Exhibit No.: KCP&L-60
Issue: Depreciation
Witness: John J. Spanos
Type of Exhibit: Rebuttal Testimony
Sponsoring Party: Kansas City Power & Light Company
Case No.: ER-2010-0355
Date Testimony Prepared: December 8, 2010

MISSOURI PUBLIC SERVICE COMMISSION

CASE NO.: ER-2010-0355

REBUTTAL TESTIMONY

OF

JOHN J. SPANOS

ON BEHALF OF

KANSAS CITY POWER & LIGHT COMPANY

Kansas City, Missouri
December 2010

KCPL Exhibit No. KCPL60
Date 2/4/11 Reporter LMB
File No. ER-2010-0355

REBUTTAL TESTIMONY

OF

JOHN J. SPANOS

Case No. ER-2010-0355

Q: Please state your name and business address.

A: John J. Spanos, 207 Senate Avenue, Camp Hill, Pennsylvania, 17011.

Q: Are you the same John J. Spanos who prefiled Direct Testimony in this matter?

A: Yes.

Q: What is the purpose of your rebuttal testimony?

A: The purpose of my testimony is to rebut the Direct Testimony of Greg R. Meyer, on behalf of Midwest Energy Users Association, Missouri Industrial Energy Consumers and Praxair, Inc., and the Staff Report filed by the Missouri Public Service Commission Staff ("Staff").

Q: What are the subjects of your rebuttal testimony?

A: The overall subject of my testimony is depreciation, however, the specific area that I address relates to the methodology used to develop the depreciation rates by the Staff and the life span of the newly constructed Iatan Unit 2 generating facility.

Q: What are the methodology issues raised by your depreciation study and the Staff Report?

A: The primary methodology issues relate to the use of the life span approach for all generating facilities, the use of the whole life method vs. remaining life method, the use of general plant amortization instead of maintaining current rates, and the temporary suspension of net salvage accruals. I also address how the life span methodology should be applied to Iatan Unit 2.

Q: Can you detail the methodology issues stated above?

A: More specifically, I disagree with Staff's treatment of generating facilities as mass accounts instead of the more traditional life span approach. Furthermore, I disagree with Staff that nuclear assets or Hawthorn Unit 5 Rebuild assets are unique to other generating facilities with regard to life characteristics, so life spanning some generation assets and not others is improper. Second, Staff recommends the whole life method instead of the remaining life method which does not account for changes over time of the life and net salvage parameters for full recovery. The remaining life method is a superior approach. Third, I disagree with Staff's reasoning for recommending current rates for General Plant accounts instead of implementing the more commonly utilized general plant amortization. General Plant amortization will address Staff's concerns regarding retirements as well as stabilize depreciation rates in the future for these accounts. Fourth, Staff suspends the net salvage accrual temporarily for all accounts which creates an intergenerational inequity, as well as a contradiction to the definition of depreciation of systematic and rational recovery. Finally, the life span recommended by Mr. Meyer for Iatan Unit 2 is too long as he excludes relevant information for establishing his life span. Staff does not utilize the life span approach for Iatan Unit 2. Each of these issues will be addressed in detail throughout this testimony.

I. The Life Span Approach to Depreciation

Q: How does the Staff's approach compare to 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.

Conversely, the Staff's approach in their Case A (beginning at page 160 of the Staff Report) applies a single average life or average survivor curve to all installation years of an entire power plant account and does not recognize the unique survivor characteristics of each installation year.

Q: How does Staff's approach differ in a specific instance from the life span approach?

A: For example, LaCygne Unit 1 began operation in 1973 and there have been subsequent plant additions made each year since 1973 in Account 312, Boiler Plant Equipment. For these plant additions, 1973 through 2008, there is a unique service life and survivor curve for each vintage under the life span approach for a total of 36 different survivor curves. Under the Staff's approach used in their Case A, there is one average service life and survivor curve used to describe the life characteristics of all assets within Account 312, Boiler Plant Equipment at LaCygne. Further, the use of a single average life is only applicable for one year, as with each year of improvements 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: Has this Commission recently expressed its opinion on whether the life span approach is appropriate?

A: Yes. The Commission adopted the life span approach to depreciation in its Report and Order in the recent Union Electric Company, d//b/a AmerenUE general rate case issued on May 28, 2010 in Case No. ER-2010-0036 ("2010 AmerenUE Rate Case"), which is in contrast to the Staff's approach in KCPL's case which essentially treats power plants as mass plant property. Examples of mass plant include assets such as meters, poles, and line transformers. Electric generating plants are significantly different types of property compared with mass plant assets and need to be depreciated in accordance with the life span approach, as the Commission determined in its AmerenUE decision.

Q: **Do authoritative texts on depreciation support your opinion 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. The treatise entitled Public Utility Depreciation Practices, published in 1996 by the National Association of Regulatory Utility Commissioners ("NARUC"), 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.[1]

Another leading depreciation treatise, authored by Frank K. Wolf and W. Chester Fitch and entitled 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. The dispersion pattern of retirements from a group of life span property differs from the pattern of other (mass) property, because much of the life span property is retired simultaneously (unlike

[1] Public Utility Depreciation Practices at p. 141 (National Association of Regulatory Utility Commissioners, 1996).

mass property). The resulting survivor curve is truncated (and instantaneously reaches zero percent surviving) rather than gradually curving to zero percent surviving.[2]

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

A: KCPL has proposed, consistent with authoritative texts and the Uniform System of Accounts ("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. The 1996 NARUC depreciation treatise, cited above, states:

> Closely associated with this reasoning is 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 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.[3]

Depreciation Systems, also cited above, 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

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[2] Depreciation Systems, Frank K. Wolf and W. Chester Fitch at p. 255 (Iowa State University Press, 1994).

[3] Public Utility Depreciation Practices at page 157 (National Association of Regulatory Utility Commissioners, 1996).

of retiring of an asset currently in service must be accrued and allocated as part of the current expenses.[4]

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 several years. Throughout the life of this initial expenditure, improvements and replacements take place. For example, after the initial installation in 1973 for LaCygne Unit 1, major improvements were added in 1983, 1993, 2000, 2001 and 2007. These improvements also included replacements of the original assets which represent interim retirements. This type of activity occurs in almost every year of a power plant's life span in varying degrees of magnitude. Some of these major additions can be nearly as large as or larger than the original installation. Interim plant additions are made for various reasons, at times to replace worn or unreliable components of the facility and other times made to comply with newly enacted environmental regulations. 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 improvements 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

[4] Depreciation Systems, Frank K. Wolf and W. Chester Fitch at page 7 (Iowa State University Press, 1994).

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, graphically depicted, 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 average service life for each vintage.

