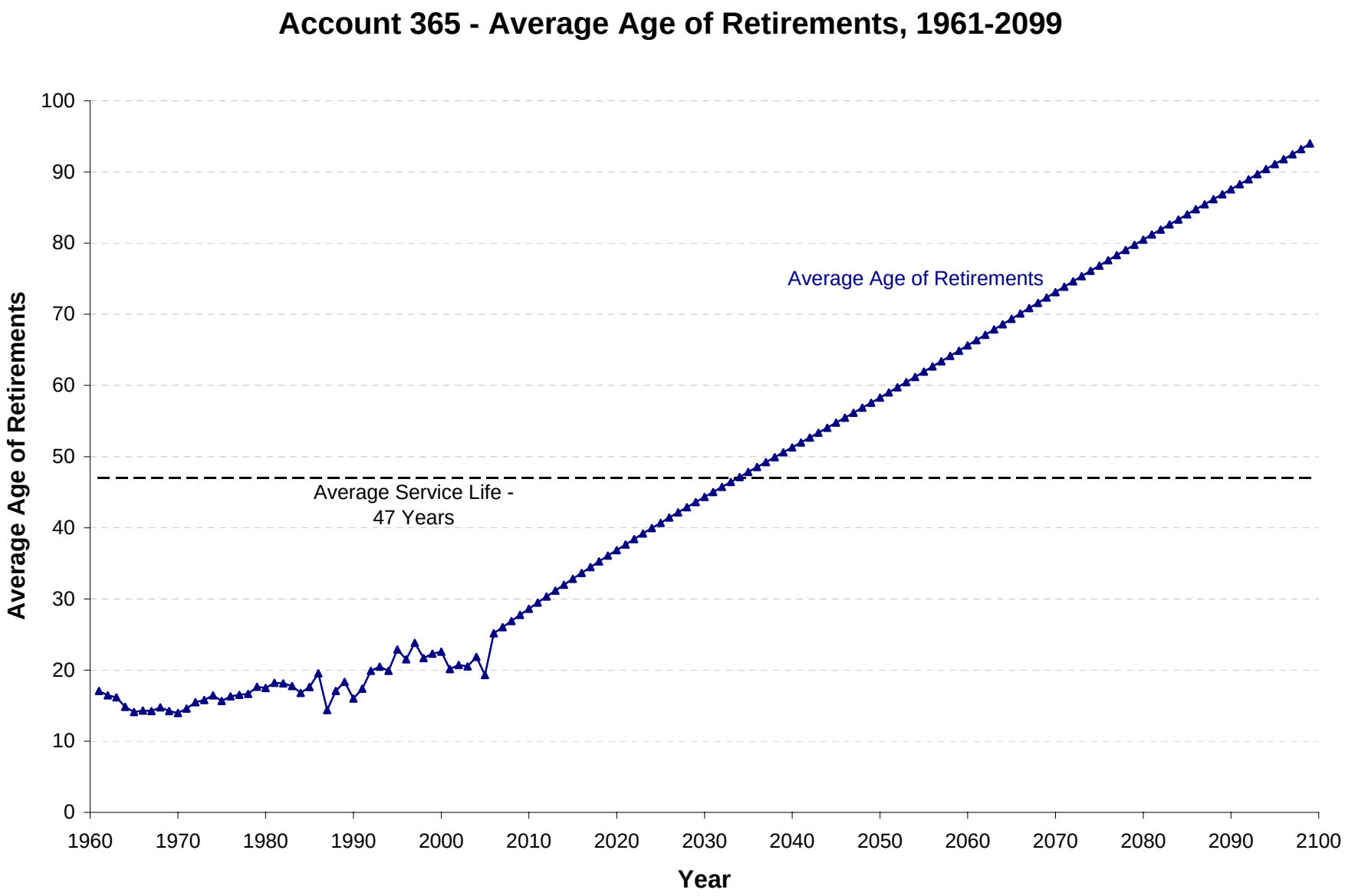
average life of the account. The graphs illustrate that the average age of retirements up to this point are less than the average life. As the plant presently in service matures, the average age of retirements increases beyond the average life, balancing the ages less than average life that occurred early in the account's life cycle.

Q. Please summarize your Rebuttal Testimony related to the incorporation of future inflation in net salvage.

A. Contrary to the adjustments made by Messrs. Selecky and Dunkel to reduce the future net salvage percents, an appropriate consideration of historical and future inflation would suggest that overall such percents be increased. The average age of historical retirements is significantly less than the average life of the account. Thus, less inflation, not more, has occurred between the time of installation and retirement for these historical retirements than will be the case for future retirements, even if the rate of inflation is lower in the future than it has been in the past.

