Exhibit No.:	
Issues:	Power Plant Depreciation Policy
Witness:	William M. Stout
Sponsoring Party:	Union Electric Company
Type of Exhibit:	Direct Testimony
Case No.:	ER-2007-0002
Date Testimony Prepared:	June 30, 2006

MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. ER-2007-0002

DIRECT TESTIMONY

OF

WILLIAM M. STOUT, P.E.

ON

BEHALF OF

UNION ELECTRIC COMPANY
d/b/a AmerenUE

St. Louis, Missouri
July, 2006

TABLE OF CONTENTS

DIRECT TESTIMONY

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WILLIAM M. STOUT, P.E.

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I. QUALIFICATIONS

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. By whom and in what capacity are you employed?

A. I am President of the Valuation and Rate Division of Gannett Fleming, Inc.

Q. Please describe the Valuation and Rate Division.

A. The Valuation and Rate Division of Gannett Fleming, Inc. provides consulting services to public utilities and railroads. The Gannett Fleming affiliated companies employ nearly 1,900 people in over 50 offices throughout the United States and Canada.

The Valuation and Rate Division has a long history of client services encompassing valuations; depreciation studies; revenue requirement, cost allocation and rate design studies; analyses of accounting systems; and acquisition and feasibility studies. Software developed by my firm and related to the conduct of depreciation studies is licensed to utility companies and commissions including the Missouri Public Service Commission and Union Electric Company d/b/a AmerenUE (AmerenUE or Company).

Q. Please describe your education.

A. I have a Bachelor of Science degree in Management Engineering from Rensselaer Polytechnic Institute.

Q. Are you a registered professional engineer?

A. Yes, I am registered in the Commonwealth of Pennsylvania.

Q. Are you a member of any professional societies?

A. Yes, I am a member of the National and Pennsylvania Societies of Professional Engineers, the Institute of Industrial Engineers, and the Society of Depreciation Professionals (SDP). I am a former member of the Accounting Services Committee of the American Gas Association (AGA) and a past president of SDP.

Q. Will you outline your experience in the field of engineering?

A. While attending Rensselaer, I was employed by the Valuation Division of Gannett Fleming Corddry and Carpenter, Inc., during the summers of 1970, 1971, and 1972. My principal assignments related to valuation studies and computer programming.

After my graduation in June 1973, I was employed by the Valuation Division as a Valuation Engineer. The scope of my depreciation activities has included assembly of basic data, statistical service life analyses utilizing the retirement rate and simulated plant record methods, field surveys, estimation of service life and salvage, calculation of annual and accrued depreciation, and preparation of reports presenting the results of the studies.

The scope of my cost of service activities has included the selection of customers to be demand-metered, the analysis of recorded customer demands, the development of cost allocation factors, the allocation of costs, the analysis of customers' consumption, the application of present and proposed rates to the consumption analysis, the design of rate structures, and the preparation of reports presenting the results of the studies.

Since January 1978, I have testified in support of the studies conducted under my direct supervision. In January 1980, I was assigned to the position of Manager of

Depreciation and Cost Allocation Studies conducted by the Valuation Division. In June 1982, I became a Vice President. I became a Senior Vice President in 1991 and attained my current position of President in 1994.

Q. Do your professional activities include participation in continuing professional educational programs?

A. Yes, they do. I have completed the "Fundamentals of Life Estimation," "Forecasting Service Life," and "Making and Administering [Depreciation] Policy" programs conducted by the Center for Depreciation Studies at Western Michigan University. In 1985, I became a member of the faculty of Depreciation Programs, Inc. (DPI), lecturing on "Forecasting Service Life," "Fundamentals of Salvage Analysis," and "Managing a Depreciation Study." DPI offered the premier series of programs in depreciation and, over the course of 33 years, was attended by thousands of personnel from utility companies, commissions and consultants. I was privileged to have as fellow instructors and colleagues such depreciation luminaries as Robley Winfrey, Jean Hemptstead, Chet Fitch, Harold Cowles, and Frank Wolf. I was an instructor in these programs for 15 years. I also have been an instructor at the annual Introduction to Public Utility Accounting and Advanced Public Utility Accounting seminars sponsored by the AGA and the Edison Electric Institute and the seminars presented by the SDP at its Annual Meeting. My students at both the DPI and SDP programs have included Staff members of the Missouri Public Service Commission.

Q. Have you previously testified on the subject of depreciation?

A. Yes. I have testified before the Missouri Public Service Commission, the Pennsylvania Public Utility Commission, the Georgia Public Service Commission, the Public Service Commission of Indiana, the New York Public Service Commission, the New

Hampshire Public Utilities Commission, the Alaska Public Utilities Commission, the Texas Public Utility Commission, the Public Utilities Commission of the State of Colorado, the California Public Utilities Commission, the Federal Energy Regulatory Commission, the National Energy Board of Canada, the Canadian Radio-Television and Telecommunications Commission, the Alberta Energy & Utilities Board, the Newfoundland Board of Commissioners of Public Utilities, and the United States Tax Court on the subject of depreciation.

Q. How many depreciation studies have you performed during your career and for what types of companies?

A. I have conducted several hundred depreciation studies during my over 30-year career for electric, gas, water, wastewater, telephone, and railroad companies.

II. SUMMARY

Q. What is the purpose of your testimony in this proceeding?

A. My testimony provides evidence related to the appropriate approach to the depreciation of power plants for AmerenUE. I recommend that the Commission adopt the life span approach to straight-line whole life depreciation and allow an accrual for both interim and terminal net salvage during the life of power plants, as proposed by AmerenUE. Further, the life span for the Callaway Nuclear Generating Station should be based on the expiration date of the current license. A summary of my testimony is included as Attachment A.

Q. What are your conclusions regarding the use of the life span approach?

A. During the life of a power plant, interim additions, replacements, and retirements occur regularly. At the time of the final retirement of a power plant, all of the structures and equipment are retired, regardless of whether they were part of the original installation or were added as recently as a year or two prior to the plant's retirement. The life span approach reflects the unique average lives that are experienced by each year of installation at a power plant by recognizing the period of time between each installation and the final retirement of the plant. The application of a single average life or average survivor curve to all installation years of an entire power plant account does not recognize the unique survivor characteristics of each installation year. Further, the use of a single average life is only applicable for one year, as with each year of betterments and replacements, the overall average life of the power plant changes. Thus, depreciation based on the use of the life span approach, rather than the use of a single average life, results in a more accurate reflection of the loss in service value of a power plant

Q. What are your conclusions regarding the appropriate treatment of net salvage for power plants?

A. Annual depreciation accrual rates and amounts that include a provision for net salvage related to current plant in service are reasonable and in accord with sound ratemaking principles. Depreciation is the loss in service value and service value is the difference between original cost and net salvage value. Thus, net salvage, i.e., the cost of decommissioning power plants, should be a part of the standard straight-line whole life depreciation accrual. This is true for poles and conductors and it is true for power plants.

Net salvage for power plants consists of interim net salvage related to interim retirements that occur throughout the life span of a plant and decommissioning costs that occur at the end of a plant's life. Both interim net salvage and decommissioning costs should be recovered from customers served by the power plant that requires the expenditure of net salvage costs. The use of the standard straight-line whole life accrual over the life of the plant accomplishes this equity. Waiting until the costs are incurred and either expensing or amortizing them does not. These approaches actually result in higher revenue requirements. The straight-line whole life accrual of such costs during the life of power plants minimizes revenue requirements.

Nearly all public utility commissions use the straight-line whole life or remaining life accrual of net salvage during the life of the asset. As a result, the Commission should find that the whole life method with ratable recovery of net salvage during the life of the plant is equitable for AmerenUE and its customers.

Q. What are your conclusions regarding the life span of the Callaway Nuclear Generating Station?

A. The life span of the Callaway Nuclear Generating Station should be based on the expiration of the current operating license. It would be premature to anticipate an extension of that license. Should the license extension occur, it may have stipulations and requirements for additions and retirements. An extension of the life span for depreciation purposes should not occur unless and until the license is extended and its stipulations are known.

III. DEPRECIATION CONCEPTS

Q. Please describe what you mean by the term "depreciation".

A. "Depreciation", as defined in the Commission's Uniform System of Accounts (USOA), refers to the loss in service value not restored by current maintenance, incurred in connection with the consumption or prospective retirement of utility plant in the course of service from causes which can be reasonably anticipated or contemplated, against which the Company is not protected by insurance. Among the causes to be given consideration are wear and tear, decay, action of the elements, inadequacy, obsolescence, changes in the art, changes in demand, and the requirements of public authorities. Depreciation accrual rates are used to allocate, for accounting and ratemaking purposes, the service values of assets over their service lives. As a result, each year of service and each generation of customers are charged with the portion of the asset that it or they consume or use.

Q. You referred to depreciation as the "loss in service value" in your definition. What is service value?

A. Service value, as defined in the Uniform System of Accounts, is "the difference between original cost and net salvage value of gas plant."[1]

Q. Does the Uniform System of Accounts also define what it means by "net salvage value"?

A. Yes, it does. "'Net salvage value' means the salvage value of property retired less the cost of removal."[2]

Q. Does the Uniform System of Accounts prescribe a method of Depreciation Accounting?

A. Yes. Both the electric and gas Uniform Systems of Accounts include General Instruction 11, Accounting to be on accrual basis, which states "The utility is required to keep its accounts on the accrual basis." Further, General Instruction 22, Depreciation Accounting, of the electric system states "Utilities must use a method of depreciation that allocates in a systematic and rational manner the **service value** of depreciable property over the service life of the property." (Emphasis added).

[1] 18 CFR Part 101 Uniform System of Accounts Prescribed for Public Utilities and Licensees Subject to the Provisions of the Federal Power Act. Definition 36.

[2] *Ibid*. Definition 19.

Q. Based on the instructions in the Uniform System of Accounts, what do you conclude that it requires regarding the allocation of service value of power plants?

A. The USOA requires that the allocation of service value be systematic and rational. The allocation of power plant costs based on a single average life that cannot possibly be correct is not rational. The allocation of power plant costs using the life span approach in which the lives of each installation year reflect the concurrent retirement of all facilities at the end of the plant's life is rational and, therefore, compliant with the USOA.

Q. Do authoritative texts on depreciation support your conclusion that the service value of power plants should be allocated based on the use of the life span approach?