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. Retirements that occur at the end of a power plant's life are termed final retirements and are excluded from the life analyses for purposes of determining an interim survivor curve. The results of the interim retirement rate analyses for Account 312.0, Boiler Plant Equipment, are presented on pages III-16 through III-19 of the Depreciation Study (attached to my Direct Testimony as Schedule JJS2010-1) and plotted along with the 55-R1 interim survivor curve on page III-15.

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. The recommended retirement dates shown in the Depreciation Study are based upon a consideration of relevant factors used to estimate life spans of steam plants. Some of these factors include: (1) age and condition of the plant; (2) life span estimates used by other electric generating companies; (3) industry experience with retired steam plants and those currently in service; (4) future major refurbishments including expenditures related to environmental compliance; and (5) design life of major components of the boiler and steam systems. This information was accumulated to determine the most reasonable retirement date for each unit for depreciation purposes.

Q: Do the final retirement dates represent a date certain for the retirement of the plants?

A: No, they do not. The probable final retirement dates should not be interpreted as a firm commitment to retire these plants on these dates, but rather, as reasonable estimates based on currently available information. The probable final retirement dates, like other estimates used for capital recovery purposes, are subject to modification in the future as circumstances dictate. The estimated final retirement dates are based on current information and a consideration of all relevant factors. The nature of using estimates is that there is always a degree of uncertainty associated with them. The only time you can precisely determine the service life of an asset or facility is after it has been retired, and you can look back and state with certainty how long it was in service. However, for purposes of determining appropriate depreciation rates we need to make estimates such as service lives and net salvage percents.

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 occur when discussions begin on the construction of the replacement power plant which typically take between 5 and 10 years.

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: Is it appropriate 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. For life span property, 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 database 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. Also, there are only a small number of generating plants in service and a few generating plants that have been retired to be analyzed using the actuarial analyses. In contrast, there are thousands of poles, meters and line transformers added and retired each year. It is not appropriate to use the same analytical approach to determine the average service life of poles, meters, line transformers, etc., as it would be to determine the average service life of power plants. The sample size for power plants in the historical data base is too small.

Q: In this regard, do customer equity considerations support the use of the life span method for power plants, contrary to the Staff Report?

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 decision to cease operations at a power plant, all property of varying ages are retired concurrently. Therefore, the older installation years have longer average service lives than the younger installation years. Under the life span approach, 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 a shorter average life. In comparison, the use of a single average service life and 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 over-recovery of cost for the older installation years and the under-recovery of cost for the younger installation years.

Q: What is the policy of other regulatory commissions regarding the life span approach for production plant?

A: Virtually all other regulatory commissions use the life span approach for production plant, including this Commission as a result of its decision in the 2010 AmerenUE Rate Case. Gannett Fleming, the firm by whom I am employed, has assisted utilities in all 50 states, 10 Canadian provinces and 3 Canadian territories. My colleagues and I are not aware of a jurisdiction that denies the life span approach for production facilities, although in this case the Commission must make clear that the life span approach now applies to such facilities owned by KCPL.

Q: Would a decision by the Commission to apply the life span methodology to KCPL's generating production facilities be consistent with its regulations?

A: Yes. 4 CSR 240-3.175, Submission Requirements for Electric Utility Depreciation Studies, requires that electric utilities provide an estimated date of final retirement for each warehouse, electric generating facility, combustion turbine, general office building or other large structure. Consequently, it would be illogical for this regulation to require the life span approach for these facilities for depreciation studies, only to have the life span approach rejected in base rate case proceedings.

Q: Does the Missouri Public Service Commission Staff have a Depreciation Manual?

A: Yes. This manual, entitled "Contents & Outline of a Depreciation Study," is a lengthy document that sets forth extremely detailed steps required for conducting a depreciation study and includes the utilization of the life span technique for generating facilities. As noted by the Commission in its Report and Order in the 2010 Ameren Rate Case, the Staff depreciation manual "indicates the life span approach is appropriately used to determine depreciation for electric power plants." See 2010 Ameren Rate Case, Report and Order at 30, n. 95 (May 28, 2010).

II. Whole Life vs. Remaining Life

Q: Which accounts has Staff recommended to utilize the whole life method?

A: Staff recommends the whole life method for all accounts except the nuclear accounts and assets related to the Hawthorn Unit 5 Rebuild at pages 161 of the Staff Report.

Q: Is there any reason to depreciate some accounts using whole life and others the remaining life method?

A: No. The remaining life method is the superior methodology and is based on ensuring full recovery, no more, no less. The whole life method has no checks for full recovery, over-recovery, or under-recovery. Therefore, changes of the life or net salvage parameter over the life of an asset will not ensure recovery of the full service value.

Q: Can you illustrate the whole life methodology recovery pattern?

A: Yes. Assuming an account has a twenty-year average service life and zero net salvage percent, then the rate is 5.00%. This rate will not change unless the average service life is adjusted. Additionally, the whole life method does not consider the ratio of the accumulated depreciation to the plant balance. In other words, after 10 years of a 20-year service life, the accumulated reserve should be 50% of the plant balance. However, if it is not due to the actual activity the whole life rate does not adjust to make sure full recovery is achieved after 20 years. Consequently, an unfair recovery pattern would exist for both ratepayers and shareholders.

Q: Why is the remaining life methodology superior to the whole life method?

A: A simple example will explain why the remaining life methodology is superior. Assume that there are three assets in an account which live 2, 5 and 8 years; therefore, the average life is 5 years. Each asset costs $100 for a total account cost of $300. Using the whole life method, the rate is 20.0%, so through year 5 the recovery for the 2-year unit is $40, the 5-year unit is $100, and the 8-year unit is $100. A new study is performed after year 5 and the average life is 8 years, so the rate is 12.5% and the recovery for the final three years is $37.50. Consequently, using the whole life method, recovery is $277.50 of the $300 in original cost, which fails to make the company whole.

Under the remaining life methodology, the average service life is still 5 years and the initial rate is 20.00%. Thus, the total accruals after 5 years is still $240.00 and the two retirements totaling $200 for an accumulated depreciation total of $40. Therefore, the remaining value is $60 to be recovered over 3 years at a rate of 20.00%. Consequently, under the remaining life method, full recovery is achieved at the end of life for the three units.

Q: Does the foregoing example of the remaining life method apply to all accounts?

A: Yes, it does. The correcting component of the remaining life is appropriate for all accounts, including generating accounts with the life span technique.

Q: Should the nuclear accounts and Hawthorn Unit 5 Rebuild accounts be treated differently than the other generating assets?

A: No, not at all. The life characteristics of generating facilities are the same in that each generating facility at a point in time will have a final retirement. Thus, the life characteristics will constitute interim retirements for many years until it is determined the facility will be shut down. This life characteristic leads to the use of the life span technique. It is not unique to nuclear accounts and the Hawthorn Unit 5 Rebuild. Therefore, treating large generating facilities like mass accounts is not sound ratemaking practice as it does not establish systematic and rational recovery for these kinds of assets.

