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MISSOURI PUBLIC SERVICE COMMISSION

UTILITY SERVICES DIVISION

SURREBUTTAL TESTIMONY

OF

GUY C. GILBERT, PE, RG

THE EMPIRE DISTRICT ELECTRIC COMPANY

FILE NO. ER-2011-0004

Jefferson City, Missouri
April 2011

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TABLE OF CONTENTS
SURREBUTTAL TESTIMONY
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Use of Lifespan for Production Plant Accounts 2

Use of the Dying Account Remaining Life Technique to true-up reserve deficiencies for interim future additions; accelerated by use of Lifespan 9

Use of the Dying Account Remaining Life Technique to true-up reserve over accruals for interim future retirements; accelerated by use of Lifespan 11

Quantifying use of the Dying Account Remaining Life Technique to true-up reserve deficiencies for interim future additions; accelerated by use of Lifespan 14

Use of the Dying Account Remaining Life Technique to true-up reserve deficiencies for future final retirement of parts of Riverton Power Station; accelerated by use of Lifespan..... 14

Use of Dying Account Remaining Life Technique to true-up reserve deficiencies for future pollution control equipment expected for Asbury Power Station; accelerated by use of Lifespan 15

Use of Dying Account Remaining Life Technique to determine the accrual amount accelerated by use of Lifespan and then develop a depreciation rate based on dollars rather than asset depreciation..... 17

Iatan 2 accounts Regulatory Plan amortization and the tracking mechanism 18

The Company’s use of enterprise software for depreciation purposes and “scrubbed” data 19

The Company’s use of Generally Accepted Accounting Principles and apparent failure to understand, recognize or seek waiver from Commission rules for depreciation 20

1 **SURREBUTTAL TESTIMONY**

2 **OF**

3 **GUY C. GILBERT, PE, RG**

4 **THE EMPIRE DISTRICT ELECTRIC COMPANY**

5 **FILE NO. ER-2011-0004**

6 Q. Please state your name and business address.

7 A. Guy C. Gilbert, P.O. Box 360, Jefferson City, Missouri, 65102.

8 Q. Please state the purpose of your testimony.

9 A. The purpose of my surrebuttal testimony is to respond to The Empire District
10 Electric Company (“Empire” or “Company”) witnesses Thomas J. Sullivan and Laurie A.
11 Delano regarding depreciation expense issues.

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

13 A. I am employed by the Missouri Public Service Commission (“PSC” or
14 “Commission”) as a Utility Regulatory Engineer II in the Engineering and Management
15 Services Department.

16 Q. What is your work and educational background?

17 A. A copy of my work and educational experience is provided in Appendix 1
18 attached hereto.

19 Q. What does your testimony address?

20 A. I will present Staff’s response to the Company’s positions on depreciation
21 expense matters regarding:

- 22 1. Use of a variation of the Forecast method for depreciation called “Lifespan”
23 for Production Plant Accounts.

- 1 2. Use of the Dying Account Remaining Life Technique to true-up depreciation
2 reserve deficiencies for interim future additions accelerated by use of
3 Lifespan.
- 4 3. Use of the Dying Account Remaining Life Technique to true-up reserve
5 over-accruals for interim future retirements accelerated by use of Lifespan.
- 6 4. Use of the Dying Account Remaining Life Technique to true-up reserve
7 deficiencies for future final retirement of parts of Riverton Power Station
8 accelerated by use of Lifespan.
- 9 5. Use of the Dying Account Remaining Life Technique to true-up reserve
10 deficiencies for future pollution control equipment expected for Asbury
11 Power Station accelerated by use of Lifespan
- 12 6. Use of the Dying Account Remaining Life Technique to determine the
13 accrual amount and then to develop a depreciation rate based on dollars
14 rather than asset depreciation by use of Lifespan.
- 15 7. Iatan 2 accounts Regulatory Plan Amortization and the tracking mechanism.
- 16 8. The Company's use of enterprise software for depreciation purposes and use
17 of "scrubbed" data.
- 18 9. The Company's references to Generally Accepted Accounting Principles and
19 apparent failure to understand or recognize Commission rules for
20 depreciation.

21 **Use of Lifespan for Production Plant Accounts**

22 Q. Why is it generally inappropriate to use the Lifespan method for production
23 plant accounts?

24 A. The Lifespan method of depreciation implies a level of precision in the
25 determination of depreciation rates that is not only inaccurate and inappropriate, but in its
26 application in this case seeks to obfuscate the very purpose of the Commission rules.

1 The Commission in its rules states at:

2 4 CSR 240-20.030 Uniform System of Accounts—Electrical Corporations

3 PURPOSE: This rule directs electrical corporations within the
4 commission's jurisdiction to use the uniform system of accounts
5 (USOA) prescribed by the Federal Energy Regulatory Commission for
6 major electric utilities and licensees, as modified herein. Requirements
7 regarding the submission of depreciation studies, databases and property
8 unit catalogs are found at 4 CSR 240-3.160 and 4 CSR 240-3.175.
9 Federal Energy Regulatory Commission (FERC).

10 Review of the FERC-USOA system of accounts indicates that the record keeping of
11 assets for the utility plant accounts is based on the purpose and function of the asset type.

12 These are divided into four primary functions:

- 13 1. Production of electricity, all types of electric generation
- 14 2. Transmission of electricity, bulk transfer of electrical power.
- 15 3. Distribution of electricity, division and giving out of electrical power.
- 16 4. General, those accounts generally used in the conduct of business.

17 This system of accounts as adopted by rule by the Commission also describes the
18 requirements of a Continuing Plant Inventory Record ("CPR"). The CPR is described as
19 follows:

20 Continuing Plant Inventory Record means company plant records
21 for retirement units and mass property that provide, as either a single
22 record, or in separate records readily obtainable by references made in a
23 single record, the following information:

- 24 A. For each retirement unit:
 - 25 (1) The name or description of the unit, or both;
 - 26 (2) The location of the unit;
 - 27 (3) The date the unit was placed in service;
 - 28 (4) The cost of the unit as set forth in Plant Instructions 2 and 3
29 of this part; and
 - 30 (5) The plant control account to which the cost of the unit is
31 charged; and
- 32 B. For each category of mass property:
 - 33 (1) A general description of the property and quantity;

Surrebuttal Testimony of
Guy C. Gilbert, PE, RG

- 1 (2) The quantity placed in service by vintage year;
2 (3) The average cost as set forth in Plant Instructions 2 and 3 of
3 this part; and
4 (4) The plant control account to which the costs are charged.

