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Property Tax Gross Receipt Tax Injuries and Damages Maintenance Decommissioning Expense Hawthorn Settlements Karen Lyons MoPSC Staff Surrebuttal Testimony ER-2010-0355 January 5, 2011

MISSOURI PUBLIC SERVICE COMMISSION

UTILITY SERVICES DIVISION

SURREBUTTAL TESTIMONY

OF

KAREN LYONS

KANSAS CITY POWER & LIGHT COMPANY

FILE NO. ER-2010-0355

Jefferson City, Missouri January 2011

Denotes Highly Confidential Information

Staff Exhibit No. KCPal 229 Date 118/11 Reporter Lm3 File No. E2-2010-0355 NP.

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| 1 | SURREBUTTAL TESTIMONY | | | |
|----|--|--|--|--|
| 2 | OF | | | |
| 3 | KAREN LYONS | | | |
| 4 | KANSAS CITY POWER & LIGHT COMPANY | | | |
| 5 | FILE NO. ER-2010-0355 | | | |
| 6 | Q. Please state your name and business address. | | | |
| 7 | A. Karen Lyons, Fletcher Daniels State Office Building, Room G8, | | | |
| 8 | 615 East 13th Street, Kansas City, Missouri 64106. | | | |
| 9 | Q. Are you the same Karen Lyons who previously filed direct and rebuttal | | | |
| 10 | testimony in this proceeding? | | | |
| 11 | A. Yes. I filed information supporting Staff's Cost of Service Report in this case | | | |
| 12 | on November 10, 2010 and Rebuttal Testimony on December 8, 2010. I also provided input | | | |
| 13 | into Staff's Cost of Service Report in Case No. ER-2010-0356 filed on November 17, 2010 by | | | |
| 14 | KCPL Greater Missouri Operations (GMO) for its MPS and L&P operations. On | | | |
| 15 | December 15, 2010, I also filed Rebuttal Testimony in Case No. ER-2010-0356. | | | |
| 16 | Q. What is the purpose of your Surrebuttal Testimony in this proceeding? | | | |
| 17 | A. The purpose of my Surrebuttal Testimony is to respond to the Rebuttal | | | |
| 18 | Testimony of Melissa K. Hardesty of Kansas City Power & Light Company (KCPL or | | | |
| 19 | Company) with regard to Property Taxes and Gross Receipts Taxes (GRT). In addition, | | | |
| 20 | I will respond to the Rebuttal Testimony of Terry S. Hedrick of KCPL on production | | | |
| 21 | maintenance. I will also provide a response to the Rebuttal Testimony of KCPL witness | | | |
| 22 | John P. Weisensee on the topic of Injuries and Damages and Gross Receipts Taxes as related | | | |
| 23 | to Cash Working Capital and Rebuttal Testimony of KCPL witness Gregg N. Clizer on | | | |
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nuclear decommissioning expense. Finally, I will respond to the Rebuttal Testimony of
 KCPL witness Curtis D. Blanc on Hawthorn settlements received by KCPL.

3 EXECUTIVE SUMMARY

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The Company and Staff disagree over the calculation of property taxes for plant added
in 2010. KCPL includes an amount for property taxes based on all property owned in 2010.
In contrast, the amount Staff includes is based on property owned on the assessment date
January 1, 2010.

KCPL and Staff also disagree on how to handle Gross Receipts Tax. KCPL treats the
taxes as a prepayment by the Company when calculating cash working capital. Staff's
position is that KCPL pays the Gross Receipts Taxes after it collects them from its
customers—referred to as payment in arrears-- and, therefore, they are a part of cash working
capital with a positive expense lag.

13 The disagreement with injuries and damages is how Staff accounts for injuries and 14 damages with regard to Cash Working Capital. KCPL believes that if actual cash payments 15 are used for determining a normalized amount of expense for this rate case, injuries and 16 damages can no longer be used when calculating Cash Working Capital. Staff's position is 17 the use of the actual cash method to determine the normalized level of expenses included in 18 rates does not mean it is proper to ignore the reality of the how these very cash payments are 19 paid out over time. The sole purpose of the cash working capital analysis is to determine the 20 flows of cash to the Company.

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Staff also disagrees with the Company's method of indexing actual production maintenance costs to 2009 dollars by the use of the Handy Whitman (HW) index. Instead,

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Staff has determined an appropriate level of generation maintenance costs by relying on
 historical costs incurred.

Finally, Staff disagrees with how the Company accounted for the receipt of cash settlements for performance failure of a SCR and the failure of a transformer at the Hawthorn plant. As opposed to the Company, Staff's position is the ratepayers should benefit from the receipt of these settlements.

7 PROPERTY TAXES

8 Q. Will the Staff and Company difference with property taxes be addressed in this
9 case's true-up?

A. Yes. Staff will adjust the property tax amount by using a ratio of the 2010
property tax payment to the January 1, 2010 plant and applying that level to January 1, 2011
(actually the December 31, 2010) plant in service balance. This data will become available
for the true-up period.

Q. If the difference between Company and Staff can be resolved in the true-up,why are you addressing this issue in surrebuttal testimony?

A. Although the dollars associated with this issue may be resolved in the true-up, the Company and Staff continue to disagree with the methodology used to determine an appropriate level of expensed property taxes to include in the Company's cost of service.

Q. What are the differences between the Company and Staff relating toproperty taxes?

A. Staff included a level of estimated property taxes of \$76,638,380 and the
Company is proposing \$72,032,532. The different amounts can be shown as follows:

| | Staff | KCPL |
|---------------------------|--------------|--------------|
| Annualized Property Taxes | \$76,281,290 | \$71,278,832 |
| Spearville Pilot Payment | \$357,090 | \$753,700 |
| Total Property Taxes | \$76,638,380 | \$72,032,532 |

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Q. Explain the difference for the level of annualized property taxes between KCPL and Staff.

A. Staff calculated the annualized property tax level by developing a ratio
using property taxes paid in 2009 and plant-in-service balances as of January 1, 2009.
This ratio was then applied to the September 30, 2010 plant balance which include Iatan 2.
The Company calculated an annualized property tax level based on actual 2010 assessments
and actual property taxes on Iatan 2. The 2010 property taxes for Iatan 2 were assessed as
construction work in process (CWIP).

Q. Is there any other differences between Staff and KCPL for the estimated
property tax level for 2010?

A. Yes. KCPL included pilot payments for Spearville 2. Based on the documentation received by KCPL in Data Request No. 172, Spearville 2 pilot payments were not included. During the true up Staff will use the same method by developing a ratio of actual property taxes paid in 2010 to plant-in-service balances as of January 1, 2010 and applying the ratio to the Company's January 1, 2011 plant balances.

18 Q. Please explain KCPL's position regarding property taxes as identified in KCPL
19 witness Hardesty's rebuttal testimony (page 5).

Q.

A. Ms. Hardesty's rebuttal testimony, page 5, lines 16-18 states, "the Company considers the inclusion of the 2010 Iatan Unit 2 previously capitalized property taxes as a component of property tax expense in this case to be appropriate."

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Does Staff agree with Ms. Hardesty's statement?

5 Α. No. Since the Iatan 2 project was still under construction in 2010, the property 6 taxes for the project would have been included with all other construction costs associated 7 with the project and capitalized as part of the construction work order. Upon completion, the 8 construction costs are transferred from CWIP to plant, at which time depreciation begins. 9 Property taxes are based on plant that is in-service effective January 1 of any given year. 10 Since Iatan 2 was not placed in service until August 26, 2010, property taxes through this 11 period would be identified as capitalized property taxes and treated as part of the construction 12 costs of latan 2. The capitalized property taxes are considered part of CWIP. While in 13 construction, the Company receives a deferred return on its construction investment for as 14 long as those costs are included in CWIP. This deferred return is known as allowance for 15 funds used during construction (AFUDC). Since CWIP includes all costs to construct latan 2, 16 including property taxes, a deferred return is calculated on these capitalized property taxes. 17 During the operating life of the unit, KCPL will receive recovery of these costs through depreciation-referred to as "return of investment." While the unit is included in rate base 18 19 the Company will also receive a "rate of return on the investment."

Iatan 2 will be assessed on January 1, 2011 as part as the Company's plant-in-service
balance. The property taxes assessed on January 1, 2011 will not be paid until
December 31, 2011. If the Commission had not ordered a true-up in this case of
December 31, 2010, the Company's rates would be excessive because it would collect in rates

for overstated plant assessments that will not be reflected in property tax values until the next
 assessment date of January 1 2011.

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Q. What is the significance of the January 1 date?

4 A. Personal property taxes are assessed on a local and state basis on this date. 5 The only property assessed is that which is owned on that date. The only property taxes that 6 are expensed are those attributable to plant-in-service owned and assessed as of January 1 of 7 any given year, in this case January 1, 2010 and for the true-up on January 1, 2011. However, 8 Iatan 2 was still in the construction phase on January 1, 2010. While plant additions are under 9 construction, the Company will capitalize all property taxes, along with all other construction 10 costs. When the property is both owned and in-service on January 1, it will be assessed and 11 associated property taxes will be expensed. Any property placed in-service from January 2nd 12 through December 31st, will not be assessed until the following year. In this case, Iatan 2 will 13 not be assessed for property tax expense purposes until January 1, 2011, with property tax not 14 actually being due until the end of that year. Since the true-up in this case is based on the 15 December 31, 2010 cut-off, property taxes on the latan 2 plant will be reflected in the true-up 16 revenue requirement.

Q. Why is Staff opposed to including capitalized property taxes as expense asKCPL proposes?

A. The amount of capitalized property taxes for 2010 was included in CWIP and as of August 26, 2010 reflected in plant-in-service. What KCPL proposes is to include the 2010 property taxes in expenses while at the same time have the 2010 property taxes capitalized in plant. The same property tax dollars treated effectively twice—once in plant and as an expense in the cost of service. When rates go into effect in this case the Company

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| 1 | would begin receiving a return of its investment including the capitalized property taxes | | | | |
|----|---|--|--|--|--|
| 2 | (as depreciation expense item) and recovery of the same property taxes through property | | | | |
| 3 | tax expense. | | | | |
| 4 | Q. Does Staff agree with Ms. Hardesty's rebuttal testimony on page 3 describing a | | | | |
| 5 | computational error with Staff's property tax calculation? | | | | |
| 6 | A. Yes. Staff did have a computational error in its workpaper resulting in an | | | | |
| 7 | incorrect property tax to plant ratio for 2010. Staff corrected the error and reflected the | | | | |
| 8 | change in Staff's accounting schedules. | | | | |
| 9 | Q. When did you become aware of this computational error? | | | | |
| 10 | A. When I read Ms. Hardesty's rebuttal testimony. | | | | |
| 11 | Q. Is it customary to address errors in testimony? | | | | |
| 12 | A. No. It is my understanding there has been a long standing policy among the | | | | |
| 13 | parties, and in particular, among the utility companies and Staff that errors are not addressed | | | | |
| 14 | in testimony. | | | | |
| 15 | Q. How do errors get addressed in rate cases? | | | | |
| 16 | A. Typically, they are brought to the attention of Staff, either during prehearing | | | | |
| 17 | conference or meetings and discussions with the company. | | | | |
| 18 | Q. Was there a prehearing in this case? | | | | |
| 19 | A. A prehearing occurred on November 22 through 23, 2010. | | | | |
| 20 | Q. Did the Company discuss mistakes in Staff's case during the prehearing? | | | | |
| 21 | A. On a very limited basis but the property tax matter was not discussed at all | | | | |
| 22 | Subsequent to the prehearing however, Staff and Company met in our audit room at KCPL' | | | | |
| 23 | corporate offices for a series of meetings which dealt only with errors, omissions and | | | | |
| | | | | | |

| 1 | inconsistencies in the three rate case filings made on November 10 and November 17. | | | | |
|----|---|--|--|--|--|
| 2 | Nothing was discussed about the computational error found in my property tax work papers. | | | | |
| 3 | In fact, Staff not only met in person with KCPL personnel, but also had many contacts with | | | | |
| 4 | the Company through conference calls and e-mails. KCPL had every opportunity to bring this | | | | |
| 5 | computational error to Staff's attention but chose not to do so. Perhaps it was simply an | | | | |
| 6 | oversight on the Company's part. Under the press of the work load on everyone connected | | | | |
| 7 | with these cases, I can certainly understand and appreciate how something can fall through the | | | | |
| 8 | crack. And I do give the Company the benefit of the doubt that it was not intentional that they | | | | |
| 9 | waited to bring this error up in rebuttal testimony. | | | | |
| 10 | Q. Why do errors occur in this process? | | | | |
| 11 | A. Regrettably, errors are part of the process. Thousands of calculations occur in | | | | |
| 12 | the process of a revenue requirement calculation. In the case of the KCPL rate case, Staff is | | | | |
| 13 | performing in essence three separate revenue requirement calculationsone for the Company | | | | |
| 14 | and two for GMO under MPS and L&P. These certainly add to the level of increased | | | | |
| 15 | mistakes. While it is certainly not ever a desire to have mistakes in the case, they do occur | | | | |
| 16 | and are a part of the process. They range for computational errors such as the one occurred in | | | | |
| 17 | the property tax area to getting incorrect or incomplete information from the Company which | | | | |
| 18 | does occur on occasion. | | | | |
| 19 | Q. How did Staff correct the property taxes for the computational error? | | | | |
| 20 | A. Upon review of Ms. Hardesty's rebuttal testimony I immediately reviewed my | | | | |
| 21 | property tax work papers and found the mistake. I made the necessary correction and | | | | |

23 revenue requirement model – the Exhibit Modeling System (EMS) run.

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provided an updated work paper to the Company. I made the necessary corrections to the

| 1 | Q. What was the nature of computational error? | | | | |
|-----|---|--|--|--|--|
| 2 | A. In the calculation we develop a ratio of the December 31 property taxes paid | | | | |
| 3 | for expenses to the January 1 plant for the same year. I inadvertently applied the | | | | |
| 4 | December 31, 2009 property taxes paid for expenses to the January 1, 2010 plant instead of | | | | |
| 5 | the January 1, 2009 balance. This resulted in the property tax ratio being understated. I have | | | | |
| 6 | now corrected this calculation and applied it to the right balance. | | | | |
| 7 | Also, the Spearville wind farm property taxes are paid differently from other property | | | | |
| 8 | taxes. They are paid to the taxing agent as a lump sum amount known as Pilot payments. | | | | |
| 9 | I inadvertently included those in the ratio when they should not have been so that was | | | | |
| 10 | corrected as well. | | | | |
| 11 | Q. If this computational error for property taxes had been brought to the attention | | | | |
| 12 | of Staff would it have been corrected? | | | | |
| 13 | A. Yes. If KCPL would have informed Staff of what it thought, and what turned | | | | |
| 14 | out to be an error, Staff would have immediately fixed the mistake. If this approach had been | | | | |
| 15 | used by the Company instead of waiting to the filing of rebuttal testimony there would not | | | | |
| 16 | have been a need to address it here in my surrebuttal testimony. | | | | |
| 17 | Q. Does Staff intend to include Iatan 2 property taxes in the true-up for this case? | | | | |
| 18 | A. Yes. As explained in Staff's Cost of Service report filed on November 10, | | | | |
| 19 | 2010, Staff calculated property taxes on all property that is currently providing service to | | | | |
| 20 | customers based on property tax assessments made on January 1, 2010. Any property placed | | | | |
| 21 | in-service after January 1, 2010 would not be assessed by the taxing authority until January 1, | | | | |
| .22 | 2011. However, Staff made a decision to file a projected December 31, 2010 case at the time | | | | |
| 23 | of direct filing. Staff's projected December 31, 2010 case includes anticipated costs for the | | | | |
| | | | | | |

| 1 | December 31, 2010 true-up which includes the Iatan 2 plant addition and the related property | | | |
|-----|---|--|--|--|
| 2 | taxes. As mentioned earlier in this testimony, Staff applies a ratio of property taxes paid to | | | |
| 3 | plant-in-service to determine an appropriate level of expense for property taxes. To obtain an | | | |
| 4 | appropriate level of anticipated property taxes for 2011, Staff used the Company's | | | |
| 5 | September 30, 2010 plant balances which include the latan 2 plant addition. During the true | | | |
| 6 | up Staff will use the same method by developing a ratio of actual property taxes paid in 2010 | | | |
| 7 | to plant-in-service balances as of January 1, 2010 and applying the ratio to the Company's | | | |
| 8 | January 1, 2011 plant balances. | | | |
| 9 | Q. What is Staff's recommendation on this issue? | | | |
| 10 | A. KCPL should not be allowed to include costs it is recovering through | | | |
| 11 | deprecation and as a rate base component of cost of service (the capitalized property taxes), | | | |
| 12 | and also be permitted to add additional property tax expenses in rates for amounts it will only | | | |
| -13 | pay out once as capitalized property taxes at the end of 2010. However, the timing of the | | | |
| 14 | true-up should solve this issue as January 1, 2011 result in a new assessment with latan 2 now | | | |
| 15 | being considered plant-in-service by the taxing authorities. This in turn will result in the | | | |
| 16 | expensing of Iatan 2's property taxes in 2011. | | | |
| | | | | |
| 17 | GROSS RECEIPTS TAX | | | |

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18 Q. Please explain KCPL's position regarding GRT it pays to cities and 19 communities it serves as identified in KCPL witness Hardesty's Rebuttal Testimony 20 (pages 6-8).

KCPL believes the GRT it pays to its municipalities are prepayments and treats 21 Α. 22 them in cash working capital as though the Company paid these taxes before it collects the tax from its customers. 23

1 Q. What are the differences between the Company and Staff relating to gross 2 receipts taxes? 3 A. Staff believes KCPL's approach is wrong and, therefore, should not be 4 included in rates in this case. Staff has included a level of GRT in the cash working capital 5 schedule as a payment in arrears while KCPL treats these payments as prepayments. The differences can be shown as follows: 6 7 Staff KCPL KCMO - 6% GRT 72.28 (56.56)KCMO - 4% GRT 39.34 34.00 All Other Cities (Monthly, Quarterly, Semi-Annual) 60.94 (38.93) 8

9 Q. What justification does KCPL provide to support GRT should be treated as a 10 prepayment?

A. Ms. Hardesty states in her Rebuttal Testimony on page 7, lines 4-6, "Prior to January 1, 1943, the tax was prepaid annually based on the number of meters. Starting on January 1, 1943, the City converted from the prepaid meter tax to a prepaid gross receipts tax based on a franchise fee."

Q. Does Staff agree with Ms. Hardesty's statement indicating the tax was prepaid
prior to January 1, 1943?

A. Yes. Prior to January 1, 1943 KCPL paid a yearly franchise tax that was
based on the number of meters. The following excerpt was taken from a letter dated

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| 1 | January 25, 1943 to Arthur Anderson & Co. The entire letter is attached to this Surrebuttal | | | | |
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| 2 | Testimony as Schedule 1. | | | | |
| 3 | The yearly payment of franchise taxes based on the meters instead on the existing | | | | |
| 4 | collection from customers was in fact a prepayment. Basing the franchise tax amount on the | | | | |
| 5 | number of meters the Company paid to the city early in the year for the entire year—a | | | | |
| 6 | prepayment. However, Kansas City no longer assesses a franchise tax in this manner. | | | | |
| 7 | Q. Does Staff agree with Ms. Hardesty's statement indicating the City converted | | | | |
| 8 | from the prepaid meter tax to a prepaid gross receipts tax based on a franchise fee? | | | | |
| 9 | A. No. Although the City of Kansas City did convert to a GRT after | | | | |
| 10 | January 1, 1943, the tax was not prepaid as stated by Ms. Hardesty. The following excerpt | | | | |
| 11 | was taken from the amended ordinance, Section 9-1, identifying how the franchise tax would | | | | |
| 12 | be collected after January 1, 1943. The entire amended ordinance is attached as Schedule 2. | | | | |
| 13 14 15 16 17 18 19 20 21 22 23 | Every electric light or power company shall pay to the City a quarter-annual license fee to be due and payable to the City treasurer on or before the 30th days of January, April, July and October, respectively, of each year <u>based upon the business done</u> <u>during the preceding period of three (3) calendar months</u> <u>ending, respectively, on the last days of December, March, June and September.</u> The amount of such quarterly license fee shall be five per cent (5%) of gross receipts derived from the sale of electrical energy within the present or future boundaries of Kansas City [emphasis added] | | | | |
| 24 | Q. Does Staff agree with KCPL's position on the ratemaking treatment for GRT? | | | | |
| 25 | A. No. Ms. Hardesty states in her rebuttal testimony on lines 9-25 of page 6, that | | | | |
| 26 | KCPL has treated GRT as a prepayment based on the language contained in the Kansas City | | | | |
| 27 | Missouri License and Miscellaneous Business Regulations Sec. 40-344 (Ordinance). | | | | |
| 28 | The entire ordinance is attached as Rebuttal Schedule 1 to my rebuttal testimony filed on | | | | |
| 29 | December 8, 2010. Like the initial ordinance establishing a gross receipts tax this ordinance | | | | |

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| 1 | clearly states the payments are based on the revenues received three months prior to when | | | | |
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| 2 | payment is due. The argument made by Ms. Hardesty on page 6, lines 26-30, is that the | | | | |
| 3 | license fee is for the period for which the payment was made. Staff's position is that the | | | | |
| 4 | period for the licensee fee is irrelevant, since the GRT funds are actually collected during the | | | | |
| 5 | three months prior to the month in which the payment is actually made. Regardless what time | | | | |
| 6 | period KCPL believes these collections are for, unmistakably these collections are made from | | | | |
| 7 | KCPL's customers for prior months and remitted the month after. | | | | |
| 8 | As an example, the amount of GRT paid in January of any year is based on and | | | | |
| 9 | collected during the three preceding months prior to this January payment. The following | | | | |
| 10 | excerpt was taken from the Kansas City Missouri License and Miscellaneous Business | | | | |
| 11 | Regulations Sec. 40-344. | | | | |
| 12 13 14 15 16 17 18 | Every electric light or power companyshall pay to the City Treasurer on or before the 30th days of January, April, July and October, respectively, of each year, <u>based upon the business done</u> <u>during the preceding period of three (3) calendar months</u> ending respectively, on the last day of December, March, June and September. [emphasis added] | | | | |
| 19 | Q. Does Ms. Hardesty support Staff's argument in her rebuttal testimony? | | | | |
| 20 | A. Yes. On page 6, line 30 and page 7, line 1 of Ms. Hardesty's rebuttal | | | | |
| 21 | testimony she states, "Thus a payment on the 30th of January would be for the license for the | | | | |
| 22 | period of January 1 through March 31 and would be considered a prepayment even though the | | | | |
| 23 | measurement period is the prior quarter." | | | | |
| 24 | Q. How does Ms. Hardesty's statement support Staff's position? | | | | |
| 25 | A. The statement made above by Ms. Hardesty that she refers as the measurement | | | | |
| 26 | period being the prior quarter is in reality the "collection of the GRT from customers period" | | | | |
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which occurs in the prior quarter. Monies collected up front and paid out in the month
 following the close of the collection quarter.