Additionally, it is not appropriate to depreciate similar assets with comparable life characteristics with two different methodologies. Consequently, if remaining life and life spanning is appropriate for nuclear plant and Hawthorn Unit 5 Rebuild, then it should be appropriate for other generating facilities.

III. General Plant Amortization

Q: Is it reasonable to maintain the current rates for General Plant Accounts as recommended by Staff at page 161 of the Staff Report?

A: No, it is not. First and foremost, ignoring the transactions of recent years, as well as the nature of plant being added does not make sense. The current rates were not established based on the type of assets that exist today in the respective accounts or sub-accounts. Secondly, the current rates are not designed for proper future expectations of each account or sub-account. This lack of consideration for the future will cause unnecessary over-recovery or under-recovery, and result in intergenerational inequities.

Q: What are examples of why the current rates are inappropriate?

A: Looking at Account 391, Office Furniture and Equipment, which has three sub-accounts, there are two sub-accounts set forth in Staff's Report that contain furniture and equipment at offices or service centers. The third sub-account represents computer equipment. All of the sub-accounts have a current rate of 5.40%. This means the average service estimate is approximately 20 years. This estimate may be reasonable for office furniture and equipment, but is highly suspect for computer equipment, given the rapid changes in the information technology field. Viewed from a different perspective, it is doubtful anyone could claim that computers used today by KCPL personnel were installed in 1990. This is not sound ratemaking practice and will surely require ratepayers in the future to pay more for this investment than the ratepayers today in order to achieve full recovery of the under-recovered computers, which have an inappropriate average service life.

In a similar scenario, the current rate for Account 397, Communication Equipment is 2.50%. Assets in this account include telephones, radios, electronic communication devices such as SCADA, and microwaves. I do not believe that it is reasonable to estimate a rate for these assets that is based on a life that approximates 40 years, which is what Staff is proposing. In contrast, my rate is 6.67% which is based on a more reasonable 15-year useful life for the assets in the account.

Q: Does Staff justify why they recommend maintaining the current rates for some General Plant accounts?

A: No. The only explanation I can offer is that Staff overlooked the retirement of assets associated with office consolidations and relocations, which has consequently produced unrealistic rates. Not utilizing the recent retirement data and applying outdated rates seems to be inappropriate in order to avoid recommending General Plant amortization which would not have this issue.

Q: Why would General Plant amortization alleviate these issues?

A: General Plant amortization records retirements on a vintage basis, meaning each retirement is known on the day it is placed in service. For example, for an account that has an amortization period set at 20 years, then all assets placed in service in 1995 will be amortized at 5.00% for 20 years and taken out of service in 2015. This ensures full recovery of these assets.

Q: Are General Plant amortization periods randomly selected?

A: No. The amortization periods are determined based on the most reasonable estimate of time the assets in the account or sub-account will render service. Examples of reasonable amortization periods are 20 years for office furniture and equipment, and 5 years for computer equipment.

Q: Is General Plant amortization a new concept?

A: No, it is not. General Plant amortization was first considered in the late 1980s and most notably addressed in an early 1990 case in Florida. The benefits and reasonableness of this methodology for recovering general plant assets is accepted all across the country and by the Federal Energy Regulatory Commission (FERC). Additionally, General Plant amortization was granted for the same assets in the recent decision of the Kansas Corporation Commission in KCPL's general rate case, <u>In re Kansas City Power & Light Co.</u>, Docket No. 10-KCPE-415-RTS (Nov. 22, 2010).

<u>IV. Suspending Net Salvage Accruals</u>

Q: Do you agree with Staff's recommendation at page 161 of the Staff Report of zero percent net salvage for all accounts?

A: No. Assigning a zero net salvage percent to all accounts when it is obvious that there is a net salvage component is improper. This violates the definition of depreciation and attempts to correct a theoretical difference with improper practices. This will create an inter-generational inequity, as well as creating additional future reserve variances that are unnecessary. Additionally, suspending a net salvage accrual without a specific time frame, as proposed by Staff, is very random for ratemaking purposes and develops a result-oriented depreciation amount, instead of utilizing proper depreciation theory.

Q: What is the basis for suspending net salvage accruals?

A: The basis for Staff's recommendations for zero percent net salvage is a presumed over-recovery scenario. However, there is no discussion of the understanding of the over-recovery situation or the reasons why the actual reserve has become different than the theoretical reserve. Also, the magnitude of the difference stated by Staff is incorrect. Consequently, the decision to alter the proper recovery patterns of the full service value of the assets is random and unwarranted.

Q: How can a reserve variance occur?

A: A reserve variance is the difference between the theoretical reserve (also known as calculated accrued depreciation) and the actual book reserve. The actual book reserve consists of historical retirements, cost of removal, gross salvage and other miscellaneous adjustments to accumulated depreciation by account, as well as the book depreciation annual accruals each year. The book depreciation annual accruals are based on the authorized rate in place from prior rate cases and are determined by the life and net salvage parameters in place at the time of those prior rate cases. Consequently, the accrual rate changes each time there is a rate case over the life of each asset class.

In contrast, the theoretical reserve is determined based on the life or net salvage parameters in effect at the time of the current calculation. Thus, there is no consideration of changes in rates over time, changes in the level of net salvage, or changes in the life characteristics. The theoretical reserve is calculated assuming one life and net salvage parameter since the initial asset went into service until the calculations date. This is not a realistic expectation for any account.

Q: Is the Staff recommending changing the future recovery of net salvage accruals based on reserve variance?

A: Yes. Staff has recommended suspending the net salvage accrual in order to offset an unrelated additional amortization of the book reserve. Not only has the amortization of the book reserve already been accounted for in the remaining life calculation set forth in the Depreciation Study, but this improperly affects future net salvage recovery. KCPL witness, John Weisensee addresses the unrelated additional amortization treatment in his rebuttal testimony.

Q: Is it sound ratemaking to change depreciation practices based on the theoretical reserve?

A: No, it is not. Based on the understanding of the theoretical reserve, it is unreasonable to assume that the theoretical reserve will match the actual book reserve. Therefore, I recommend the use of the remaining life methodology which is designed to adjust the rate into the future for the over- or under-recovery situation. The remaining life methodology is a systematic and rational manner to minimize the reserve variance over time. This practice is a more rational approach for accrual accounting than Staff's approach of a temporary, yet undefined, suspension of the net salvage accrual.

Q: Is it possible the net salvage percent equal to zero process endorsed by Staff at pages 158 and 161 of the Staff Report could cause a major swing in depreciation expense?

A: Yes. The zero percent net salvage percent coupled with the whole life methodology could drastically change the depreciation expense in the future, especially if the process remains in place until the next rate case the timing of which is currently unknown. If the life and/or net salvage parameters change due to future expectations, then the theoretical reserve will change considerably. This will cause a major change in the theoretical reserve which will force the burden on future ratepayers immediately. The use of the remaining life methodology will smooth large changes over the remaining life which treats all ratepayers equally.