5 As noted in Staff witness John A. Robinett's rebuttal testimony, the Company has so
6 disassembled, disaggregated and "scrubbed" the depreciation data to the point that it does not
7 meet the spirit and intent of the rules stated above. This leads to the admitted conclusions in
8 Mr. Sullivan's rebuttal testimony that adequate data does not exist to perform an actuarial
9 based analysis and that a hybrid lifespan analysis by plant and/or unit is better.

10 Q. What do you mean "spirit" of the rules?

11 A. The "spirit" of the rule is that the four primary account groups listed above are
12 essential to the operation of the utility and that it is not expected, as in the lifespan method, that
13 when production assets are retired they will not be replaced with some form of production
14 asset. In other words, my belief is that electric production is here to stay and is not a dying
15 technology.

16 Q. Are there any indications in the method of record keeping in its CPR that
17 indicate the Company makes accommodation for the costs and expenses it seeks recovery of
18 under the dying asset approach?

19 A. No. There are no entries in the system of plant accounts at the primary level
20 discussed above that indicate any of the plant accounts are dying out and will be discontinued.
21 In fact, in this case the Company seeks recognition of terminal net salvage in depreciation rates.
22 However there are no indications in the Company's plant record that a distinction is made
23 between net salvage, interim net salvage, and terminal net salvage.

1 Q. Does the Company's depreciation consultant, Mr. Sullivan, include values for
2 these different types of salvage in his depreciation study?

3 A. Yes. The result in Mr. Sullivan's study is a recommendation that additional
4 estimated costs need to be collected from customers through depreciation expense related to the
5 various types of salvage.

6 Q. What is the Property Unit Catalog (PUC)?

7 A. The Commission Rule discussed above, which references the FERC-USOA,
8 also states the following regarding PUCs:

9 (B) Assemble by July 1, 1996, and maintain after that, a property
10 unit catalog which contains for each designated property unit, in addition
11 to the provisions of Part 101 General Instructions 6. and paragraph
12 15,016—

- 13 1. A description of each unit;
14 2. An item list; and
15 3. Accounting instructions, including instructions for
16 distinguishing between operations expense, maintenance expense and
17 capitalized plant improvements

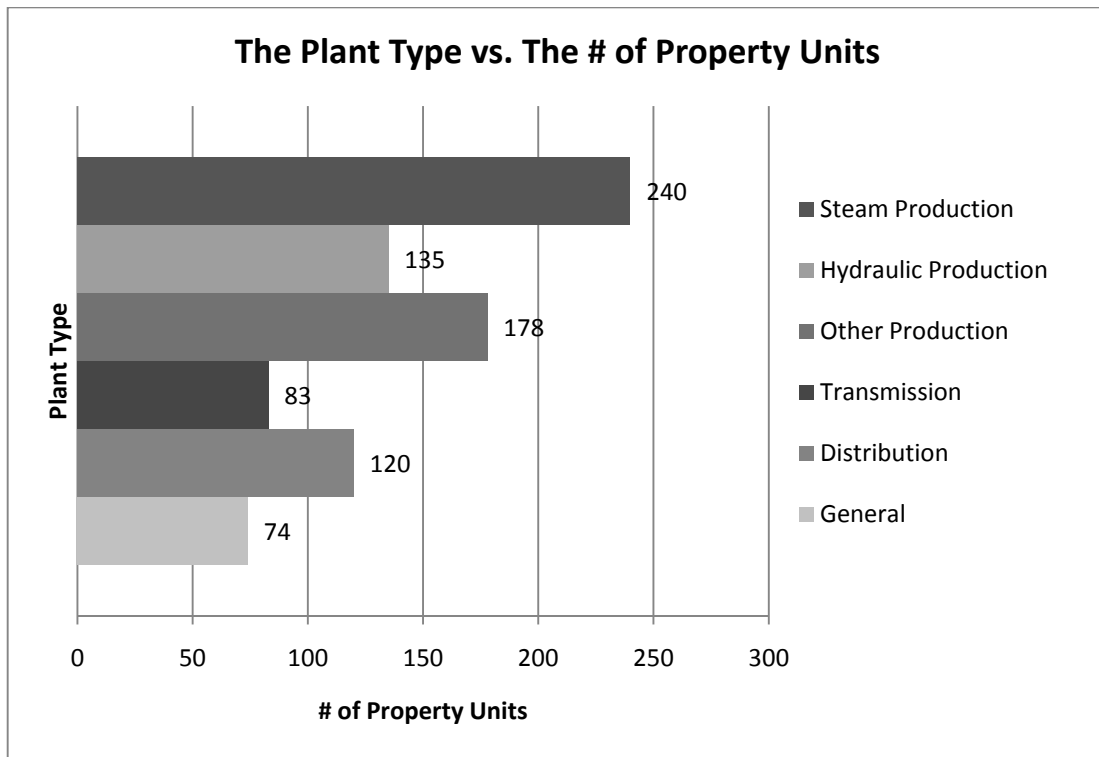
18 Q. Does the PUC distinguish units of property between production plants?

19 A. No. The units are only listed by primary account groups, as stated previously.

20 Q. Do some primary accounts have more units of property than others?

21 A. Yes. A chart presenting the number of units of property by primary account is
22 as follows:

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27 *continued on next page*



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As can be seen in the chart above the Company tracks far more types of units of property in the Production Plant accounts than is done for the purported mass asset accounts. Remember, though, the dollars and NOT the units of property should be studied in the actuarial part of the depreciation analysis. So the Company’s argument that Staff’s analysis is inappropriate is not valid.

Mr. Sullivan goes to great lengths to make his case that Staff is using Mass Property Groups. Interestingly in the question located at page 7, lines 21 & 22 Mr. Sullivan asks: “How has the Staff aggregated these unit properties into mass property groups? He then continues at length with his answer on page 8, lines 1 through 9, stating in the last sentence of his answer: “The Staff’s groups coincide with the way the FERC Uniform System of Accounts are grouped”

1 Frankly that has been Staff's argument all along follow the Commission rules. Use the
2 FERC-USOA for depreciation accounting and study purposes.