Q. Does this conclude your Surrebuttal Testimony?

A. Yes, it does.


Account 365 - Average Age of Retirements, 1961-2099
Average Age of Retirements
Average Service Life - 47 Years
Average Age of Retirements
Year
0
10
20
30
40
50
60
70
80
90
100
1960
1970
1980
1990
2000
2010
2020
2030
2040
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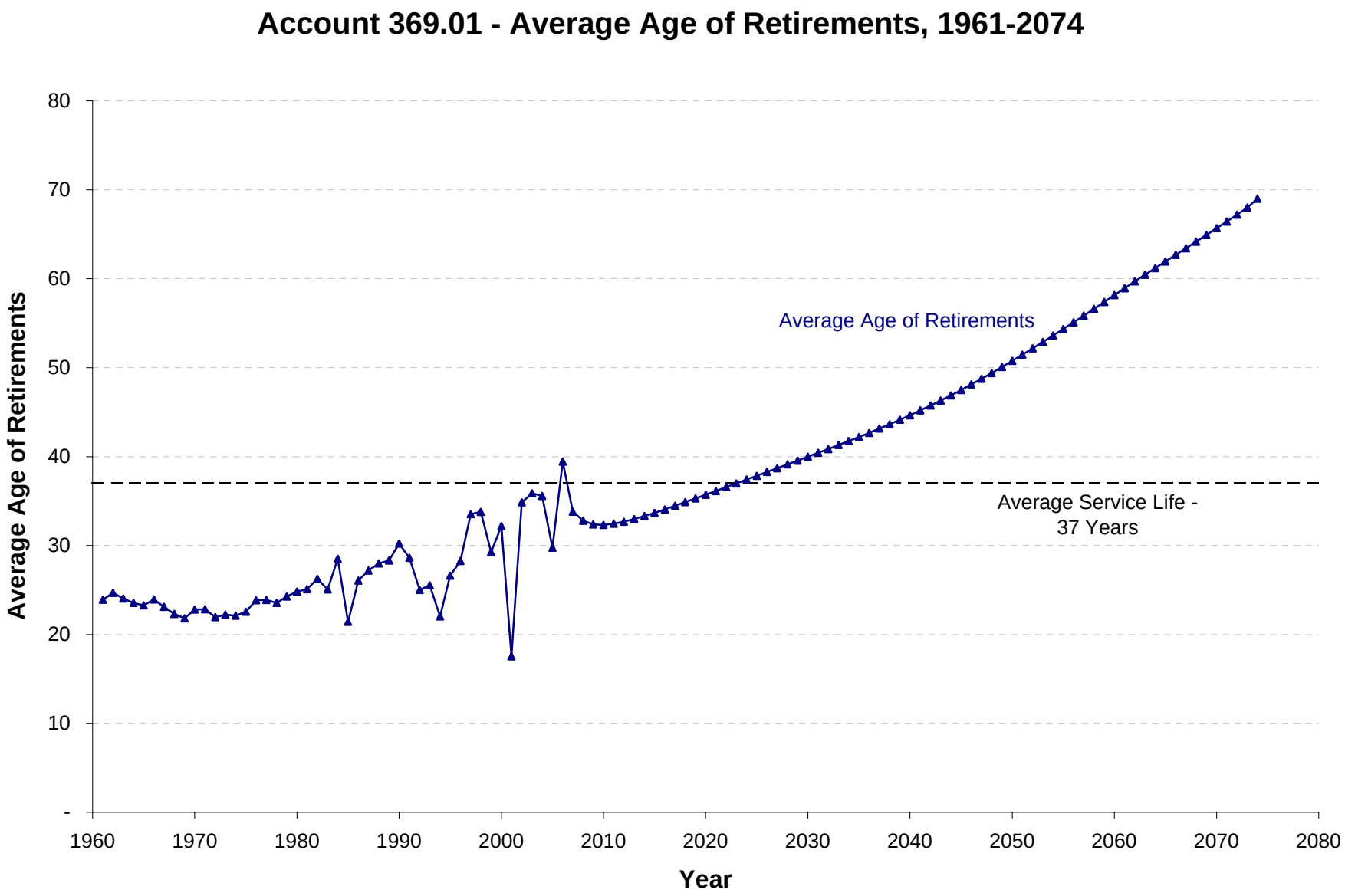
Account 369.01 - Average Age of Retirements, 1961-2074
Average Age of Retirements
Average Service Life - 37 Years
Average Age of Retirements
Year
80
70
60
50
40
30
20
10
-
1960
1970
1980
1990
2000
2010
2020
2030
2040
2050
2060
2070
2080

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a AmerenUE for Authority to File Tariffs Increasing Rates for Electric Service Provided to Customers in the Company's Missouri Service Area.	)))))	Case No. ER-2007-0002

AFFIDAVIT OF WILLIAM M. STOUT

STATE OF PENNSYLVANIA)
) **ss**
COUNTY OF CUMBERLAND)

William M. Stout, being first duly sworn on his oath, states:

1. My name is William M. Stout. I work in Camp Hill, Pennsylvania and I am President of the Valuation and Rate Division of Gannett Fleming, Inc.

2. Attached hereto and made a part hereof for all purposes is my Surrebuttal Testimony on behalf of Union Electric Company d/b/a AmerenUE consisting of 9 pages, and Schedule WMS-SR1 all of which have been prepared in written form for introduction into evidence in the above-referenced docket.

3. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded are true and correct.

William M. Stout
William M. Stout

Subscribed and sworn to before me this 23rd day of February, 2007.

Mary O. Hoff
Notary Public

My commission expires:
6/2/07

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Mary O. Hoff, Notary Public
East Pennsboro Twp., Cumberland County
My Commission Expires June 2, 2007
Member, Pennsylvania Association Of Notaries