A. Yes, they do. Authoritative texts on the subject of depreciation support the proposal to use the life span approach for power plants. Public Utility Depreciation Practices, published in 1996 by the National Association of Regulatory Utility Commissioners states:

> Life span property generally has the following characteristics:
>
> 1. Large individual units,
> 2. Forecasted overall life or estimated retirement date,
> 3. Units experience interim retirements, and
> 4. Future additions are integral part of initial installation.
>
> …
>
> The following classes of utility property may be most appropriately studied under this method, taking into consideration the availability of plant accounting data, and particularly the number of units of property involved: buildings, electric power plants,[3]

[3] Public Utility Depreciation Practices. Page 141. National Association of Regulatory Utility Commissioners. 1996.

Depreciation Systems states:

> Depreciation professionals use the term life span to describe both a unit of property and a group of property that will be retired as a unit. Examples of a unit of property are a hydroelectric dam or the building housing electrical generating equipment. Examples of a group of property that will be retired as a unit include the turbines, generators, and other equipment used to generate electrical power and housed in either the dam or building.[4]

Q. What method for allocation of power plant service value has AmerenUE proposed in this proceeding?

A. AmerenUE has proposed, consistent with authoritative texts and the USOA, the use of the life span method of allocating the service value of power plants over the life of the facility.

Q. Based on the definitions and instructions in the Uniform System of Accounts, what do you conclude that it requires regarding power plant net salvage?

A. The USOA requires that power plant net salvage, as a component of its service value, must also be allocated or accrued over the service life of the property in a systematic and rational manner.

Q. Do authoritative texts on depreciation support your conclusion that net salvage should be accrued during the life of the related plant?

A. Yes, they do. Every authoritative text on the subject of depreciation supports the proposal to ratably accrue for net salvage during the life of the related property. Public Utility Depreciation Practices, published in 1996 by the National Association of Regulatory Utility Commissioners states:

> Closely associated with this reasoning are the accounting principle that revenues be matched with costs and the regulatory principle that utility customers who benefit from the consumption of plant pay for the cost of that

[4] Depreciation Systems, Wolf, Frank K. and W. Chester Fitch. Page 255. Iowa State University Press. 1994.

> plant, no more, no less. The application of the latter principle also requires that the estimated cost of removal of plant be recovered over its life.[5]

Depreciation Systems states the concept in this manner:

> The matching principle specifies that all costs incurred to produce a service should be matched against the revenue produced. Estimated future costs of retiring of an asset currently in service must be accrued and allocated as part of the current expenses.[6]

Q. What treatment of net salvage has AmerenUE proposed?

A. AmerenUE proposed, consistent with the authoritative texts and the definition in the Uniform System of Accounts, the standard incorporation of net salvage related to power plants in the determination of depreciation. AmerenUE is proposing that this standard incorporation of net salvage in the depreciation rate reflect the net salvage related to both interim and terminal, or final, retirements. Although the standard approach has been used by this Commission in establishing AmerenUE's ratemaking allowances for depreciation for many decades, the allowances for power plant net salvage have been relatively small and likely reflect only an amount for net salvage related to interim retirements. Full implementation of the standard approach collects all net salvage costs ratably over the life of plant from the customers served by the plant. This approach is equitable and conforms to the definition of depreciation as the loss in service value, where service value is the difference between original cost and net salvage. Delaying the recognition of terminal net salvage until after it is incurred results in recovery of such costs from customers that did not receive service from the related assets.

[5] Public Utility Depreciation Practices. Page 157. National Association of Regulatory Utility Commissioners. 1996.

[6] Depreciation Systems, Wolf, Frank K. and W. Chester Fitch. Page 7. Iowa State University Press. 1994.

IV. POWER PLANT SERVICE LIVES

Q. Please describe the addition and retirement activity that occurs during the course of a power plant's life span.

A. The first addition at a power plant is its initial construction, a substantial expenditure. For a plant with several units, this initial construction can occur over a period of a few, or even up to ten or more, years. Throughout the life of this initial expenditure, betterments and replacements take place. For example, after their initial installations in 1970 through 1973, precipitators were added to the units at Labadie in 1983, representing a betterment. Further, in 1995 the original coal burners were replaced with burners that had lower NOx emissions. The retirement of the original burners represents an interim retirement. This type of activity occurs in almost every year of a power plant's life span in varying degrees of magnitude. As a result of inflation, some of the subsequent additions can be nearly as large as the original installation. After a period of 40, 50, or more years, it becomes uneconomic to continue to make improvements to keep the plant running and the entire unit or plant is retired. This retirement includes the original construction as well as all of the interim betterments and replacements.

Q. Given this pattern of additions and retirements, how can the survivor characteristics of power plant structures and equipment be described?

A. The survivor characteristics of power plant structures and equipment can be described through the use of interim survivor curves truncated at the date of final retirement of the entire plant or unit. The interim survivor curve describes the rate of interim retirements from the date of installation to the date of final retirement. These interim retirements are the result of retirements of equipment with lives that are less than the overall life span of the plant.

These retirements would be of items such as boiler feedwater pumps, turbine rotors, control equipment, coal pulverizers, and numerous other items. The interim survivor curve begins at 100 percent surviving at the date of installation and decreases gradually throughout most of the life span. At the date of final retirement, the interim survivor curve is truncated, reducing the percent surviving to 0 percent. The age at which truncation occurs is different for every year of installation, resulting in a different survivor curve for each vintage.

Q. Please use an example to illustrate the survivor characteristics of power plants.

A. I will use Account 312, Boiler Plant Equipment, at Labadie Station as the example. The interim survivor curve estimated by Mr. John Wiedmayer of our firm for this account is the 60-L0.5. This is the survivor curve that describes the rates of retirement that occur between the installation date and the date of final retirement. The 60-L0.5 is illustrated on page A-5 of Mr. Wiedmayer's Schedule JFW-E1. The survivor curve for the initial installations at Labadie in 1970 is shown in Schedule WMS-1 attached to my testimony. The average life of this installation year is the area encompassed by this curve and is 43.97 years. In contrast, the survivor curve for the low NOx burners added in 1995 is shown in Schedule WMS-2 attached to my testimony. The average life of installation year 1995 is 28.21. The average life of the 1995 installations is restricted by the final retirement date of 2026. The survivor curve and average life of each installation year are defined by the interim survivor curve truncated at that installation year's age at the date of final retirement. The average lives for each installation year of Account 312, Boiler Plant Equipment, at Labadie are shown on pages C-12 and C-14 of Mr. Wiedmayer's Schedule JFW-E1.

Q. How is the interim survivor curve estimated?

A. The interim survivor curves for the several accounts at power plants are estimated based on informed judgment that incorporates retirement rate analyses of historical interim retirements and a consideration of the interim retirement rates observed for similar accounts and plants at other electric utilities. The results of the interim retirement rate analyses conducted by Mr. Wiedmayer for AmerenUE's boiler plant equipment are presented on pages A-6 and A-7 of his Schedule JFW-E1 and plotted along with the 60-L0.5 interim survivor curve on page A-5.

Q. How is the final retirement date estimated?

A. The final retirement date is estimated based on informed judgment incorporating the outlook of management and a consideration of both the life spans of retired stations and units and the estimates of others for units currently in service.

Q. Does the final retirement date represent a date certain for the retirement of the plant?

A. No, it does not. The final retirement date represents the midpoint of a range of dates during which the retirement of the plant is expected to occur. Until the plant is within about five years of retirement, it is not possible to forecast the exact year of retirement. However, it is possible to identify a relatively narrow range of dates during which the facility will be retired.

Q. Is it necessary for management to have replacement plans in effect for these units in order to estimate a final retirement date?

A. No, it would be premature for management to be making such plans at this point in time. Such plans need not occur until the time left until retirement approximates the lead time for construction of the replacement power generation.

Q. Is an economic study required in order to estimate the final retirement date of a power plant?

A. No, it is not. It is not possible to conduct such a study until near the end of the power plant's life. The economics and regulatory requirements are subject to significant change over the life of the plant and it would be difficult, if not impossible, to forecast such conditions so far into the future. However, it is possible to recognize that (1) regulatory requirements continue to increase, making the operation of the plant more costly, (2) the condition of many plant items deteriorates with age and cannot be fully arrested through maintenance, and (3) technology continues to advance, making the installation of a new facility ultimately more economic than the continued operation of the existing facility.

Q. Has AmerenUE previously retired power plants?

A. Yes, it has. AmerenUE has retired the Mound, Cahokia, and Venice I power plants, consisting of a total of 17 units, and it also has retired Units 1 and 2 of the Venice II station.

Q. Do you believe that the plants currently in service can live indefinitely?

A. Absolutely not. Although the sites may be used for a significant period of time into the future, the depreciable assets will be retired as they become uneconomic due to deterioration, regulation, and obsolescence.

Q. What is your opinion of the life spans estimated for AmerenUE's power plants?

A. I believe that the life spans estimated for AmerenUE's power plants are at the upper end of the probable range of life spans for these stations. The life spans estimated for AmerenUE units range from 49 to 73 years. I have attached to my testimony as Schedule WMS-3 a tabulation of the actual life spans of nearly 200 retired steam production units. The average life span of these units was 46 years. The life spans estimated throughout the electric industry for similar plants range from 40 to 60 years. Thus, I conclude that the life spans estimated for AmerenUE's power plants are at the upper end of the probable range of life spans.

Q. Is it possible to describe the life characteristics of power plants with the use of a single average survivor curve for each account?

A. No, it is not. The average service life of each year of installation is different. The closer the installation is to the date of final retirement, the shorter is the average life. Complete recovery of the original cost with the use of a single average life would require an annual adjustment to reduce the average to reflect the shorter life of the new additions. This continual reduction in average life for the account would result in a pattern of increasing accruals with age for each year of installation. That is not straight-line depreciation as required by the USOA. Alternatively, an average life that reflects the lives of plant in service and plant to be added in the future could be used from the time of the initial installation. However, this approach results in too much annual depreciation in the early years for the long-lived facilities and too little depreciation in the later years for the short-lived facilities.

Q. Can actuarial analyses be used to develop a basis for estimating an overall average life applicable to a power plant account?

A. No, they cannot. The mix of interim and final retirements in the historical data base is not consistent with the mix of future interim and final retirements. As a result, the analysis of historical retirement rates is not appropriate for forecasting future retirement rates for power plants.

V. POWER PLANT NET SALVAGE

Q. Please describe the net salvage activity that occurs during the course of a power plant's life span.

A. The net salvage activity that occurs during the life of a power plant includes net salvage related to interim retirements and the decommissioning costs at the end of the power plant's life.

Q. Given this pattern of net salvage, how can the net salvage characteristics of power plants be described?

A. The net salvage characteristics of power plants can be described by weighting the interim net salvage as a percent of interim retirements with the final net salvage, or decommissioning, as a percent of final retirements. The bases for weighting these two percents are the original cost of interim retirements and the original cost of final retirements.