3 The dollars in the various plant accounts are significant for actuarial analysis in all plant
4 accounts as long as the data is NOT disaggregated and scrubbed. As discussed in Staff's
5 Rebuttal testimony the data provided by the Company did not coincide with the data totals
6 articulated in Mr. Sullivan's depreciation study. In order for Staff to achieve data totals similar
7 to Mr. Sullivan's total Staff had to marry previous depreciation study data with newer or later
8 Company data. Upon being informed of this Mr. Sullivan informed us that Staff had been
9 provided with "scrubbed" data that was better than data from the previous case Staff had
10 married to the newer later data. As is indicated below due to a change in accounting software
11 the Company collects depreciation data with less than optimal detail. Subsequent to this issue,
12 as will be detailed in Mr. Robinett's surrebuttal testimony, at issue is the record keeping for the
13 retirement, depreciation, and net salvage for a train that does not currently appear in the
14 depreciation study data.

15 Q. How does this relate to the issue of Lifespan and a depreciation study?

16 A. In aggregate, the Company does have sufficient data after over 100 years of
17 operation to make reasonable estimates of production plant lives based upon experience.
18 Mr. Sullivan and the Company have "scrubbed", condensed and eliminated data based on
19 presumptions, technology, irrelevance, inconsistency and changes in accounting practices or
20 software, apparently without regard to consistency with the Commission rules. Furthermore
21 Mr. Sullivan and the Company either ignore or obfuscate for the reasons noted above that it is
22 the dollars that are studied in the actuarial analysis of the depreciation study. Questions
23 regarding technology, whether or not the booking of dollars is relevant to the account (it was

1 booked in), alleged inconsistency or any other subjective excuse do not justify the Company's
2 position. Detailed above are time tested means and methods to record dollar activity by
3 account that can be studied, and that are consistent with the Commission rules.

4 Q. Can you provide an example of how the improper recording of plant records
5 may induce inaccuracies?

6 A. Yes. As detailed in the guidelines of recording data sufficient to conduct a
7 complete and robust depreciation study, the follow types of transactions need to be recorded
8 when they occur:

9 Regular Retirement
10 Reimbursed Retirement
11 Sale
12 Transfer (+ or -)
13 Beginning-of-Interval Transfer
14 Acquisition
15 Adjustment (+ or -)
16 Outlier Retirement
17 Ending Balance (+ or -)
18 Beginning Balance or Gross Addition

19 The Company's guidelines for recording data sufficient to conduct a depreciation study
20 with the adoption of PeopleSoft enterprise data system includes only the follow types of
21 transactions to be recorded when they occur:

22 Addition
23 Retirement
24 Transfer In (+)
25 Transfer Out (-)
26 Positive Adjustment (+)
27 Negative Adjustment (-)

28 As can be seen from the Company's list of transaction types above (from the
29 Company's PUC), there are no mechanisms in place to meet the requirements of anything more
30 than the most basic actuarial analysis of invested dollars by account. The Company, along with

1 Mr. Sullivan, has “scrubbed” the data of the kinds of information even necessary to make
2 determinations of retirement versus terminal retirement versus interim retirement, and the
3 associated net salvage for each.

4 Q. How then does the Company arrive at a Lifespan date for each of its plants?

5 A. It is not based on any numerical or even economic assessment of the plants’
6 viability but rather a gross age and technology assessment.

7 Q. Does the Company’s Lifespan determination take into consideration the addition
8 of new investment to replace the retired production plant?

9 A. No the analysis only considers costs associated with the Lifespan retirement(s).

10 **Use of the Dying Account Remaining Life Technique to true-up reserve deficiencies for**
11 **interim future additions; accelerated by use of Lifespan**

12 Q. There has been much discussion in the previous topic regarding the various
13 shortfalls in the Company’s depreciation study and Mr. Sullivan’s insistence that various
14 estimated future costs need to be recovered in depreciation now. Would you explain how
15 future additions increase the proposed depreciation rates?

16 A. Yes. First, let me explain the section of the Commission’s rules that define
17 “depreciation,” and how Mr. Sullivan’s insistence on inclusion of future plant additions in his
18 analysis is a violation of that rule and how that increases depreciation expense.

19 Quoting from the Commission rules referenced above:

20 12. Depreciation, as applied to depreciable electric plant, means
21 the loss in service value not restored by current maintenance, incurred in
22 connection with the consumption or prospective retirement of electric
23 plant in the course of service from causes which are **known** to be in
24 current operation and against which the utility is not protected by
25 insurance. Among the causes to be given consideration are wear and tear,

Surrebuttal Testimony of
Guy C. Gilbert, PE, RG

1 decay, action of the elements, inadequacy, obsolescence, changes in the
2 art, changes in demand and requirements of public authorities.
3 (Emphasis added).

4 In relation to “loss of service value,” the definition states, “from causes known to be...”
5 and goes on to list those “causes to be given consideration are wear and tear, decay, action of
6 the elements, inadequacy, obsolescence, changes in the art, changes in demand and
7 requirements of public authorities.”

8 This definition of “depreciation” makes no mention or reference to future additions.
9 Depreciation as a concept relates to already invested dollars. As the Company adds plant to its
10 generating system, as in the case of Plum Point or Iatan 2, it is appropriate to seek to increase
11 current accruals in order to recognize the actual costs associated with the new investment.
12 To recognize possible future investment, in advance, in the setting of depreciation rates is
13 contrary to Commission rules.

14 Q. How does the Company’s proposed use of the Remaining Life (RL) technique
15 and Lifespan accelerate collection of these future additions?

16 A. Normal use of RL would result from a study of the average service life (ASL) of
17 the account. Under that approach, a determination is then made that there will be no additions
18 to the account being studied, the RL for what is left in the account would be mathematically
19 determined, and a depreciation rate is then computed that will allow all the unrecovered dollars
20 in the account to be recovered during the RL of the account. This includes the dollars for net
21 salvage less any accrued reserves.

22 In the Lifespan approach used by Mr. Sullivan and the Company, the RL is essentially
23 ignored and becomes the period between the current date and when the plant is to be retired.
24 This period is often shorter than what the RL would have yielded.

1 Next, because there is the assumption that the plant will be operated and maintained as a
2 whole, up until the date the plant is to be retired, projections are made to add in costs during
3 this interim period (between the current date and the final plant retirement date) for:

- 4 1. Future additions
- 5 2. Future retirements
- 6 3. Net salvage
- 7 4. Current depreciation reserves
- 8 5. Final cost of removal to dismantle and remove the production facility

9 These costs are added back into the calculation of the depreciation rates and increase the
10 amount of depreciation accruals the Company and Mr. Sullivan believe needs to be ordered.