3 Cash working capital (CWC) is the amount of cash necessary for KCPL to pay the 4 day-to-day expenses incurred to provide electric services to their respective customers. 5 In other words, CWC can also be roughly defined as a measurement of the timing of the 6 Company's revenues received from the customer and the payment to vendors, employees and 7 taxing authorities—it is an analysis of the inflow and outflow of cash from the Company. 8 Therefore, the statement by Ms. Hardesty actually supports Staff's argument taking into 9 account the purpose of CWC which is the measurement of when revenues are collected from the customers and when payment is remitted to the taxing authority. 10

11

Q. Does any other witness for KCPL address the GRT issue?

A. Yes. KCPL witness John P. Weisensee addressed this issue in his Rebuttal
Testimony on pages 19 and 20. Mr. Weisensee agrees with Ms. Hardesty's testimony on
prepayments for the Kansas City, Missouri 6% GRT and states the Company treats
"most other city GRT" as prepayments.

Q. Does Staff agree with the Company treating most of the cities GRT asa prepayment?

A. No. All cities for which the Company currently pays GRT are paid in the arrears. Staff reviewed the tax billings for each city and municipality assessing gross receipts taxes on KCPL and determined the appropriate expense lag for each. It weighted the various expense lag calculations and determined a composite expense lag for gross receipts taxes used in the cash working capital schedule. Please refer to Staff workpaper, Schedule 6.1 though 6.5 attached to my Rebuttal Testimony filed on December 8, 2010 in this case.

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| 1 | Q. Does it matter how KCPL treats gross receipts taxes on its books? | | | | | |
|----|---|--|--|--|--|--|
| 2 | A. No. For the cash working capital analysis what matters is the collection of | | | | | |
| 3 | monies from customers in relation to the release of funds for the payment of goods and | | | | | |
| 4 | services to the utility. In the case of 6% Kansas City gross receipts taxes, KCPL collects the | | | | | |
| 5 | taxes in the three month period prior to payment in the month following the close of this three | | | | | |
| 6 | month period. | | | | | |
| 7 | Regardless of what period KCPL believes the GRT is for, the cash flows of this tax are | | | | | |
| 8 | the essential element of this analysis. Cash working capital analysis is a cash flow analysis | | | | | |
| 9 | with a narrow focus of looking at the inflows and outflows of cash to and from the Company. | | | | | |
| 10 | Q. Does the Company maintain its books on a cash basis? | | | | | |
| 11 | A. Typically no. While most companies including KCPL keeps its accounting | | | | | |
| 12 | books on an accrual basis, the cash working capital analysis is strictly the measurement of | | | | | |
| 13 | cash. This analysis examines when the company gets cash and when it pays it out. | | | | | |
| 14 | Consequently, how KCPL treats gross receipts taxes on its books is irrelevant. | | | | | |
| 15 | Q. What does the Staff analysis show? | | | | | |
| 16 | A. The analysis shows the GRT has a much longer expense lag than the Company | | | | | |
| 17 | is suggesting the funds are collected by the ratepayers prior to the payment being submitted to | | | | | |
| 18 | the taxing authority. | | | | | |
| 19 | Q. Does Staff have additional documentation to support Staff's position that | | | | | |
| 20 | KCPL collects GRT prior to payment being made to the taxing authority? | | | | | |
| 21 | A. Yes. During Staff's review of KCPL's files containing city ordinances | | | | | |
| 22 | and various documents from the cities served by KCPL, Staff found a letter dated | | | | | |
| 23 | January 15, 1947 from the City of Sugar Creek, Missouri indicating the city had adopted an | | | | | |
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| 1 | ordinance which reflected a change from a \$25 "Merchants License Tax" to a 5% gross | | | | |
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| 2 | receipts tax. According to the letter, the City of Sugar Creek adopted an ordinance which | | | | |
| 3 | levied a license fee equal to 5% of KCPL's gross receipts. Accompanied with the letter was a | | | | |
| 4 | refund of \$25 for the Merchants' License Tax referenced above. Please refer to Schedule 3 | | | | |
| 5 | attached to my Surrebuttal Testimony for a copy of the entire letter and supporting | | | | |
| 6 | documentation of the refund. | | | | |
| 7 | Q. Please explain how this document supports Staff's position that GRT is | | | | |
| 8 | collected from the ratepayers in advance. | | | | |
| 9 | A. During the same review, Staff found a memorandum internally distributed to | | | | |
| 10 | Company personal referencing the gross receipts tax and how payment would be made. | | | | |
| 11 | The memorandum was dated January 29, 1947 and stated the following; | | | | |
| 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 | Under date of December 16, 1946, an ordinance was passed by the City of Sugar Creek which requires us to pay a sum equal to 5% of our gross receipts derived from the sale of electricity used for domestic and commercial consumption. This is intended to mean that we will pay 5% of the revenue derived from the sale of current within the City Limits of Sugar Creek, Missouri less the same exceptions as are now contained in the federal 3 1/3% energy tax. The first payment is due on or before July 31, 1947 and covers a period for the six months beginning January 1, 1947 to June 30, 1947 and a like tax will be paid in July and January each year for the proceeding six months. Will you please see that the Customer's Accounting Department furnishes us with the gross revenue and the exceptions so that we may pay this tax covered by the ordinance. [emphasis added] (See Schedule 4) | | | | |
| 27 | Q. What is the significance of the memorandum described above? | | | | |
| 28 | A. The language in the memorandum is another example of how KCPL collects | | | | |
| 29 | GRT from its customers prior to submitting a payment to the taxing authority. | | | | |
| 30 | Q. How does KCPL treat GRT for the city of Sugar Creek? | | | | |

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- A. Despite the clear language of the 1947 ordinance that this city tax is a payment
 in arrears (monies collected in advance of payment), KCPL treats Sugar Creek as a
 prepayment—on its books and in its cash working capital schedule.
- Q. Ms. Hardesty indicates at page 7 of her rebuttal testimony that if KCPL ceases
 to provide service to customers located in the city of Kansas City it would not owe the city
 any amount for the last quarter of operations. Does Staff agree with this statement?
- A. First, Staff hopes KCPL plans to continue serving Kansas City since this is where most of its customers reside. It is assumed that KCPL, as an on-going concern and in receipt of the exclusive certificate of convenience and necessity to provide electric services to Kansas City area will perpetually be in business. So Staff doesn't expect Ms. Hardesty's example in her rebuttal to be valid.
- But if KCPL did cease to be in business and all the lights went out in downtown Kansas City, unless the city gave specific instruction to no longer collect the gross receipts taxes for that last quarter of operation, KCPL would continue to collect the monies including gross receipts taxes from its customers to that very last kilowatt hour sold. And if the city said to the Company you don't need to remit those collected gross receipts taxes for that last quarter of business, then KCPL would receive quite a wind fall of funds.
- Q. Does KCPL's affiliate, KCPL Greater Missouri Operations Company (GMO)
 account for gross receipts tax similar to how KCPL does?
- A. No. As identified in my Rebuttal Testimony on pages 13 and 14, GMO
 accounts for the gross receipt taxes as a payment in arrears. The approach used by GMO to
 develop the GRT lag for cash working capital is the same one used by Staff. In other words,
 GMO has determined the GRT expense for all cities and municipalities it operates in is

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collected in advance from its customers before it pays out the funds to the taxing authorities.
 Both GMO and Staff have correctly calculated the GRT expense lag in the same way for
 many rate cases. This is especially important considering that both KCPL and GMO serve
 parts of the city of Kansas City and both pay gross receipt taxes under the exact same city
 ordinance.

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What is Staff's recommendation with this issue?

A. Based on Staff's research of all the cities and municipalities ordinances that
KCPL operates in along with Staff's analysis of when the GRT is collected from the
ratepayers and subsequently paid to each of these taxing authorities, all GRT paid by the
Company is paid in the arrears. Staff recommends the Commission adopt the Staff's expense
lag for Gross Receipts Taxes and order that going forward KCPL should account for gross
receipts as a payment in arrears.

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INJURIES AND DAMAGES

Q. What is the purpose of this portion of your surrebuttal testimony?

A. This section of the testimony is to respond to the rebuttal testimony of
John P. Weisensee regarding KCPL's position on the cash working capital treatment of
injuries and damages which appear on page 21.

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Q. What is the difference between the Company and Staff's position?

A. According to Mr. Weisensee's rebuttal testimony on page 21, lines 3-11,
the Company disagrees with how Staff accounts for injuries and damages with regard to Cash
Working Capital. Specifically, the Company believes that if actual cash payments are used
for determining a normalized amount for this rate case, injuries and damages can no longer be
a separate component when calculating Cash Working Capital.

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| 1 | Q. V | What are the differences betwee | n the Compan | y and Staff relating to injuries |
|----|--|--------------------------------------|-----------------|-----------------------------------|
| 2 | and damages? | | | |
| 3 | A. 1 | The differences can be shown as | follows: | |
| 4 | | | | |
| | | | Staff | KCPL |
| 5 | | Injuries and Damages | 149.56 | 0.00 |
| 6 | Q. 1 | Does Staff agree with Mr. Weise | nsee's argume | nt? |
| 7 | A. 1 | No. While actual cash payment | ts (or payouts) | for injuries and damages were |
| 8 | examined over several years to normalize the levels included in the revenue requirement | | | ed in the revenue requirement |
| 9 | calculation, the cash flow component (or timing of the cash payouts) of injuries and damages | | | |
| 10 | was used for CWC. In some instances, customers supply CWC when they pay for electric | | | WC when they pay for electric |
| 11 | services received before the Company pays expenses incurred to provide that service. That is | | | to provide that service. That is |
| 12 | the case for injuries and damages. When this happens in the aggregate, customers ar | | | |
| 13 | compensated for the CWC they provide by reducing rate base by the amount of CWC th | | | se by the amount of CWC the |
| 14 | ratepayers provide. | | | |
| 15 | Q. | What are injuries and damages? | | |
| 16 | A . | Injuries and Damages relate to | amounts paid | to third parties who have made |
| 17 | claims against | the Company for injuries to per | rson or damage | es to property. It represents the |
| 18 | portion of legal | l claims against a utility that is r | ot subject to r | eimbursement under the utility's |
| 19 | insurance poli | cies. Injuries and damages | expense norm | ally consists of the following |
| 20 | components: | • | | |
| 21 | • | General Liability | | |
| 22 | • | Auto Liability | | |
| 23 | • | Worker's Compensation | | |

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This includes worker's compensation claims as well as those who sustain injury from accidents while using the Company's electrical system. Staff and KCPL developed the proper level of normalized injuries and damages expenses using a three-year average of actual cash payments. However, the Company believes that there is a relationship between using the actual cash payments used to determine the normalized injuries and damages expense amount included in the cost of service analysis and ignoring the timing when those cash payments are made for cash working capital purposes. Staff disagrees with this approach.

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Q. Please further explain Staff's position for injuries and damages.

9 Α. Staff position on rate treatment of injuries and damages is to include 10 a normalized level of annualized cash payouts in the cost of service. Staff uses this 11 method because it can calculate actual cash payments that are known and measurable, as opposed to the use of an estimate when using the accrual approach. The known 12 13 and measurable concept as it is used to develop expense amounts recommended to be 14 included in the rate determination is that an expense that is both (1) "known", meaning 15 that the amount is an actual incurred cost or actual liability, and (2) "measurable", meaning 16 that a change (for example, a payroll rate increase) can be calculated with a high degree 17 of accuracy.

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The Staff has outlined three conditions which must be satisfied before they will consider recommending the use of a pro forma adjustment for ratemaking purposes:

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The adjustment must be based on auditable information, i.e., the underlying event must have occurred and be adequately documented and capable of quantifications;

2. Potential pro forma adjustments must be considered for all components of the investment/revenue/expense relationship, so that an isolated "update" or change to one ratemaking

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| 1 2 | component is not made without considering possible offsetting impacts from updates to other ratemaking components; and, |
|------------------|---|
| 3 4 5 6 | 3. The pro forma adjustments, viewed in totality within the investment/revenue/expense relationship, must significantly impact the revenue requirement for the utility as determined from test year data. |
| 7 | The use of the amounts of actual cash payments made for injuries and damages to determine |
| 8 | the normalized level (the actual cash method) of expense was used in this case. As a result, |
| 9 | the Company and Staff calculation for determining a normalized injuries and damages |
| 10 | expense is the same. However, because it is appropriate to use the actual cash method to |
| 11 | determine the normalized level of expenses included in rates does not mean it is proper to |
| 12 | ignore the reality of when these very cash payments are paid out over time-the timing of the |
| 13 | cash payments. That is the analysis for cash working capital. |
| 14 | Q. Is there a difference between including a normalized level of annualized cash |
| 15 | payouts and including injuries and damages in cash working capital? |
| 16 | A. Yes. As previously mentioned, when calculating a normalized level of |
| 17 | annualized cash payouts, Staff is determining the amount of expense the Company could |
| 18 | incur for injuries and damages in the future. On the other hand, Staff calculates cash working |
| 19 | capital by determining when revenues are collected by the ratepayers and when expenses are |
| 20 | paid out. In other words, the amount that is reflected in cash working capital is based on |
| 21 | timing of the actual payments made to those who have claims of injury in relation to when the |
| 22 | injury took place. KCPL collects funds from its customers throughout the year on claims that |
| 23 | could in many instances take years to actually pay out. Typically a claim will be paid out |
| 24 | after an investigation of the claim, and in many instances, as a result of litigation for either |
| 25 | actual court awarded damages or negotiated settlements. This could result in a substantial lag |

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1 from the time of incurrence of an injury or property damages to an actual cash payment. 2 While the cash basis is used to determine the ongoing level of costs to be recovered in rates, 3 this in no way provides consideration to the timing of when those payments are <u>actually</u> 4 made. This is the role of the cash working capital analysis where the timing of actual 5 occurrence of the injury or accident is measured compared to when the actual cash payments 6 for injuries and damages are paid out. These calculations determine who is paying for 7 everyday on-going operations, the shareholders or ratepayers. The expense lag for injuries 8 and damages used in the cash working capital schedule is the number of days between when 9 events take place creating the need for the claim and when payments are actually made to 10 those injured.

Q. Is there any similarity between determining a normalized expense level to
include for injuries and damages and how injuries and damages are included in cash working
capital schedule?

14 Α. No. The analysis to determine the level of injuries and damages to include in 15 expenses in the case simply looks at the amounts actually paid out over several years to 16 determine a normalized expense level, just as a normalized maintenance or payroll expense 17 level would be included in the case. Injuries and damages when associated with cash working 18 capital, however, is a cash flow issue in which the Staff determines when a claim occurs, 19 when the cash payment is paid, and who supplied the funds, ratepayers or stockholders. The 20 first analysis—the levels paid out over several years—determines level of expense, and the 21 second analysis-the timing of when the payout is made-identifies the interval of the 22 occurrence of an event in relationship to when it was paid out.

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| 1 | Q. How does KCPL's affiliate GMO calculate its injuries and damages as it |
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| 2 | relates to CWC? |
| 3 | A. Although GMO used the same method as Staff in prior rate cases to develop |
| 4 | the CWC timing impact of what it has identified as an average time it takes to make payments |
| 5 | for claims in the past, and developed the normalized level based on cash payouts, GMO has |
| 6 | adopted KCPL's method in this case. This average time period is measured by comparing |
| 7 | when the injury takes place and how long it actually takes to make the payments for |
| 8 | settlements and awards. |
| 9 | Q. What was the impact of GMO's cash working capital requirement for injuries |
| 10 | and damages in the last rate case? |
| 11 | A. In Case No. ER-2009-0090, GMO-MPS calculated 707.13 days and |
| 12 | GMO-L&P 1,122.84 days for injuries and damages in its CWC study which was consistent |
| 13 | with what Staff included in its CWC for GMO in that case. |
| 14 | Q. What is the Company's recommendation for this issue? |
| 15 | A. Mr. Weisensee states in his rebuttal testimony on page 21, lines 13-16, |
| 16 | "While a case could be made for such exclusion, the Company proposes that I&D expense be |
| 17 | included in the "Net Other O&M Expense" line, a category where all O&M expenses are |
| 18 | included that are not specifically included on other lines of the CWC schedule." |
| 19 | Q. Does Staff agree with the Company proposal? |
| 20 | A. No. The category Mr. Weisensee refers to is identified as "Cash Vouchers" on |
| 21 | Staff's CWC account schedule, line 17. Mr. Weisensee is correct in stating this category is |
| 22 | used to capture all O&M expenses that are not specifically included on other lines in the |
| 23 | CWC schedule. However, the expense lag used for this category is 30 days. This means the |
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Company pays for all expenses captured in this category within 30 days. In other words,
 Mr. Weisensee is stating that on average all injury and damage claims are paid in 30 days for
 the actual occurance.

4 Q. Does Staff agree with Mr. Weisensee's recommendation of a 30 day expense
5 lag for injuries and damages?

A. No. Staff is recommending an expense lag of 149.56 days for injuries
7 and damages.

8 Q. How did Staff determine an expense lag of 149.56 days was appropriate in9 this case?

A. Staff analyzed information received from the Company identifying all claims
paid during the 2009 test year through the update period June 30, 2010. Staff was able to
calculate an expense lag using the date of each loss, date the claim was paid and the amount
of the settlement. Please refer to Schedule 5 in this surrebuttal testimony.

14 Q. Has the Company identified an expense lag for injuries and damages in15 past cases?

A. Yes. The Company identified an expense lag for injuries and damages of
185 days in Case No. ER-2007-0291 and 185 days in Case No. ER-2009-0089. Based on the
Company calculations in past cases and Staff's calculation in this case, a 30 day expense lag
proposed by the Company does not accurately represent the timing of claims paid by
the Company.

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Q.

What is Staff's recommendation for this issue?

A. Staff recommends the Commission adopt the Staff's expense lag for injuries
and damages.

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| 1 | Q. | Are there any other CWC issues Staff would like to address? | | |
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| | - | · | | |
| 2 | А. | Yes. Based on Mr. Weisensee's rebuttal testimony, Mr. Meyer, an intervener | | |
| 3 | in this case re | presenting industrials, indicated the expense lag for Wolf Creek O&M was too | | |
| 4 | low. Mr. Me | yer and the Company agreed to change the lag from 13.81 days to 25.85 days. | | |
| 5 | Staff agrees with Mr. Meyer and the Company and has reflected this change in Staff's CWC | | | |
| 6 | accounting schedule. | | | |
| | | | | |
| 7 | <u>MAINTENA</u> | NCE - NON-WAGE | | |
| 8 | Q. | What is the purpose of your Surrebuttal Testimony in regards to | | |
| 9 | Maintenance | expense? | | |
| 10 | А. | The purpose of my Surrebuttal Testimony is to respond to Company witness, | | |
| 11 | Terry S. Hec | lrick Rebuttal Testimony, addressing the non-wage and non-fuel maintenance | | |
| 12 | normalization | ns used by Staff. | | |
| 13 | Q. | What is the difference between the Company and Staff's position? | | |
| 14 | Α. | Staff disagrees with the Company's use of the Handy Whitman (HW) index to | | |
| 15 | determine a 1 | normalized level of production expenses on an ongoing basis. Staff has not used | | |
| 16 | this method, | relying instead on actual costs incurred for non-wage maintenance incurred by | | |
| 17 | the Company | · · | | |
| 18 | Q. | Identify the levels of operation and maintenance expenses that Staff and the | | |
| 19 | Company ha | ve included in their cases. | | |
| 20 | А. | The differences on a total KCPL basis (includes Kansas and wholesale) can be | | |
| 21 | shown as fol | lows: | | |
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| | Staff | KCPL |
|-------------------|--------------|--------------|
| Production | \$27,186,949 | \$28,461,137 |
| Nuclear | \$11,203,194 | \$11,203,194 |
| Other Production | \$2,485,196 | \$2,485,196 |
| Transmission | \$2,241,370 | \$2,241,370 |
| Distribution | \$17,906,770 | \$17,906,770 |
| Total Maintenance | \$61,023,479 | \$62,297,667 |

The difference between KCPL and Staff regarding maintenance is only in the Production
accounts and is \$1,274,188.