V. Life Span of Iatan Unit 2

Q: What is the recommendation of witness Greg R. Meyer for the life span for Iatan Unit 2?

A: Mr. Meyer, on behalf of Midwest Energy Users Association, et al. recommends an initial life span for the newly constructed Iatan Unit 2 of 60 years at pages 15-18 of his Rebuttal Testimony. Mr. Meyer attempts to utilize the existing life span of other units as the basis for a 60-year life span; however, his comparison does not properly consider all the necessary factors. Mr. Meyer makes comparisons to units that were built many years ago and that are not relevant to Iatan Unit 2.

In contrast, I have estimated a 50-year life span which considers all the forces of retirement that exist today for a new unit, such as Iatan Unit 2, including physical wear and tear, economic forces, environmental forces and regulatory forces.

Q: Please discuss Mr. Meyer's support for utilizing a 60-year life span.

A: First, Mr. Meyer's entire basis for his recommendation of a 60-year life span for Iatan Unit 2 is the <u>current</u> estimates of AmerenUE units and the estimate for Iatan Unit 1. Although I agree that comparing life spans of other units is important, it should not be the only comparison made, and proper comparisons should not be limited to just a few units. Second, and more importantly, comparisons of life spans can only be made if you understand how the life span is determined. When comparing units across the United States that were built in the 1950s, 1960s and 1970s, the initial life span was 40 years. The 40-year life span was the best estimate for those units at the time they were constructed. For those units that exceeded the 40-year life span, it was the result of major capital expenditures which allowed the unit to not only meet the 40-year life span but exceed the original life span. Consequently, many of the units Mr. Meyer compares, and others across the country, had initial life spans that were shorter than the recommended 50-year life span of Iatan Unit 2, which he disregards by focusing only on the existing life spans that have already been extended for various reasons.

Q: What examples are there of such original life span estimates?

A: For example, the initial life span for KCPL's Iatan Unit 1 was 40 years. Another example would be the generating fleet for Duke Energy Ohio which were all set at 40 years until the major capital improvements occurred in the early 1990s which created new life spans of 60 years. Major capital improvements would include adding a scrubber, retiring major components of the boiler or rebuilding the precipitators.

Q: Why is the 50-year life span more appropriate for the initial estimate of Iatan Unit 2 than 60 years?

A: The most critical reason the 50-year life span is more appropriate is due to the fact that Iatan Unit 2 has been constructed to stay operational and efficient for 50 years. The second reason why 50 years is more reasonable is that it relates to the likely pattern of depreciation for the unit while in service. I will illustrate the most likely recovery pattern for Iatan Unit 2, given the historical patterns of other units across the country. Unit A is constructed for $500,000,000 in 2010. If a 50-year life span is established and no major capital expenditures occur, then the depreciation rate is 2.00% or $10,000,000 per year. See Schedule JJS2010-3 (Scenario 1). Under the same situation, Unit A has an initial 50-year span, however, in year 40 Unit A requires a $100,000,000 improvement that will permit it to reach 50 years, but also allow for an additional 10 years. Thus, over the initial 40 years the rate is 2.00% or $10,000,000 per year, then in years 41-60 there is $200,000,000 to be recovered over 20 years and the rate is still 2.00% or $10,000,000 per year. See Schedule JJS2010-3 (Scenario 2). These two scenarios are realistic expectations for a unit like Iatan Unit 2.

In contrast, if Unit A was built in 2010 but had an initial life span of 60 years, then the recovery pattern would initially be 1.67% or $8,333,333 per year. See Schedule JJS2010-3 (Scenario 3). However, assume that Unit A can only stay operational for 50 years without major capital improvements. Therefore, in year 40 the Company decides to replace Unit A, so it will be retired by year 50. In order to fully recover the entire $500,000,000, the Company will have to recover $166,666,667 over the remaining 10 years or $16,666,667 per year at 3.33%. In other words, the ratepayers in years 41-50 will have to pay twice as much per year than the ratepayers on the system in years 0-40 for the same assets. See Schedule JJS2010-3 (Scenario 4) Under the same situation, Unit A has an initial 60-year life, however, in year 40 Unit A receives $100,000,000 in capital improvements which will allow the unit to reach the final 20 years of the life span. Thus, over the initial 40 years the rate is 1.67% or $8,333,333 per year, then in years 41-60 there is $266,666,667 to be recovered over 20 years which requires $13,333,333 per year or 2.22%. Therefore, the ratepayers in years 41-60 will have to pay $5,000,000 per year more than the ratepayers in years 0-40, which is a substantial increase. See Schedule JJS2010-3 (Scenario 5) attached. Scenarios 4 and 5 illustrate an unnecessary inter-generational inequity for ratepayers that would be caused by an initial life span estimate that failed to consider all the relevant factors in determining the initial life span.

Q: Is it possible that Iatan Unit 2 will stay in service for more than 50 years?

A: Yes, it is. However, based on the available information, a service life greater than 50 years would most likely require major capital improvements over time, and today we have no basis to know what kinds of improvements would be appropriate and whether they will, in fact, be made. Estimates developed, including projected future major capital improvements and other factors, are inappropriate for consideration in this current case, as they are premature at this time.

Q: Should a comparison of older units be the only support for a life span of a newly constructed unit?

A: No. Without a full understanding of the types of units that are being analyzed, including how the older units reached their current life span, it is a blind comparison. Many life spans are revised over time due to changes in functionality, regulatory requirements and rulings, as well as efficiency and improvements of the facility, but the proper time for these revisions is at the time of the change, not when estimating the initial life span.

Q: Has Mr. Meyer properly supported the depreciation expense using a 60-year life span?

A: No, he has not. If the initial life span was set at 60 years instead of the more appropriate 50 years, then the decrease in annual expense from what I proposed would be $1.8 million instead of the $2.5 million Mr. Meyer suggests. The attached spreadsheets set forth the more appropriate comparison of the proposed $15.6 million in my study to the $13.8 million, using the same parameters except the 60-year life span. <u>See</u> Schedule JJS2010-4 In addition to this apparent calculation error, Mr. Meyer has done nothing more than a blind comparison to existing life spans of other units without considering informed judgment as recommended by NARUC and other recognized depreciation texts.

VI. Conclusion

Q: Can you summarize the depreciation issues presented in this rebuttal testimony?

A: The purpose of depreciation is a systematic and rational recovery of the full service value of all assets during their useful life. However, the Staff Report sets forth methodologies which are not designed to meet sound depreciation practices.

All generating facilities have life characteristics which are best matched by the use of the life span technique. All other state regulatory bodies recognize the life span technique for generating facilities and the Missouri Commission recently approved the methodology in the AmerenUE rate case. Therefore, developing depreciation rates without the use of the life span technique is inappropriate.