11 None of the causes for Lifespan are known (i.e. Among the causes to be given
12 consideration are wear and tear, decay, action of the elements, inadequacy, obsolescence,
13 changes in the art, changes in demand and requirements of public authorities.). Consequently
14 the only real cause for any retirement of any production unit at this time would be economic
15 justification and replacement, neither of which have been demonstrated in this case for
16 Empire's production plants.

17 **Use of the Dying Account Remaining Life Technique to true-up reserve over accruals for**
18 **interim future retirements; accelerated by use of Lifespan**

19 Q. As discussed above there are several additional costs and liabilities projected to
20 occur under the RL technique with a Lifespan approach. Is this true for future interim
21 retirements?

22 A. Yes. In fact, it is almost circular logic. Because you know everything in a power
23 plant or production facility needs to work to produce electricity, it is simple logic that all

1 retirements will need to be replaced with additions during this interim period between the
2 current date and the end date assumed under Lifespan, or final retirement date.

3 So, for every dollar of interim retirement there will be some dollar of additions
4 (likely more) that will be necessary and with it all of those five costs previously listed. The
5 actuarial or mathematical part of the depreciation study is all numerically driven, so essentially
6 the more numbers you can put in, the more numbers you will get out.

7 Q. Based upon the assumptions and models previously described is this an accurate
8 means for the determination of depreciation rates?

9 A. This is nowhere near accurate, but rather an exercise in alleged precision as to
10 border on the ridiculous. The causes listed in the Commission's definition for depreciation and
11 the structure and requirements of the USOA as previously discussed indicate that current means
12 of electric production are irreplaceable. That is not to say that certain units or power plants will
13 not and have not been replaced. No one has demonstrated a known reason that Lifespan is
14 appropriate here. What is known is that we can accurately predict that there will be retirements
15 of production power plants in the future and that those retirements will be replaced with some
16 other means of generating electricity. The current method and technique for the determination
17 of depreciation for Empire are sufficiently accurate under this assumption.

18 Q. Please explain the difference between precision and accuracy.

19 A. Consider this: there is a circular dart board, you have five darts and your
20 opponent has five darts. The objective is to hit the dart board, ideally, in the center. Your
21 opponent throws his or her five darts and they land tightly grouped a foot to the left of the dart
22 board. That is precision. Your five darts however all land on the dart board though scattered.
23 This is accuracy. Now to use the same analogy as it applies to depreciation, it is far more

1 appropriate to look at the aggregated group of production dollars and derive actuarially based
2 results than to reduce the group size and, because the resulting numbers are not meaningful,
3 create other assumptions as previously stated and then make estimations as necessary to
4 produce a “firm” number.

5 Q. Why is Lifespan even available as an alternative depreciation method?

6 A. The FERC has determined that there are some electric production methods that
7 if improperly managed may result in catastrophic disaster in both loss of life and loss of
8 property. These two methods of production are nuclear steam production plant accounts and
9 hydraulic plant accounts. The FERC generally licenses these types of facilities for 40 year
10 intervals. In the case of nuclear there are physical degradations such as interstitial corrosion
11 that critical components of the facility experience as a result of intense gamma radiation.
12 Not having any previous experience with actual exposure risk, the Nuclear Regulatory
13 Commission (NRC) has conservatively granted 40 year initial licenses for the operation of
14 these facilities. In addition given the known hazardous nature of the future retirements for
15 these facilities the NRC has mandated that interest bearing funds be established for these
16 retirement liabilities.

17 With respect to hydraulic production facilities the implications of impediments to water
18 ways and the impoundment of water may often result in potential hazards to life and property.
19 Conversely, while the production of electricity is inherently dangerous, current technology for
20 the production methods other than nuclear or hydro do not pose potentially large catastrophic
21 loss of life and property.

1 **Quantifying use of the Dying Account Remaining Life Technique to true-up reserve**
2 **deficiencies for interim future additions; accelerated by use of Lifespan**

3 Q. Does the Company propose to recover estimated future production plant
4 investment in its proposed depreciation rates?

5 A. Yes. The Company has estimated that during the remaining life or lifespan of
6 the Steam Production accounts it will invest \$291,556,943 to essentially keep the plants
7 operational.

8 Q. What is the value of Steam Production accounts at this time and how does that
9 relate to the estimated future investment?

10 A. Approximately \$519,914,067 is currently invested and the Company has added
11 an additional estimated future additions of \$29,556,943, or 56% above current plant
12 investment, meaning that it is currently assuming the need to recover some \$821 million in
13 steam production plant in its requested depreciation rates.

14 Q. Are the replacements for these retiring steam production power plants
15 contemplated in these numbers?

16 A. No.

17 **Use of the Dying Account Remaining Life Technique to true-up reserve deficiencies for**
18 **future final retirement of parts of Riverton Power Station; accelerated by use of Lifespan**

19 Q. Has the Commission ordered depreciation rates specific to any of the
20 Company's Power Production units or locations?

21 A. No, there is no record of the Commission ordering depreciation rates specific to
22 the power stations or locations. Depreciation rates have been ordered by production plant
23 accounts.

1 Q. Has the Company estimated the cost for the ultimate retirement of parts of its
2 power plants by location?

3 A. Yes the Company has estimated costs associated with the final retirement of
4 parts of the Riverton Power Station, primarily those associated with Units 7 and 8. The
5 Company also goes on to discuss specific amounts of depreciation expense and reserves for
6 those location specific accounts.

7 Q. Has the Commission or Staff instructed the Company to record their accruals for
8 depreciation of production plant accounts by location?

9 A. No. However, this appears to be an accounting practice put in place by the
10 Company that results in economic disparity without considering the age dispersion of the
11 invested dollars, which results in a location bias and a perceived inequity. Simply stated, this
12 inequity is self inflicted by an attempt to achieve a precision in the accounting that is not
13 achievable for purposes of setting depreciation rates.

14 **Use of Dying Account Remaining Life Technique to true-up reserve deficiencies for future**
15 **pollution control equipment expected for Asbury Power Station; accelerated by use of**
16 **Lifespan**

17 Q. Did Mr. Sullivan input inappropriate additions to his depreciation rate
18 computations?

19 A. Yes.

20 Q. What are these inappropriate additions?

21 A. Mr. Sullivan added future expected capital additions into the depreciation rate
22 calculations to elevate his current depreciation rate recommendations. Mr. Sullivan's answer to
23 his direct testimony question on page 6, line 5 demonstrates a lack of understanding of the

1 computation of depreciation rates as defined and practiced in Missouri. Part of his answer is as
2 follows: “The final Integrated Resource Plan (“IRP”) estimate for mercury emission equipment
3 at Empire’s Asbury plant is approximately \$157 million compared to the preliminary estimate
4 or \$114 million that was used in our study.”