5 Q. Why does the Company escalate the maintenance adjustment levels 6 to 2009 dollars?

A. Based on Mr. Hedrick's Rebuttal Testimony, page 3, line 19, KCPL has chose
to index production maintenance dollars as a result of market pricing fluctuations.

9 Q. Does Mr. Hedrick explain what is meant by market pricing fluctuations in his 10 rebuttal testimony?

A. Yes. Based on Mr. Hedrick's testimony on page 4, lines 1-6, the Company
"has faced cost fluctuations for its materials and contract labor costs related to generation
maintenance."

14 Q. What is the HW index?

A. The HW index is a publication of index factors used to estimate costs for
electric, gas and water construction projects.

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| 1 | Q. Is the indexing approach consistent with traditional ratemaking? |
|----|---|
| 2 | A. No. There are several reasons why the indexing approach is not consistent with |
| 3 | traditional ratemaking. First, a Company's revenue requirement is determined using various |
| 4 | adjusted, annualized and normalized expense and revenue items. Second, ratemaking in |
| 5 | Missouri is based on using "known and measurable" historical costs. Inflationary factors are |
| 6 | in conflict with the known and measurable concept as they are highly speculative in nature. |
| 7 | Q. Are there any other reasons inflation factors should not be used when |
| 8 | determining an appropriate level of maintenance costs? |
| 9 | A. Yes. First, the HW index was developed to estimate future construction costs. |
| 10 | This not only is apparent in the title of the bulletin "The Handy-Whitman Index of Public |
| 11 | Utility Construction Costs, Trends of Construction Costs", but also throughout the entire |
| 12 | bulletin (See Schedule 6 in this surrebuttal testimony). The HW index identifies cost trends |
| 13 | by plant account as established by the Uniform System of Accounts (USOA) as established by |
| 14 | the Federal Energy Regulatory Commission (FERC) (See Schedule 6 ("E-3") page 7 |
| 15 | through 14). The chart found on page E-3 of the HW index includes FERC accounts 311-373 |
| 16 | which are used for capitalized construction costs. KCPL uses the HW index to normalize |
| 17 | non-labor production maintenance costs which are FERC accounts 510-514 and 551-554. |
| 18 | Second, the HW index numbers, used by the Company, are developed from prevailing |
| 19 | wage rates (among other things). Since payroll is annualized separately in the ratemaking |
| 20 | process any inflation index that also includes labor rates is not appropriate to use as it is |
| 21 | inconsistent because the payroll driven index is being applied to non-payroll operation and |
| 22 | maintenance costs. The maintenance costs that both KCPL and Staff are making adjustments |
| 23 | for in this case relate strictly to non-labor maintenance costs. In other words, maintenance |
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costs for material and supplies excluding salaries and wages. The HW index uses labor costs
 in computing the index numbers.

Third, the HW index used by KCPL is for a large region not specific to the Company's Missouri operations, therefore, it does not apply to any real inflation that KCPL may or may not be experiencing for operation and maintenance costs for its production, transmission and distribution facilities.

Fourth, the KCPL approach to maintenance normalization has resulted in an over
collection of maintenance dollars. Two out of three rate cases, maintenance costs included in
rates were higher than actually incurred.

Q. Please explain the dollar difference between Staff and Company proposals for
non-labor production maintenance.

12 Α. Staff has proposed \$27,186,949 for production maintenance accounts 510-514 13 based on a two year average of actual historical costs for the years 2008 and 2009. The 14 Company's proposal for the same accounts of \$28,461,137 is based on an indexed seven (7) vear average. 15 The difference between Staff and Company production maintenance 16 normalization is \$1,274,188 on a total Company basis. On a total Missouri jurisdictional 17 basis the difference is \$681,691 (\$1,274,188 times Missouri jurisdiction demand allocation 18 factor 53.50%).

Q. Does KCPL believe Staff's proposal for production maintenance represents
future production maintenance costs?

A. No. Based on Mr. Hedrick's testimony, page 3, lines 3-7, he states Staff's
proposal will not accurately reflect future production maintenance costs because Staff used

1 a two (2) year average as opposed to the Company proposal of a seven (7) year 2 indexed average.

3 Q. Why does the Company believe a seven (7) year indexed average 4 is appropriate?

A. Mr. Hedrick states on page 3, lines 4 and 5, "Staff's use of a two-year
average of actual costs ignores the reality that turbine maintenance is scheduled roughly every
seven years."

8 Q. Does Staff agree with Mr. Hedrick's statement indicating Staff ignored turbine
9 maintenance when using a two (2) year average?

A. No. In the two year average used by Staff for 2008 and 2009 KCPL had major
 maintenance performed on Iatan 1 and Montrose Unit 1. Those outages were included in the
 two year average.

As outlined in Staff's Cost of Service Report and Rebuttal Testimony, several steps were taken to analyze production maintenance. One such step was analyzing production maintenance, including major maintenance, using a two (2) year average through a seven (7) year average. Based on Staff's analysis, Staff used a two (2) year average for 2008 and 2009. The two (2) year average used by Staff represents more then what KCPL has spent for production maintenance in five of the last seven years for production maintenance including major maintenance. Please refer to my Rebuttal Schedule 7.

20 Q. If Staff used a seven (7) year average as proposed by the Company what would21 be the result?

A. A seven (7) year average using actual historical costs would result in
a normalized level of \$25,783,875 for production maintenance or in other words,

\$1,403,074 less than Staff's proposal in this case. As a result, Staff does not believe that
 a seven (7) year average reflects an appropriate amount for future production
 maintenance costs.

4 Q. Is the difference between KCPL's proposal the result of using a seven (7) year
5 average of KCPL's use of the HW index?

A. Mr. Hedrick would have the Commission believe Staff ignored major
maintenance in its analysis. As mentioned above, Staff analyzed production maintenance
expense including major maintenance, using a two (2) year average to a seven (7) year
average. The difference between Staff's and KCPL's proposal is not a result of using a
seven (7) year average or ignoring major maintenance overhauls but in fact the use of the
HW index used by KCPL.

12

Q.

Has KCPL collected more in rates than actually experienced for maintenance?

A. Yes. KCPL has collected more maintenance dollars from their customers
based on rates set in two out of the last three rate cases. The table below illustrates that KCPL
collected more in maintenance dollars in 2007 and 2008 than it actually incurred. Is also
should be noted that KCPL may have under collected during the twelve (12) month period
ending August 31, 2010. However, KCPL did not under collect in the area of production.

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continued on next page

| | Maintenance | Maintenance | Commission | Maintenance | Commission | Maintenance | |
|----------------|--------------------------|---|--------------------------|-----------------|--------------------------|-----------------|--|
| | Agreement | Balances | Order | Balances | Order | Balances | |
| | Case No. ER-2009-0089 | 12-Month Period Ending August 31, 2010 | Case No. ER-2007-0291 | 2008 | Case No. ER-2006-0314 | 2007 | |
| Rates in a | Septembe | September 1, 2009 | | January 1, 2008 | | January 1, 2007 | |
| Effect | | Actual | | Actual | | Actual | |
| Production | \$29,753,040 | \$29,192,691 | \$27,489,357 | \$29,700,543 | \$26,335,410 | \$26,827,119 | |
| Wolf Creek | \$10,386,698 | \$12,405,235 | \$11,996,183 | \$11,627,624 | \$12,021,367 | \$10,648,013 | |
| Other 🗧 😤 | \$1,397,237 | \$2,310,465 | \$1,046,792 | \$1,397,237 | \$765,351 | \$1,284,242 | |
| Transmission | \$1,920,763 | \$3,969,502 | \$3,376,788 | \$1,920,763 | \$1,517,048 | \$1,766,579 | |
| Distribution 4 | \$15,444,941 | \$17,827,970 | \$21,668,896 | \$15,444,941 | \$21,629,071 | \$14,857,099 | |
| Management | \$3,100,000 | | | | | | |
| Total | \$62,002,679 | \$65,705,863 | \$65,578,016 | \$60.091,108 | \$62,268,247 | \$55,383,052 | |

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Q. Was the HW Index used in any of the above rate cases?

4 Α. Yes. In Case Nos. ER-2006-0314 and ER-2007-0291, KCPL was allowed to 5 use this index to determine maintenance expense for those rate cases. In the 2006 rate case, 6 rates become effective in January 1, 2007 so the actual 2007 maintenance costs were 7 compared to the level included in rates for that case. For the 2007 rate case, rates became 8 effective January 1, 2008 so actual 2008 maintenance costs were compared to the level 9 included in rates for that case. The combined total of over collection of maintenance costs 10 from customers was \$12.4 million (\$5.5 million in 2008 and \$6.9 million in 2007). When the 11 last rate case---the 2009 case-- the under collection of \$3.7 million is taken into consideration, KCPL over collected \$8.7 million over the last three rate cases. 12

Q. Was an agreement reached in the Case No. ER-2009-0089 regarding maintenance?

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| 1 | A. Yes. An agreement between KCPL and Staff for maintenance was made in the |
|----|---|
| 2 | 2009 case. A copy of this agreement is attached to this surrebuttal testimony as Schedule 7. |
| 3 | Since rates became effective on September 1, 2009 for the 2009 case, Staff compared |
| 4 | the actual maintenance costs for the 12 months ended August 31, 2010 to the levels agreed to |
| 5 | by the Company and Staff in that case. |
| 6 | Q. Did KCPL perform extensive major maintenance in 2010? |
| 7 | A. In KCPL's response to Data Request No. 43, major maintenance was |
| 8 | performed on LaCygne 1, Hawthorn 5 and Hawthorn 9. During the true-up in this case, Staff |
| 9 | will review 2010 production maintenance dollars, including major maintenance, and make |
| 10 | a determination whether or not Staff will need to update its proposal for |
| 11 | production maintenance. |
| 12 | Q. Please summarize the Staff's disagreement with the Company's use of the HW |
| 13 | index for normalizing its maintenance expense. |
| 14 | A. KCPL is using inflationary factors, not generally accepted in traditional |
| 15 | ratemaking, that are based on labor related capitalized construction costs to normalize its |
| 16 | non-labor related expensed maintenance costs. In addition, using inflationary factors to |
| 17 | increase maintenance costs would not be considered a known and measurable cost. The last |
| 18 | area of concern with the Staff and the use of HW index is the lack of incentive that |
| 19 | inflationary factors provide to the Company to improve efficiency. Inflationary factors put all |
| 20 | the risk on the ratepayers. |
| 21 | DECOMMISSIONING EXPENSE |

22

Q. What is the purpose of this portion of your Surrebuttal Testimony?

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A. This section of the Surrebuttal Testimony is to respond to the Rebuttal
 Testimony of Gregg N. Clizer the Nuclear Decommissioning Trust Fund contributions
 (Trust Fund).
 Q. What is the issue with the Trust Fund contributions?

A. Based on Staff's Cost of Service Report Staff witness David Murray
recommends no change to the Company's current level of Trust Fund contributions.
In addition, I accepted the Company proposal to reduce the annual funding level by \$122,847
from its current level of \$1,281,264 to \$1,158,417. As a result, Staff was inconsistent with its
recommendation for the Trust Fund contributions.

Q. Does the Company agree to Mr. Murray's recommendation of making no
change to the Trust Fund contribution?

A. Yes. Based on Mr. Clizer's rebuttal testimony on page 2, lines 9-15, the Company will accept leaving the Trust Fund contributions at the higher level if Staff removes adjustment E-38.1. However, it is expected that KCPL actually make the contribution to the decommission Trust Fund at the higher level not at its initial proposed reduced level.

Q. Has Staff removed adjustment E-39.1?

A. Yes. Staff has removed its Trust Fund adjustment which has changed to
adjustment E-41.1 in Staff's Accounting Schedules.

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HAWTHORN 5 SELECTIVE CATALYTIC REDUCTION SETTLEMENT

20

Q. What is the purpose of this portion of your Surrebuttal Testimony?

A. This section of the Surrebuttal Testimony is to respond to the Rebuttal
Testimony of KCPL witness Curtis D. Blanc on settlement proceeds received by the

Company in 2007 related to the performance standards of a selective catalytic reduction
 system (SCR).

Q. Please describe what led to the settlement proceeds received by the Company
for the failure of the SCR?

5 Α. In February 1999 an explosion entirely destroyed the Unit 5 boiler located at 6 the Hawthorn generating plant. After the explosion Babcock & Wilcox (B&W or Babcock) 7 and KCPL entered into an engineering, procurement, and construction (EPC) agreement for 8 the construction of Hawthorn Unit 5 boiler island (B&W Agreement or Agreement). The 9 Agreement required B&W to install an SCR at Hawthorn Unit 5. The SCR was installed to 10 reduce pollution associated with operating a coal-fired generating unit. Under the Agreement, 11 B&W guaranteed specific performance standards, including an ammonia slip test. After the 12 SCR was placed in service in June 2001, the boiler failed the ammonia slip test. The 13 guaranteed performance standards were part of the contractual agreement between B&W and 14 KCPL. The contract price KCPL paid for the SCR equipment included the guaranteed 15 performance standard.

16 As a result of the failed performance standards, KCPL and B&W tried to resolve the 17 issues by B&W doing additional work in 2002. Although attempts were made by B&W to 18 adhere to the guaranteed performance standards, problems with the equipment still existed in 19 2004. Since B&W was unable to meet the performance standards set forth in the Agreement, 20 B&W and KCPL entered into a Memorandum of Understanding (MOU), and revised the 21 requirements of the ammonia slip test standards. This revision lowered SCR performance 22 standards originally agreed to by B&W that was identified in the original contract Agreement 23 regarding the ammonia slip test. Subsequently, B&W failed to meet these revised lowered

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| 1 | standards. Because the SCR never met either the original contract performance standards or | | |
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| 2 | the revised lowered standards, B&W's failure to meet the ammonia slip test standards caused | | |
| 3 | KCPL to experience increased replacements of catalysts, increased usage of ammonia, plus | | |
| 4 | additional cleaning and maintenance expense, all resulting in significantly higher than | | |
| 5 | expected costs to run and maintain the SCR equipment. After the revised standards identified | | |
| 6 | in the MOU could not be met, KCPL requested liquidated damages from B&W based on the | | |
| 7 | difference between the costs KCPL would incur if the standards were met and what costs | | |
| 8 | KCPL incurred because the standards were not met. | | |
| 9 | In 2007, KCPL received a settlement from B&W as recognition of the higher costs to | | |
| 10 | operate this generating unit. Because the performance standards identified in the initial | | |
| 11 | Agreement and the MOU were never met the settlement in essence recognized a lower | | |
| 12 | performing piece of equipment which would require higher operating and maintenance costs | | |
| 13 | over the life of the unit—all of the costs KCPL has and will pass on to its customers. | | |
| 14 | Q. How much did KCPL receive in settlement proceeds from B&W? | | |
| 15 | A. KCPL received a settlement of ** ** on a total KCPL basis on | | |
| 16 | December 12, 2007. | | |
| 17 | Q. How did KCPL treat the settlement proceeds for ratemaking purposes in Case | | |
| 18 | ER-2009-0089? | | |
| 19 | A. KCPL made an adjustment to remove the settlement proceeds from its cost of | | |
| 20 | service in the last case. | | |
| 21 | Q. What is the significance of how KCPL treated the settlement proceeds? | | |
| 22 | A. KCPL adjustments passed the settlement proceeds to Great Plains Energy | | |
| 23 | shareholders. KCPL effectively gave all the benefits from the settlement proceeds to | | |
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Great Plains while the customers have to pay the higher plant costs for the equipment under
 the original B&W contract, the higher maintenance costs due to SCR failure and higher fuel
 costs for the ammonia. All of these costs have been reflected in rates starting with the 2006
 rate case. The higher costs were also reflected in the 2007 and 2009 rate cases.

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Q. What is Staff's position regarding the settlement proceeds for the SCR?

6 Α. The performance standards of the SCR were never met and, as such have 7 resulted in higher capital and O&M maintenance costs that have been paid in the past and are 8 currently being paid by KCPL customers. KCPL has, and continues to experience increased 9 capital and operating and maintenance costs at Hawthorn 5 as the direct result of the 10 performance failure of the SCR. As a result of the terms and agreement of the settlement, 11 KCPL accepted lower performance standards for the SCR then what was initially guaranteed 12 by B&W. By KCPL's own admission the lowered performance standards have resulted in 13 increased costs for ammonia included in the fuel costs, more frequent replacements of 14 catalysts resulting in higher capital and maintenance costs, and increased cleaning of the 15 catalysts resulting higher maintenance costs. These increased costs started occurring in 2001 16 at the time the unit was placed back in service from the rebuild and continue to exist today 17 resulting in higher operating and maintenance costs which KCPL customers are required to 18 pay. Consequently, KCPL customers should receive the benefit of the settlement proceeds 19 since they have and will continue to pay for all the capital and operating and maintenance 20 costs over the life of the plant. Staff is proposing to reduce KCPL's rate base by the amount 21 of the settlement proceeds. A detailed discussion on this proposed treatment is identified in 22 the Staff Cost of Service Report filed on November 10, 2010, at page 108 under Section E-23 Other Non-Labor Adjustments-Hawthorn 5 SCR Impairment adjustment.

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| 1 | Q. Does KCPL agree that customers should benefit for the settlement proceeds? |
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| 2 | A. No. It is KCPL's position that KCPL customers are not entitled to the |
| 3 | settlement proceeds because they claim the settlement proceeds represented reimbursement |
| 4 | for replacement of purchased power and increased ammonia costs. KCPL claims the |
| 5 | customers never paid for these costs. Mr. Blanc provides four reasons in his Surrebuttal |
| б | Testimony, page 49, lines 7-18, why KCPL customers are not entitled to the settlement |
| 7 | proceeds. They are as follows: |
| 8 9 | (1) The proceeds of this litigation have nothing to do with the test year in this case. |
| 10 11 12 | (2) The cost of replacement power and additional ammonia expenses that resulted from the H5 catalyst outage (representing 90% of the settlement proceeds) was never paid by the customers. |
| 13 14 15 | (3) To the extent KCP&L personnel were included in the process there would not have been any incremental costs to the Company or in turn its customers. |
| 16 17 | (4) This issue represents retroactive ratemaking, which is not appropriate, where for the Company's benefit or detriment. |
| 18 | Q. Does Staff agree with Mr. Blanc's first statement "The proceeds of this |
| 19 | litigation have nothing to do with the test year in this case"? |
| 20 | A. It is correct the settlement proceeds were not received in the test year for this |
| 21 | case. Staff considers this issue to be a continuation of Case No. ER-2009-0089. Staff |
| 22 | addressed this issue in its Cost of Service Report and again in Surrebuttal Testimony in Case |
| 23 | No. ER-2009-0089. The Commission did not hear the arguments related to this issue because |
| 24 | a settlement was reached between the parties in this case. |
| 25 | In addition, the settlement proceeds are a direct result of increased capital and O&M |
| 26 | maintenance costs all of which directly relate to this rate case. These increased costs began |
| 27 | when the SCR was placed in service in 2001, continued in the 2009 test year of this case and |

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continue today. KCPL should have reflected the proceeds as a reduction to rates at the 1 2 time of receipt of the proceeds but chose not to. In response to Data Request No. 133 in Case 3 No. ER-2009-0089, KCPL stated: **_____ 4 5 6 7 8 9 10 11 12 13 14 15 ** 16 Although KCPL received the settlement proceeds in 2007, two years prior to the test 17 18 year in this case, KCPL customers paid for increased capital and O&M maintenance costs 19 during the test year and will continue to pay increased maintenance costs throughout the life 20 of the plant. Yet, despite this increase in operating and maintenance costs and the increase in 21 capital costs which increases return and depreciation costs, KCPL passed all the settlement 22 benefits to its owner- Great Plains. 23 Does KCPL recognize that its customers are currently incurring and will Q. 24 continue to incur additional capital costs, additional fuel expense and additional maintenance 25 expenses as a result of this under-performing SCR plant being included in KCPL's rate base? 26 Α. Yes. As noted in the quote above KCPL recognizes that the additional costs 27 caused by this under-performing plant equipment will be paid for by its customers through the 28 life of the plant.