Q. Should this weighting be performed for each installation year?

A. Ideally that would be the case, as the weighting factors would be different for each installation year. However, a weighting at the account level results in a less negative overall net salvage accrual and is far more practical.

Q. How is the interim net salvage percent estimated?

A. The interim net salvage percent is estimated based on informed judgment that incorporates analyses of historical interim net salvage as a percent of the original cost of interim retirements and a consideration of the interim net salvage percents experienced by other electric utilities.

Q. How is the final net salvage percent estimated?

A. Final net salvage for a power plant is the cost of decommissioning the station. The cost of decommissioning the station can be estimated either by a detailed site specific cost estimate of the labor, equipment, and materials required to dismantle the facility or by applying an average decommissioning cost per kilowatt, based on detailed studies performed for similar units, to the capacity of the station being studied. Obviously, where time and resources permit, a site specific estimate is preferable and this is the approach that AmerenUE has used.

Q. In your opinion, is it possible that AmerenUE's power plants will continue to be rehabilitated and retained indefinitely, such that the costs of decommissioning these stations will not be incurred?

A. No. As shown in Schedule WMS-3, there have been a significant number of power plants retired, including plants owned by AmerenUE. Many of these plants have been dismantled and others are awaiting dismantlement. Although dismantlement sometimes occurs a number of years after retirement, it does occur. These facilities age and reach a point where it is no longer economic to rehabilitate them. Further, once retired, these facilities either pose a potential hazard to the public or are in the way of new facilities. Thus, it is my opinion that they will be dismantled either to safeguard the public or to reuse the site for new facilities.

Q. Should the value of the site for future reuse be considered as a part of the net salvage estimate?

A. No, it should not. The value of the site is related to the nondepreciable land, not the structures and equipment that occupy the land.

Q. Is it possible that the facilities will be mothballed and secured rather than dismantled?

A. Yes, such an approach is possible, although still quite expensive, as shown in the testimony and schedules of AmerenUE witness Thomas S. LaGuardia. However, I think it is more logical to fully decommission the station and obtain the use of the land that it occupies.

Q. Earlier you indicated that these plants will be retired and net salvage costs will be incurred. Is it possible to estimate these net salvage costs for a power plant with reasonable accuracy?

A. Yes, it is. The estimates of dismantling costs are developed on a detailed basis and incorporate experience with actual dismantling. In my opinion, they represent cost estimates at the low end of the probable range of costs that will be incurred to dismantle these plants.

Q. The study conducted by Mr. LaGuardia provides estimates of the cost of decommissioning in current dollars. Are these the dollars that should be used in estimating the final net salvage percent?

A. No, they are not. The dollars that should be used in estimating the final net salvage percent are the dollars in the year of retirement. These are the amounts that will be expended by AmerenUE. Therefore, the cost estimates provided by Mr. LaGuardia should be inflated to the date of retirement in order to provide for the amounts that will be expended in the depreciation accrual.

Q. What is the range of net salvage as a percent of original cost used by Mr. Wiedmayer in his calculations of annual depreciation rates?

A. The net salvage percents used by Mr. Wiedmayer in Schedule JFW-E1 for Steam Production Plant range from negative 18 to negative 21 percent.

Q. **Are these net salvage percents reasonable?**

A. Yes, they are. They are consistent with the net salvage percents that I have observed from both detailed studies and from estimates determined using a cost per kilowatt of capacity. Further, when you consider the impact of inflation on these amounts, the level of effort to remove appears even more reasonable. By level of effort, I mean the manhours, materials, equipment hours, etc. required to either construct or dismantle a facility.

An estimate of negative 20 percent net salvage after a plant has been in service for 60 years, assuming a 3 percent rate of inflation, is an estimate of 3 to 4 percent negative net salvage on a constant dollar basis. That is, the level of effort required to retire the plant will be only 1/30th of the level of effort required to install the facility. However, this effort will be performed at a time when the price level is approximately six times the price level when the plant was installed. Given the potential for environmental remediation and the necessity of a safe approach to dismantlement, a level of effort to dismantle a plant that is only 1/30th of the original effort to install the plant seems very reasonable to me.

VI. CUSTOMER EQUITY

Q. Do customer equity considerations support the use of the life span method for power plants?

A. Yes, they do. The life span method provides for a better match of depreciation expense with service value rendered than does the use of a single average survivor curve for all installation years.

Q. Please explain.

A. The life span method develops and uses a unique average service life for each installation year. As a result of the concurrent retirement of plant installed in all installation years, the older installation years have longer average service lives than the younger installation years. The original cost of an older installation year is recovered during the average life of that installation year. The original cost of a younger installation year is recovered during its average life. The use of a single average survivor curve that is somewhere between the longer lives of the older installation years and the shorter lives of the younger installation years results in the overrecovery of cost for the older installation years and the underrecovery of cost for the younger installation years.

Q. Please provide an example of how the use of an average survivor curve results in the over- and under-recoveries.

A. Schedule WMS-4 presents an example of the over- and under-recoveries that occur when the average survivor curve method is used. In the example, there are two installation years, 1960 and 1990. 1960 is the original installation year of the facility and has an original cost of $1,200,000. In 1990, $200,000 of the original installation is replaced with a like item at a cost of $200,000. Further, a betterment of $100,000 is made at the same time.

The entire installation is forecast to be retired after a 60-year life span in the year 2020 without any further interim addition or retirement activity.

The average life of installation year 1960 is 55 years which is the weighted average of 60 years for the $1,000,000 that was not retired in 1990 and 30 years for the $200,000 that was retired in 1990. The average life of installation year 1990 is 30 years. The average life of the entire group is 50 years, the weighted average of 60 years for the $1,000,000 and 30 years for $500,000 ($200,000 from installation year 1960 and $300,000 from installation year 1990).

The first section of the schedule presents the annual and accumulated depreciation that results when the life span method is used. During the first 30 years of the facility, the 55 year life is applied to the original cost of $1,200,000. This results in annual depreciation of $21,818.18 ($1,200,000/55) and accumulated depreciation at the end of year 30 of $654,545. During the next 30 years of the facility, the average life of 55 is applied only to the amount surviving from installation year 1960, $1,000,000. This results in annual depreciation of $18,181.82 ($1,000,000/55) and accumulated depreciation during years 31 through 60 of $545,455. The sum of the amounts accumulated for installation year 1960 is its original cost, $1,200,000 ($654,545+$545,455). During years 31 through 60, the original cost of installation year 1990 is depreciated at $10,000 ($300,000/30) per year and reaches an accumulated depreciation amount of $300,000, its original cost, at the time of retirement.

The second section of the schedule presents the annual and accumulated depreciation that results when the average survivor curve method is used. During the first 30 years of the facility's life, the 50 year life is applied to the original cost of $1,200,000. This results in annual depreciation of $24,000 ($1,200,000/50) and accumulated depreciation of

$720,000 at the end of year 30. During the next 30 years of the facility, the average life of 50 is applied to the surviving amount from installation year 1960, $1,000,000. This results in annual depreciation of $20,000 ($1,000,000/50) and accumulated depreciation during years 31 through 60 of $600,000. The sum of the amounts accumulated for installation year 1960 is not its original cost of $1,200,000, but instead is $1,320,000 ($720,000+$600,000). During years 31 through 60, the original cost of installation year 1990 is depreciation at $6,000 ($300,000/50) per year and reaches an accumulated depreciation amount of $180,000 at the time of retirement, not its original cost of $300,000. Overall, the total original cost of $1,500,000 is recovered, but only as a result of the over-recovery of $120,000 for installation year 1960 and the under-recovery of $120,000 for installation year 1990. Customers during the first half of the facility's life cycle will have paid too much depreciation expense as compared to the service value that they received.

Q. Do you have any other concerns with the use of the average survivor curve method for power plants?

A. Yes, I do. In my opinion, it is often the case that the average service life estimated when this approach is used is too long. That is, it does not sufficiently recognize the shorter service lives of the original cost yet to be added. Unless the estimate recognizes the shorter lives of both the interim retirements and additions, the life will be overstated, resulting in an overall under-recovery of the original cost. I have illustrated this in the third section of Schedule WMS-4. In the example, the average life used for the entire account is 55 years, the average life of the initial installation. When this average life is used for all installation years, the total accumulated depreciation is $1,363,636 as compared to the total original cost of $1,500,000.

Q. What are the bases for this concern?

A. The bases for my concern are the misuse of retirement rate analyses of historical retirement data for these facilities and the underestimation of the impact of future activity on the average life of the entire facility. Most retirement rate analyses for power plant accounts do not reflect a mix of retirements in the historical data that is consistent with the overall mix that will result by the time of the final retirement. The mix that is reflected tends to overstate the average life of the account with a result similar to the use of 55 years in Schedule WMS-4.

Secondly, future addition and retirement activity has a significant impact on the overall average life of a facility. For example, the Venice 2 plant had a life span of 60 years from 1942 to 2002. The overall average life of the plant on a dollar-weighted basis, as calculated in Schedule WMS-5, was 31.22 years, significantly less than the 60-year life span. The currently approved depreciation rate for Venice 2 is 2.08 percent and is likely based on an average life, perhaps 50 years, which did not fully recognize the impact of the interim retirement and addition activity on the average life of the plant.

Q. What customer equity considerations have an impact on the issue of terminal net salvage for power plants?

A. The customer equity considerations that have an impact on the issue of terminal net salvage for power plants are the same as those that impact the net salvage issue for mass property accounts. The net salvage cost of an item of plant is a part of its service value and, therefore, it is a part of the item's cost of providing service. The cost of the item providing service should be collected from the customers that receive the service. Thus, an allocable portion of the net salvage cost should be recovered each year from the customers receiving the value of the service rendered by the item of plant in the same way that an allocable portion of the item's original cost is recovered from such customers each year. This approach is equitable in that customers are responsible for the cost of plants that provide service to them.

Power plants represent a substantial asset of the utility that required a significant expenditure to place in service and will require significant expenditure to remove from service. Power plants are not added year in and year out like mass property assets such as poles and conductors. They provide service over a period that spans generations of customers. Each of these generations should provide for the recovery of the original cost of the plants and a provision for the cost of retiring the plants. Waiting until these costs are incurred and charging the then current customers is not fair to them. Such customers certainly did not receive the service value represented by the entire cost of retiring. These costs must be recovered from the customers who benefit from this service value, i.e., the customers who receive service during the life of the plants.