The remaining life method is a superior method of recovery than the whole life method as it ensures full recovery of all capital investment as well as smoothes the recovery pattern of past over or under-recovery due to changes in life or net salvage parameters. The whole life method has no mechanism in place to address changes in estimates over time. Therefore, the only assurance of full recovery is to establish drastic reserve adjustments which unfairly affect only small generations of ratepayers. The remaining life method that I recommend is superior and fair to all ratepayers.

Staff's recommendation of suspending the net salvage accrual has no basis and unnecessarily creates an intergenerational inequity. It must be understood that the net salvage accrual is based on establishing a systematic recovery pattern during the life of an asset for the costs at the end of the life of an asset. This process ensures all generations of ratepayers pay equally for the end of life costs, so suspending this process will result in intergenerational inequities.

The implementation of General Plant amortization is consistent with practices of other utilities across the United States as appropriate useful lives are established and stable depreciation rates are achieved. Amortization accounting eliminates the concern from Staff that retirements are not recognized as all retirements occur by vintage. General Plant amortization also avoids inappropriate depreciation rates for asset classes, such as the current 5.40% for computer equipment which have a useful life of 5-7 years. Amortization accounting for certain General Plant accounts should be adopted.

Finally, not only should the new Iatan Unit 2 depreciation rates be established using the life span approach, but the most appropriate life span is 50 years, not 60 years. The Staff Report does not utilize the life span approach and Mr. Meyer recommends a life span that is too long. The determination of an initial life span must be based on many factors which have been previously discussed, not just a blind comparison of existing life spans of units that have been in service for 20, 30 or 40 years with multiple changes over those years.

Q: Does this conclude your rebuttal testimony?

A: Yes, it does.

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of the Application of Kansas City Power & Light Company to Modify Its Tariffs to Continue the Implementation of Its Regulatory Plan	)))	Docket No. ER-2010-0355

AFFIDAVIT OF JOHN J. SPANOS

COMMONWEALTH OF PENNSYLVANIA)
) ss
COUNTY OF CUMBERLAND)

John J. Spanos, being first duly sworn on his oath, states:

1. My name is John J. Spanos. I am employed by Gannett Fleming as Vice President of the Valuation and Rate Division. My services have been retained by Kansas City Power & Light Company.

2. Attached hereto and made a part hereof for all purposes is my Rebuttal Testimony on behalf of Kansas City Power & Light Company consisting of twenty - four (24) pages, having been prepared in written form for introduction into evidence in the above-captioned docket.

3. I have knowledge of the matters set forth therein. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded, including any attachments thereto, are true and accurate to the best of my knowledge, information and belief.

John J. Spanos
John J. Spanos

Subscribed and sworn before me this 2nd day of December, 2010.

Notary Public

My commission expires: February 20, 2011

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Cheryl Ann Rutter, Notary Public
East Pennsboro Twp., Cumberland County
My Commission Expires Feb. 20, 2011
Member, Pennsylvania Association of Notaries

GENERATING UNIT A

Scenario 1. Assumptions include $500,000,000 construction cost,
no interim retirements and 50 year life span.

Year (1)	Estimated Service Value (2)	Beginning Book Reserve (3) +	Annual Accrual (4) -	Retirement (5) =	Ending Book Reserve (6)
2010	500,000,000	0	10,000,000	0	10,000,000
2011	500,000,000	10,000,000	10,000,000	0	20,000,000
2012	500,000,000	20,000,000	10,000,000	0	30,000,000
2013	500,000,000	30,000,000	10,000,000	0	40,000,000
2014	500,000,000	40,000,000	10,000,000	0	50,000,000
2015	500,000,000	50,000,000	10,000,000	0	60,000,000
2016	500,000,000	60,000,000	10,000,000	0	70,000,000
2017	500,000,000	70,000,000	10,000,000	0	80,000,000
2018	500,000,000	80,000,000	10,000,000	0	90,000,000
2019	500,000,000	90,000,000	10,000,000	0	100,000,000
2020	500,000,000	100,000,000	10,000,000	0	110,000,000
2021	500,000,000	110,000,000	10,000,000	0	120,000,000
2022	500,000,000	120,000,000	10,000,000	0	130,000,000
2023	500,000,000	130,000,000	10,000,000	0	140,000,000
2024	500,000,000	140,000,000	10,000,000	0	150,000,000
2025	500,000,000	150,000,000	10,000,000	0	160,000,000
2026	500,000,000	160,000,000	10,000,000	0	170,000,000
2027	500,000,000	170,000,000	10,000,000	0	180,000,000
2028	500,000,000	180,000,000	10,000,000	0	190,000,000
2029	500,000,000	190,000,000	10,000,000	0	200,000,000
2030	500,000,000	200,000,000	10,000,000	0	210,000,000
2031	500,000,000	210,000,000	10,000,000	0	220,000,000
2032	500,000,000	220,000,000	10,000,000	0	230,000,000
2033	500,000,000	230,000,000	10,000,000	0	240,000,000
2034	500,000,000	240,000,000	10,000,000	0	250,000,000
2035	500,000,000	250,000,000	10,000,000	0	260,000,000
2036	500,000,000	260,000,000	10,000,000	0	270,000,000
2037	500,000,000	270,000,000	10,000,000	0	280,000,000
2038	500,000,000	280,000,000	10,000,000	0	290,000,000
2039	500,000,000	290,000,000	10,000,000	0	300,000,000
2040	500,000,000	300,000,000	10,000,000	0	310,000,000
2041	500,000,000	310,000,000	10,000,000	0	320,000,000
2042	500,000,000	320,000,000	10,000,000	0	330,000,000
2043	500,000,000	330,000,000	10,000,000	0	340,000,000
2044	500,000,000	340,000,000	10,000,000	0	350,000,000
2045	500,000,000	350,000,000	10,000,000	0	360,000,000
2046	500,000,000	360,000,000	10,000,000	0	370,000,000
2047	500,000,000	370,000,000	10,000,000	0	380,000,000
2048	500,000,000	380,000,000	10,000,000	0	390,000,000
2049	500,000,000	390,000,000	10,000,000	0	400,000,000
2050	500,000,000	400,000,000	10,000,000	0	410,000,000
2051	500,000,000	410,000,000	10,000,000	0	420,000,000
2052	500,000,000	420,000,000	10,000,000	0	430,000,000
2053	500,000,000	430,000,000	10,000,000	0	440,000,000
2054	500,000,000	440,000,000	10,000,000	0	450,000,000
2055	500,000,000	450,000,000	10,000,000	0	460,000,000
2056	500,000,000	460,000,000	10,000,000	0	470,000,000
2057	500,000,000	470,000,000	10,000,000	0	480,000,000
2058	500,000,000	480,000,000	10,000,000	0	490,000,000
2059	500,000,000	490,000,000	10,000,000	0	500,000,000
2060	500,000,000	500,000,000	0	500,000,000	0

GENERATING UNIT A

Scenario 2. Assumptions include $500,000,000 construction cost, $100,000,000 capital improvement at end of year 40, no interim retirements, 50 year life span initially then updated to 60 year life span.