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| 1 | Q. | Explain why KCPL has and will continue to incur additional costs for |
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| 2 | replacement ca | atalysts. |
| 3 | А. | Since B&W was never able to meet the performance standards they |
| 4 | guaranteed, K | CPL will need to change out the catalysts more frequently then what would |
| 5 | be expected if | the performance standards had been met. According to a memorandum dated |
| 6 | June 6, 2007 p | provided by KCPL in Data Request No. 530 in Case No. ER-2009-0089, |
| 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 | | |
| 28 29 | | |
| 30 | | ** |
| 31 | | |
| 32 33 | | [emphasis added] (The entire memorandum is attached to the surrebuttal testimony as Schedule 8) |
| 34 | Q. | What are the costs KCPL would expect for changeout of the catalyst if the |
| 35 | performance | standards were met? |

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| 1 | A. KCPL states in the memorandum mentioned above, the changeout costs would |
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| 2 | range from ** ** |
| 3 | Q. What is the significance of the costs KCPL is anticipating over the life of the |
| 4 | plant as a direct result of the failed performance standards? |
| 5 | A. KCPL received a settlement for ** ** for damages related to the |
| 6 | failure of B&W to meet specific performance standards. KCPL is expecting its customers to |
| 7 | absorb costs over the life of the plant ranging from ** ** |
| 8 | These costs represent the costs associated with changing out the catalysts more frequently in |
| 9 | the future due solely from the failure of this equipment to meet the original performance |
| 10 | standards. When additional ammonia costs and other O&M costs are included, KCPL |
| 11 | customers will pay significantly higher costs over the life of the plant and not receive any |
| 12 | benefit of the settlement proceeds. This is the classic case of the customers pay for all the |
| 13 | costs and shareholders reap the benefits of the settlement. |
| 14 | Q. Does the settlement with B&W cover all the costs to operate the SCR? |
| 15 | A. No. Unfortunately, the settlement only will cover a fraction of the substantial |
| 16 | costs caused by this contract failure. While customers unquestionably should get the benefit |
| 17 | of the settlement, they have had to pay and will have to continue to pay capital costs increases |
| 18 | and O&M cost increases until the SCR is replaced or retrofitted. |
| 19 | Q. Does it appear that KCPL made a good settlement? |
| 20 | A. Considering all the higher costs KCPL has and will experience for this |
| 21 | under-performing equipment which it has and fully intends on passing on to its customers, the |
| 22 | settlement does not cover much of those costs. Considering the range of increase costs KCPL |
| 23 | estimated of ** ** compared to ** ** level, this |
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| 1 | settlement leaves a lot of additional costs that will not be covered by the settlement. |
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| 2 | Yet, regardless of the level, the settlement should be fully given as benefit to the customers |
| 3 | for the cost increases they will have to endure because of this failed equipment. |
| 4 | Q. Does Staff agree with Mr. Blanc's second statement "The cost of replacement |
| 5 | power and additional ammonia expenses that resulted from the H5 catalyst outage |
| 6 | (representing 90% of the settlement proceeds) was never paid by the customers." |
| 7 | A. No. Based on the Company response to Data Request No. 133 in Case |
| 8 | No. ER-2009-0089, the Company accounted for the settlement proceeds as a reduction to |
| 9 | FERC expense accounts 501, 512 and 555. The highly confidential dollar settlement |
| 10 | distribution is identified in the following chart. |
| 11 | ** |
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| 12 | ** |
| 13 | Although the Company distributed ** ** of the settlement proceeds to a |
| 14 | purchased power expense account, the damage incurred, by KCPL's own admission, |
| 15 | manifested in several areas: ** |
| 16 | |
| 17 | and in the future will be the higher operating fuel costs, higher maintenance costs and higher |
| 18 | capital costs. |
| | |

- 1 Q. Have KCPL's customers paid plant-related, purchased power and 2 maintenances costs, as a result of this under-performing SCR plant being included in rate base 3 and the excess maintenance costs included in KCPL's cost of service. 4 A. In the last three KCPL rate cases, Case No. ER-2006-0314, Case Yes. 5 No. ER-2007-0291 and Case No. ER-2009-0089 the plant-related costs for the 6 under-performing SCR plant were included in rate base and the excess maintenance costs 7 were included in KCPL's cost of service. The higher fuel costs for ammonia additive were 8 fully reflected in each of the three rate cases. The higher purchased power costs was also 9 included in the rate case and reflected in rates. Staff witness Cary G. Featherstone will 10 address these higher costs in his Surrebuttal Testimony. In each of these cases, Staff includes 11 operating costs and plant levels consistent with the test year, update period and true-up period 12 ordered by the Commission. Likewise, Staff includes an expense level that is consistent with 13 the test year and update period for each case.
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Q. What were the test years and true-up periods used in past KCPL rate cases?A. The following table identifies the test year and update period for each of the

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three cases.

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| Case Number | Têst Year | Update Period | True-Up Period | Effective Date of Rates |
|--------------|---------------|--------------------|--------------------|----------------------------|
| | Calendar Year | | | |
| ER-2006-0314 | 2005 | June 30, 2006 | September 30, 2006 | January 1, 2007 |
| | Calendar Year | | • | • |
| ER-2007-0291 | 2006 | March 31, 2007 | September 30, 2007 | January 1, 2008 |
| | Calendar Year | , | I , | • |
| ER-2009-0089 | 2007 | September 30, 2008 | March 31, 2009 | September 1, 2009 |

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Q. KCPL claims customers have never had to pay for any of the costs relating to the settlement. Is this true?

A. No. According to Mr. Blanc's statement the settlement proceeds represented
reimbursement for cost of replacement power (90% of the proceeds) and additional ammonia
expenses that resulted from the Hawthorn 5 catalyst outage. The catalyst outage began
February 24, 2007 and ended March 9, 2007. This information was provided by KCPL in
Data Request No. 533 in Case No. ER-2009-0089. The Company also provided a study in
Data Request No. 533 which was used as the basis for its position related to reimbursement of
purchase power costs. (See Schedule 9 in this surrebuttal testimony).

8 As mentioned earlier in this testimony, Mr. Blanc claims KCPL customers have never 9 paid for the costs of replacement power or additional ammonia expenses that resulted from 10 the Hawthorn 5 catalyst outage. In addition, he states on page 50, lines 2-4, in his Rebuttal 11 Testimony, "KCP&L did not request a rate increase at any time during the outage or 12 subsequent to the outage that resulted in recovery of the replacement power costs and the 13 additional ammonia expenses. Thus, customers have never paid these costs." These 14 statements are simply not true. Both KCPL and Staff developed their respective revenue 15 requirements case in Case No. ER-2009-0089 using a test year for that case based on the twelve (12) month period ending December 31, 2007. The replacement purchased power and 16 17 the additional ammonia costs for the catalyst outage would have been included in the test 18 year. Consequently, Mr. Blanc inferring KCPL customers have never paid for expenses for 19 the under-performing SCR equipment is incorrect. The higher fuel and purchased power 20 costs were included which will be discussed by Staff witness Featherstone. The higher 21 maintenance costs were clearly reflected in the three rate cases and ultimately in rates. 22 The higher plant costs were included in each of the last three rate cases—not just the 2009 23 rate case. Thus, customer's rates reflect higher depreciation and return costs.

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| 1 | Q. Did KCPL provide the Staff all settlement documents related to the SCR? |
|--|--|
| 2 | A. Yes. Staff requested all documents related to the SCR settlement in Data |
| 3 | Requests No. 133 and 530 in Case No. ER-2009-0089. As a result, Staff received |
| 4 | correspondence to and from B&W addressing the Company position with the SCR |
| 5 | performance, Memorandum of Understanding revising the SCR performance to lower |
| 6 | standards and the Settlement Agreement. |
| 7 | Q. Did any of these documents indicate KCPL was seeking damages for |
| 8 | replacement power costs? |
| 9 | A. No. Staff did not find any documentation indicating KCPL was seeking |
| 10 | damages for recovered replacement power costs. According to the documents provided to |
| 11 | Staff, KCPL was seeking damages for ** |
| 12 | ** |
| 13 | Q. Does Staff agree with Mr. Blanc's third statement appearing at page 49 of his |
| | |
| 14 | rebuttal "To the extent KCP&L personnel were included in the process there would not have |
| 14 15 | rebuttal "To the extent KCP&L personnel were included in the process there would not have been any incremental costs to the Company or in turn its customers"? |
| | |
| 15 | been any incremental costs to the Company or in turn its customers"? |
| 15 16 | been any incremental costs to the Company or in turn its customers"? A. No. Mr. Blanc's statement referring to incremental costs related to KCP&L |
| 15 16 17 | been any incremental costs to the Company or in turn its customers"? A. No. Mr. Blanc's statement referring to incremental costs related to KCP&L employee costs is irrelevant. As noted earlier in this testimony, rates were set in the last |
| 15 16 17 18 | been any incremental costs to the Company or in turn its customers"? A. No. Mr. Blanc's statement referring to incremental costs related to KCP&L employee costs is irrelevant. As noted earlier in this testimony, rates were set in the last three KCP&L rates based on the costs KCPL incurred during the test year, update period, and |
| 15 16 17 18 19 | been any incremental costs to the Company or in turn its customers"? A. No. Mr. Blanc's statement referring to incremental costs related to KCP&L employee costs is irrelevant. As noted earlier in this testimony, rates were set in the last three KCP&L rates based on the costs KCPL incurred during the test year, update period, and true-up period established in each case. Negotiations related to the SCR performance |
| 15 16 17 18 19 20 | been any incremental costs to the Company or in turn its customers"? A. No. Mr. Blanc's statement referring to incremental costs related to KCP&L employee costs is irrelevant. As noted earlier in this testimony, rates were set in the last three KCP&L rates based on the costs KCPL incurred during the test year, update period, and true-up period established in each case. Negotiations related to the SCR performance standards were occurring during the time period of each of these cases and as such any costs |
| 15 16 17 18 19 20 21 | been any incremental costs to the Company or in turn its customers"? A. No. Mr. Blanc's statement referring to incremental costs related to KCP&L employee costs is irrelevant. As noted earlier in this testimony, rates were set in the last three KCP&L rates based on the costs KCPL incurred during the test year, update period, and true-up period established in each case. Negotiations related to the SCR performance standards were occurring during the time period of each of these cases and as such any costs related to this issue would have been included in KCPL's cost of service by virtue of how |



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| 1 | were involved with the Hawthorn SCR performance issues, litigation, settlement discussions |
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| 2 | and settlement agreement over several years. KCPL's customers are paying the salaries and |
| 3 | benefits to each of these executives and employees who worked to get the under-performing |
| 4 | SCR plant settlement, not KCPL's shareholders. |
| 5 6 7 8 9 | Question No. 0271: Please provide a list of all KCPL/GPE employees who were directly or indirectly involved with the Hawthorn SCR performance issues, litigation, settlement discussions and settlement agreement. For each, please describe this involvement. |
| 10 11 12 13 14 15 16 17 18 19 20 21 22 23 | Response: Steve Easley's (Senior Vice President, Supply) involvement was lead negotiator regarding the settlement and was involved with George Burnett (Consulting Engineer, Production Engineering Services), Gerald Reynolds (Assistant General Counsel, Law Department) and Peter Vanderwarker (Senior Attorney, Law Department) in developing the "damages" KCP&L was expected to incur due to the SCR/catalyst's inability to meet its ammonia slip performance guarantee. The following individuals had indirect involvement in this process: Lora Cheatum (Vice President of Procurement, Procurement), David Price (Vice President of Construction, Construction Management) and William Riggins (Vice President of Legal and Environmental Affairs and General Counsel, Law Department). |
| 24 | Q. Were other KCPL personnel involved in the effects of the poor performance |
| 25 | surrounding the Hawthorn 5 SCR? |
| 26 | A. Yes. Hawthorn 5 plant personnel have to handle all the additional operation |
| 27 | and maintenance issues relating this problem. KCPL engineers located at the corporate office |
| 28 | are also involved in the operational and maintenance issues concerning the SCR failures. |
| 29 | The fuels departments have to procure more ammonia at greater prices for the Hawthorn 5 |
| 30 | SCR. These individual departments would very likely been involved in supplying information |
| 31 | on the performance of the SCR and the evaluation of options for correcting the problem. |
| 32 | The settlement process would have included a body of support from the performance issues to |

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the resolution options. Staff does not believe only employees working on this settlement were
 those specifically identified in the data request response.

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Q. Were the costs regarding the settlement incremental costs?

A. There likely were incremental costs as well as direct out of pocket costs
associated with the settlement. The point that is important to recognize is that KCPL has an
infrastructure in place for employees to work on this project as well as others. Customers pay
for all these costs—not the shareholders. To suggest KCPL alone without customer support
was responsible for this settlement is just pain inaccurate.

- 9 Q. Does Staff agree with Mr. Blanc's fourth statement appearing at page 49 of his 10 rebuttal "This issue represents retroactive ratemaking, which is not appropriate, where for the 11 Company's benefit or detriment."
- A. No. This statement is similar to Mr. Blanc's first statement, "The proceeds of this litigation have nothing to do with the test year in this case." Staff agrees with Mr. Blanc that the settlement proceeds were received two years prior to the 2009 test year established in this case. However, does not agree this issue represents retroactive ratemaking.

16 KCPL received settlement proceeds as a direct result of B&W's failure to meet 17 performance standards for the SCR. The failed performance standards have led to increased 18 capital and maintenance costs. Although the settlement was received in 2007, KCPL's 19 customers have paid and will continue to pay for these increased capital and maintenance 20 costs throughout the life of the plant. Since KCPL customers have and will continue to pay 21 for increased costs associated with a under-performing SCR plant, retroactive ratemaking 22 does not apply. To suggest as Mr. Blanc has that customers have not had to pay increased 23 costs for the SCR is simply inaccurate and misleading.

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| 1 | Q. If KCPL would have treated the settlement as Staff is recommending could |
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| 2 | KCPL now make any claim of retroactive ratemaking? |
| 3 | A. No. If KCPL would have correctly treated the settlement as a reduction to the |
| 4 | plant investment when they received it in 2007 the Company could not now attempt to hide |
| 5 | behind a claim of retroactive ratemaking. In addition, Staff considers this issue to be a |
| 6 | continuation of Case No. ER-2009-0089. Staff addressed this issue in its Cost of Service |
| 7 | Report and again in Surrebuttal Testimony in Case No. ER-2009-0089. The Commission did |
| 81 | not hear the arguments related to this issue because a settlement was reached between the |
| 9 | parties in this case. |
| 10 | Q. Is there anything else you need to address relating to KCPL's position on |
| 11 | this issue? |
| 12 | A. Yes. Mr. Blanc makes the statement in his Rebuttal Testimony on page 49, |
| 13 | lines 16-18, "I don't think Ms. Lyons would support the Company if it were to propose to |
| 14 | reach back to 2007 and charge customers now for the cost of replacement power and |
| 15 | additional ammonia expense during this period." KCPL customers have already paid for the |
| 16 | cost of replacement power and additional ammonia expense during the catalyst outage period |
| 17 | by virtue of how Staff develops its case. The higher costs for all impacts of the poorly |
| 18 | performing SCR have been paid for by the customers. And, unfortunately customers will |
| 19 | continue to have to pay these higher costs in the future. |
| 20 | Q. Mr. Blanc addresses the issue of retroactive ratemaking in his Rebuttal |
| 21 | Testimony. Has KCPL had a history of seeking rate recovery of costs that were incurred |
| 22 | several years prior to initiating a rate case? |
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| 1 | A. Yes. In KCPL's 2006 rate case, No. ER-2006-0314, the Commission ordered |
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| 2 | that KCPL be allowed to recover an annual level of \$4.5 million for ice storm costs that were |
| 3 | incurred by KCPL in 2002 and deferred under an Accounting Authority Order (AAO). |
| 4 | The closest test year to the year KCPL incurred the ice storm cost in 2002 was three years |
| 5 | later in the 2005 test year ordered by the Commission in KCPL's 2006 rate case. On page 60 |
| 6 | of its report and Order in Case No. ER-2006-0314, the Commission characterized KCPL's |
| 7 | position on ice storm expense recovery as follows "because the amortization allowed by the |
| 8 | AAO case was in effect during the test year and true-up period, KCPL asserts that it should be |
| 9 | able to recover those costs." |
| 10 | Q. How does the 2002 ice storm issue relate to the SCR settlement issue in |
| 11 | this case? |
| 12 | A. The Commission allowed recovery of the 2002 ice storm expenses because |
| 13 | the amortization allowed by the AAO was in effect during the test year and true-up period |
| 14 | for that case. Similarly, customers paid for increased maintenance costs as a result of the |
| 15 | under-performing SCR plant during the test year and true-up in this case and will continue to |
| 16 | pay for increased maintenance costs throughout the life of the plant. |
| 17 | Customers are paying for the higher fuel costs for ammonia. Customers are paying |
| 18 | higher depreciation costs because of the higher plant investmentthe initial investment which |
| 19 | is higher than it should be because of a lesser performance standard and higher subsequent |
| 20 | investment resulting from the increases capital costs for more frequent replacement of |
| 21 | the catalysts. |
| 22 | Q. Does Mr. Blanc provide any additional points in his Rebuttal Testimony? |

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| 1 | A. Yes. Mr. Blanc suggests the Commission has dealt with a similar issue in |
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| 2 | another KCPL rate case. Mr. Blanc states on page 50, lines 17-20 in his Rebuttal Testimony, |
| 3 | "In the ER-2007-0291 case, the company removed from its case the impact of receiving |
| 4 | \$16.9M in subrogation proceeds that were recorded by KCP&L in 2006 related to the |
| 5 | H5 boiler explosion that occurred in 1999. The Commission found the issue in favor of |
| 6 | KCP&L for precisely the same reasons I raise here." |
| 7 | Q. Does Staff agree with Mr. Blanc's statement? |
| 8 | A. No. The subrogation proceeds received by KCPL in 2006 and the settlement |
| 9 | proceeds for the SCR received in 2007 are two distinctly different issues. The Hawthorn 5 |
| 10 | subrogation issue that was litigated in Case No. ER-2007-0291 involved costs that were |
| 11 | directly related to the 1999 Hawthorn plant explosion. Specifically, costs that occurred during |
| 12 | the period beginning when the explosion occurred in 1999 and ended when the plant was |
| 13 | placed back in service in 2001. The only similarity between the subrogation issue and the |
| 14 | SCR settlement is KCPL claimed a majority of the proceeds represented costs incurred for |
| 15 | replacement power. The time period representing the costs incurred for replacement power |
| 16 | for the subrogation proceeds was 1999-2001. Unlike the SCR incident, KCPL did not file a |
| 17 | rate case any time during the Hawthorn explosion or subsequent to this time period during the |
| 18 | rebuilding of this generating unit. As demonstrated earlier in this testimony, KCPL recovered |
| 19 | the costs for the SCR settlement as a result of rates set in the last three rate cases. This was |
| 20 | not the case in the subrogation issue. In addition, the Commission stated in its Report and |
| 21 | Order in Case No. ER-2007-0291, "The proceeds are an unusual non-recurring event" |
| 22 | Unlike the costs related to the Hawthorn 5 subrogation proceeds, the costs associated with the |
| 23 | under-performing Hawthorn 5 SCR plant that KCPL passes on to its customers, by KCPL's |
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| 1 | own admission, is being incurred currently and will be incurred over the life of the plant. |
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| 2 | The operating and maintenance costs and capital cost increases are recurring in nature and, |
| 3 | and for this reason, are reflected in rates. The costs for replacement power that KCPL claims |
| 4 | their customers never paid for in this issue were paid for by KCPL customers based on the |
| 5 | rates set in Case No. ER-2009-0089. Higher capital and operating and maintenance costs that |
| 6 | occurred during the last three rates cases have also been reflected in KCPL's rates. Customer |
| 7 | rates today reflect all these higher costs. |
| 8 | Q. Please summarize Staff's position with the Hawthorn 5 SCR settlement. |
| 9 | A. KCPL would have the Commission believe the settlement proceeds received |
| 10 | from B&W represented costs KCPL customers have never paid for and thus should not be |
| 11 | entitled to the proceeds. Staff has presented evidence that contradicts KCPL's position. |
| 12 | KCPL customers paid for the costs the Company claims the customers never paid and KCPL |
| 13 | customers are responsible for all the future capital and operating and maintenance costs that |
| 14 | KCPL will incur as a result of the Company accepting lower performance standards for the |
| | |

15 SCR. Staff recommends KCPL customers receive the benefit of the settlement proceeds by 16 making an adjustment to increase depreciation reserve and making a corresponding 17 adjustment to depreciation in effect reducing KCPL's rate base as discussed in Staff's Cost of 18 Service Report at pages 108 to 111.

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Q. What is the purpose of this portion of your Surrebuttal Testimony?