Q. Please illustrate this principle as it applies to power plant net salvage costs with a simple example.

A. I will continue to use the example that I used in describing the life span method. The original cost of the facility, constructed in 1960, was $1,200,000. In 1990, $200,000 of this cost is retired and $300,000 is added, bringing the total original cost of the facility to $1,300,000. Assume further that the estimated cost to decommission the facility in the year 2020 is $240,000.

Although there are some variations in the facility's output from year to year and, perhaps, lower levels of output at startup and toward the end of its life, there is no real basis for deviating from the straight-line recovery of the net salvage cost. Thus, $4,000 should be recovered from customers in each of the 60 years of the facility's life. As such costs are recovered, rate base and the return required from customers are reduced. If the net salvage costs are not recognized during the life of the facility, then there would likely be an amortization of such costs after they are incurred. The amortization period should be as short as practicable in order to recover these costs from as many customers that benefited from the plant as possible. If a ten-year period were used, this would mean an annual amortization amount of $24,000. Until such costs are recovered, rate base and the return required from customers would be artificially high.

The merits of charging customers that benefit from the facility $4,000 per year less a return on the amounts already provided versus charging customers that did not benefit from the facility $24,000 per year plus a return on the amounts expended are obvious.

Q. What if the costs incurred are less than the amounts estimated?

A. If the costs incurred are less than the estimated dismantling costs, the remainder would be amortized over a relatively short period and the customers would continue to receive a return on such amounts until the amortization was complete.

Q. From a customer equity point of view, how is this different from the scenario in which the entire cost was amortized after it was incurred?

A. Amortizing a difference that resulted from a variance between the actual costs and the estimated costs is very different from amortizing an amount for which a provision was never made. No reasonable estimate will result in greater customer inequity than doing nothing. Further, it is my belief that the nature of the estimates used in this proceeding is that they will not fully provide for the actual costs, resulting in an additional amount to be recovered after the plants are retired. It is more appropriate to minimize the need for such recoveries after the fact by allowing a reasonable provision to be recovered from the customers that benefit during the life of the plants.

VII. MISSOURI AND OTHER COMMISSION PRECEDENT

Q. Are you familiar with the orders of the Missouri Public Service Commission related to the use of the life span method and the treatment of net salvage?

A. Yes, I am. I participated as a witness in Case No. GR-99-315, Laclede Gas Company (Laclede), and Case No. WR-2000-844, St. Louis County Water Company, and reviewed the Commission's orders in Cases No. ER-2001-299 and ER-2004-0570, Empire District Electric, and Cases No. ER-90-101 and ER-97-394, Missouri Public Service Company. I also participated as a witness in Case No. EC-2002-1, Union Electric Company, in which the parties reached a settlement.

Q. What is your understanding of the Commission's policy regarding the treatment of net salvage?

A. My understanding of the Commission's policy is based on the following statement from page 9 of the Report and Order in Case No. GR-99-315:

> The Commission finds that the fundamental goal of depreciation accounting is to allocate the full cost of an asset, including its net salvage cost, over its economic or service life so that utility customers will be charged for the cost of the asset in proportion to the benefit they receive from its consumption. The Commission further finds that the method utilized by Laclede is consistent with that fundamental goal.

The method used by Laclede in Case No. GR-99-315 was the straight-line method of accruing for net salvage. This is the same method that AmerenUE has proposed in this proceeding.

Q. What is the policy of other regulatory commissions regarding the treatment of net salvage?

A. Virtually all other regulatory commissions use the standard straight-line whole life or remaining life methods of depreciation incorporating accruals for net salvage costs during the life of the related asset.

Q. What is your understanding of the Commission's position regarding the allocation of the full cost of a power plant during its service life?

A. My understanding of the Commission's position regarding the allocation of the full cost of a power plant is that the terminal net salvage portion of the full cost generally has not been allowed. The following statement is from page 54 of the Report and Order in Case No. ER-2004-0570:

> Second, with respect to Terminal Net Salvage of Production Plant Accounts, this Commission generally has not allowed the accrual of this item. The reason is that generating plants are rarely retired and any allowance for this item would necessarily be purely speculative. It is true that all depreciation is founded upon estimates, but all estimates are not unduly speculative. Just as utility companies plan rate cases around the projected in-service dates of new plants, so Empire can plan around the retirement of its generating plants so that the Net Salvage expense is incurred in a Test Year. Another alternative is the device of the Accounting Authority Order. As already discussed in connection with the Production Account Service Life issue, there is no evidence that the retirement of any of Empire's plants is imminent and the estimated retirement dates considered in this proceeding are not persuasive. For these reasons, the Commission will not allow the accrual of any amount for Terminal Net Salvage of Production Plants.

Q. Do you agree with the bases for the Commission's current position?

A. No, I do not. Generating units are indeed retired as I have demonstrated in Schedule WMS-3. Significant amounts have been and will be expended in dismantling these units in order to safeguard the public or reuse the site. The fact that retirements are not imminent is not a reason to avoid estimating the date of retirement. The average lives of many mass property accounts are quite long and, therefore, on average, their retirement is not imminent. For example, the average life of a transmission tower is 65 years. Nevertheless, we estimate the lives and net salvage for these assets and provide for the recovery of their full cost from the customers that receive service from them. Generating plants are only different in that there are fewer of them.

Planning a test year around the retirement of a generating unit or obtaining an Accounting Authority Order does not promote customer equity. Obtaining an allowance to recover such costs after they are known results in the recovery of costs from customers that did not receive service from the related asset. This is not sound ratemaking policy.

Q. Do other state utility commissions provide an allowance toward the terminal net salvage of generating units?

A. Yes, they do. For example, the Indiana Utility Regulatory Commission considered the net salvage issue in its 2004 order involving PSI Energy and dealt specifically with net salvage related to production plant. The Commission's conclusions regarding the appropriate recognition of net salvage for these facilities are as follows:

> The next issue is the timing of the collection of such costs. The parties did not disagree that dismantling costs are a part of the cost of current facilities providing current service. They disagreed as to the timing of the collection of such costs and their amount. This Commission can either find that current customers should pay a share of dismantling costs, which will not be incurred for a number of years, or, in the alternative, conclude that these costs should be passed on to a future generation of customers. This Commission does not believe that the latter alternative constitutes sound regulatory policy, or is based on sound ratemaking principles. Current customers are receiving service from PSI's generation facilities. A part of the costs of those facilities is dismantlement upon retirement. Therefore, we do not believe it would be appropriate for the Company to backload the dismantlement costs for future ratepayers to pay when the facilities associated with these costs are providing service to current customers. Rather, we find it is appropriate that these costs be shared by all customers that received

> service from PSI's generation facilities. Accordingly, this Commission finds that dismantlement costs are properly included in determining the depreciation rates approved in this cause"

The Florida Administrative Code Chapter 25-6.04364 Electric Utilities Dismantlement Studies actually requires utilities to establish a dismantlement accrual and to file dismantlement studies once every 4 years. Subsection (1) of this rule states as follows:

> Each utility that owns a fossil fuel generating unit is required to establish a dismantlement accrual as approved by the Commission to accumulate a reserve that is sufficient to meet all expenses at the time of dismantlement. The purpose of the study required by subsection (3) is to obtain sufficient information to update cost estimates based on new developments, additional information, technological improvements, and forecasts; to evaluate alternative methodologies; and to revise the annual accrual needed to recover the costs.

VIII. CALLAWAY

Q. What is the retirement date used for the Callaway Nuclear Power Plant in the depreciation study conducted by Mr. Wiedmayer?

A. The retirement date for Callaway is October, 2024.

Q. What is the basis for the date of October, 2024?

A. The basis for this date is the expiration date of the license to operate the plant that was issued in 1984.

Q. Is an extension of the operating license a possibility?

A. Yes, it is possible that the operating license will be extended.

Q. Should the possible extension of the license be considered in estimating the retirement date for depreciation purposes?

A. No, it should not. First, there is a possibility that the license will not be extended. There are numerous uncertainties that could affect the decision to extend the license when it expires 18 years from now. Changes in technology, changes in demand, and the condition of the equipment are just a few of the factors that will influence this decision. In order to better assess such factors, AmerenUE will not decide on whether to apply for such an extension for a number of years. As described in the direct testimony of Mr. Charles D. Nasland, AmerenUE is monitoring a number of components that will impact the feasibility of license extension. In the event that the license is not extended, obviously, it would not be appropriate to revise the retirement date.

Second, even if the license is extended, it may come with a price. That is, AmerenUE may be required to expend significant sums in order to comply with the terms of the extended license including the replacement of plant currently in service. These new additions and replacements would cause depreciation expense to increase, just as the continual additions to this plant over the past 20 years have caused, and will continue to cause, depreciation expense to increase. Rather than lengthening the life now and decreasing depreciation expense, only to later increase depreciation expense as potentially significant new plant is added, it would be more prudent to continue depreciation at its current levels by using the October, 2024 retirement date.

Q. Should the retirement date used for calculating the annual depreciation rate applicable to the original cost of Callaway be the same as the date used for calculating the accruals to the decommissioning fund for Callaway?

A. Yes, both dates should be the same. The date used in the calculation of accruals to recover original cost and in the calculation of accruals to fund decommissioning should be the current license expiration date.

Q. What date do the Commission's regulations require for the purpose of determining the accruals for the decommissioning fund?

A. Paragraph (4)(A)5 of the Commission's regulations at 4 CSR 240-3.185 state the following: "The beginning date for the expenditure of funds for decommissioning assumed in the study shall be no later than the expiration date of the unit's current Nuclear Regulatory Commission (NRC) license…"

Q. What are your conclusions regarding the retirement date of October 2024 used by Mr. Wiedmayer?

A. I conclude that the retirement date of October 2024 used by Mr. Wiedmayer is appropriate. It would be inappropriate to prematurely extend this date given the uncertainties involved and the impact on depreciation of significant additions should the license be extended. Furthermore, the use of October 2024 is consistent with the Commission's regulations for decommissioning funds which require the use of the expiration date of the ***current*** NRC license.

IX. RECOMMENDATION

Q. Please summarize your testimony related to power plant depreciation.

A. I recommend that the Commission adopt the life span approach to straight-line whole life depreciation and allow an accrual for both interim and terminal net salvage during the life of power plants. I also recommend that the life span for the Callaway Nuclear Power Plant should be based on the expiration date of the current license.

Q. Does this conclude your direct testimony?

A. Yes, it does.

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 Direct Testimony on behalf of Union Electric Company d/b/a AmerenUE consisting of 32 pages, Attachment A, Schedules WMS-1, WMS-2, WMS-3, WMS-4 and WMS-5 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 30th day of June 2006.

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

EXECUTIVE SUMMARY

William M. Stout

William M. Stout, President of the Valuation and Rate Division of Gannett Fleming, Inc., a consulting firm that provides depreciation studies and other regulatory consulting services.