5 Q. What disturbs you about that statement?

6 A. Plant investment expected to be installed in the future, based upon IRP cost
7 estimates, is not allowed as a factor in estimating depreciation on current plant in service.
8 Depreciation rates are derived from a review of past retirement records and applied to current
9 plant in service. For electrical generating equipment, the retirement rate reviewed to determine
10 depreciation rates is the retirement experience of plant that was installed as much or more than
11 30 to 50 years ago. If it is expected that future retirement patterns of current plant in service
12 will be different than past retirement patterns, then adjustments to depreciation rates may be
13 recommended. However, this should not include speculation on the retirement rate of possible
14 future additions. Future plant additions will produce a future retirement history that will only
15 become relevant in depreciation studies conducted as much as 30 to 50 years from now.

16 Q. Did you review the depreciation study conducted by Mr. Sullivan to determine
17 what future plant additions he included in his study?

18 A. Yes. I reviewed the depreciation study report conducted for this rate case.
19 An example of future additions used in the computation of his proposed depreciation rates can
20 be found in the appendix to the Black and Veatch Report on Depreciation (the depreciation
21 study) submitted for Empire by Mr. Sullivan, dated December 31, 2010. On schedule TJS-2,
22 page A-3 for the Asbury plant, the table shows \$188,911,424 in forecasted additions compared
23 to a current total plant in service of \$149,946,495. With the addition of annual collections for

1 net salvage, the total to recover in depreciation expense for the Asbury plant is shown as
2 \$354,785,961, which is approximately 2.4 times the current plant in service. Page A-6 of this
3 appendix shows a \$114,000,000 in additions to plant at year 2015. The above \$354,785,961
4 total includes not only these additions, but future expected cost of removal and interim
5 retirements related to the expected life of this speculative future \$114,000,000 addition.

6 **Use of Dying Account Remaining Life Technique to determine the accrual amount**
7 **accelerated by use of Lifespan and then develop a depreciation rate based on dollars**
8 **rather than asset depreciation**

9 Q. Does the Company follow the methodology for the determination of
10 depreciation rates as previously ordered by the Commission in Case No. ER-2004-0570?

11 A. No. The Company as noted above has either not followed the Commission
12 ordered rates or implemented sub sets of accounts that result in imbalances for these sub set
13 accounts. Further, the formula as set forth in the Commission's above cited case and Report
14 and Order does not allow the development of dollars to be recovered that result in some
15 required depreciation rate but rather a depreciation rate based on an actuarial analysis of asset
16 lives plus net salvage. The first underlined sentence below details this calculation.

17 As the Company details in its depreciation study:

18 **4.1.2 Planned Retirements (Unit Property Accounts)**

19 For EDE's unit property, EDE provided the data needed to develop an
20 investment history. A life history of net additions prior to 1999 and gross
21 additions, retirements, surviving property, and account balances by year since
22 1999 was provided for the analysis. Based on the estimated retirement date that
23 EDE provided for the various units, we forecast plant investment activity
24 (interim additions, retirements, and plant balances) for each year that we expect
25 the property to remain in service. In the event that other reasonably anticipated
26 planned additions and retirements are required in order for the property to reach
27 the retirement date, we consider implications of such additions and retirements
28 as well.

29 Based on the data described above, we calculate whole life, straight line
30 depreciation accrual rates by dividing the investment to be recovered (original

1 investment, plus interim additions, plus cost of removal, less gross salvage) by
2 the sum of the forecast annual depreciable balances over the full lifespan of the
3 unit property accounts. Forecast annual depreciable balances are based on
4 the existing plant balances reported at December 31, 2009 plus forecast
5 additions and retirements as adjusted for net salvage. Our recommended
6 depreciation rates for unit property accounts are discussed in Section 5.0.

7 To accurately determine the composite depreciation accrual rate for the
8 generating units, it is important to understand the retirement date and
9 investment in each generating unit. EDE maintains historical data that
10 includes additions, retirements, transfers, and net salvage by FERC
11 account. This data provides sufficient information to evaluate interim
12 additions, retirements, and salvage on an aggregate level for the steam,
13 hydraulic and other production accounts for the period ending December 31,
14 2009. We supplement this information with EDE's Continuing Property
15 Record data as a means to identify additions and retirements specific to
16 generating units to determine approximate investment by generating unit.
17 (Emphasis added.)

18 Q. Are there any other observations concerning the above statement from the
19 Company's depreciation study that you would like to make?

20 A. Yes. It is very interesting to note that while the Company goes to great lengths
21 to use disaggregated data for their depreciation analysis, the underlined sentence above details
22 how the aggregated data provides information for the determination of estimated future costs to
23 be recovered. This indicates that the data, while not adequate for asset life determination, is
24 appropriate in the Company's judgment for estimating future costs for purposes of current cost
25 recovery.

26 **Iatan 2 accounts Regulatory Plan amortization and the tracking mechanism**

27 Q. Does the Mr. Sullivan's depreciation study include any plant balances or
28 regulatory plan amortization accruals, and what effect would exclusion of those amounts have
29 on the results of the depreciation study?

1 A. No. Exclusion of the regulatory plan amortization collections from the
2 depreciation analysis of the Iatan 2 unit has the impact of significantly increasing the amount of
3 dollars to be recovered under the proposed depreciation rates.

4 Q. Does the Company include depreciation rates for Iatan 2?

5 A. Yes, however they do not include a flow back for regulatory plan accruals.

6 **The Company's use of enterprise software for depreciation purposes and "scrubbed" data**

7 Q. What are some of the issues the Company has had in recent years with the
8 Commission's record keeping requirements?

9 A. Beginning in 1999, the Company implemented a new enterprise software system
10 for accounting and management purposes. During the configuration process certain
11 requirements necessary for meeting the Commission's record keeping rules were overlooked,
12 as detailed earlier. Additionally, certain Empire personnel familiar with the depreciation record
13 keeping process retired. This has resulted in a bifurcation of the process used by Empire to
14 develop and maintain adequate records for a robust depreciation analysis as indicated by their
15 need to "scrub" the data.