Year (1)	Estimated Service Value (2)	Beginning Book Reserve (3)	+	Annual Accrual (4)	-	Retirement (5)	=	Ending Book Reserve (6)
2010	500,000,000	0		10,000,000		0		10,000,000
2011	500,000,000	10,000,000		10,000,000		0		20,000,000
2012	500,000,000	20,000,000		10,000,000		0		30,000,000
2013	500,000,000	30,000,000		10,000,000		0		40,000,000
2014	500,000,000	40,000,000		10,000,000		0		50,000,000
2015	500,000,000	50,000,000		10,000,000		0		60,000,000
2016	500,000,000	60,000,000		10,000,000		0		70,000,000
2017	500,000,000	70,000,000		10,000,000		0		80,000,000
2018	500,000,000	80,000,000		10,000,000		0		90,000,000
2019	500,000,000	90,000,000		10,000,000		0		100,000,000
2020	500,000,000	100,000,000		10,000,000		0		110,000,000
2021	500,000,000	110,000,000		10,000,000		0		120,000,000
2022	500,000,000	120,000,000		10,000,000		0		130,000,000
2023	500,000,000	130,000,000		10,000,000		0		140,000,000
2024	500,000,000	140,000,000		10,000,000		0		150,000,000
2025	500,000,000	150,000,000		10,000,000		0		160,000,000
2026	500,000,000	160,000,000		10,000,000		0		170,000,000
2027	500,000,000	170,000,000		10,000,000		0		180,000,000
2028	500,000,000	180,000,000		10,000,000		0		190,000,000
2029	500,000,000	190,000,000		10,000,000		0		200,000,000
2030	500,000,000	200,000,000		10,000,000		0		210,000,000
2031	500,000,000	210,000,000		10,000,000		0		220,000,000
2032	500,000,000	220,000,000		10,000,000		0		230,000,000
2033	500,000,000	230,000,000		10,000,000		0		240,000,000
2034	500,000,000	240,000,000		10,000,000		0		250,000,000
2035	500,000,000	250,000,000		10,000,000		0		260,000,000
2036	500,000,000	260,000,000		10,000,000		0		270,000,000
2037	500,000,000	270,000,000		10,000,000		0		280,000,000
2038	500,000,000	280,000,000		10,000,000		0		290,000,000
2039	500,000,000	290,000,000		10,000,000		0		300,000,000
2040	500,000,000	300,000,000		10,000,000		0		310,000,000
2041	500,000,000	310,000,000		10,000,000		0		320,000,000
2042	500,000,000	320,000,000		10,000,000		0		330,000,000
2043	500,000,000	330,000,000		10,000,000		0		340,000,000
2044	500,000,000	340,000,000		10,000,000		0		350,000,000
2045	500,000,000	350,000,000		10,000,000		0		360,000,000
2046	500,000,000	360,000,000		10,000,000		0		370,000,000
2047	500,000,000	370,000,000		10,000,000		0		380,000,000
2048	500,000,000	380,000,000		10,000,000		0		390,000,000
2049	500,000,000	390,000,000		10,000,000		0		400,000,000
2050	500,000,000	400,000,000		10,000,000		0		410,000,000
2051	600,000,000	410,000,000		10,000,000		0		420,000,000
2052	600,000,000	420,000,000		10,000,000		0		430,000,000
2053	600,000,000	430,000,000		10,000,000		0		440,000,000
2054	600,000,000	440,000,000		10,000,000		0		450,000,000
2055	600,000,000	450,000,000		10,000,000		0		460,000,000
2056	600,000,000	460,000,000		10,000,000		0		470,000,000
2057	600,000,000	470,000,000		10,000,000		0		480,000,000
2058	600,000,000	480,000,000		10,000,000		0		490,000,000
2059	600,000,000	490,000,000		10,000,000		0		500,000,000
2060	600,000,000	500,000,000		10,000,000		0		510,000,000
2061	600,000,000	510,000,000		10,000,000		0		520,000,000
2062	600,000,000	520,000,000		10,000,000		0		530,000,000
2063	600,000,000	530,000,000		10,000,000		0		540,000,000
2064	600,000,000	540,000,000		10,000,000		0		550,000,000
2065	600,000,000	550,000,000		10,000,000		0		560,000,000
2066	600,000,000	560,000,000		10,000,000		0		570,000,000
2067	600,000,000	570,000,000		10,000,000		0		580,000,000
2068	600,000,000	580,000,000		10,000,000		0		590,000,000
2069	600,000,000	590,000,000		10,000,000		0		600,000,000
2070	600,000,000	600,000,000		0		600,000,000		0

GENERATING UNIT A

Scenario 3. Assumptions include $500,000,000 construction cost, no interim retirements and 60 year life span.