*** * * * * * * * * * ***

I have conducted hundreds of depreciation studies during my over thirty-year career. I also have served as an instructor at courses offered by Depreciation Programs, Inc., the Society of Depreciation Professionals, and the American Gas Association/ Edison Electric Institute. The purpose of my testimony is to recommend the appropriate approach to the depreciation of power plants. I recommend that the Commission adopt the life span approach to straight-line whole life depreciation and allow an accrual for both interim and terminal net salvage during the life of power plants. I also recommend that the life span for the Callaway Nuclear Power Plant be based on the expiration date of the current license.

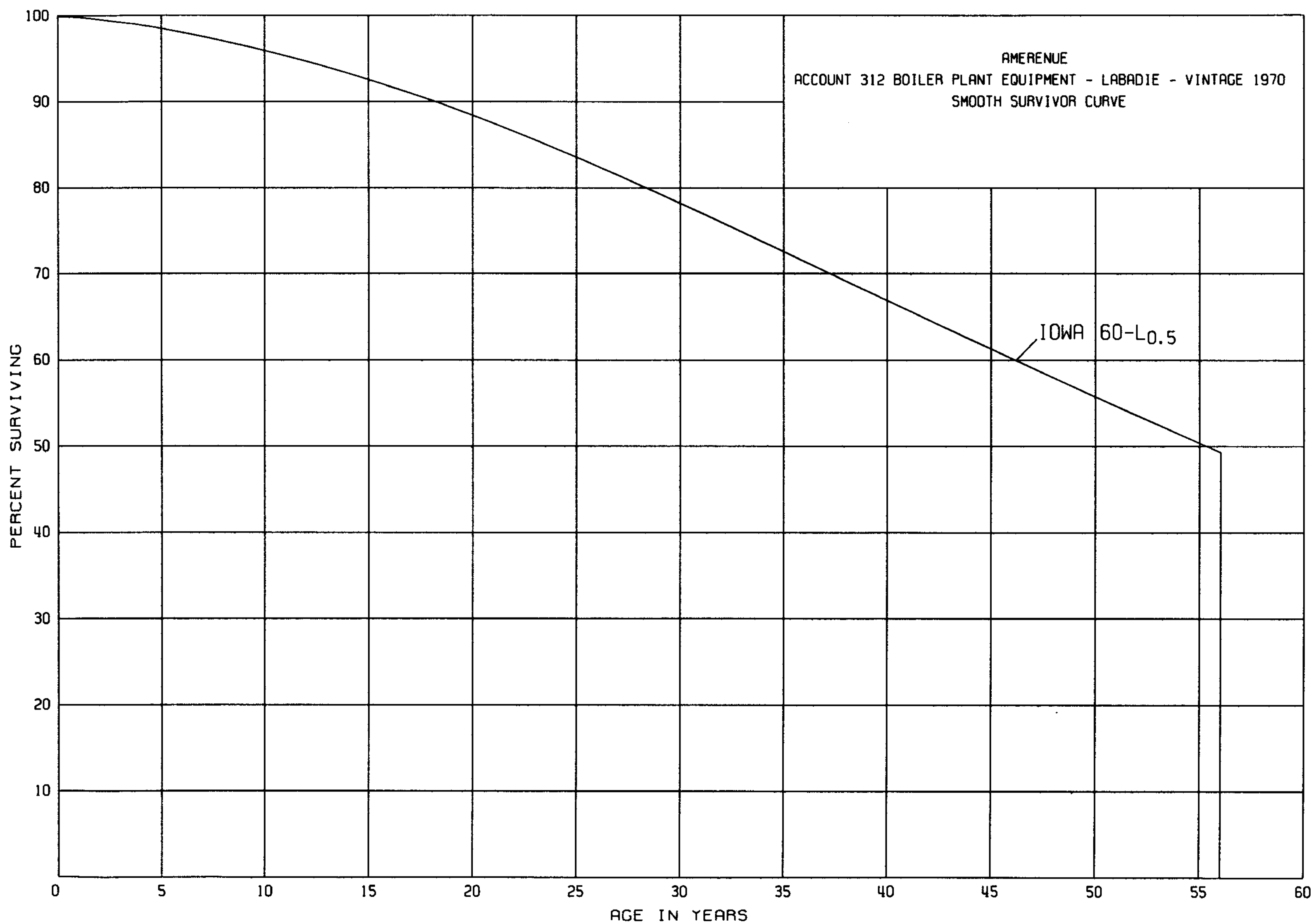
Neither the retirement dates nor the cost of decommissioning power plants is speculative. There have been many power plants retired over the years including plants owned and operated by AmerenUE. Although the retirement of these plants is not imminent, the dates of their retirement and the cost of decommissioning them can be estimated with reasonable accuracy.

Facilities such as power plants have unique, but predictable, service life characteristics. During the life of the plant, interim additions and retirements occur on a regular basis. At the end of the plant's life span, there is concurrent retirement of all installations regardless of age. The life span approach recognizes these characteristics and uses a unique survivor curve for each installation year. This improves the matching of depreciation expense with the loss in service value as compared to the use of the same average survivor curve for all installation years. The life spans for AmerenUE's power plants are at the high end of the probable range of life spans.

Power plants experience both interim and terminal net salvage. The estimates of terminal net salvage or decommissioning costs for AmerenUE's plants are reasonable when compared with the estimates of other plants and the cost to originally install the facilities. It is not sound ratemaking to wait until such costs are incurred to recognize them for ratemaking purposes. Such costs are part of the full cost of providing service and should be recognized during the period that the plant renders service.

The use of the life span method, as compared to the use of an average survivor curve for all installation years, results in better matching of depreciation expense with the service value rendered by the plants. The improved matching is more equitable for customers. Recovery of terminal net salvage during the life of the power plant from the customers receiving service from the plant is equitable. Recovery of terminal net salvage after the power plant is retired from customers that did not receive such service is not equitable.

The probable retirement date that should be used for determining the depreciation expense for the Callaway Nuclear Power Plant in this proceeding is the current license expiration date of October, 2024. It is premature to recognize a possible license extension before it is granted and before any conditions related to such an extension are known. This is consistent with the Commission's regulations on decommissioning fund deposits which require accruals to be based upon the utility's current NRC license.


AMERENUE
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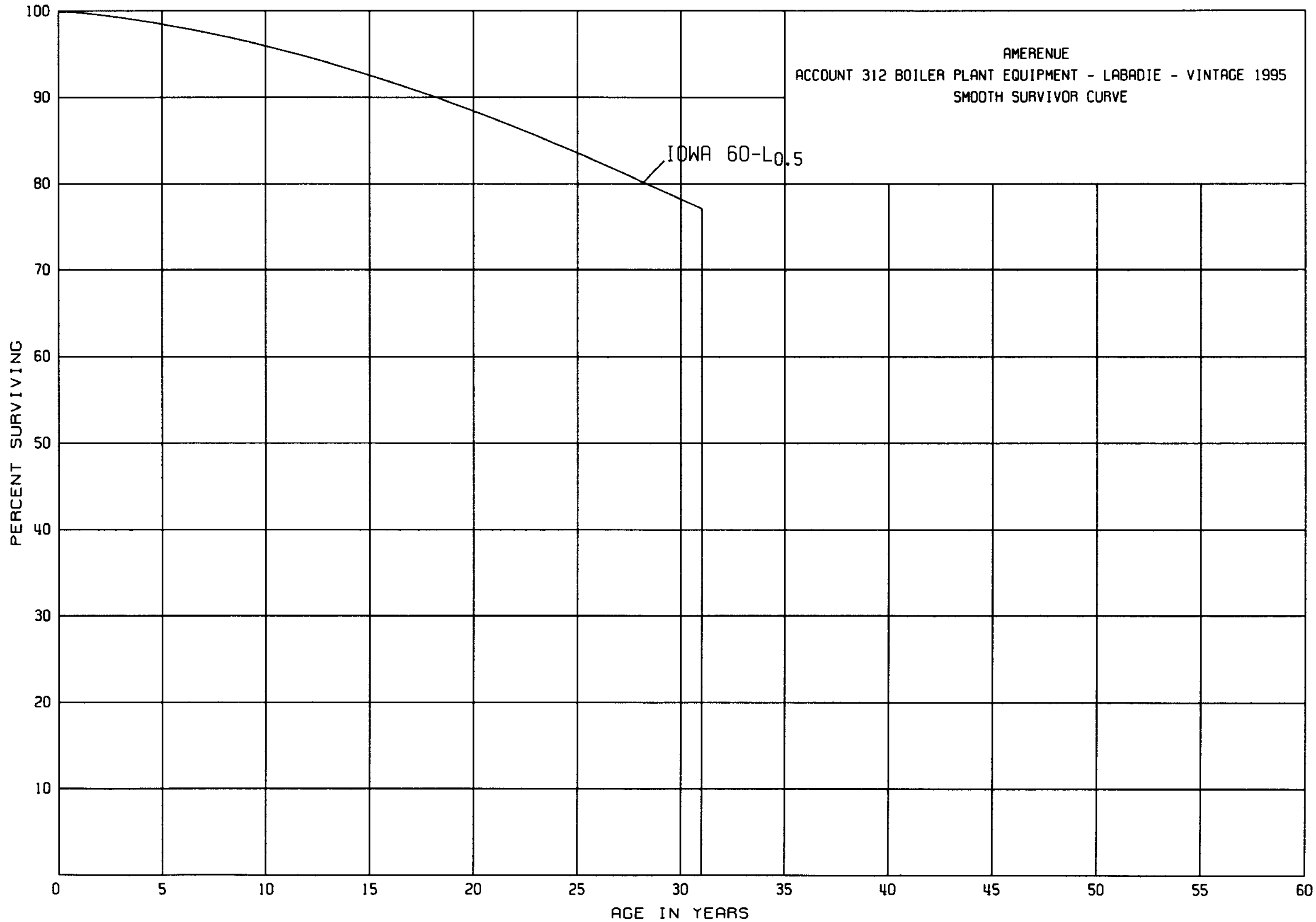
AMERENUE
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AGE IN YEARS