16 Q. Are there other issues that have led to irregularities in the Companies accounting
17 for depreciation?

18 A. Yes, as detailed above the sub-accounting for specific units has resulted in
19 unintended discrepancies in depreciation accruals and imbalances and likely resulted in
20 additional burdens for the Company's record keeping that they had not contemplated.

1 **The Company's use of Generally Accepted Accounting Principles and apparent failure to**
2 **understand, recognize or seek waiver from Commission rules for depreciation**

3 Q. Is there a final concern of the Company in this case that Staff may use to both
4 clarify and summarize its position with respect to depreciation and the issues and concerns
5 raised by Mr. Sullivan?

6 A Yes, Ms. Delano has expressed such a concern.

7 Q. Has Ms. Delano expressed a concern with respect to how under recoveries of
8 depreciation expense that result in a reserve deficiency are accounted for under Generally
9 Accepted Accounting Purposes (GAAP), based upon her perception of what the Staff has
10 recommended regarding depreciation in this case?

11 A. Yes. Ms. Delano apparently is confusing the regulatory accounting rules
12 prescribed by this Commission with financial accounting practices reflected in GAAP. The
13 Missouri Commission, through the state code of state regulations (CSR) requires the use of the
14 FERC USOA as the applicable rules for regulatory accounting purposes. The regulatory
15 accounting rules regarding the recording keeping requirements for and the recording of
16 depreciation expense and accumulated depreciation reserves for Missouri rate making purposes
17 are not subject to GAAP, the IRS or the SEC, or any other authority.

18 I will explain the fundamental requirements set under the FERC USOA for regulatory
19 accounting for depreciation related topics:

20 PLANT IN SERVICE: The FERC main plant account numbers (300 series accounts)
21 reflect only the original regulator allowed prudent cost which has been placed into regulated
22 utility service and continues to be deemed used and useful to provide the regulated utility

1 service. The amounts recorded in the FERC accounts may not, and often are not, the actual
2 amount of dollars the Company spent.

3 DEPRECIATION EXPENSE: The depreciation expense recorded in these FERC
4 accounts is an amount reflecting the dollars being collected from the rate payers to account for
5 the consumption of current plant in service. For regulatory purposes, depreciation expense is
6 simply one of the components of the cost of service which is charged to rate payers. This
7 consumption cost charged to rate payers is defined as an average cost for plant and equipment
8 (not land) over the expected useful life of the plant, and includes lifetime net salvage. Lifetime
9 net salvage is a prorated collection of expected future salvage minus the expected future cost of
10 removal. The Commission assigned depreciation rates used for rate making purposes are not
11 dependent on any GAAP, IRS or SEC rules.

12 ACCUMULATED DEPRECIATION RESERVE: The accumulated depreciation
13 reserves for the FERC plant accounts is a record of the amounts collected through rates
14 assigned to consumption cost. When an item is removed from utility service the original
15 prudent allowed cost is removed from the depreciation reserve. But this does not complete the
16 recording of the consumption. Salvage (added to reserves) and cost of removal (subtracted
17 from reserves) are also charged to the depreciation reserves. Salvage and cost of removal are
18 always incurred for any given plant item after the item has been removed from service,
19 sometimes as much as 10 to 20 years later. Thus, the amounts shown in reserves is the balance
20 of the difference between the amounts recorded as collected from the ratepayers and the
21 amounts recorded as consumed. NOTE: the accumulated depreciation reserve for any specific
22 FERC plant account (or subaccount) may be negative, simply indicating that the consumption
23 recorded exceeds the current accumulated collections. Again, there is no direct connection

1 between any one FERC plant account or subaccount balance and GAAP rules for reporting to
2 the IRS or SEC. The balances in these FERC accounts simply provide a monitoring tool to
3 assist the regulators in setting utility rates.

4 **RECORD KEEPING:** The Missouri Code of State Regulations defines how the
5 accounting is to be conducted, defines plant account numbers to be used, and defines what
6 types of physical assets will be recorded in each plant account. This definition is through state
7 regulations:

8 Electric: 4 CSR 240-20.030 => Federal Energy Regulatory Commission (FERC);
9 18 CFR Part 101 (1992).

10 Gas: 4 CSR 240- 400.40 => FERC; 18 CFR Part 201 (1992)

11 Steam Heat: 4 CSR 240-80.020 => includes HVAC, Steam, Hot water, and Cooling water

12 These rules require keeping a Plant Property Record. This means that all plant property
13 placed into utility service be recorded and maintained in perpetuity showing all additions,
14 retirements, salvage and cost of removal. This includes maintaining records of all property as
15 placed in service by any prior utility owner, and continuing to preserve and maintain in a usable
16 condition records of property which has been removed from service. These records of life
17 histories of plant which has been removed from service are used in statistical studies to
18 determine the historical retirement rate. The historical retirement rate is used as a component
19 to set depreciation rates. These records are used to conduct depreciation rate studies which are
20 required to be conducted by electric and gas utilities ever three to five years and submitted to
21 the PSC.

22 **FERC PLANT RECORDS:** The main plant accounts, (i.e. account 311, or 342 etc.)
23 are normally the accounts used to review retirement rates and conduct depreciation studies.

Surrebuttal Testimony of
Guy C. Gilbert, PE, RG

1 Sub accounts, (i.e. account 311.01, or 342.03), are often used by the Company to differentiate
2 property located at different physical plant facilities or different plant units at the same facility.
3 These sub accounts are useful in tracking differences between sites, and are sometimes
4 assigned different depreciation rates. But it is the aggregate of all subaccounts for any one
5 main account that is used to conduct the statistical retirement rate depreciation study and
6 salvage rate analysis. The retirement rate and the salvage rate become consistent components
7 of the assigned depreciation rate for each separate sub account for any main account.
8 Remaining life (corrections to reserve balances) or life span (truncation of interim retirement
9 curve) modifications are sometimes made to the “main rate” for individual sub accounts.
10 As noted above, some facilities (sub accounts) may still be booking salvage and cost of
11 removal 10 to 20 years after the plant in service for that sub account has been retired from the
12 plant books. Thus it is imperative that any analysis of accumulated reserve use the main FERC
13 account (not sub accounts) to determine overall reserves and their adequacy to fund current and
14 future requirements. Subaccounts for plants which have been retired, but are not fully disposed
15 of, must be kept as active accounts to allow recording of salvage and cost of removal. Use of
16 the main accounts for salvage analysis is the mechanism used to input the cost of removal of
17 retired plant into depreciation rates. Net salvage is collected against 100 % of plant in service.
18 Thus, assuming this standard application of net salvage has been followed, the cost of removal
19 for plant which will be disposed of after a unit shuts down has been collected over the life of
20 the plant and continues to be collected by the fleet of plant still in service. When the Empire
21 accountants distributed out all of the reserves from the main account to only those subaccounts
22 which still reflect in-service plants, they create the false impression that there are no reserves
23 left to dispose of the retired plant. Only a review of the aggregate of all subaccounts and sister