HAWTHORN 5_TRANSFORMER SETTLEMENT

21 22

A. This section of the Surrebuttal Testimony is to respond to the Rebuttal Testimony of KCPL witness Curtis D. Blanc on settlement proceeds received by the

- 1 Company in 2008 related to the failure of a generating step-up transformer (GSU or 2. transformer), located at the Hawthorn generating plant.
- 3

4

Q. Please describe what led to the settlement proceeds received by the Company for the transformer?

5 A. In August 2005, the generator step-up transformer on KCPL's Hawthorn 5 6 failed. In September 2005, a backup step-up transformer was installed. During June 2006, 7 a new step-up transformer was installed. KCPL sued the contractors and subcontractors 8 claiming they were responsible for the transformer failure. The case settled at the end 9 of 2007, and was finalized in 2008 with payment made to KCPL. KCPL received a dollar 10 settlement for the transformer failure from Siemens Power Transmission & Distribution, Inc. 11 (Siemens). KCPL has made no adjustment in its books and records to provide any benefit of this settlement to its customers. It is Staff's position that KCPL's customers should receive 12 13 the benefit of the settlement since they are the ones who paid higher costs for the substandard 14 plant performance due the transformer failure.

15 All the increased costs to KCPL of the operation of Hawthorn 5 resulting from the 16 transformer failure were paid by KCPL customers in its utility rates. These costs include the 17 salaries and benefits, office space, and all employee-related costs of KCPL's attorneys and 18 employees who worked on KCPL's dispute with the contractors and subcontractors, increased 19 maintenance, increased fuel and purchased power expense, and increased expenses that were 20 capitalized to the new plant.

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Q. Did KCPL provide Staff with documentation to support KCPL incurred 22 increased maintenance costs prior to the transformer failing in 2005?

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| 1 | A. Yes. According to the First Amended Petition (Petition), included in KCPL's | | | | |
|------------------|---|--|--|--|--|
| 2 | response to Data Request No. 527 in Case No. ER-2009-0089, Siemens performed | | | | |
| 3 | maintenance on the transformer prior to it failing in 2005. The following excerpt was taken | | | | |
| 4 | from the Petition: | | | | |
| 5 6 7 8 | ** | | | | |
| 9 | Selected pages of the First Amended Petition are attached to this surrebuttal testimony | | | | |
| 10 | as Schedule 10. Staff felt the entire document was too voluminous to attach as a schedule. | | | | |
| 11 | However, the highly confidential document is available for review by the Commission or | | | | |
| 12 | other parties. | | | | |
| 13 | Q. How much did KCPL receive in settlement proceeds from Siemens? | | | | |
| 14 | A. KCPL received a total settlement of ** ** of which, | | | | |
| 15 | ** ** was received by KCPL, net of legal costs incurred for this settlement. | | | | |
| 16 | The settlement is on a total KCPL basis and was received on February 7, 2008. | | | | |
| 17 | Q. How did KCPL book the settlement proceeds? | | | | |
| 18 | A. Based on the Company response to Data Request No. 510 in Case | | | | |
| 19 | No. ER-2010-0355, the Company accounted for the settlement proceeds in the following | | | | |
| 20 | FERC accounts 108, 555 and 923. The highly confidential dollar settlement distribution is | | | | |
| 21 | identified in the following chart. | | | | |
| 22 | | | | | |
| 23 | | | | | |
| 24 | | | | | |
| 25 | continued on next page | | | | |

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Q. Does Staff believe KCPL customers should receive the benefit of the full
amount of the net proceeds of ** _____ ** ?

5 Α. No. In Staff's Cost of Service Report, Staff recommended an increase to 6 depreciation reserve and a corresponding adjustment to depreciation for the entire amount of 7 the net proceeds. After Staff's direct filing, November 10, 2010, Staff received a response to 8 Data Request No. 510 learning the net proceeds were distributed to the FERC accounts 9 detailed above. Based on KCPL's response to this data request, Staff believes KCPL 10 customers are entitled to the proceeds booked to FERC account 555-Purchased Power-Energy 11 Capacity Purchases which is the ** _____ ** amount. Staff has reflected the change in 12 its EMS-Accounting Schedules. Staff treated the amount the same as an increase to 13 depreciation reserve with a corresponding adjustment to depreciation.

14 Q. How did KCPL treat the settlement proceeds for ratemaking purposes in Case
15 No. ER-2009-0089?

A. KCPL made an adjustment to remove the settlement proceeds from its cost of
service in the last case.

Q. What is the significance of how KCPL treated the settlement proceeds?
A. KCPL adjustments passed the full amount of the settlement proceeds to
Great Plains' shareholders. KCPL effectively gave all the benefits from the settlement

proceeds to Great Plains while KCPL customers paid all employee-related costs of KCPL's attorneys and employees who worked on KCPL's dispute with the contractors and subcontractors, increased maintenance, fuel and purchased power expense, and increased expenses that were capitalized to the new plant. All of these costs have been reflected in rates starting with the 2006 rate case. The higher costs were also reflected in the 2007 and 2009 rate cases.

7

Q. What is Staff's position regarding the settlement proceeds for the transformer?

A. The Staff's position is the settlement dollars received by KCPL during the
updated test year in Case No. ER-2009-0089 represents a reimbursement to KCPL for the
costs of the defective transformer. As previously mentioned in this surrebuttal testimony,
KCPL customers paid for all the costs relating to the replacement of the transformer in rates
set in the last three rate cases. A detailed discussion on this proposed treatment is identified
in the Staff Cost of Service Report filed on November 10, 2010, at page 111 under Section EOther Non-Labor Adjustments— Hawthorn 5 Transformer Settlement.

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Q. Does KCPL agree that customers should benefit for the settlement proceeds?

A. No. It is KCPL's position that KCPL customers are not entitled to the settlement proceeds for the same reasons identified in the SCR settlement presented in this surrebuttal testimony. Mr. Blanc states in his Rebuttal Testimony on page 51, lines 8-14:

> These proceeds were received as a result of activities that happened in a prior period. The corresponding costs are not in this test year. KCPL's customers never paid the costs being reimbursed by this settlement. KCP&L did not have a fuel adjustment clause that would have recovered replacement power costs. It is no more appropriate to reach back beyond the test year as Staff proposes, than it is for the Company to reach back for rate increased foregone between rates cases.

Q. Does Staff agree with Mr. Blanc's statement "These proceeds were received as a result of activities that happened in a prior period. The corresponding costs are not in this test year."?

A. It is correct the settlement proceeds were not received in the test year for this
case. However, KCPL should have reflected the proceeds as a reduction to rates at the time of
receipt of the proceeds but chose not to. In addition, Staff considers this issue to be a
continuation of Case No. ER-2009-0089. Staff addressed this issue in its Cost of Service
Report and again in Surrebuttal Testimony in Case No. ER-2009-0089. The Commission did
not hear the arguments related to this issue because a settlement was reached between the
parties in the 2009 rate case.

Q. Does Staff agree with Mr. Blanc's statement "KCPL's customers never paid
the costs being reimbursed by this settlement. KCP&L did not have a fuel adjustment clause
that would have recovered replacement power costs."

14 Similar to the SCR settlement, KCPL customers paid for the costs Α. No. 15 related to the replacement of the transformer in rates set in the last three rate cases. In the 16 last three KCPL rate cases, Case No. ER-2006-0314, Case No. ER-2007-0291 and Case No. 17 ER-2009-0089 the plant-related costs for the defective transformer were included in rate base 18 and the excess maintenance costs were included in KCPL's cost of service. Staff witness 19 Cary G. Featherstone will address the higher costs for fuel and purchased power in his 20 Surrebuttal Testimony. In each of these cases, Staff includes operating costs and plant levels 21 consistent with the test year, update period and true-up period ordered by the Commission. 22 Likewise, Staff includes an expense level that is consistent with the test year and update 23 period for each case.

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| 1 | As mentioned earlier in this surrebuttal testimony, the transformer failed August 2005. | | | |
|--------------------------------|---|--|--|--|
| 2 | A back-up transformer was installed September 2005 and the new transformer was installed | | | |
| 3 | June 2006. The capital costs and operating expenses leading up to the replacement of the | | | |
| 4 | transformer in 2006 would have been included in the rates set in Case No. ER-2006-0314 and | | | |
| 5 | the capital costs and operating expenses following the replacement were included in rates set | | | |
| 6 | in Case No. ER-2007-0291 and Case No. ER-2009-0089. According to KCPL's response to | | | |
| 7 | Data Request No. 529 in Case No. ER-2009-0089: | | | |
| 8 9 10 11 12 13 | ** | | | |
| 14 | KCPL experienced two outages as a result of the transformer failure. The first occurred from | | | |
| 15 | August 29, 2005-date the Siemens transformer failed to September 29, 2005-when an old | | | |
| 16 | back-up transformer was placed in service. The back-up transformer was used until KCPL | | | |
| 17 | received a new transformer to replace the Siemens transformer. The second outage occurred | | | |
| 18 | from June 6, 2006 to June 19, 2006 when KCPL replaced the old back-up transformer with a | | | |
| 19 | new GE Transformer. This information was provided by KCPL in Data Request No. 526.1. | | | |
| 20 | Based on this information, the outages occurred during the 2005 test year for Case No. | | | |
| 21 | ER-2006-0314 and the 2006 test year for Case No. ER-2007-0291. As such, any increases to | | | |
| 22 | purchase power expense were included in rates set in that case. Therefore, KCPL customers | | | |
| 23 | paid for the replacement power related to the outages. | | | |
| 24 | Q. Have KCPL's customer paid higher rates in the past and will they continue to | | | |
| · 25 | pay higher rates because of issue? | | | |
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| 1 | A. Yes. According to KCPL's response to Data Request No. 366.1 in Case No. | | | | |
|--|--|--|--|--|--|
| 2 | ER-2006-0314, KCPL included ** ** in new plant in its rate base for the | | | | |
| 3 | purchase of the new GE transformer and retired ** ** from plant-in-service for | | | | |
| 4 | the original transformer. At a minimum, KCPL customers were charged for additional plant | | | | |
| 5 | of ** ** | | | | |
| 6 | Q. When was the original transformer installed at the Hawthorn power plant? | | | | |
| 7 | A. According to the Petition discussed earlier in this testimony ** | | | | |
| 8 | · · · · · · · · · · · · · · · · · · · | | | | |
| 9 | | | | | |
| 10 | | | | | |
| 11 | | | | | |
| 12 | ** This documentation supports that KCPL | | | | |
| | admitted the original transformer was defective. | | | | |
| 13 | admitted the original transformer was defective. | | | | |
| 13 14 | admitted the original transformer was defective. Q. Was KCPL reimbursed for the costs related to the services identified above? | | | | |
| | | | | | |
| 14 | Q. Was KCPL reimbursed for the costs related to the services identified above? | | | | |
| 14 15 | Q. Was KCPL reimbursed for the costs related to the services identified above?A. Yes. In Case No. ER-2006-0314, KCPL normalized production maintenance | | | | |
| 14 15 16 | Q. Was KCPL reimbursed for the costs related to the services identified above? A. Yes. In Case No. ER-2006-0314, KCPL normalized production maintenance expense using a six (6) year average of 2000-2005. The costs related to the services identified | | | | |
| 14 15 16 17 | Q. Was KCPL reimbursed for the costs related to the services identified above? A. Yes. In Case No. ER-2006-0314, KCPL normalized production maintenance expense using a six (6) year average of 2000-2005. The costs related to the services identified above occurred during this period. | | | | |
| 14 15 16 17 18 | Q. Was KCPL reimbursed for the costs related to the services identified above? A. Yes. In Case No. ER-2006-0314, KCPL normalized production maintenance expense using a six (6) year average of 2000-2005. The costs related to the services identified above occurred during this period. Q. Was the normalization of production maintenance expense using a six (6) year | | | | |
| 14 15 16 17 18 19 | Q. Was KCPL reimbursed for the costs related to the services identified above? A. Yes. In Case No. ER-2006-0314, KCPL normalized production maintenance expense using a six (6) year average of 2000-2005. The costs related to the services identified above occurred during this period. Q. Was the normalization of production maintenance expense using a six (6) year average of 2000-2005 used to set rates in Case No. ER-2006-0314. | | | | |
| 14 15 16 17 18 19 20 | Q. Was KCPL reimbursed for the costs related to the services identified above? A. Yes. In Case No. ER-2006-0314, KCPL normalized production maintenance expense using a six (6) year average of 2000-2005. The costs related to the services identified above occurred during this period. Q. Was the normalization of production maintenance expense using a six (6) year average of 2000-2005 used to set rates in Case No. ER-2006-0314. A. Yes. The Commission ruled in favor of KCPL's position on production | | | | |
| 14 15 16 17 18 19 20 21 | Q. Was KCPL reimbursed for the costs related to the services identified above? A. Yes. In Case No. ER-2006-0314, KCPL normalized production maintenance expense using a six (6) year average of 2000-2005. The costs related to the services identified above occurred during this period. Q. Was the normalization of production maintenance expense using a six (6) year average of 2000-2005 used to set rates in Case No. ER-2006-0314. A. Yes. The Commission ruled in favor of KCPL's position on production maintenance expense. KCPL customers began paying the rates set in the 2006 rate case | | | | |

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Q. Similar to the Hawthorn SCR settlement, does KCPL suggest the
 transformer settlement is related to the Hawthorn subrogation proceeds litigated in Case No.
 ER-2007-0291?

A. Yes. Mr. Blanc states in his Rebuttal Testimony, page 51, lines 6-8, Staff's
position here, like the H5 SCR settlement and the subrogation proceeds, is a violation of the
"matching" principle and represents retroactive ratemaking.

7

Q. Does Staff agree with Mr. Blanc's statement?

8 Α. No. Similar to the SCR previously discussed in this surrebuttal testimony. 9 The subrogation proceeds received by KCPL in 2006 is a distinctly different issue then the 10 settlement proceeds for the Siemens transformer. KCPL recovered the costs related to the 11 transformer failure through rates set in the last three rates cases. The costs for replacement 12 power that KCPL claims their customers never paid for in this issue were paid for by KCPL 13 customers based on the rates set in Case No. ER-2006-0314. Higher capital and operating and 14 maintenance costs that occurred as a result of the transformer failure were paid by KCPL 15 customers through rates set in Case No. ER-2006-0314.

16

Q. Please summarize Staff's position with the Hawthorn 5 transformer settlement.

A. KCPL would have the Commission believe the settlement proceeds received from Siemens represented costs KCPL customers have never paid for and thus should not be entitled to the proceeds. Staff has presented evidence that contradicts KCPL's position. KCPL customers paid for the costs the Company claims the customers never paid. Staff recommends KCPL customers receive the benefit of the settlement proceeds by making an adjustment to increase depreciation reserve and making a corresponding adjustment to

1 depreciation in effect reducing KCPL's rate base as discussed in Staff's Cost of Service

- 2 Report at pages 111 to 112.
- 3

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Q. Does this conclude your surrebuttal testimony?

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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 for) Approval to Make Certain Changes in its) Charges for Electric Service to Continue the) Implementation of Its Regulatory Plan

File No. ER-2010-0355

AFFIDAVIT OF KAREN LYONS

| STATE OF MISSOURI |) | |
|-------------------|---|-----|
| |) | ss. |
| COUNTY OF COLE |) | |

Karen Lyons, of lawful age, on her oath states: that she has participated in the preparation of the foregoing Surrebuttal Testimony in question and answer form, consisting of $\underline{59}$ pages to be presented in the above case; that the answers in the foregoing Surrebuttal Testimony were given by her; that she has knowledge of the matters set forth in such answers; and that such matters are true and correct to the best of her knowledge and belief.

Karen 1y

Subscribed and sworn to before me this

2011. day of

D. SUZIE MANKIN Notary Public - Notary Seal State of Missouri Commissioned for Cole County My Commission Expires: December 08, 2012 Commission Number: 08412071

Notary Public

LAW OFFICES JOHNSON, LUCAS, GRAVES & PAIN SUITE 1902 POWER & LIGHT BUILDING KANSAS CITY MISSOURI

January 25, 1943

Arthur Anderson & Co 1604 Commerce Building Kansas City, Missouri

Re: Kansas City Power & Light Co.

Gentlemen:

On November 9, 1943 the Council of Kansas City, Missouri enacted an ordinance known as "Committee substitute for Ordinance No. 7373 as Amended" by the terms of which Chapter 9 of Ordinance No. 7100 was amended by repealing Sections 9-1.1 to 9-1.19, inclusive, and enacting in lieu thereof 980 new sections relating to the same subjects and fixing license fees for every corporation etc. engaged in electric light or power businesses etc,,. said new sections to be numbered [-] to 9-1.980 inclusive

By virtue of this section, the Kansas City Power & Light Company is no longer obligated to pay the license Fee of \$1,000.00 imposed upon electric light companies by Section 9-1 (case 788 of the revised Ordinances of Kansas City, 1941).

We are of the opinion that, by virtue of said power, that Kansas City Power and Light Company is no longer required to pay the license fee of fifty cents per year for the use of electrical meters provided for in said Section 9-1.

We are also of the opinion that the Kansas City Power & Light is no longer obligated to pay the rental of \$274.08 per year heretofore imposed upon the Kansas City Electrical Wire Subway Company for the rental of conduit space.

By virtue of Section 9-1-99 of the new ordinance, the Company will pay, in lieu of all other license or franchise Taxes, a license fee of 5% of the gross receipts derived from

LAW OFFICES JOHNSON, LUCAS, GRAVES & PAIN SUITE 1902 POWER & LIGHT BUILDING KANSAS CITY MISSOURI

Arthur Anderson & Co.----s January 25, 1943

the sale of electrical energy with in the present or future boundaries Kansas City for domestic or commercial consumption as in said section defined and delimited. Said section further provides that the first quarter-annual license fee shall be due hereunder on or before January 30, 1943, for the three months period commencing January 1, 1943, and ending March 31, 1943. And it further provides that license fees paid prior to the enactment of the ordinance shall be prorated as of January 1, 1943 and any amounts due licensee on account of any prepayment of license fees shall be credited upon said first quarter-annual license fee payment due and payable January 30, 1943.

Inasmuch as the meter tax of fifty cents per meter was paid in advance on the first day of November, 1943, for the fiscal year ending October 31, 1943 the company may deduct ten-twelfths of the amount so paid from the first quarter-annual license fee payment under the new ordinance.

Yours very truly,

JOHNSON, LUCAS, GRAVES & PAIN

SCHEDULE 1 - 2

FROM ORDERARDER ALO, 22473, an AREADED.

Sec. 9-1.99. ELECTRIC LIGHT OR POWER BUSINESS. Every electric light or power company, and every corporation, company association, joint stock company or association, partnership and person, their lessees, trustees or receivers appointed by any court whatsoever, owning, operating, controlling, leasing or managing any electric plant or system generating, maunfacturing, solling, distributing or transmitting electricity for light, heat or power, shall pay to the City a quarter-annual license fee to be due and payable to the City freasurer on or before the 30th days of January, April, July and October, respectively, of each year, based upon the business done during the preceding period of three (3) calendar months ending, respectively, on the last days of December, March, June and September. The amount of such quarterly license fee shall be five per cent (5%) of the gross receipts derived from the sale of electrical energy within the present or future boundaries of Kansas City during the said proceeding period of three (3) months ending as aforesaid for domestic or commercial consumption, as hereinafter defined, and not for resale. No electrical energy sold to the United States or to the State of Missouri, or to any agency or political subdivision thereof, shall be included in the computation of said gross receipts. The sale of electrical energy to an owner or lessee of a building, who purchases such electrical energy for resale to the tenants therein, shall, for the purposes of this section, be considered as a sale for consumption and not for resale, but the resale to the tenant shall not be considered as a sale for consumption. The licenses shall and it is hereby required to make true and faithful reports under oath to the Director of Finance and to the License Collector of Kansas City, in such form as may be prescribed by the Director of Finance, and containing such information as may be accessary to determine the amounts to which the license tax shall apply, on or before the 30th days of January, April, July, and October of each year, for all gross receipts for the three (3) calendar months ending, respectively, on the last days of December, March, June and Septembor. Each fee so paid shall constitute payment for the three (3) months beginning on the first days of the months of January, April, July and October, respectively, during which months such payments shall be due and payable as herein prescribed; provided, however, that the acceptance of such fee shall not prejudice the right of the city to collect any additional fees thereafter found to be due. The city, the Director of Finance thereof and his assistants, and any public accountants selected by the City Council or by the City Manager shall have the right, at all reasonable times during business hours, to make such examinations and inspections of the books of said

licenses et may be necessary to determine the correctness of such reports, and the originals of all records, books, documents, accounts, contracts and vouchers, showing accountely the true condition of the gross income and business of the licensee, shall be kept in its office in Kansas City, Missouri, and liconses shall not remove the same from the city except when necessary for temporary use or whon temporarily required to do so by legal process, and in any such case of temporary use or process, the same shall be promptly returned at the conclusion thereof to the office of the licensee in Kansas City, Hissouri. The city shall have the right, at its own expense, to employ the same accountants who wake the annual sudit of the books, records and accounts of the business of the licensee, to audit, ab the same time, its accounts and records and certify as to the correctness of any payments due and payable by the licensee to Kansas City.