AmerenUE
Life Spans of 187 Retired Fossil Generating Stations

Unit	Installation Year	Retirement Year	Life Span
Alliant Energy			
Boone	1916	1986	70
Iowa Falls	1917	1992	75
Sixth Street No. 1	1928	1997	69
American Electric Power			
Conesville Unit 1	1959	2005	46
Conesville Unit 2	1957	2005	48
Breed Unit 1	1960	1994	34
Poston Unit 1	1949	1987	38
Poston Unit 2	1950	1987	37
Poston Unit 3	1952	1987	35
Poston Unit 4	1954	1987	33
Cabin Creek Unit 1	1942	1981	39
Cabin Creek Unit 2	1943	1981	38
Twin Branch Unit 1	1944	1981	37
Arizona Public Service			
West Phoenix Unit 4	1948	2002	54
West Phoenix Unit 5	1949	2002	53
West Phoenix Unit 6	1950	2002	52
Baltimore Gas & Electric			
Riverside Unit 1	1942	1991	49
Riverside Unit 2	1944	1994	50
Riverside Unit 3	1948	1994	46
Riverside Unit 5	1953	1994	41
Westport Unit 3	1941	1994	53
Westport Unit 4	1950	1994	44
Cincinnati Gas and Electric			
West End No. 1	1918	1976	58
West End No. 2	1918	1976	58
West End No. 3	1920	1976	56
West End No. 4	1921	1976	55
West End No. 5	1937	1976	39
West End No. 6	1948	1976	28
Miami Fort No. 1	1925	1971	46
Miami Fort No. 2	1925	1971	46
Miami Fort No. 3	1938	1982	44
Miami Fort No. 4	1942	1982	40
PHI- Delmarva			
Edge Moor Unit 1	1951	1982	31
Edge Moor Unit 2	1951	1982	31

AmerenUE
Life Spans of 187 Retired Fossil Generating Stations

Unit	Installation Year	Retirement Year	Life Span
Duquesne Light			
Brunot Island No. 1	1914	1960	46
Brunot Island No. 2	1914	1957	43
Brunot Island No. 3	1915	1960	45
Brunot Island No. 4	1915	1960	45
Brunot Island No. 5	1916	1960	44
Brunot Island No. 6	1917	1960	43
Brunot Island No. 7	1917	1960	43
Colfax No. 1	1921	1974	53
Colfax No. 2	1922	1974	52
Colfax No. 3	1925	1974	49
Colfax No. 4	1927	1974	47
Reed No. 1	1930	1975	45
Reed No. 2	1940	1975	35
Reed No. 3	1944	1973	29
Florida Power & Light Company			
Cutler Unit No.4	1952	1992	40
Riviera Unit No 1	1946	1990	44
Riviera Unit No 2	1953	1992	39
Palatka Unit 1	1951	1995	44
Palatka Unit 2	1956	1995	39
Ft. Lauderdale Unit 1	1926	1992	66
Ft. Lauderdale Unit 2	1935	1992	57
Ft. Lauderdale Unit 3	1940	1992	52
Ft. Lauderdale Unit 4	1957	1992	35
Ft. Lauderdale Unit 5	1958	1992	34
Ft. Myers Unit 1	1958	2001	43
Ft. Myers Unit 2	1969	2001	32
Sanford Unit 4	1972	2002	30
Sanford Unit 5	1973	2002	29
Kansas City Power & Light			
Northeast Units No. 1-5	1922	1981	59
Northeast Units No. 1-5	1926	1981	55
Northeast Units No. 1-5	1930	1981	51
Northeast Units No. 1-5	1934	1981	47
Northeast Units No. 1-5	1940	1981	41
Hawthorn Unit No. 1	1951	1984	33
Hawthorn Unit No. 2	1951	1984	33
Hawthorn Unit No. 3	1953	1984	31
Hawthorn Unit No. 4	1955	1984	29

AmerenUE
Life Spans of 187 Retired Fossil Generating Stations

Unit	Installation Year	Retirement Year	Life Span
Missouri Public Service			
Clinton No. 1	1923	1970	47
Clinton No. 2	1923	1970	47
Clinton No. 3	1928	1970	42
Clinton No. 4	1950	1970	20
Sedalia No. 1	1923	1970	47
Sedalia No. 2	1923	1970	47
Sedalia No. 3	1950	1970	20
Nevada Power Company			
Clark Unit 1	1955	2005	50
Clark Unit 2	1957	2005	48
Clark Unit 3	1961	2005	44
Oklahoma Gas & Electric			
Arbuckle Unit 1	1953	1986	33
Muskogee Unit 1	1924	1979	55
Muskogee Unit 2	1924	1979	55
Horseshoe Lake Unit 1	1924	1980	56
Horseshoe Lake Unit 2	1924	1980	56
Horseshoe Lake Unit 3	1947	1980	33
Horseshoe Lake Unit 4	1947	1980	33
Horseshoe Lake Unit 5	1947	1980	33
Osage Unit 1	1948	1980	32
Belle Isle Unit 1	1930	1979	49
Public Service Colorado			
Valmont No. 1	1924	1986	62
Valmont No. 2	1924	1986	62
Valmont No. 3	1924	1986	62
Valmont No. 4	1942	1986	44
PSI Energy			
Dresser	1942	1977	35
Wabash River No. 1	1953	1994	41
Reliant Energy			
Deepwater No. 1	1924	1985	61
Deepwater No. 2	1924	1985	61
Deepwater No. 3	1924	1985	61
Deepwater No. 4	1925	1985	60
Deepwater No. 5	1925	1985	60
Deepwater No. 6	1925	1985	60
Greens Bayou No. 1	1949	1985	36
Greens Bayou No. 2	1949	1985	36
Greens Bayou No. 3	1953	1985	32
Greens Bayou No. 4	1953	1985	32
Webster No. 1	1954	1985	31
Webster No. 2	1954	1985	31

AmerenUE
Life Spans of 187 Retired Fossil Generating Stations

Unit	Installation Year	Retirement Year	Life Span
Southern California Edison			
El Segundo Unit 1	1955	1998	43
El Segundo Unit 2	1956	1998	42
Etiwanda Steam Plant Unit 1	1953	1998	45
Etiwanda Steam Plant Unit 2	1953	1998	45
Highgrove Unit 1	1952	1998	46
Highgrove Unit 2	1952	1998	46
Highgrove Unit 3	1953	1998	45
Highgrove Unit 4	1955	1998	43
Long Beach Plant No.10	1928	1989	61
Long Beach Plant No.11	1930	1989	59
Redondo Beach Unit 1	1948	1998	50
Redondo Beach Unit 2	1948	1998	50
Redondo Beach Unit 3	1949	1998	49
Redondo Beach Unit 4	1949	1998	49
San Bernadino Unit 1	1957	1998	41
San Bernadino Unit 2	1958	1998	40
Tampa Electric Company			
Hookers Point Unit 1	1948	2002	54
Hookers Point Unit 2	1950	2002	52
Hookers Point Unit 3	1950	2002	52
Hookers Point Unit 4	1953	2002	49
Hookers Point Unit 5	1955	2002	47

AmerenUE
Life Spans of 187 Retired Fossil Generating Stations

Unit	Installation Year	Retirement Year	Life Span
UGI Utilities, Inc.			
Plymouth No. 1	1917	1962	45
Plymouth No. 2	1917	1962	45
Plymouth No. 3	1917	1962	45
Hunlock No. 1	1924	1975	51
Hunlock No. 2	1948	1975	27
Union Electric Company			
Mound No. 1	1911	1971	60
Mound No. 2	1911	1971	60
Mound No. 3	1911	1971	60
Mound No. 4	1911	1971	60
Mound No. 5	1940	1971	31
Mound No. 6	1940	1971	31
Venice I No. 1	1925	1973	48
Venice I No. 2	1925	1973	48
Venice I No. 3	1925	1973	48
Venice I No. 4	1925	1973	48
Venice I No. 5	1929	1973	44
Cahokia 1923	1923	1976	53
Cahokia 1924	1924	1976	52
Cahokia 1925	1925	1976	51
Cahokia 1927	1927	1976	49
Cahokia 1929	1929	1976	47
Cahokia 1937	1937	1976	39
Venice II No. 1	1942	2002	60
Venice II No. 2	1942	2002	60
Virginia Power			
Chesterfield No. 1	1944	1981	37
Chesterfield No. 2	1948	1981	33

AmerenUE
Life Spans of 187 Retired Fossil Generating Stations

Unit	Installation Year	Retirement Year	Life Span
West Penn Power			
Ridgeway No. 1	1916	1938	22
Ridgeway No. 2	1921	1960	39
Ridgeway No. 3	1920	1960	40
Ridgeway No. 4	1923	1960	37
Connellsville No. 1	1912	1966	54
Connellsville No. 2	1911	1960	49
Connellsville No. 3	1914	1966	52
Connellsville No. 4	1904	1923	19
Connellsville No. 5	1907	1966	59
Connellsville No. 6	1908	1966	58
Connellsville No. 7	1916	1966	50
Springdale No. 1	1920	1973	53
Springdale No. 2	1920	1973	53
Springdale No. 3	1924	1973	49
Springdale No. 4	1924	1973	49
Springdale No. 5	1926	1973	47
Springdale No. 6	1937	1971	34
Springdale No. 7	1945	1984	39
Springdale No. 8	1954	1986	32
Milesburg No. 1	1950	1984	34
Milesburg No. 2	1950	1984	34
Xcel Energy Services			
Arapahoe Unit 1	1950	2002	52
Arapahoe Unit 2	1951	2002	51
Highbridge Unit 1	1924	1974	50
Highbridge Unit 2	1924	1974	50
Highbridge Unit 3	1942	1976	34
Highbridge Unit 4	1944	1976	32
Riverside Plant Unit 1	1911	1979	68
Riverside Plant Unit 2	1911	1979	68
Riverside Plant Unit 3	1911	1976	65
Riverside Plant Unit 4	1911	1976	65
Riverside Plant Unit 5	1911	1976	65
Riverside Plant Unit 6	1949	1987	38
Total Units		187	
Total Life Span Years			8650
Average Life Span, Years			46

AmerenUE
Comparison of Annual and Accumulated Depreciation
for the Life Span Method and the Average Survivor Curve Method

Assumptions: $1,200,000 facility added in 1960 with 60-year life span
$ 200,000 of 1960 addition replaced in 1990 with $200,000 addition
$ 100,000 betterment made in 1990

Years	Installation Year	Original Cost	Average Life	Annual Depreciation	Accumulated Depreciation
LIFE SPAN METHOD					
	1960	1,200,000	55	21,818.18	
1-30					654,545
	1960	1,000,000	55	18,181.82	
	1990	300,000	30	10,000.00	
31-60					
	1960				545,455
	1990				300,000
Total					1,500,000
AVERAGE SURVIVOR CURVE METHOD (50-YEAR AVERAGE LIFE)					
	1960	1,200,000	50	24,000.00	
1-30					720,000
	1960	1,000,000	50	20,000.00	
	1990	300,000	50	6,000.00	
31-60					
	1960				600,000
	1990				180,000
Total					1,500,000
AVERAGE SURVIVOR CURVE METHOD (55-YEAR AVERAGE LIFE)					
	1960	1,200,000	55	21,818.18	
1-30					654,545
	1960	1,000,000	55	18,181.82	
	1990	300,000	55	5,454.55	
31-60					
	1960				545,455
	1990				163,636
Total					1,363,636