Surrebuttal Testimony of
Guy C. Gilbert, PE, RG

1 accounts (such as all steam plant accounts) will reveal if adequate reserves have been collected
2 to cover current and future expected cost. Then, adjustment may be made to change the rate of
3 collection (the going forward net salvage rate), to correct for any over or under collection from
4 rate payers. Thus, it is the reserve balances in the main account which are used to determine
5 adequacy of the depreciation reserves

6 Q. Does this conclude your prepared surrebuttal testimony?

7 A. Yes, it does.

GUY C. GILBERT, MS, PE, RG

PROFESSIONAL EXPERIENCE

State of Missouri, Public Service Commission

Utility Regulatory Engineer II, 1994 -2000, 2004-present

Prepare depreciation studies, cost studies, valuations and engineering analysis of utility assets. Review, analyze, and make recommendations related to operating standards, procedures, allocations, regulations, depreciation rates and reserves for depreciation maintained by regulated utilities for rate making purposes. Consider and assess costs of environmental remediation and stranded cost issues arising from externalities. Conduct special projects in conjunction with the FCC and DOE. Provide testimony and exhibits as an expert witness at Commission and other hearings and assist Commission attorneys in preparation for hearings.

Linn State Technical College

Chair, Civil / Construction Engineering Management Technology Department

Director, Material and Safety Institute

2000 - 2004

Department Chair and founding faculty instructor for courses in civil engineering technology, construction methods and techniques, surveying, engineering economics, materials, material testing, estimating, scheduling and project management.

Founder and manage activities of the Material and Safety Institute that provides resources and training for business and industry in the areas of quarry/materials acceptance certification as mandated by the Federal Highway Administration and OSHA/MSHA safety training.

State of Illinois, Department of Energy and Natural Resources

Project Engineer 1991 - 1994

Managed Clean Coal Technology Demonstration projects; often in concert with U.S.DOE projects. Represented Illinois in over \$1.1 billion of projects ranging from pre-combustion technologies to combustion and post combustion technologies. Performed cost benefit analysis of the environmental and economic impacts and procured benefits to the state.

CW3M Company, Inc.

Consulting Project Engineer 1993 -1994 (part time contract)

Conducted geotechnical evaluation of leaking underground storage tank sites. Designed equipment for containment and treatment of contaminated ground water.

*Illinois Commerce Commission
Management Analyst 1988 – 1991*

Managed consultant conducted comprehensive management audits of operational aspects of public utilities. Assessed least cost planning programs of public utilities and provided recommendations on risk assessment and cost estimating of various externalities. Have reviewed and provided recommendations to utilities within the management function areas of Operations, Operations Planning, Power Production (fossil and nuclear), Fuels Management (fossil and nuclear), Transmission and Distribution (electric and gas), Engineering and Construction (electric, gas, and telephone), Gas Supply, Network Operations Planning, Network Operations and Information Services.

*Freeman United Coal Mining Company (General Dynamics)
Assistant to the Superintendent 1982 - 1987*

Produced annual mining plans and budget for 2+ million ton per year underground mining facility. Assessed geologic aspects of the mine environment to optimize safety and productivity. Prepared economic feasibility studies and justification for new and alternative capital expenditures. Developed and implemented microcomputer based on site operations information systems encompassing maintenance, materials, manpower, and costs. Administered UMWA-BCOA Labor Agreement: grievance procedures, attendance control and benefits programs. Special projects involving production methods, structures, ventilation, and materials engineering. Provided certification of operating compliance with Federal and State regulations as required.

*Peabody Coal Company
Coal Miner, UMWA 1976-1980*

*Cloud Physics Space Sciences Research Center, University of Missouri – Rolla
Student Research Assistant / Electronics Design Fabricator, 1973-1978*

EDUCATION:

Bachelor of Science Economics, University of Missouri-Rolla
Bachelor of Science Mining Engineering, University of Missouri-Rolla
National Science Foundation Research Grant participant (NSF GY 9841)
Master of Science, Career & Technology Education, Central Missouri State University
Salutatorian Graduate Speaker, Central Missouri State University
Outstanding Graduate Student Leadership Award, Central Missouri State University
Advisory Board Member, Economics & Finance Department, University of MO-Rolla
Facilities and Planning Committee for construction of Calvary Lutheran High School
School Board Member Trinity Lutheran Grade School

Continuing Education

Management Analyst Training
Basic Depreciation Concepts
Models Used In Life and Salvage Studies
Forecasting Life and Salvage
Advanced Topics in Analysis and Forecasting
Business and Technical Writing
Communicating Effectively
Auditing in Telecommunications
Introduction to EDP Auditing
Network Certification
Asbestos Training for Maintenance Employees, #40 CFR 763.92(a)(2)(i thru iv)
Red Cross First Aid Adult/AED/Child/Infant CPR Instructor, Expired
Redirecting Employee Performance
Basic Supervision
Humboldt Radiation Safety Training Class