For each and every nonth or part thereof, any such license fee remains unpaid, after the same becomes due and payable, there shall be added to such license fee, as a penalty for such delayed payment, ten per cent (10%) of the amount of such license fee for the first month or part thereof the same is unpaid, and for each and every month thereafter two per cent (2%) of the amount of such license fee until the same is fully paid.

The term "gross receipts" as applied to sales of electrical energy for domestic or commercial purposes, as used in this section, shall not include (1) electrical energy sold for industrial consumption such as for use in manufacturing, processign, mining, refining, ship-building, and building construction, and (2) that sold for other uses, which likewise cannot be classed as domestic or commercial, such as the electrical energy used by public utilities, telephone, telegraph and radio communication companies, railroads, or other common carriers, educational institutions not operating for profit, ohurches and charitable institutions; as such sales and usages have been construed by the United States Department of Internal Revenue under the Revenue Act of 1932 and amendments thereof.

Permission is hereby granted to licenses to trim trees upon and overhanging streets, alleys, sidewalks, and public places of said city so as to prevent the branches of such trees from coming in contact with the wires and cables of licenses, all the said trimming to be done under the supervision and direction of any city official to when said duties have been or may be delegated. Nothing horein contribute thall be construed as giving to a licensee any exclusive privileges, nor chall it affect any prior or existing rights of a licensee to maintain an electric plant within said city.

There an additional amount is added for failure to make payment of any electric bill within a prescribed period the license fee shall be based on the total amount actually paid, as part of the "gross receipts" of the licensee.

The first quarter-annual license fee shall be due and payable hereunder on or before January 30, 1943, for the three (3) months period commencing January 1, 1943, and ending Haroh 31, 1943, and licensee fees heretofore paid for the businesses herein described shall be prorated as of January 1, 1943, and any amounts due licensee on account of any prepayment of license fees shall be oredited upon said first quarter-annual licensee fee payment due and payable January 30, 1943.

Three per cent (3%) of all fees hereafter collected and paid into the City Treasury for licenses under and pursuant to the provisions of this Section shall belong exclusively to the Firemen's Pension Fund, and it shall be the duty of the City Council to appropriate and of the Director of Finance to apportion and oredit such fees to said Firenen's Pension Fund from time to time as the same are collected and paid.

Kansas City Power & Light Co. File No.

INTER-OFFICE CORRESPONDENCE

Subject May at Tages Cercle, Monreed

Mr. Frank F. Clark Controller

Dear Sir:

I am returning to you herewith check #92 of this Company in the amount of \$25 payable to the City Collector of the City of Sugar Creek, Mo., for the Merchants' License Tax for the year 1947.

The Board of Aldermen of the City of Sugar Greek on December 16 adopted an ordinance No. R-1097 Mitch levies a license fee equal to 5% of the gross receipts of this Company derived from the sale of electricity for domestic and commercial consumption within the present or future boundaries of such city. The ordinance applies to all receipts from and after January 1, 1917. We are proceeding to accept this ordinance and as soon as I have received cartified copies thereof I shall furnish you a copy and ask that you please see that the reports are prepared and filed and that payments are made thereunder when due.

Yours very truly,

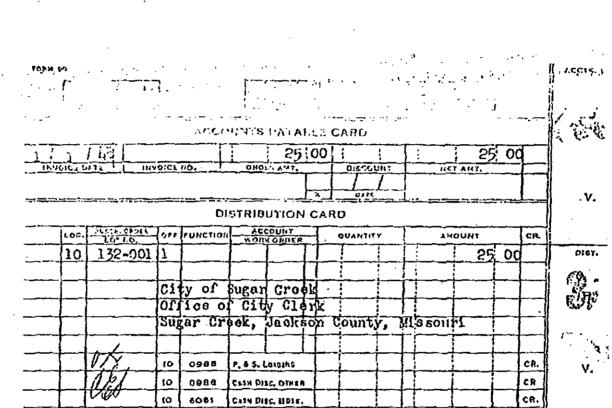
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January 15, 1947

Date

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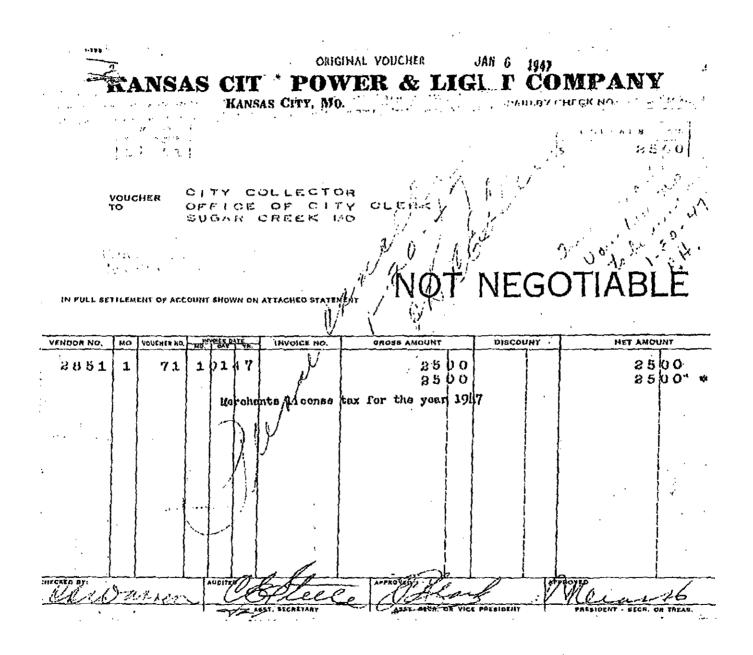


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SCHEDULE 3 - 2



SCHEDULE 3

SCHEDULE 3 - 3

Mr. H. C. Davis

bowr Sir:

Under date of Deccaber 16, 1946, an ordinance was passed by the City of Sugar Creek which requires us to pay a sum equal to 5% of our gross receipts derived from the sale of electricity used for domestic and connercial consumption. This is intended to mean that we will pay 5% of the revenue derived from the sale of current within the City Limits of Sugar Creek, Missouri less the same exemptions as are now contained in the federal 3 1/3% energy tax. The first payment is due on or before July 31. 1947 and covers a period for the six months beginning January 1. 1947 to June 30, 1947 and a like tax will be paid in July and January each year for the proceeding six months.

Will you please see that the Customer's Accounting Department furnishes us with the gross revenue and the exemptions so that we may pay this tax covered by the ordinance.

Yours very truly.

hard

FPC:vlt

co: R. C. LinvilleL C. E. Steele L. A. Brindley

SCHEDULE 5

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HIGHLY CONFIDENTIAL

IN ITS ENTIRETY

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Bulletin No. 172 1912 to July 1, 2010

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SCHEDULE 6 - 1

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WHITMAN, REQUARDT AND ASSOCIATES, LLP

ISSN 1092-955X

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| COST TRENDS OF WATER UTILITY CONSTRUCTION | | |
| Cost Trend Tables - 1912 to July 1, 2010 | | *** • • |
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| South Atlantic Region | W-2 | W-2-1 W-3-1 |
| North Central Region | W-3 W-4 | W-3-1 W-4-1 |
| South Central Region Plateau Region | W-4 W-5 | W-4-1 W-5-1 |
| Plateau Region Pacific Region | W-5 W-6 | W-6-1 |
| r avera region | 41 - U | ***·U**1 |

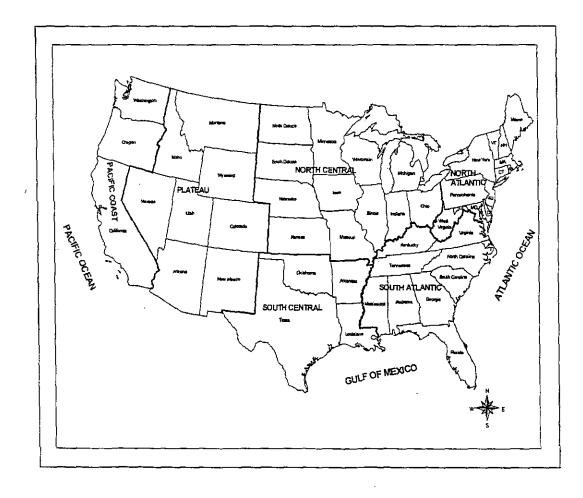
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TRENDS OF PUBLIC UTILITY CONSTRUCTION COSTS

GEOGRAPHIC REGIONS



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Foreword

Tradition of Quality

The Handy-Whitman Index of Public Utility Construction Costs has been published continuously since 1924. Formerly the Handy Index, Bulletin Nos. 1 through 15 were developed by William W. Handy of Baltimore who had wide valuation experience in public utilities. He believed that valuation studies should not be confined to rate cases but should be kept alive to the benefit of the utility industry. He began publishing index numbers for electric and gas construction cost trends. Carrying on with the tradition of quality, after Mr. Handy=s death, we continued publication for his estate beginning with Bulletin 16. Then, January I, 1950, Whitman, Requardt and Associates, LLP purchased rights to the publication and have since been the sole publishers.

The name AHandy-Whitman Index@ was adopted for Bulletin No. 53 and succeeding issues to combine the names of Mr. Handy and Ezra B. Whitman, a wellknown valuation engineer. In 1957 an index of water utility construction costs was added. Mr. Whitman was a consultant on the publication of the Index until his death in 1963.

Whitman, Requardt and Associates, LLP

Ezra B. Whitman, a well-known valuation engineer was one of the founders of our firm. Major Whitman, as he was known from his World War I service, had already made a name for himself. Prior to the founding of the firm in 1915, Major Whitman had been President and Chief Engineer of the Water Board of the City of Baltimore. He designed the first rapid sand filtration plant serving a major city while he was the Baltimore Water Engineer. He was also president of the American Society of Civil Engineers and of the American Institute of Consulting Engineers and a chairman of the Public Service Commission of Maryland.

The Handy-Whitman Index is prepared especially for electric, gas and water utilities and is the only known publication of its kind available to the public. The list of subscribers is international and includes operating utilities, regulatory bodies, valuation engineers, equipment industries, insurance companies and reference libraries.

Tradition of Quality Continued

Since 1915, Whitman, Requardt and Associates, LLP, has been an independent consulting engineering firm organized to serve government, industry and private enterprise.

The firm has steadily expanded its engineering capabilities, providing complete services for civil, sanitary, structural, mechanical and electrical engineering and architectural projects from job inception through construction management. Construction cost data from utility projects of all types are available from design and valuation assignments. The staff is composed of specialists in these and related disciplines who bring a diverse professional and academic expertise to each assignment. A full-time staff is maintained specifically for preparing the Handy-Whitman Index.

Methods of Preparation of Indexes

An index number is a percentage ratio between the cost of an item at any stated time and its cost at a base period, or:

Index Number = $\frac{\text{cost at stated time}}{\text{cost at base period}} \times 100$

Index numbers have been prepared for many items, including wage rates, cost-of-living, material and equipment costs, and financial transactions. In the Handy-Whitman Index, index numbers have been developed for ABuilding Construction@, AElectric Utility Construction@, AGas Utility Construction@ and AWater Utility Construction@. Prices of basic materials such as cement, sand, gravel, cast iron pipe, wire, etc., are obtained from publications such as Engineering News-Record and checked against prices actually being paid for such materials. Labor cost trends are computed from labor rates obtained from sources such as the Construction Labor Research Council. Prices and cost trends of equipment are obtained from nationally recognized manufacturers, and operating utilities.

Handy-Whitman Index numbers are developed from wage rates and prices prevailing on January 1 and July 1 each year. The index numbers are generally based on 1973 = 100, although those items of recent origin are based on a later year.

The proportions of basic materials, labor, equipment and other cost components used in the Handy-Whitman Index are based on analyses developed during valuation and design assignments and on data furnished by utilities and industrial sources willing to assist with the Index. These data are reviewed continuously, and weightings and components are revised as required. This review assures that the indexes published reflect current construction practice.

FOREWORD

Geographic Regions

To reflect differing cost trends throughout the 48 contiguous states, the index has been divided into six geographical regions of similar characteristics. They are shown on the accompanying map.

Use of Index Numbers

Handy-Whitman Index numbers have been widely used to trend earlier valuations and original cost records to estimate reproduction cost at prices prevailing at a certain date. The use of indexes for an appropriate property item or group will provide a reliable guide to changes in cost. Cost trends are given for all the important items of property. The electric and gas groups are arranged by the Federal Energy Regulatory Commission Uniform System of Accounts. The water property accounts are arranged to follow the classification of the National Association of Regulatory Utility Commissioners and the American Water Works Association.

The Handy-Whitman Index will furnish a yardstick for the fluctuations in value of property which will be satisfactory for many purposes. In rate cases, when a more exact determination of value is desired, however, the Index must be used carefully. Average prices and cost trends are used to develop the Index, and any direct application of cost trends without checking with actual local experience may not be accepted without controversy. When local experience is compared with the index and the correlation between the two trends is determined, the result is satisfactory. Costs trended by such a method are used to assist in establishing a rate base.

Indexes in these bulletins are used to trend earlier valuations or original cost records for insurance purposes.

The Handy-Whitman Index has a general application in valuations of all types of property. The building construction cost trends may be used wherever similar items of property are to be compared. Many of the other trends may be used for related items in other industries because of their similarity.

State-of-the-art changes often affect costs independently of inflation. New regulatory and environmental requirements, changes in work rules and improved design standards, for instance, increase construction costs even though the price of wages, materials and equipment may be static. Trended construction costs will not reflect such changes. However, trended costs are a reasonably accurate measure of the cost of reproducing actual plant. Although every effort is made to maintain accuracy, Whitman, Requardt and Associates, LLP disclaim any responsibility for the use of these indexes, because local conditions may vary.

No guarantee or warranty of any kind is made in the sale of the Handy-Whitman Index. Published numbers are occasionally subject to change based upon receipt of new or different information. These numbers will be bolded.

Further inquiries on electric, gas and water indexes should be addressed to Whitman, Requardt and Associates, LLP.

Total Electric Plant and Function

Three indexes are provided for total plant. The first is for all steam generation and the other two for weighted combinations of steam and nuclear, and steam and hydro generation. Indexes are also provided for each function.

Indexes are not maintained for plant accounts 323,324,325,341,345 and 346. We believe that indexes for comparable accounts in other functions are sufficiently accurate for these accounts.

The indexes for total nuclear production and total other production incorporate comparable indexes from the steam production function for the accounts not listed.

Value of Index Numbers

We believe that present-day reproduction cost of any property can be calculated more accurately using index numbers than by repricing a complete inventory.

Trending the controlling items of property in any utility by the index method saves time and effort in arriving at a valuation. Analyzing and determining cost trends for all of the great numbers of articles of plant that represent only a very small proportion of the value of the utility is not necessary. They may be assumed to follow in general the trend of the controlling items, and the fluctuations in value above or below the trends of the controlling items will tend to offset each other and have a very slight effect on the total value.

Comments on Bulletin No. 172

During the twelve month period ending July 1, 2010, the average index of all geographical regions for Total Gas Plant increased 4.6% and the comparable index for Electric Plant-All Steam Generation increased 5.2%.

> November 2010 Whitman, Requardt and Associates, LLP

COST TRENDS OF ELECTRIC UTILITY CONSTRUCTION

NORTH CENTRAL REGION (1973=100)

| | | | | | , | | OST II | NDEX | NUN | ABEF | us | | | | |
|---|--|--|---|--|--|--|---|--|--|---|--|--|---|--|---------------------------------|
| CONSTRUCTION AND EQUIPMENT | F E R C | 1 9 1 2 | 1 9 1 3 | 1 9 1 4 | 1 9 1 5 | 1 9 1 6 | 1 9 1 7 | 1 9 1 8 | 1 9 1 9 | 1 9 2 0 | 1 9 2 | 1 9 2 2 | 1 9 2 3 | 1 9 2 4 | 1 9 2 5 |
| Total Plant-All Steam Generation Total Plant-All Steam & Nuclear Gen. Total Plant-All Steam & Hydro Gen. | | 11 | 10 - | 10 | 11 11 | 13 13 | 16 16 | 18 - 19 | 19 20 | 21 22 | 20 20 | 18 19 | 19 19 | 19 20 | |
| Steam Production Plant Total Steam Production Plant Structures & Improvements-Indoor Structures & Improvements-Semi-Outdoor Boiler Plant Equipment-Coal Fired Boiler Plant Equipment-Gas Fired Boiler Plant Piping Installed Turbogenerator Units Accessory Electrical Equipment Misc. Power Plant Equipment | 311 311 312 312 314 314 315 316 | 9 0 - 8 - 10 9 15 - | 9 0 - 8 - 10 9 15 - | 9 0 - 8 - 10 9 15 - | 9 9 - 9 - 9 9 9 15 - | 12 12 10 - 11 13 16 - | 16 16 - 16 - 18 14 14 18 - | 18 17 - 19 - 20 18 21 - | 18 18 - 17 - 20 19 25 - | 20 21 - 18 - 19 22 27 | 19 19 - 16 - 18 23 28 - | 17 18 - 14 - 17 20 26 - | 18 18 - 16 - 18 19 26 | 19 18 17 18 19 27 | 18 18 16 19 28 |
| Nuclear Production Plant Total Nuclear Production Plant Structures & Improvements Reactor Plant Equipment | 321 322 | - | - - | - | - - - | - | - | - | - | | - - - | - | • | - - - | - |
| Hydro Production Plant Total Hydraulic Production Plant Structures & Improvements Reservoirs, Dams & Waterways Water Wheels, Turbines & Generators | 331 332 333 | - 8 | 8 | - 9 | 9 9 9 7 | 10 12 10 9 | 13 16 14 11 | 15 17 16 12 | 16 18 17 13 | 18 21 18 13 | 17 19 18 13 | 16 18 17 12 | - 16 18 17 12 | 16 18 18 12 | 1) 1) 1) 1) |
| Other Production Plant Total Other Production Plant Fuel Holders, Producers & Accessories Gas Turbogenerators | 342 344 | - | - | - | - | - | • | - | - | - | - - - | - | - - - | - - - | - |
| Transmission Plant Total Transmission Plant Station Equipment Towers & Fixtures Poles & Fixtures Overhead Conductors & Devices Underground Conduit Underground Conductors & Devices | 353 354 355 356 357 358 | 11 16 8 6 17 7 13 | 11 16 9 6 16 7 12 | 11 15 9 6 15 7 11 | 11 16 9 7 16 8 12 | 14 17 12 7 24 8 17 | 16 21 15 9 27 11 18 | 19 25 16 9 30 13 21 | 21 27 16 11 31 14 22 | 22 31 17 14 32 17 23 | 21 31 16 14 23 18 19 | 19 28 15 13 21 17 18 | 20 29 15 13 23 16 22 | 21 30 16 14 24 17 21 | 2 3(1) 2: 1(2) |
| Distribution Plant Total Distribution Plant Station Equipment Poles, Towers & Fixtures Overhead Conductors & Devices Underground Conduit Underground Conductors & Devices Line Transformers Pad Mounted Transformers Services-Overhead Services-Underground Meters Installed Street Lighting-Overhead Mast Arms & Luminaires Installed | 362 364 365 366 367 368 368 369 369 370 373 373 | 13 18 6 13 8 13 43 - 12 12 12 31 - | 12 18 6 13 8 12 43 - 11 12 31 | 12 18 6 12 8 11 43 - 10 12 31 - | 13 18 7 13 9 12 43 - 11 14 31 - | 14 18 7 19 9 17 43 - 16 16 31 - | 17 22 9 21 12 19 46 - 17 17 36 - | 20 26 11 24 15 22 62 - 19 20 40 - | 22 27 12 24 16 23 65 - 20 22 44 - | 24 31 14 26 19 24 69 - 21 23 46 | 22 31 14 19 21 20 70 - 16 19 49 - | 21 29 14 17 19 62 - 14 16 46 - | 21 30 13 18 19 23 61 - 16 17 44 | 22 32 14 19 22 62 16 18 44 22 | |