AmerenUE
Calculation of Weighted Average Age of Retirement
for Venice II Generating Station - Units 1 and 2

Retirement Year	Installation Year	Original Cost	Age	Weighted Cost
1991	1940	(510.00)	51	(26,010.00)
2000	1940	(932.00)	60	(55,920.00)
2002	1940	(2,544.00)	62	(157,728.00)
1945	1941	(729.00)	4	(2,916.00)
1948	1941	(4,281.00)	7	(29,967.00)
1949	1941	(1,129.00)	8	(9,032.00)
1950	1941	(553.00)	9	(4,977.00)
1951	1941	(4,761.00)	10	(47,610.00)
1952	1941	(8,255.00)	11	(90,805.00)
1953	1941	(13,105.00)	12	(157,260.00)
1954	1941	(369.00)	13	(4,797.00)
1955	1941	(8,251.00)	14	(115,514.00)
1956	1941	(13,037.00)	15	(195,555.00)
1957	1941	(747.00)	16	(11,952.00)
1991	1941	(12,931.00)	50	(646,550.00)
2000	1941	(17,357.58)	59	(1,024,097.22)
2000	1941	(1,884,740.42)	59	(111,199,684.78)
2001	1941	(3,353.37)	60	(201,202.20)
2002	1941	(140,851.82)	61	(8,591,961.02)
1944	1942	(700.00)	2	(1,400.00)
1948	1942	(28,105.00)	6	(168,630.00)
1949	1942	(18,448.00)	7	(129,136.00)
1951	1942	(25,963.00)	9	(233,667.00)
1952	1942	(116.00)	10	(1,160.00)
1953	1942	(2,592.00)	11	(28,512.00)
1954	1942	(4,527.00)	12	(54,324.00)
1955	1942	(8,832.00)	13	(114,816.00)
1956	1942	(793.00)	14	(11,102.00)
1957	1942	(3,757.00)	15	(56,355.00)
1958	1942	(22,980.00)	16	(367,680.00)
1959	1942	(24,449.00)	17	(415,633.00)
1960	1942	(167,958.00)	18	(3,023,244.00)
1962	1942	(3,731.00)	20	(74,620.00)
1963	1942	(37,516.00)	21	(787,836.00)
1964	1942	(130,268.00)	22	(2,865,896.00)
1967	1942	(13,100.00)	25	(327,500.00)
1968	1942	(11,296.00)	26	(293,696.00)
1971	1942	(4,539.00)	29	(131,631.00)
1972	1942	(7,275.00)	30	(218,250.00)
1973	1942	(665,203.00)	31	(20,621,293.00)
1979	1942	(250,378.00)	37	(9,263,986.00)
1988	1942	(3,019.00)	46	(138,874.00)
1989	1942	(1,256.00)	47	(59,032.00)
1991	1942	(5,727.00)	49	(280,623.00)
1992	1942	(3,702.00)	50	(185,100.00)

AmerenUE
Calculation of Weighted Average Age of Retirement
for Venice II Generating Station - Units 1 and 2

Retirement Year	Installation Year	Original Cost	Age	Weighted Cost
1994	1942	(67,700.00)	52	(3,520,400.00)
2000	1942	(37,301.24)	58	(2,163,471.92)
2000	1942	(640,865.76)	58	(37,170,214.08)
2001	1942	(81,657.36)	59	(4,817,784.24)
2002	1942	(1,468,216.64)	60	(88,092,998.40)
1944	1943	(2,956.00)	1	(2,956.00)
1948	1943	(5,466.00)	5	(27,330.00)
1949	1943	(31.00)	6	(186.00)
1950	1943	(29,175.00)	7	(204,225.00)
1951	1943	(13,994.00)	8	(111,952.00)
1952	1943	(215.00)	9	(1,935.00)
1953	1943	(1,240.00)	10	(12,400.00)
1954	1943	(21.00)	11	(231.00)
1956	1943	(49.00)	13	(637.00)
1957	1943	(16.00)	14	(224.00)
1958	1943	(34,405.00)	15	(516,075.00)
1960	1943	(5,783.00)	17	(98,311.00)
1961	1943	(63,478.00)	18	(1,142,604.00)
1968	1943	(205.00)	25	(5,125.00)
1973	1943	(42,056.00)	30	(1,261,680.00)
1979	1943	(13,068.00)	36	(470,448.00)
1989	1943	(98.00)	46	(4,508.00)
1994	1943	(16,404.00)	51	(836,604.00)
2000	1943	(531.37)	57	(30,288.09)
2000	1943	(48,089.63)	57	(2,741,108.91)
2001	1943	(18,578.93)	58	(1,077,577.94)
2002	1943	(857,853.07)	59	(50,613,331.13)
1948	1944	(486.00)	4	(1,944.00)
1952	1944	(10,185.00)	8	(81,480.00)
1973	1944	(653.00)	29	(18,937.00)
2000	1944	(3,370.99)	56	(188,775.44)
2000	1944	(9,348.01)	56	(523,488.56)
2001	1944	(8,803.93)	57	(501,824.01)
2002	1944	(12,476.86)	58	(723,657.88)
2000	1945	(3,324.68)	55	(182,857.40)
2000	1945	(0.32)	55	(17.60)
2002	1945	(903.00)	57	(51,471.00)
1949	1946	(3,586.00)	3	(10,758.00)
1953	1946	(1,419.00)	7	(9,933.00)
1955	1946	(891.00)	9	(8,019.00)
1957	1946	(4,642.00)	11	(51,062.00)
1990	1946	(3,642.00)	44	(160,248.00)
2002	1946	(659,595.19)	56	(36,937,330.64)
1949	1947	(4,590.00)	2	(9,180.00)
1953	1947	(5,494.00)	6	(32,964.00)

AmerenUE
Calculation of Weighted Average Age of Retirement
for Venice II Generating Station - Units 1 and 2

Retirement Year	Installation Year	Original Cost	Age	Weighted Cost
1954	1947	(4,345.00)	7	(30,415.00)
1955	1947	(199.00)	8	(1,592.00)
1956	1947	(3,687.00)	9	(33,183.00)
1990	1947	(870.00)	43	(37,410.00)
1993	1947	(4,266.00)	46	(196,236.00)
1994	1947	(31,733.00)	47	(1,491,451.00)
2000	1947	(32,189.74)	53	(1,706,056.22)
2000	1947	(19,759.26)	53	(1,047,240.78)
2001	1947	(107,688.54)	54	(5,815,181.16)
2002	1947	(1,574,903.80)	55	(86,619,709.00)
1951	1948	(20,880.00)	3	(62,640.00)
1953	1948	(732.00)	5	(3,660.00)
1954	1948	(4,975.00)	6	(29,850.00)
1956	1948	(2,724.00)	8	(21,792.00)
1958	1948	(30,376.00)	10	(303,760.00)
1959	1948	(39,368.00)	11	(433,048.00)
1960	1948	(1,207.00)	12	(14,484.00)
1961	1948	(1,388.00)	13	(18,044.00)
1962	1948	(40,966.00)	14	(573,524.00)
1964	1948	(105,772.00)	16	(1,692,352.00)
1965	1948	(12,324.00)	17	(209,508.00)
1967	1948	(3,752.00)	19	(71,288.00)
1968	1948	(7,944.00)	20	(158,880.00)
1972	1948	(1,701.00)	24	(40,824.00)
1973	1948	(501,417.00)	25	(12,535,425.00)
1979	1948	(1,117,327.00)	31	(34,637,137.00)
1985	1948	(1,070.00)	37	(39,590.00)
1987	1948	(1,335.00)	39	(52,065.00)
1989	1948	(1,569.00)	41	(64,329.00)
1990	1948	(1,298.00)	42	(54,516.00)
1991	1948	(1,276.00)	43	(54,868.00)
1994	1948	(2,153.00)	46	(99,038.00)
2000	1948	(2,031.29)	52	(105,627.08)
2000	1948	(15,686.71)	52	(815,708.92)
2001	1948	(49,846.47)	53	(2,641,862.91)
2002	1948	(950,467.53)	54	(51,325,246.62)
1954	1949	(152.00)	5	(760.00)
1955	1949	(189.00)	6	(1,134.00)
1956	1949	(9,412.00)	7	(65,884.00)
1957	1949	(55,554.00)	8	(444,432.00)
2000	1949	(25,144.81)	51	(1,282,385.31)
2000	1949	(4,172.19)	51	(212,781.69)
2001	1949	(143,891.84)	52	(7,482,375.68)
2002	1949	(3,497,552.14)	53	(185,370,263.42)
1955	1950	(19,401.00)	5	(97,005.00)

AmerenUE
Calculation of Weighted Average Age of Retirement
for Venice II Generating Station - Units 1 and 2

Retirement Year	Installation Year	Original Cost	Age	Weighted Cost
1956	1950	(3,556.00)	6	(21,336.00)
1957	1950	(2,814.00)	7	(19,698.00)
1958	1950	(125,323.00)	8	(1,002,584.00)
1959	1950	(23,416.00)	9	(210,744.00)
1960	1950	(2,218.00)	10	(22,180.00)
1963	1950	(7,156.00)	13	(93,028.00)
1968	1950	(176.00)	18	(3,168.00)
1973	1950	(48,238.00)	23	(1,109,474.00)
1979	1950	(839,757.00)	29	(24,352,953.00)
1980	1950	(76.00)	30	(2,280.00)
1982	1950	(12,193.00)	32	(390,176.00)
1991	1950	(3,070.00)	41	(125,870.00)
1994	1950	(92,536.00)	44	(4,071,584.00)
1995	1950	(1,651.00)	45	(74,295.00)
2000	1950	(82,588.50)	50	(4,129,425.00)
2000	1950	(12,485.50)	50	(624,275.00)
2001	1950	(129,659.32)	51	(6,612,625.32)
2002	1950	(2,712,115.00)	52	(141,029,980.00)
1952	1951	(1,894.00)	1	(1,894.00)
1953	1951	(3,282.00)	2	(6,564.00)
1954	1951	(1,671.00)	3	(5,013.00)
1955	1951	(1,631.00)	4	(6,524.00)
1956	1951	(9,016.00)	5	(45,080.00)
1957	1951	(156.00)	6	(936.00)
1958	1951	(1,121.00)	7	(7,847.00)
1959	1951	(3,740.00)	8	(29,920.00)
1960	1951	(714.00)	9	(6,426.00)
1963	1951	(1,023.00)	12	(12,276.00)
1967	1951	(513.00)	16	(8,208.00)
1968	1951	(351.00)	17	(5,967.00)
1973	1951	(545.00)	22	(11,990.00)
1979	1951	(409,072.00)	28	(11,454,016.00)
1991	1951	(801.00)	40	(32,040.00)
1994	1951	(12,993.00)	43	(558,699.00)
1995	1951	(4,669.00)	44	(205,436.00)
2000	1951	(10,867.71)	49	(532,517.79)
2000	1951	(84.29)	49	(4,130.21)
2001	1951	(15,867.72)	50	(793,386.00)
2002	1951	(898,315.25)	51	(45,814,077.75)
1953	1952	(60,761.00)	1	(60,761.00)
1956	1952	(914.00)	4	(3,656.00)
1959	1952	(1,123.00)	7	(7,861.00)
1960	1952	(1,718.00)	8	(13,744.00)
1966	1952	(1,250.00)	14	(17,500.00)
1973	1952	(5,956.00)	21	(125,076.00)