CERTIFICATIONS:

by United States Department of Labor

Noise Level Testing
Dust Sampling
Dust Sampling Equipment Calibration
Electricity Low/Medium/High Voltage, Expired
Dam and Refuse Impoundment Inspector
Dam and Refuse Impoundment Inspection Instructor
OSHA Safety Instructor (10 & 30 Hour), Expired

by State of Missouri

State Board of Geologist Registration, Chair
Registered Professional Engineer, No. EN 026908
Registered Professional Geologist, No. RG 0976
SAVE/SEMA Structural Inspector I
Vocational Teaching Certificate, No. 0238934
Department of Transportation, Trainer Certified Materials Technician Level 1
Department of Transportation, Trainer Certified Level 2 Aggregate
Department of Transportation, Trainer Certified Level 2 Soils
Department of Transportation, Trainer Certified Level 2 Concrete
Department of Transportation, Trainer Certified Profilograph

by State of Illinois

Mine Manager, No. 6634

Mine Examiner, No. 10324

Electrical Hoisting Engineer, No. 2427

Sewage Treatment Plant Operator, Class K

Industrial Wastewater Treatment Works Operator, Class K

State of Illinois Mine Rescue Team, Springfield Station, No. 2

Emergency Medical Technician-Ambulance, Expired

Demonstration Projects

- Energy & Environmental Research Corporation - Hennepin Station (GR-SI)
- Energy & Environmental Research Corporation - City Water Light and Power
- Pircon-Peck Process - Western Illinois University
- Combustion Engineering - Integrated Gasification Combined Cycle (IGCC) - City Water, Light and Power Springfield
- Southern Illinois University Refurbishment Repowering Project
- Tecogen's Development and Testing of a Commercial Scale Coal-Fired Combustion System - Illinois Coal Development Park
- TCS Incorporated's Micronized Coal System at Rochelle Municipal Utilities
- IGT - Kerr-McGee MildGas
- Radian's Characterization of Disposed Wastes from Advanced Coal Combustion Residues

Investigations

- NovaCon Sorbent: U.S. DOE and EERC
- Sargent & Lundy Combustion 2000:
- Tecogen: moving bed copper oxide flue gas cleaning process
- Air Purification's RotorFilter Technology
- Tampa Electric Company: Use of Illinois high sulfur coal
- Mitsubishi Heavy Industries, Ltd., Combined Cycle Plant in JAPAN
- Haldor Topsoe, Inc., SCR DeNO_x catalyst, Denmark
- AmerenUE, Taum Sauk Upper Reservoir Failure

Management Audits

Central Illinois Light Company, Peoria, Illinois

Commonwealth Edison, Chicago, Illinois

GTE Telephone Company, Dallas, Texas

GTE Data Systems, Tampa Florida

CASE PARTICIPATION
GUY C. GILBERT, MS, PE, RG

Issue	Case Number	Case Name
Modernization	TO-93-309	Farber Telephone
Certificate (Sewer) - Case dismissed	SA-94-54	Osage County Water (sewer)
Certificate	GA-94-127	Southern MO Gas Co
Transfer of assets	GM-94-252	Missouri Public Service
HB 360 & extr. ret.	TAO 992	Holway Telephone
Extraordinary retirement amortization	TAO 993	New Florence Telephone
Waiver from Rule	GO-95-104	Fidelity Natural Gas
Purchase of GTE exchanges	TM-95-134	Ozark Telephone
Purchase of GTE exchanges	TM-95-135	BPS Telephone
Purchase of GTE exchanges	TM-95-142	Modern Telecommunications
General rate case	WR-95-145	St. Louis County Water
Purchase of GTE exchanges	TM-95-163	Cass County Telephone
Certificate	SA-96-40	Taneycomo Highlands (Sewer)
Certificate	SA-96-91	S.T. Ventures (Sewer)
Certificate (Water & Sewer)	WA-96-96	Emerald Pointe Utilities
Certificate	GA-96-264	Ozark Natural Gas
General rate case (Water)	WR-96-407	Taney County
Depreciation rates & amortization	TAO 998	Fidelity Telephone
Depreciation rates & amortization	TAO 999	Bourbeuse Telephone
Depreciation rates	TAO 1001	Northeast Missouri Rural Tel
Variance from prior order	GO-97-30	Southern Missouri Gas
HB360 rates	TAO 1004	Kingdom Telephone
Extraordinary retirement of COE	TAO 1005	Iamo Telephone
Depreciation of Plant	EC97362	UtiliCorp United Inc. d/b/a MO Public Service
Depreciation of Plant	EO97144	UtiliCorp United Inc. d/b/a MO Public Service
Depreciation of Plant	ER97394	Missouri Public Service, A Division of UtiliCorp United Inc.
Sale of Plant	GM97435	Missouri Public Service, A Division of UtiliCorp United Inc.
Depreciation of Plant	ER97394	UtiliCorp United Inc. d/b/a MO Public Service
Amortization of accounts, Depreciation, Depreciation	ER97394	UtiliCorp United Inc. d/b/a MO Public Service

Recommendations		
Depreciation	GA98227	Ozark Natural Gas Company, Inc.
Depreciation of Plant	EC98573	St. Joseph Light and Power Company
Depreciation of Plant	WA97410	George Hoesch
Depreciation of Plant	ER99247	St. Joseph Light & Power Company
Depreciation of Plant	EC98573	St. Joseph Light & Power Company
Depreciation of Plant	GR2000512	Union Electric Company d/b/a AmerenUE
Depreciation of Plant	ER-2004-0570	Empire District Electric Company
Minimum Depreciation Rates	TU-2005-0358	Alma Telephone Company
Minimum Depreciation Rates	TO-2006-0239	Miller Telephone Company
Depreciation of Plant	GR-2005-0387	Atmos Energy Company
Depreciation of Plant	GR-2005-0422	Missouri Gas Energy
Depreciation of Plant	ER-2007-0002	AmerenUE
Depreciation of Plant	WR-2007-0216	Missouri American Water Company
Waiver of Rule	GE-2008-0342	Atmos Energy
Depreciation of Plant	ER-2008-0318	AmerenUE
Waiver of Rule	GE-2009-0443	Atmos Energy
Depreciation of Plant	GR-2009-0434	Empire Gas
Waiver of Rule	GE-2010-0030	Missouri Gas Energy
In Service Criteria Taum Sauk, Depreciation	ER-2011-0028	AmmerenMO

BEFORE THE PUBLIC SERVICE COMMISSION


OF THE STATE OF MISSOURI

In the Matter of The Empire District Electric)
Company of Joplin, Missouri for Authority to) File No. ER-2011-0004
File Tariffs Increasing Rates for Electric)
Service Provided to Customers in the Missouri)
Service Area of the Company)

AFFIDAVIT OF GUY C. GILBERT MS, PE, RG


STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

Guy C. Gilbert, of lawful age, on his oath states: that he has participated in the preparation of the foregoing Surrebuttal Testimony in question and answer form, consisting of 24 pages to be presented in the above case; that the answers in the foregoing Surrebuttal Testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true and correct to the best of his knowledge and belief.



Guy C. Gilbert MS, PE, RG

Subscribed and sworn to before me this 28th day of April, 2011.



Notary Public