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COST TRENDS OF ELECTRIC UTILITY CONSTRUCTION

NORTH CENTRAL REGION (1973=100)

| | | | | | | | C | I TZC | NDEX | (NUI | BEF | s | | | | |
|--|--|--|---|---|---|---|---|---|---|---|---|---|---|---|--|---|
| L i n e | CONSTRUCTION AND EQUIPMENT | F E R C | 1 9 2 6 | I 9 2 7 | 1 9 2 8 | 1 9 2 9 | 1 9 3 | I 9 3 | 1 9 3 2 | 1 9 3 3 | 1 9 3 4 | 1 9 3 5 | 1 9 3 6 | 1 9 3 7 | 1 9 3 8 | 1 9 3 9 |
| 1 2 3 4 | Total Plant-All Steam Generation Total Plant-All Steam & Nuclear Gen. Total Plant-All Steam & Hydro Gen. | | 19 20 | 19 19 | 19 - 20 | 20 20 | 19 - 20 | 19 - 19 | 18 17 | 18 18 | 20 - 19 | 20 20 | 20 20 | 22 - 22 | 22 22 22 | 9 22 - 23 |
| 5 6 7 8 9 10 11 | Steam Production Plant Total Steam Production Plant Structures & Improvements-Indoor Structures & Improvements-Semi-Outdoor Boiler Plant Equipment-Coal Fired Boiler Plant Equipment-Gas Fired Boiler Plant Piping Installed | 311 311 312 312 | 18 18 16 - | 18 18 16 - | 18 17 - 16 - 20 | 19 17 16 - 20 | 19 16 16 20 | 18 16 - 16 - 20 | 17 14 - 14 - 18 | 17 14 - 14 - 16 | 19 16 - 16 | 19 15 - 16 | 20 16 17 17 | 22 17 - 19 - 19 | 22 17 - 19 - 19 | 22 17 - 20 - 19 |
| 12 13 14 15 | Turbogenerator Units Accessory Electrical Equipment Misc. Power Plant Equipment | 314 315 316 | 19 28 - | 19 27 - | 19 28 - | 21 30 - | 22 29 | 22 29 - | 21 28 - | 22 28 | 25 30 - | 26 30 | 26 31 - | 29 33 - | 30 33 - | 30 33 - |
| 16 17 18 19 20 | Nuclear Production Plant Total Nuclear Production Plant Structures & Improvements Reactor Plant Equipment | 321 322 | - | - | | - | - | | - | - | - - - | - - - | - - - | - | | - - |
| 21 22 23 24 25 26 | Hydro Production Plant Total Hydraulic Production Plant Structures & Improvements Reservoirs, Dams & Waterways Water Wheels, Turbines & Generators | 331 332 333 | 16 18 18 12 | 16 18 18 12 | 17 17 18 13 | 17 17 18 14 | 17 16 18 14 | 16 16 17 14 | 14 14 15 13 | 15 14 15 13 | 16 16 16 14 | 16 15 16 16 | 17 16 17 16 | 18 17 18 17 | 18 17 18 18 | 18 17 18 19 |
| 27 28 29 30 31 | Other Production Plant Totai Other Production Plant Fuel Holders, Producers & Accessories Gas Turbogenerators | 342 344 | | • | - | - - | - | - | - | • | ·· | - | - | · - - | | - |
| 32 33 34 35 36 37 38 39 | Transmission Plant Total Transmission Plant Station Equipment Towers & Fixtures Poles & Fixtures Overhead Conductors & Devices Underground Conduit Underground Conductors & Devices | 353 354 355 356 357 358 | 20 30 16 14 24 16 21 | 20 30 15 13 23 17 20 | 21 30 15 13 25 17 21 | 21 31 15 13 27 17 24 | 20 30 15 14 23 17 19 | 19 30 15 14 22 17 19 | 18 28 13 13 20 15 18 | 19 30 13 12 21 15 19 | 20 32 14 13 23 16 21 | 20 33 14 13 23 16 21 | 21 33 16 14 23 16 22 | 23 36 17 15 25 17 25 | 23 36 17 15 24 18 22 | 23 36 17 15 24 18 22 |
| 40 41 42 43 44 45 46 47 48 49 50 51 52 53 | Distribution Plant Total Distribution Plant Station Equipment Poles, Towers & Fixtures Overhead Conductors & Devices Underground Conductors & Devices Line Transformers Pad Mounted Transformers Services-Overhead Services-Underground Meters Installed Street Lighting-Overhead | 362 364 365 366 367 368 368 369 369 369 370 373 | 21 30 14 19 22 58 - 16 19 43 22 | 20 30 13 19 21 53 - 16 19 43 | 21 30 13 20 19 22 52 - 17 18 43 22 | 22 31 14 22 19 25 56 - 19 19 43 22 | 21 31 14 19 20 55 - 16 18 43 22 | 20 32 13 17 19 20 54 - 15 17 43 | 30 12 16 17 19 52 - 14 16 43 | 19 30 12 16 17 20 53 - 14 16 44 | 20 32 13 18 18 22 55 - 16 17 48 | 20 33 13 18 22 56 - 16 17 48 | 22 33 14 19 23 56 - 16 18 48 | 23 35 15 20 19 26 60 - 18 21 48 | 23 36 16 20 23 61 17 19 48 | 24 36 19 20 23 61 - 17 18 48 |
| 54 55 56 | Mast Arms & Luminaires Installed Street Lighting-Underground | 373 373 373 | - - 23 | 21 - 22 | 22 - 23 | 22 - 24 | 22 - 25 | 22 - 25 | 22 - 25 | 21 - 25 | 23 - 25 | 23 25 | 24 - 25 | 25 - 26 | 24 26 | - |

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COST TRENDS OF ELECTRIC UTILITY CONSTRUCTION

NORTH CENTRAL REGION (1973=100)

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|------------------|--|------------------|-------------|-------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-------------|------------------|------------------|
| Ĺ i n e | CONSTRUCTION AND EQUIPMENT | F E R C | 1 9 4 | 1 9 4 | 1 9 4 2 | 1 9 4 3 | 1 9 4 4 | 1 9 4 5 | 1 9 4 6 | 1 9 4 7 | 1 9 4 8 | 1 9 4 9 | 1 9 5 0 | 1 9 5 | 1 9 5 2 | 1 9 5 3 |
| 1 | Total Plant-All Steam Generation | \uparrow | 22 | 23 | 24 | 24 | 24 | 25 | 28 | 33 | 36 | 38 | 40 | 45 | 46 | 4 |
| 2 3 | Total Plant-All Steam & Nuclear Gen. Total Plant-All Steam & Hydro Gen. | | - 23 | - 24 | - 24 | - 25 | - 25 | - 25 | - 29 | - 34 | 37 | - 39 | - 40 | 44 | 46 | - 4 |
| 4 | · · · · | | | - 1 | - 1 | | | | | | | | | - 11 | | - |
| 5 | Steam Production Plant | 1 1 | | ļ | | | ļ | ļ | ļ | | | | 1 | (| l | |
| 6 | Total Steam Production Plant | | 23 | 24 | 24 | 24 | 24 | 25 | 29 | 32 | 36 | 39 | 40 | 44 | 45 | 4 |
| 7 | Structures & Improvements-Indoor | 311 | 18 | 19 | 20 | 20 | 21 | 22 | 24 | 28 | 32 | 33 | - 34 | 37 | 38 | 4 |
| 8 | Structures & Improvements-Semi-Outdoor | 311 | - | - | - | - | - | - | - | - | - [| - | - | 38 | 38 | 4 |
| 9 | Boiler Plant Equipment-Coal Fired | 312 | 20 | 21 | 22 | 22 | 22 | 22 | 24 | 27 | 32 | - 38 | 38 | 41 | 42 | 4 |
| 10 | Boiler Plant Equipment-Gas Fired | 312 | - | - | - | - | - 1 | - | - | • | - | - | - | - | - | - |
| 11 | Boiler Plant Piping Installed | 1 (| 19 | 20(| 21 | 21 | 21 | 21 | 23 | 26 | 29(| 30 | 33 | 36 | 37 | 3 |
| 12 | Turbogenerator Units | 314 | - 30 | 30 | 30 | 30 | 30 | 31 | 38 | 43 | 45 | 47 | 48 | 52 | 52 | 5 |
| 13 | Accessory Electrical Equipment | 315 | 33 | 34 | 34 | 34 | 32 | 32 | 37 | 42 | 44 | 46 | 49 | 57 | 58 | 6 |
| 14 | Misc. Power Plant Equipment | 316 | - | - | - | - | - | - 1 | - | - | - | 37 | 38 | 41 | 43 | 4 |
| 15. | · | 1 1 | 1 | | 1 | | | | 1 | 1 | [| _ | - | | ,- | |
| 16 | Nuclear Production Plant | | | | i | - 1 | | | | - 1 |] | | | | Ì | |
| 7 | Total Nuclear Production Plant | | • | - | - | - | - | - 1 | - 1 | - | . | - | - | - | _ | |
| 8 | Structures & Improvements | 321 | - 1 | - | - 1 | - | - 1 | - 1 | - Ì | - | - Ì | - | · • 1 | - I | ' _ Ì | } _ |
| 9 | Reactor Plant Equipment | 322 | - | - | . | - | - | - | - | - 1 | . | - | _ | _ | | |
| 20 | | 1 | Ì | 1 | Í | 1 | 1 | 1 | - I | - 1 | 1 | 1 | | | | - |
| 11 | Hydro Production Plant | | - 1 | | | | | | | | | | | | | |
| 22 | Total Hydraulic Production Plant | 1 1 | 19 | 20 | 21 | 21 | 21 | 22 | 25 | 29 | 33 | 34 | 35 | 38 | 40 | |
| 23 | Structures & Improvements | 331 | 18 | 19 | 20 | 20 | 21 | 22 | 24 | 28 | 32 | 33 | 34 | | 38 | |
| 24 | Reservoirs, Dams & Waterways | 332 | 19 | 20 | 21 | 21 | 21 | 22 | 25 | 29 | 32 | 34 | 35 | 38 | 39 | |
| 25 | Water Wheels, Turbines & Generators | 333 | 20 | 21 | 22 | 23 | 23 | 23 | 26 | 31 | 34 | 35 | 37 | 41 | 43 | 4 |
| 26 | | 1 333 | 20 | -1 | 24 | [| | ~ | 20 | (| 24 | ارد | 21 | 41 | 43 | 4 |
| 27 | Other Production Plant | 1 1 | | | 1 | | | | | | | | | | | |
| 28 | Total Other Production Plant | | ļ |] | _ | l | Į | Į | - (| - { | (| - 1 | | | | |
| 29 | Fuel Holders, Producers & Accessories | 342 | - | - | | -] | - 1 | •] | •] | - 1 | - | - 1 | - | - | - | - |
| 30 | Gas Turbogenerators | | - [| - | - i | • | - | - | - | - | - | - | • | - 1 | - | - |
| 31 | Cas Turbogenerators | 344 | -) | - | -) | - } | -) | - | -) | -] | -] | - 1 | - | - | - 1 | - 1 |
| 2 2 | Transmission Plant | | - 1 | 1 | - | | | ł | · | 1 | ļ | | | | | |
| ,2 33 | | | | 1 | | 1 |) | | 1 | 1 | 1 | 1 | | | - i | |
| | Total Transmission Plant | 1 1 | 24 | 24 | 25 | 25 | 26 | 26 | 29 | 34 | 38 | 39 | 41 | 46 | 47 | |
| 34 | Station Equipment | 353 | 36 | 37 | 38 | 37 | 35 | 35 | 40 | 48 | 50 | 53 | 57 | 64 | 66 | . 6 |
| 35 | Towers & Fixtures | 354 | 17 | 18 | 19 | 19 | 20 | 21 | 23 | 27 | 29 | 31 | 33 | 36 | 37 | |
| 56 | Poles & Fixtures | 355 | 16 | 17 | 18 | 19] | 21 | 22 | 24 | 29 | 32 | 32 | 34 | 37 | - 38 | 1 |
| 17 | Overhead Conductors & Devices | 356 | 24 | 25 | 26 | 26 | 26 | 27 | 32 | 37 | 40 | 40 | 42 | 46 | 49 | 1 |
| 38 | Underground Conduit | 357 | 18 | 18 | 19 | 20 | 20 | 22 | 24 | 27 | 31 | 32 | - 34 | | - 38 | |
| 19 | Underground Conductors & Devices | 358 | 23 | 26 | 27 | 27 | 26 | 26 | 31 | 36 | 43 | 47 | 51 | 62 | 64 | 6 |
| 0 | | 1 1 | | | | | | 1 | | | - 1 | | | | | |
| 11 | Distribution Plant | | | Ì | | | | Ī | | | | | | | | |
| 12 | Total Distribution Plant | | 24 | 25 | 26 | 26 | 26 | 27 | 30 | 36 | 39 | 40 | 41 | 45 | 47 | 1 |
| 13 | Station Equipment | 362 | 36 | 37 | 37 | 37 | 35 | 36 | 40 | 45 | 47 | 49 | 52 | 57 | 59 | 6 |
| 1 4 i | Poles, Towers & Fixtures | 364 | 16 | 18 | 18 | 19 | 21 | 23 | 24 | 29 | 32 | 32 | 34 | 36 | 38 | |
| 15 1 | Overhead Conductors & Devices | 365 | 19 | 19 | 21 | 21 | 21 | 22 | 25 | 29 | 31 | 31 | 33 | | 39 | |
| 6 | Underground Conduit | 366 | 20 | 21 | 22 | 22 | 22 | 23 | 26 | 29 | 33 | 34 | 36 | 38 | 40 | |
| 17 | Underground Conductors & Devices | 367 | 24 | 27 | 28 | 28 | 27 | 27 | 32 | 38 | 45 | 50 | 53 | 66 | 68 | $ \epsilon $ |
| 18 | Line Transformers | 368 | 61 | 63 | 63 | 59 | 59 | 59 | 66 | 82 | 85 | 87 | 92 | 103 | 104 | |
| 19 | Pad Mounted Transformers | 368 | - 1 | - | | . 1 | . 1 | . 1 | . 1 | .] | - | 103 | 103 | 103 | 103 | |
| 50 | Services-Overhead | 369 | 17 | 17 | 18 | 19 | 19 | 19 | 22 | 26 | 28 | 28 | 30 | 35 | 37 | |
| 51 | Services-Underground | 369 | 20 | 23 | 23 | 24 | 24 | 24 | 27 | 31 | 35 | 36 | 38 | 44 | 43 | |
| 52 | Meters Installed | 370 | 48 | 49 | 49 | 49 | 49 | 49 | 55 | 62 | 65 | 71 | 71 | 44 71 | 43 70 | |
| 53 | Street Lighting-Overhead | 373 | 24 | 26 | 26 | 26 | 26 | 26 | 29 | 36 | 39 | | 44 | | | |
| 54 | Mast Arms & Luminaires Installed | 373 | 24 | 20 | 20 | 20 | 20 | 20 | 29 | 20 | 39 | 42 | 44 | 49 | 50 | 5 |
| | Alling the second of Higheriou | 1 212 | | - 1 | - 1 | | | . 1 | - [| - 1 | - 1 | 42 | - { | - (| - 1 | - 1 |
| 55 | Street Lighting-Underground | 373 | 26 | 27 | 28) | 28 | 29] | 29] | 31 | 38] | 42 | | 42 | 46 | 47 | 4 |

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COST TRENDS OF ELECTRIC UTILITY CONSTRUCTION

NORTH CENTRAL REGION (1973=100)

| | | | | | | | C | OST I | NDE | K NUI | MBEI | s | | | | |
|--|---|--|--|--|--|--|--|--|---|---|---|--|--|--|--|---|
| L i n t | CONSTRUCTION AND EQUIPMENT | F E R C | 1 9 5 4 | 1 9 5 5 | 1 9 5 6 | 1 9 5 7 | I 9 5 8 | 1 9 5 9 | 1 9 6 0 | 1 -9 6 1 | l 9 6 2 | 1 9 6 3 | 1 9 6 4 | 1 9 6 5 | 1 9 6 | 1 9 6 7 |
| 1 2 3 4 | Total Plant-All Steam Generation Total Plant-All Steam & Nuclear Gen. Total Plant-All Steam & Hydro Gen. | | 50 50 | 52 51 | 56 - 56 | 60 59 | 61 61 | 62 62 | 62 - 61 | 61 - 61 | - 61 61 | 61 - 61 | 63 - 62 | 65 64 64 | 66 66 66 | 69 69 |
| 5 6 7 8 9 10 11 12 13 14 | Steam Production Plant Total Steam Production Plant Structures & Improvements-Indoor Structures & Improvements-Semi-Outdoor Boiler Plant Equipment-Coal Fired Boiler Plant Equipment-Gas Fired Boiler Plant Piping Installed Turbogenerator Units Accessory Electrical Equipment Misc. Power Plant Equipment | 311 311 312 312 314 314 315 316 | 41 57 62 | 51 44 48 - 43 59 64 48 | 57 47 50 54 - 48 68 67 51 | 62 50 55 60 - 53 76 71 54 | 65 51 56 62 - 54 81 73 55 | 66 53 57 64 - 57 80 74 58 | 65 54 57 65 - 60 75 68 58 | 63 54 56 64 - 60 70 60 59 | 63 54 56 65 - 60 68 61 60 | 63 55 57 65 - 61 68 59 61 | 65 56 58 66 - 62 69 62 62 | 66 58 59 68 - 63 70 66 | 68 60 61 69 - 65 71 67 | 70 62 62 71 - 68 73 72 |
| 15 16 17 18 19 20 | Nuclear Production Plant Total Nuclear Production Plant Structures & Improvements Reactor Plant Equipment | 321 322 | - | - | | - - - | - | - | | - | - | - | 02 - - | 64 66 62 66 | 65 67 64 68 | 68 70 66 71 |
| 21 22 23 24 25 26 | Hydro Production Plant Total Hydraulic Production Plant Structures & Improvements Reservoirs, Dams & Waterways Water Wheels, Turbines & Generators | 331 332 333 | 44 42 43 47 | 46 44 45 49 | 50 47 48 56 | 53 50 51 62 | 55 51 52 65 | 57 53 54 66 | 58 54 56 66 | 58 54 56 65 | 59 54 57 64 | 60 55 58 65 | 61 56 60 66 | 62 58 62 67 | 64 60 64 69 | 67 62 67 71 |
| 20 27 28 29 30 31 | Other Production Plant Total Other Production Plant Fuel Holders, Producers & Accessories Gas Turbogenerators | 342 344 | - - | - | - | - - | | - | - | | | - | 72 61 74 | 73 62 74 | 75 64 77 | 83 66 85 |
| 32 33 34 35 36 37 38 39 | Transmission Plant Total Transmission Plant Station Equipment Towers & Fixtures Poles & Fixtures Overhead Conductors & Devices Underground Conduit Underground Conductors & Devices | 353 354 355 356 357 358 | 51 71 41 42 53 42 65 | 53 72 42 43 57 43 69 | 57 78 45 46 62 46 67 | 58 82 47 49 65 48 59 | 60 86 49 50 64 50 58 | 60 84 51 50 62 51 61 | 60 78 52 52 63 53 62 | 58 70 53 53 63 54 61 | 58 69 54 54 65 55 61 | 58 65 55 60 57 62 | 60 69 57 56 64 58 66 | 63 72 60 58 66 60 71 | 66 75 63 60 69 62 72 | 79 66 63 71 |
| 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 | Distribution Plant Total Distribution Plant Station Equipment Poles, Towers & Fixtures Overhead Conductors & Devices Underground Conduit Underground Conductors & Devices Line Transformers Pad Mounted Transformers Services-Overhead Services-Underground Meters Installed Street Lighting-Overhead Mast Arms & Luminaires Installed | 362 364 365 366 367 368 368 369 369 370 373 373 | 41 42 43 69 112 103 40 44 | 42 46 45 72 112 103 43 44 72 | 45 50 47 115 103 46 46 75 58 | 57 76 48 49 62 122 103 44 45 79 62 71 | 57 78 49 51 61 119 103 44 43 81 66 72 | 59 79 49 50 52 64 114 103 46 44 83 65 67 | 77 51 | 59 71 52 56 64 109 96 49 43 83 65 67 | 59 72 53 54 57 64 100 95 50 45 83 65 66 | 59 70 54 54 59 65 93 96 50 46 83 66 67 | 61 72 55 56 60 70 93 92 52 48 83 67 68 | 63 73 57 59 61 75 91 55 52 83 67 69 | 75 59 61 62 76 96 94 57 56 83 69 | 78 61 65 64 78 100 97 61 59 84 73 |