AmerenUE
Calculation of Weighted Average Age of Retirement
for Venice II Generating Station - Units 1 and 2

Retirement Year	Installation Year	Original Cost	Age	Weighted Cost
1979	1952	(49,252.00)	27	(1,329,804.00)
1990	1952	(3,252.00)	38	(123,576.00)
2000	1952	(2,279.80)	48	(109,430.40)
2000	1952	(3,103.20)	48	(148,953.60)
2002	1952	(45,300.95)	50	(2,265,047.50)
1954	1953	(463.00)	1	(463.00)
1957	1953	(6,298.00)	4	(25,192.00)
1960	1953	(5,461.00)	7	(38,227.00)
1973	1953	(4,047.00)	20	(80,940.00)
1979	1953	(14,936.00)	26	(388,336.00)
2000	1953	(516.00)	47	(24,252.00)
2002	1953	(4,659.00)	49	(228,291.00)
1957	1954	(2.00)	3	(6.00)
1963	1954	(410.00)	9	(3,690.00)
1973	1954	(45,103.00)	19	(856,957.00)
1979	1954	(5,922.00)	25	(148,050.00)
1990	1954	(2,435.00)	36	(87,660.00)
2000	1954	(45,847.00)	46	(2,108,962.00)
2002	1954	(12,842.91)	48	(616,459.68)
1959	1955	(634.00)	4	(2,536.00)
1968	1955	(5,764.00)	13	(74,932.00)
1969	1955	(192.00)	14	(2,688.00)
1973	1955	(28,825.00)	18	(518,850.00)
1979	1955	(19,807.00)	24	(475,368.00)
2000	1955	(978.00)	45	(44,010.00)
2002	1955	(39,259.57)	47	(1,845,199.79)
1959	1956	(651.00)	3	(1,953.00)
1969	1956	(14,694.00)	13	(191,022.00)
1973	1956	(12,660.00)	17	(215,220.00)
1979	1956	(24,575.00)	23	(565,225.00)
2000	1956	(540.34)	44	(23,774.96)
2000	1956	(5,938.66)	44	(261,301.04)
2001	1956	(1,743.63)	45	(78,463.35)
2002	1956	(82,833.44)	46	(3,810,338.24)
1969	1957	(2,039.00)	12	(24,468.00)
1973	1957	(6,338.00)	16	(101,408.00)
1979	1957	(4,580.00)	22	(100,760.00)
1992	1957	(3,544.00)	35	(124,040.00)
2000	1957	(1,149.00)	43	(49,407.00)
2002	1957	(79,863.21)	45	(3,593,844.45)
1967	1958	(382.00)	9	(3,438.00)
1973	1958	(418.00)	15	(6,270.00)
1979	1958	(76,745.00)	21	(1,611,645.00)
1994	1958	(4,352.00)	36	(156,672.00)
2000	1958	(360.97)	42	(15,160.74)

AmerenUE
Calculation of Weighted Average Age of Retirement
for Venice II Generating Station - Units 1 and 2

Retirement Year	Installation Year	Original Cost	Age	Weighted Cost
2000	1958	(82,361.03)	42	(3,459,163.26)
2002	1958	(239,875.00)	44	(10,554,500.00)
1969	1959	(366.00)	10	(3,660.00)
1973	1959	(26,655.00)	14	(373,170.00)
1979	1959	(35,115.00)	20	(702,300.00)
1994	1959	(1,397.00)	35	(48,895.00)
2000	1959	(20,373.92)	41	(835,330.72)
2000	1959	(6,819.08)	41	(279,582.28)
2002	1959	(132,747.00)	43	(5,708,121.00)
1973	1960	(14,775.00)	13	(192,075.00)
1979	1960	(2,799.00)	19	(53,181.00)
2000	1960	(1,432.00)	40	(57,280.00)
2001	1960	(4,549.30)	41	(186,521.30)
2002	1960	(85,667.70)	42	(3,598,043.40)
1973	1961	(6,481.00)	12	(77,772.00)
1979	1961	(1,510.00)	18	(27,180.00)
2001	1961	(2,647.35)	40	(105,894.00)
2002	1961	(194,348.65)	41	(7,968,294.65)
1973	1962	(2,145.00)	11	(23,595.00)
1979	1962	(653.00)	17	(11,101.00)
2002	1962	(125,558.00)	40	(5,022,320.00)
1979	1963	(6,271.00)	16	(100,336.00)
1980	1963	(515.00)	17	(8,755.00)
2002	1963	(134,468.00)	39	(5,244,252.00)
1973	1964	(12,098.00)	9	(108,882.00)
1979	1964	(17,840.00)	15	(267,600.00)
1980	1964	(605.00)	16	(9,680.00)
2000	1964	(2,523.86)	36	(90,858.96)
2000	1964	(769.14)	36	(27,689.04)
2002	1964	(116,839.00)	38	(4,439,882.00)
1979	1965	(4,022.00)	14	(56,308.00)
2000	1965	(1,913.67)	35	(66,978.45)
2000	1965	(4,116.33)	35	(144,071.55)
2002	1965	(26,060.00)	37	(964,220.00)
2002	1966	(1,348.00)	36	(48,528.00)
2000	1967	(3,167.00)	33	(104,511.00)
1979	1968	(47,032.00)	11	(517,352.00)
2000	1968	(5,189.68)	32	(166,069.76)
2000	1968	(0.32)	32	(10.24)
1979	1969	(12,078.00)	10	(120,780.00)
2000	1969	(7,806.00)	31	(241,986.00)
2002	1969	(9,631.00)	33	(317,823.00)
1979	1970	(105.00)	9	(945.00)
2002	1970	(105.00)	32	(3,360.00)
1979	1971	(18,804.00)	8	(150,432.00)

AmerenUE
Calculation of Weighted Average Age of Retirement
for Venice II Generating Station - Units 1 and 2

Retirement Year	Installation Year	Original Cost	Age	Weighted Cost
1994	1971	(455.00)	23	(10,465.00)
1994	1972	(58.00)	22	(1,276.00)
2000	1972	(12,962.00)	28	(362,936.00)
2002	1972	(21,999.00)	30	(659,970.00)
1993	1973	(2,743.00)	20	(54,860.00)
2000	1973	(91,237.95)	27	(2,463,424.65)
2000	1973	(257,914.05)	27	(6,963,679.35)
2002	1973	(1,274,103.69)	29	(36,949,007.01)
1994	1974	(80.00)	20	(1,600.00)
2000	1974	(539.84)	26	(14,035.84)
2000	1974	(62.16)	26	(1,616.16)
2002	1974	(427,004.17)	28	(11,956,116.76)
1979	1975	(209.00)	4	(836.00)
2000	1975	(174.00)	25	(4,350.00)
2000	1976	(695.00)	24	(16,680.00)
2002	1976	(16,784.00)	26	(436,384.00)
1977	1977	(61,927.00)	0	-
1978	1977	(517.00)	1	(517.00)
2000	1977	(7,049.82)	23	(162,145.86)
2000	1977	(1,023.18)	23	(23,533.14)
2002	1977	(1,023.12)	25	(25,578.00)
2002	1978	(427,287.00)	24	(10,254,888.00)
1980	1979	(3,212.00)	1	(3,212.00)
1994	1979	(611,503.00)	15	(9,172,545.00)
2001	1979	(319,390.50)	22	(7,026,591.00)
2002	1979	(519,222.74)	23	(11,942,123.02)
2002	1980	(4,286.60)	22	(94,305.20)
1994	1981	(1,005.00)	13	(13,065.00)
2002	1981	(14,113.00)	21	(296,373.00)
1994	1982	(2,877.00)	12	(34,524.00)
2002	1982	(2,258.00)	20	(45,160.00)
2002	1983	(66,050.00)	19	(1,254,950.00)
2002	1985	(5,172.00)	17	(87,924.00)
2002	1986	(8,803.00)	16	(140,848.00)
2002	1987	(574.00)	15	(8,610.00)
2002	1988	(12,852.67)	14	(179,937.38)
2002	1989	(22,216.00)	13	(288,808.00)
2002	1990	(44,372.00)	12	(532,464.00)
2002	1991	(12,305.00)	11	(135,355.00)
2002	1992	(149,508.29)	10	(1,495,082.90)
2000	1993	(38,303.00)	7	(268,121.00)
2002	1993	(114,507.49)	9	(1,030,567.41)
2000	1994	(20,024.00)	6	(120,144.00)
2002	1994	(2,331,856.15)	8	(18,654,849.20)
2002	1995	(210,304.97)	7	(1,472,134.79)

AmerenUE
Calculation of Weighted Average Age of Retirement
for Venice II Generating Station - Units 1 and 2

Retirement Year	Installation Year	Original Cost	Age	Weighted Cost
2002	1996	(2,259,265.00)	6	(13,555,590.00)
2002	1997	(319,342.00)	5	(1,596,710.00)
2000	1998	(65,770.00)	2	(131,540.00)
2002	1998	(15,039.00)	4	(60,156.00)
2000	1999	(30,964.00)	1	(30,964.00)
2001	1999	(6,046.29)	2	(12,092.58)
2002	1999	(410,158.71)	3	(1,230,476.13)
2002	2000	(6,176,152.12)	2	(12,352,304.24)
2002	2001	(286,411.43)	1	(286,411.43)
2002	2002	(60,241.84)	0	-
2003	2002	(19.08)	1	(19.08)
		(40,593,858.35)	31.22	(1,267,397,308.81)