Year	Estimated Service Value	Beginning Book Reserve	+	Annual Accrual	-	Retirement	=	Ending Book Reserve
(1)	(2)	(3)		(4)		(5)		(6)
2010	500,000,000	0		8,333,333		0		8,333,333
2011	500,000,000	8,333,333		8,333,333		0		16,666,667
2012	500,000,000	16,666,667		8,333,333		0		25,000,000
2013	500,000,000	25,000,000		8,333,333		0		33,333,333
2014	500,000,000	33,333,333		8,333,333		0		41,666,667
2015	500,000,000	41,666,667		8,333,333		0		50,000,000
2016	500,000,000	50,000,000		8,333,333		0		58,333,333
2017	500,000,000	58,333,333		8,333,333		0		66,666,667
2018	500,000,000	66,666,667		8,333,333		0		75,000,000
2019	500,000,000	75,000,000		8,333,333		0		83,333,333
2020	500,000,000	83,333,333		8,333,333		0		91,666,667
2021	500,000,000	91,666,667		8,333,333		0		100,000,000
2022	500,000,000	100,000,000		8,333,333		0		108,333,333
2023	500,000,000	108,333,333		8,333,333		0		116,666,667
2024	500,000,000	116,666,667		8,333,333		0		125,000,000
2025	500,000,000	125,000,000		8,333,333		0		133,333,333
2026	500,000,000	133,333,333		8,333,333		0		141,666,667
2027	500,000,000	141,666,667		8,333,333		0		150,000,000
2028	500,000,000	150,000,000		8,333,333		0		158,333,333
2029	500,000,000	158,333,333		8,333,333		0		166,666,667
2030	500,000,000	166,666,667		8,333,333		0		175,000,000
2031	500,000,000	175,000,000		8,333,333		0		183,333,333
2032	500,000,000	183,333,333		8,333,333		0		191,666,667
2033	500,000,000	191,666,667		8,333,333		0		200,000,000
2034	500,000,000	200,000,000		8,333,333		0		208,333,333
2035	500,000,000	208,333,333		8,333,333		0		216,666,667
2036	500,000,000	216,666,667		8,333,333		0		225,000,000
2037	500,000,000	225,000,000		8,333,333		0		233,333,333
2038	500,000,000	233,333,333		8,333,333		0		241,666,667
2039	500,000,000	241,666,667		8,333,333		0		250,000,000
2040	500,000,000	250,000,000		8,333,333		0		258,333,333
2041	500,000,000	258,333,333		8,333,333		0		266,666,667
2042	500,000,000	266,666,667		8,333,333		0		275,000,000
2043	500,000,000	275,000,000		8,333,333		0		283,333,333
2044	500,000,000	283,333,333		8,333,333		0		291,666,667
2045	500,000,000	291,666,667		8,333,333		0		300,000,000
2046	500,000,000	300,000,000		8,333,333		0		308,333,333
2047	500,000,000	308,333,333		8,333,333		0		316,666,667
2048	500,000,000	316,666,667		8,333,333		0		325,000,000
2049	500,000,000	325,000,000		8,333,333		0		333,333,333
2050	500,000,000	333,333,333		8,333,333		0		341,666,667
2051	500,000,000	341,666,667		8,333,333		0		350,000,000
2052	500,000,000	350,000,000		8,333,333		0		358,333,333
2053	500,000,000	358,333,333		8,333,333		0		366,666,667
2054	500,000,000	366,666,667		8,333,333		0		375,000,000
2055	500,000,000	375,000,000		8,333,333		0		383,333,333
2056	500,000,000	383,333,333		8,333,333		0		391,666,667
2057	500,000,000	391,666,667		8,333,333		0		400,000,000
2058	500,000,000	400,000,000		8,333,333		0		408,333,333
2059	500,000,000	408,333,333		8,333,333		0		416,666,667
2060	500,000,000	416,666,667		8,333,333		0		425,000,000
2061	500,000,000	425,000,000		8,333,333		0		433,333,333
2062	500,000,000	433,333,333		8,333,333		0		441,666,666
2063	500,000,000	441,666,666		8,333,333		0		450,000,000
2064	500,000,000	450,000,000		8,333,333		0		458,333,333
2065	500,000,000	458,333,333		8,333,333		0		466,666,666
2066	500,000,000	466,666,666		8,333,333		0		475,000,000
2067	500,000,000	475,000,000		8,333,333		0		483,333,333
2068	500,000,000	483,333,333		8,333,333		0		491,666,666
2069	500,000,000	491,666,666		8,333,333		0		500,000,000
2070	500,000,000	500,000,000		0		500,000,000		(0)

GENERATING UNIT A

Scenario 4. Assumptions include $500,000,000 construction cost,
no interim retirements and 50 year life span.

Year (1)	Estimated Service Value (2)	Beginning Book Reserve (3)	+ Annual Accrual (4)	- Retirement (5)	= Ending Book Reserve (6)
2010	500,000,000	0	8,333,333	0	8,333,333
2011	500,000,000	8,333,333	8,333,333	0	16,666,667
2012	500,000,000	16,666,667	8,333,333	0	25,000,000
2013	500,000,000	25,000,000	8,333,333	0	33,333,333
2014	500,000,000	33,333,333	8,333,333	0	41,666,667
2015	500,000,000	41,666,667	8,333,333	0	50,000,000
2016	500,000,000	50,000,000	8,333,333	0	58,333,333
2017	500,000,000	58,333,333	8,333,333	0	66,666,667
2018	500,000,000	66,666,667	8,333,333	0	75,000,000
2019	500,000,000	75,000,000	8,333,333	0	83,333,333
2020	500,000,000	83,333,333	8,333,333	0	91,666,667
2021	500,000,000	91,666,667	8,333,333	0	100,000,000
2022	500,000,000	100,000,000	8,333,333	0	108,333,333
2023	500,000,000	108,333,333	8,333,333	0	116,666,667
2024	500,000,000	116,666,667	8,333,333	0	125,000,000
2025	500,000,000	125,000,000	8,333,333	0	133,333,333
2026	500,000,000	133,333,333	8,333,333	0	141,666,667
2027	500,000,000	141,666,667	8,333,333	0	150,000,000
2028	500,000,000	150,000,000	8,333,333	0	158,333,333
2029	500,000,000	158,333,333	8,333,333	0	166,666,667
2030	500,000,000	166,666,667	8,333,333	0	175,000,000
2031	500,000,000	175,000,000	8,333,333	0	183,333,333
2032	500,000,000	183,333,333	8,333,333	0	191,666,667
2033	500,000,000	191,666,667	8,333,333	0	200,000,000
2034	500,000,000	200,000,000	8,333,333	0	208,333,333
2035	500,000,000	208,333,333	8,333,333	0	216,666,667
2036	500,000,000	216,666,667	8,333,333	0	225,000,000
2037	500,000,000	225,000,000	8,333,333	0	233,333,333
2038	500,000,000	233,333,333	8,333,333	0	241,666,667
2039	500,000,000	241,666,667	8,333,333	0	250,000,000
2040	500,000,000	250,000,000	8,333,333	0	258,333,333
2041	500,000,000	258,333,333	8,333,333	0	266,666,667
2042	500,000,000	266,666,667	8,333,333	0	275,000,000
2043	500,000,000	275,000,000	8,333,333	0	283,333,333
2044	500,000,000	283,333,333	8,333,333	0	291,666,667
2045	500,000,000	291,666,667	8,333,333	0	300,000,000
2046	500,000,000	300,000,000	8,333,333	0	308,333,333
2047	500,000,000	308,333,333	8,333,333	0	316,666,667
2048	500,000,000	316,666,667	8,333,333	0	325,000,000
2049	500,000,000	325,000,000	8,333,333	0	333,333,333
2050	500,000,000	333,333,333	16,666,667	0	350,000,000
2051	500,000,000	350,000,000	16,666,667	0	366,666,667
2052	500,000,000	366,666,667	16,666,667	0	383,333,333
2053	500,000,000	383,333,333	16,666,667	0	400,000,000
2054	500,000,000	400,000,000	16,666,667	0	416,666,667
2055	500,000,000	416,666,667	16,666,667	0	433,333,333
2056	500,000,000	433,333,333	16,666,667	0	450,000,000
2057	500,000,000	450,000,000	16,666,667	0	466,666,667
2058	500,000,000	466,666,667	16,666,667	0	483,333,333
2059	500,000,000	483,333,333	16,666,667	0	500,000,000
2060	500,000,000	500,000,000	0	500,000,000	(0)

GENERATING UNIT A

Scenario 5. Assumptions include $500,000,000 construction cost,
$100,000,000 capital improvement at end of year 40, no interim retirements and 60 year life span.

Year (1)	Estimated Service Value (2)	Beginning Book Reserve (3)	+	Annual Accrual (4)	-	Retirement (5)	=	Ending Book Reserve (6)
2010	500,000,000	0		8,333,333		0		8,333,333
2011	500,000,000	8,333,333		8,333,333		0		16,666,667
2012	500,000,000	16,666,667		8,333,333		0		25,000,000
2013	500,000,000	25,000,000		8,333,333		0		33,333,333
2014	500,000,000	33,333,333		8,333,333		0		41,666,667
2015	500,000,000	41,666,667		8,333,333		0		50,000,000
2016	500,000,000	50,000,000		8,333,333		0		58,333,333
2017	500,000,000	58,333,333		8,333,333		0		66,666,667
2018	500,000,000	66,666,667		8,333,333		0		75,000,000
2019	500,000,000	75,000,000		8,333,333		0		83,333,333
2020	500,000,000	83,333,333		8,333,333		0		91,666,667
2021	500,000,000	91,666,667		8,333,333		0		100,000,000
2022	500,000,000	100,000,000		8,333,333		0		108,333,333
2023	500,000,000	108,333,333		8,333,333		0		116,666,667
2024	500,000,000	116,666,667		8,333,333		0		125,000,000
2025	500,000,000	125,000,000		8,333,333		0		133,333,333
2026	500,000,000	133,333,333		8,333,333		0		141,666,667
2027	500,000,000	141,666,667		8,333,333		0		150,000,000
2028	500,000,000	150,000,000		8,333,333		0		158,333,333
2029	500,000,000	158,333,333		8,333,333		0		166,666,667
2030	500,000,000	166,666,667		8,333,333		0		175,000,000
2031	500,000,000	175,000,000		8,333,333		0		183,333,333
2032	500,000,000	183,333,333		8,333,333		0		191,666,667
2033	500,000,000	191,666,667		8,333,333		0		200,000,000
2034	500,000,000	200,000,000		8,333,333		0		208,333,333
2035	500,000,000	208,333,333		8,333,333		0		216,666,667
2036	500,000,000	216,666,667		8,333,333		0		225,000,000
2037	500,000,000	225,000,000		8,333,333		0		233,333,333
2038	500,000,000	233,333,333		8,333,333		0		241,666,667
2039	500,000,000	241,666,667		8,333,333		0		250,000,000
2040	500,000,000	250,000,000		8,333,333		0		258,333,333
2041	600,000,000	258,333,333		8,333,333		0		266,666,667
2042	600,000,000	266,666,667		8,333,333		0		275,000,000
2043	600,000,000	275,000,000		8,333,333		0		283,333,333
2044	600,000,000	283,333,333		8,333,333		0		291,666,667
2045	600,000,000	291,666,667		8,333,333		0		300,000,000
2046	600,000,000	300,000,000		8,333,333		0		308,333,333
2047	600,000,000	308,333,333		8,333,333		0		316,666,667
2048	600,000,000	316,666,667		8,333,333		0		325,000,000
2049	600,000,000	325,000,000		8,333,333		0		333,333,333
2050	600,000,000	333,333,333		13,333,333		0		346,666,667
2051	600,000,000	346,666,667		13,333,333		0		360,000,000
2052	600,000,000	360,000,000		13,333,333		0		373,333,333
2053	600,000,000	373,333,333		13,333,333		0		386,666,667
2054	600,000,000	386,666,667		13,333,333		0		400,000,000
2055	600,000,000	400,000,000		13,333,333		0		413,333,333
2056	600,000,000	413,333,333		13,333,333		0		426,666,667
2057	600,000,000	426,666,667		13,333,333		0		440,000,000
2058	600,000,000	440,000,000		13,333,333		0		453,333,333
2059	600,000,000	453,333,333		13,333,333		0		466,666,667
2060	600,000,000	466,666,667		13,333,333		0		480,000,000
2061	600,000,000	480,000,000		13,333,333		0		493,333,333
2062	600,000,000	493,333,333		13,333,333		0		506,666,666
2063	600,000,000	506,666,666		13,333,333		0		520,000,000
2064	600,000,000	520,000,000		13,333,333		0		533,333,333
2065	600,000,000	533,333,333		13,333,333		0		546,666,666
2066	600,000,000	546,666,666		13,333,333		0		560,000,000
2067	600,000,000	560,000,000		13,333,333		0		573,333,333
2068	600,000,000	573,333,333		13,333,333		0		586,666,666
2069	600,000,000	586,666,666		13,333,333		0		600,000,000
2070	600,000,000	600,000,000		0		600,000,000		(0)

KANSAS CITY POWER & LIGHT COMPANY
MISSOURI JURISDICTION

CALCULATED ANNUAL DEPRECIATION RATES AND ACCRUALS FOR IATAN 2 GENERATING PLANT - 50 YEAR LIFE SPAN

	ACCOUNT	ORGINAL COST	BOOK RESERVE	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE
	(1)	(2)	(3)	(4)	(5)=(4)/(2)
	IATAN 2 GENERATING PLANT				
311.00	STRUCTURES AND IMPROVEMENTS	34,301,008.04	0	876,703	2.56
312.00	BOILER PLANT EQUIPMENT	371,594,254.07	0	10,307,125	2.77
314.00	TURBOGENERATOR UNITS	114,336,693.48	0	3,016,453	2.64
315.00	ACCESSORY ELECTRIC EQUIPMENT	40,017,842.99	0	1,120,948	2.80
316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	11,433,669.35	0	280,512	2.45
	TOTAL IATAN 2 GENERATING PLANT	571,683,467.93	0	15,601,741	

KANSAS CITY POWER & LIGHT COMPANY
MISSOURI JURISDICTION

CALCULATED ANNUAL DEPRECIATION RATES AND ACCRUALS FOR IATAN 2 GENERATING PLANT - 60 YEAR LIFE SPAN

	ACCOUNT	ORIGINAL COST AS OF JULY 31, 2010	BOOK RESERVE	CALCULATED ANNUAL ACCRUAL AMOUNT	CALCULATED ANNUAL ACCRUAL RATE
	(1)	(2)	(3)	(4)	(5)=(4)/(2)
	IATAN 2 GENERATING PLANT				
311.00	STRUCTURES AND IMPROVEMENTS	34,301,008.04	0	750,295	2.19
312.00	BOILER PLANT EQUIPMENT	371,594,254.07	0	9,140,821	2.46
314.00	TURBOGENERATOR UNITS	114,336,693.48	0	2,648,282	2.32
315.00	ACCESSORY ELECTRIC EQUIPMENT	40,017,842.99	0	1,018,737	2.55
316.00	MISCELLANEOUS POWER PLANT EQUIPMENT	11,433,669.35	0	252,176	2.21
	TOTAL IATAN 2 GENERATING PLANT	*571,683,467.93*	*0*	*13,810,311*	