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COST TRENDS OF ELECTRIC UTILITY CONSTRUCTION

NORTH CENTRAL REGION (1973=100)

| | | | | | | | C | DST I | NDE | K NU | MBEI | RS | | | | |
|--|--|--|---|---|---|--|--|--|---|---|--|---|--|---|--|---|
| L. í n e | CONSTRUCTION AND EQUIPMENT | F E R C· | 1 9 6 8 | 1 9 6 9 | 1 9 7 0 | 1 9 7 1 | 1 9 7 2 | 1 9 7 3 | 1 9 7 4 | 1 9 7 5 | 1 9 7 6 | 1 9 7 7 | 1 9 7 8 | 1 9 7 9 | 1 9 8 0 | 1 9 8 - 1 |
| 1 2 3 4 | Total Plant-All Steam Generation Total Plant-All Steam & Nuclear Gen. Total Plant-All Steam & Hydro Gen. | | 72 71 72 | 77 77 77 77 | 83 83 84 | 90 90 90 | 94 95 95 | 100 100 100 | 119 119 119 | 138 138 138 | 146 145 146 | 156 155 156 | 166 165 165 | 181 181 181 | 198 197 198 | 216 215 215 |
| 5 6 7 8 9 10 11 12 13 | Steam Production Plant Total Steam Production Plant Structures & Improvements-Indoor Structures & Improvements-Semi-Outdoor Boiler Plant Equipment-Coal Fired Boiler Plant Equipment-Gas Fired Boiler Plant Piping Installed Turbogenerator Units Accessory Electrical Equipment | 311 311 312 312 314 314 | 72 66 65 74 - 70 73 76 | 76 71 71 77 - 73 75 82 | 81 77 76 82 - 80 81 88 | 89 86 89 - 89 90 93 | 95 92 92 95 - 96 98 97 | 100 100 100 100 - 100 100 100 | 118 117 123 120 - 113 110 116 | | 145 133 138 151 - 135 140 143 | 155 141 142 161 - 145 154 158 | 168 155 156 176 - 162 165 166 | 169 173 193 180 183 | 203 184 193 211 - 195 199 194 | 221 197 201 230 212 220 216 |
| 14 15 16 17 18 19 20 | Mise. Power Plant Equipment Nuclear Production Plant Total Nuclear Production Plant Structures & Improvements Reactor Plant Equipment | 316 321 322 | 72 72 69 73 | 77 77 74 78 | 83 83 81 84 | 89 90 89 91 | 94 95 94 95 | 100 100 100 100 | 114 114 114 114 114 | 127 | 135 135 137 130 139 | 148 | 150 160 159 150 159 | 176 174 | 192 | 215 208 193 |
| 21 22 23 24 25 26 | Hydro Production Plant Total Hydraulic Production Plant Structures & improvements Reservoirs, Dams & Waterways Water Wheels, Turbines & Generators | 331 332 333 | 70 66 70 73 | 75 71 75 78 | 80 77 80 83 | 87 86 87 89 | 94 92 93 95 | 100 100 100 100 | 116 117 117 114 | 130 129 129 129 | 135 133 131 142 | 143 141 137 157 | 156 155 150 171 | 173 169 167 189 | 184 185 | 206 197 196 233 |
| 27 28 29 30 31 | Other Production Plant Total Other Production Plant Fuel Holders, Producers & Accessories Gas Turbogenerators | 342 344 | 87 69 89 | 90 75 92 | 94 82 95 | 98 89 98 | 99 95 100 | 100 100 100 | 107 114 107 | 132 129 132 | 146 139 147 | 161 150 162 | 166 166 168 | 180 182 181 | 198 | |
| 32 33 34 35 36 37 38 39 40 | Transmission Plant Total Transmission Plant Station Equipment Towers & Fixtures Poles & Fixtures Overhead Conductors & Devices Underground Conduit Underground Conductors & Devices | 353 354 355 356 357 358 | 72 82 69 65 72 68 72 | 78 86 76 71 81 73 79 | 85 90 81 78 91 80 84 | 91 92 87 83 100 91 83 | 94 94 93 87 99 97 92 | 100 100 100 100 100 100 100 | 122 125 122 126 118 111 135 | 143 148 140 143 146 122 136 | 150 152 140 143 167 131 138 | 160 164 145 149 180 141 151 | 166 175 159 158 172 153 151 | 180 189 176 174 184 166 180 | 205 196 190 207 | 204 210 232 194 |
| 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 | Distribution Plant Total Distribution Plant Station Equipment Poles, Towers & Fixtures Overhead Conductors & Devices Underground Conductors & Devices Line Transformers Pad Mounted Transformers Services-Overhead Services-Overhead Services-Underground Meters Installed Street Lighting-Overhead Street Lighting-Underground | 362 364 365 366 367 368 369 369 370 373 373 373 | 71 81 64 67 76 103 99 65 64 87 75 73 71 | 78 87 70 79 74 83 101 97 75 72 91 82 78 | 85 91 78 89 81 88 102 97 87 78 95 90 92 | 92 84 98 88 102 99 94 81 100 | 94 89 93 99 100 100 97 88 | 100 100 100 100 100 100 100 100 100 100 | 119 122 124 116 111 125 109 104 108 115 108 122 117 | 142 | 145 142 | 154 160 150 174 136 142 145 118 139 118 140 169 168 | 171 161 170 148 151 155 | 181 181 182 161 185 164 138 163 137 148 205 | 195 197 201 172 209 164 159 181 162 146 | 213 216 220 185 214 192 187 195 181 163 245 |

E-3-5

COST TRENDS OF ELECTRIC UTILITY CONSTRUCTION

NORTH CENTRAL REGION (1973=100)

| | | | | | | | C | OST I | NDE | K NU | MBEI | RS | | | | |
|----------|---|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| L | | F | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | 1 |
| l i | CONSTRUCTION AND EQUIPMENT | Е | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| n | CONSTRUCTION AND EQUIPMENT | R | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 9 | 9 | 9 | 9 | 9 | 9 |
| ¢ | | С | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | Í | 2 | 3 | 4 | 5 |
| 1 | Total Plant-All Steam Generation | | 229 | 235 | 241 | 246 | 249 | 254 | 272 | 284 | 293 | 297 | 302 | 311 | 324 | 336 |
| 2 | Total Plant-All Steam & Nuclear Gen. | | 228 | 235 | 241 | 246 | 249 | 254 | 272 | 284 | 293 | 296 | 301 | 310 | 323 | 335 |
| 3 | Total Plant-All Steam & Hydro Gen. | | 227 | 234 | 241 | 246 | 249 | 254 | 272 | 284 | 292 | 296 | 301 | 310 | 323 | 335 |
| 5 | Steam Production Plant | | | · | 8 | - { | | | | | | | | | | 1 |
| 6 | Total Steam Production Plant | | 231 | 239 | 248 | 255 | 259 | 266 | 283 | 294 | 202 | | - 22.0 | 100 | | |
| 7 | Structures & Improvements-Indoor | 311 | 204 | 212 | 221 | 228 | 234 | 240 | 263 | 294 | 303 264 | 306 264 | 312 | - 1 | 337 295 | 348 304 |
| 8 | Structures & Improvements-Semi-Outdoor | 311 | 200 | 205 | 218 | 227 | 233 | 241 | 252 | 260 | 262 | | | | 287 | 297 |
| 9 | Boiler Plant Equipment-Coal Fired | 312 | 242 | 248 | 258 | 266 | 270 | 280 | 297 | 309 | 323 | 330 | 337 | | 359 | 369 |
| 10 | Boiler Plant Equipment-Gas Fired | 312 | - | - | - | - | - | - | - | - | - | - | - | - 1 | | - 1 |
| 12 | Boiler Plant Piping Installed Turbogenerator Units | | 229 | 226 | 230 | 234 | | 249 | 272 | 280 | 1 | 285 | | | | 311 |
| 13 | Accessory Electrical Equipment | 314 315 | 234 243 | 247 251 | 255 | 258 | | 263 | 280 | 289 | 295 | 300 | | | | 343 |
| 14 | Misc. Power Plant Equipment | 316 | 243 | 201 | 247 255 | 249 267 | 254 272 | 256 280 | | 302 305 | 312 314 | 318 319 | | | | 368 |
| 15 | | 510 | ~~~ | 240 | 2.55 | 207 | 412 | 200 | 293 | 303 | 314 | 212 | 326 | 338 | 356 | 366 |
| 16 | Nuclear Production Plant | | | | | | | | | | | | • | | | |
| 17 | Total Nuclear Production Plant | | 223 | 231 | 237 | 242 | 245 | . 254 | 268 | 279 | 285 | 289 | 295 | 304 | 317 | 327 |
| 18 | Structures & Improvements | 321 | 203 | 210 | 217 | 222 | 225 | 232 | 240 | 246 | 251 | 253 | 260 | 271 | 285 | 292 |
| 19 | Reactor Plant Equipment | 322 | 223 | 231 | 237 | 242 | 246 | 258 | 272 | 285 | 292 | 296 | 301 | 309 | 318 | 329 |
| | Hydro Production Plant | | | | 1 | ļ | | | | | | | | | | |
| 22 | Total Hydraulic Production Plant | | 214 | 222 | 230 | 237 | 242 | 249 | 260 | 266 | 270 | 272 | 276 | 287 | 298 | 307 |
| 23 | Structures & Improvements | 331 | 204 | 212 | 221 | 228 | 234 | 240 | | 261 | 264 | 264 | 270 | | | 304 |
| 24 | Reservoirs, Dams & Waterways | 332 | 202 | 209 | 217 | 223 | 230 | 237 | 245 | 249 | 251 | 251 | 256 | | 279 | 286 |
| 25 | Water Wheels, Turbines & Generators | 333 | 247 | 257 | 266 | 272 | 273 | 278 | 297 | 310 | 317 | 329 | 329 | 337 | | |
| 26 | Other Production Plant | | | | | | - | - { | | | | | - 1 | | | |
| 28 | Total Other Production Plant | | 220 | | | | - | | | 222 | / | | | | | |
| 29 | Fuel Holders, Producers & Accessories | 342 | 229 230 | 235 230 | 238 235 | 241 242 | 245 248 | 264 257 | 309 272 | 333 285 | | 346 | | | | |
| 30 | Gas Turbogenerators | 344 | 230 | 230 | 239 | 242 | - 1 | 267 | _ | | 293 348 | 298 354 | 302 362 | 309 366 | 316 355 | |
| 31 | | 214 | 250 | 230 | 237 | 272 | 270 | 207 | 515 | 1,41 | 540 | 3.J# | 302 | 200 | 333 | 339 |
| 32 | Transmission Plant | | | | ' 1 | | | | | | | | ĺ | | | |
| 33 | Total Transmission Plant | | 231 | 237 | 239 | 243 | 246 | 249 | 275 | 289 | 300 | 306 | 309 | 319 | 335 | 351 |
| 34 | Station Equipment Towers & Fixtures | 353 | 236 | 237 | 24I | 245 | 247 | 255 | 267 | 282 | 299 | 301 | 310 | | 337 | 350 |
| 36 | Poles & Fixtures | 354 | 208 | 214 | 227 | 236 | 243 | 251 | 261 | 268 | 271 | 265 | 269 | | 298 | 309 |
| 37 | Overhead Conductors & Devices | 355 356 | 223 259 | 228 279 | 234 268 | 237 267 | 243 270 | 247 259 | 267 344 | 286 354 | | | 335 | | 363 | 376 |
| 38 | Underground Conduit | 357 | 210 | 217 | 208 | 227 | 231 | 239 | | 263 | 356 265 | 366 265 | 344 269 | | 370 286 | 404 |
| 39 | Underground Conductors & Devices | 358 | 250 | 253 | 249 | 242 | 267 | 271 | 284 | 307 | 360 | | 412 | | 420 | 431 |
| 40 | | | | | | | | | | |] | | | | | |
| | Distribution Plant | | | | | - 1 | | | | | | | | | | |
| 42 | Total Distribution Plant Station Equipment | | 224 | 229 | 232 | 235 | 238 | 240 | Ż55 | 268 | 276 | 280 | 283 | 289 | 298 | 309 |
| 44 | Poles, Towers & Fixtures | 362 364 | 234 228 | 236 232 | | 239 | | 250 | | 299 | 320 | | 322 | | | |
| 45 | Overhead Conductors & Devices | 365 | 228 | 232 | 236 246 | 240 247 | 245 249 | 248 248 | | 265 304 | | 286 313 | 301 305 | | | |
| 46 | Underground Conduit | 366 | 197 | 210 | | 221 | | | 249 | | | | | | 330 284 | |
| 47 | Underground Conductors & Devices | 367 | 211 | 213 | 212 | 218 | | 234 | 239 | | | | 275 | | | 293 |
| 48 | Line Transformers | 368 | 207 | 210 | | 214 | 215 | 214 | | 225 | 228 | | 232 | 233 | 238 | |
| 49 | Pad Mounted Transformers | 368 | 186 | 188 | 205 | 207 | 215 | | 262 | | | 291 | | | | |
| 51 | Services-Overhead Services-Underground | 369 369 | 205 | 210 | 224 | 223 | 225 | | 250 | | | | | | | |
| 52 | Meters Installed | 370 | 181 190 | 199 203 | 203 204 | 187 206 | 181 211 | 194 | 208 | | | | | | | |
| 53 | Street Lighting-Overhead | 373 | 261 | 203 | 204 | 200 | | | 198 274 | 188 284 | | 203 302 | 202 313 | | | |
| 54 | Mast Arms & Luminaires Installed | 373 | 263 | 268 | 286 | 298 | | | | 296 | | | | | | |
| 55 | Street Lighting-Underground | 373 | 265 | | 275 | 285 | 287 | | | | 293 | 302 | | | r 1 | |
| 56 | L | | | L | | | | | | | | | | | | |

E-3-6

COST TRENDS OF ELECTRIC UTILITY CONSTRUCTION

NORTH CENTRAL REGION (1973=100)

| 1 | | | | | | | cos | T INI | DEX N | ĩUMI | BERS | _ | | | |
|------------|--|--------|------------|------------|------------|------------|------------|-------|------------|------------|------------|------|------------|------|------|
| | | | | | | | | 20 | 01 | 20 | 02 | 20 | 03 | 20 | 04 |
| L | | F | 1 | 1 | 1 | 1 | 2 | | | | | | | | |
| i | CONSTRUCTION AND EQUIPMENT | E | 9 | 9 | 9 | 9 | 0 | Jan. | Jul. | Jan. | Jul. | Jan. | Jul. | Jan. | Jul. |
| n | CONSTRUCTION AND EQUIPMENT | R | 9 | 9 | 9 | 9 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| ¢ | | c | 6 | 7 | 8 | 9 | 0 | | • | | | | | | |
| 1 | Total Plant-All Steam Generation | Ť | 342 | 349 | 355 | 360 | | 207 | 200 | 200 | | | | | |
| 2 | Total Plant-All Steam & Nuclear Gen. | | 341 | 348 | 355 | 359 | 372 | 381 | 390 | 395 | 402 | 411 | 410 | 418 | 434 |
| 3 | Total Plant-All Steam & Hydro Gen. | | 341 | 348 | 354 | 359 | 371 371 | 380 | | 393 | 401 | | | | 433 |
| 4 | | | 341 | 240 | 554 | 222 | ווינ | 380 | 389 | 393 | 401 | 409 | 409 | 417 | 433 |
| 5 | Steam Production Plant | | | | | - | | | | | | | | | |
| 6 | Total Steam Production Plant | | 357 | 365 | 371 | 379 | 394 | 404 | 414 | 417 | 428 | 438 | 436 | 446 | 456 |
| 7 | Structures & Improvements-Indoor | 311 | 311 | 318 | 323 | 333 | 347 | | 371 | 371 | 383 | 389 | 386 | - | 430 |
| 8 | Structures & Improvements-Semi-Outdoor | 311 | 308 | 315 | 319 | 328 | 343 | 348 | | 360 | 364 | | 369 | 396 | |
| 9 | Boiler Plant Equipment-Coal Fired | 312 | 377 | 385 | 392 | 400 | 415 | | | 442 | 453 | 458 | 454 | | 475 |
| 10 | Boiler Plant Equipment-Gas Fired | 312 | - | | | - | - | - | - | - | | | | | 475 |
| 11 | Boiler Plant Piping Installed | | 318 | 325 | 329 | 336 | 342 | 350 | 359 | 360 | 367 | 373 | 370 | 381 | 394 |
| 12 | Turbogenerator Units | 314 | 349 | 361 | 367 | 371 | 388 | | | 400 | 410 | | | | 441 |
| 13 | Accessory Electrical Equipment | 315 | 379 | 388 | 395 | 405 | 427 | 446 | 463 | 472 | 493 | 505 | 504 | | 522 |
| 14 | Misc. Power Plant Equipment | 316 | 372 | 383 | 390 | 402 | 418 | | 439 | 441 | 452 | 457 | 453 | | 479 |
| 15 | | | ļ | | | | | ł | | _ | | | | | |
| 16 | Nuclear Production Plant | | | | | | | | | | | 1 | | | f |
| 17 | Total Nuclear Production Plant | | 333 | 342 | 347 | 353 | 366 | 374 | 382 | 386 | 395 | 404 | 405 | 410 | 422 |
| 18 | Structures & Improvements | 321 | 300 | 309 | 312 | 319 | 332 | 338 | 353 | 354 | 364 | 370 | 367 | 378 | 388 |
| 19 | Reactor Plant Equipment | 322 | 334 | 340 | 345 | 351 | 361 | 368 | 376 | 379 | 387 | 391 | 393 | 396 | 413 |
| 20 | | | | | | | | | | | | | | | |
| 21 | Hydro Production Plant | | | | | | | | | | | | | | |
| 22 | Total Hydraulic Production Plant | 1 | 315 | 324 | 329 | 336 | 346 | | | | | 367 | 368 | 382 | 384 |
| 23 | Structures & Improvements | 331 | | 318 | 323 | 333 | 347 | | | 37) | | | | 398 | 413 |
| 24 | Reservoirs, Dams & Waterways | 332 | 295 | 303 | 307 | 316 | 325 | 328 | | | 346 | | | | 370 |
| 25 26 | Water Wheels, Turbines & Generators | 333 | 363 | 375 | 382 | 383 | 394 | 398 | 385 | 395 | 390 | 396 | 402 | 410 | 393 |
| 20 27 | Other Production Plant | Į i | | | | | | | | | | | | | |
| 28 | Total Other Production Plant | | 260 | | | | | | | | | | | | |
| 20 29 | Fuel Holders, Producers & Accessories | 1 - 10 | 368 | | 385 | | 421 | | 412 | | | | | | |
| 29 30 | Gas Turbogenerators | 342 | 334 | 343 | 351 | 359 | 366 | | | 383 | 392 | | 397 | | 427 |
| 31 | Gas Turbogenerators | 344 | 372 | 377 | 389 | 403 | 404 | 402 | 413 | 418 | 430 | 437 | 439 | 428 | 434 |
| 32 | Transmission Plant | | | | | | | | | | | | | | [|
| 33 | Total Transmission Plant | | 257 | 264 | 770 | 271 | 7.00 | 201 | 100 | 43.0 | | | | | |
| 34 : | Station Equipment | 353 | 357 352 | 364 357 | 372 367 | 371 372 | 383 | | 406 | | | | - | | 454 |
| 35 | Towers & Fixtures | 354 | 320 | 328 | 335 | 345 | | | 414 | | 423 | 428 | 424 | 427 | 466 |
| 36 | Poles & Fixtures | 355 | 392 | 406 | 410 | 402 | 359 405 | | 372 427 | 381 432 | 382 436 | | 390 | | 424 |
| 37 | Overhead Conductors & Devices | 356 | 410 | 415 | 428 | 404 | | 412 | |) . | | | 444 | 453 | |
| 38 | Underground Conduit | 357 | 299 | 306 | 316 | 327 | 332 | | 350 | - | 442 367 | 447 | 448 376 | | 487 |
| 39 | Underground Conductors & Devices | 358 | 437 | 442 | 444 | 450 | 453 | | 330 447 | | 460 | | 469 | | |
| 40 | | 550 | 437 | 442 | 444 | 450 | 400 | 404 | 44/ | 431 | 400 | 40/ | 469 | 473 | 523 |
| 41 | Distribution Plant | | | | | | | | | | | | | | |
| 42 | Total Distribution Plant | 1 | 313 | 318 | 374 | 376 | 322 | 270 | 346 | 352 | 250 | 367 | 260 | 272 | 201 |
| 43 | Station Equipment | 362 | | | 373 | 376 | 380 | 383 | 387 | 388 | 383 | 387 | | 391 | 441 |
| 44 | Poles, Towers & Fixtures | 364 | | 364 | 367 | | 378 | | | | 411 | | 423 | 425 | 441 |
| 45 | Overhead Conductors & Devices | 365 | 363 | | 379 | 373 | 386 | | | | 427 | • | | | 468 |
| 46 | Underground Conduit | 366 | | | 313 | | 336 | | | | | | | - | |
| 47 | Underground Conductors & Devices | 367 | | | 307 | 313 | 320 | | 1 | | | | | | |
| 48 | Line Transformers | 368 | | 221 | 225 | 228 | 227 | | | 241 | 247 | | | 5 I | 264 |
| 49 | Pad Mounted Transformers | 368 | | | 322 | 324 | 327 | | | | 362 | | | 387 | 457 |
| 50 | Services-Overhead | 369 | | 306 | 312 | 314 | 323 | | | | 349 | | | 1 1 | 378 |
| 51 | Services-Underground | 369 | | 236 | 233 | | 241 | | | | 260 | | | 268 | |
| 52 | Meters Installed | 370 | | 211 | 217 | 213 | 207 | 216 | | | 270 | | | 319 | 319 |
| 53 | Street Lighting-Overhead | 373 | 377 | 387 | 389 | | 401 | 407 | | | 442 | 467 | | 474 | 480 |
| 54 | Mast Arms & Luminaires Installed | 373 | 398 | | | | | | | | | | | 1 | 453 |
| 5 5 | Street Lighting-Underground | 373 | 374 | 384 | 388 | - | 402 | f | | | | | 484 | | |
| 56 | | 1 | | | | | | | | | | 1 | | | |

COST TRENDS OF ELECTRIC UTILITY CONSTRUCTION

NORTH CENTRAL REGION (1973=100) entered 2011

| 2 200 | 12. | -12 | 10 |
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|---|----|--|-------|------|------|-----|-----|-------|------|-------|-----------|---------|-------|------|------|
| i CONSTRUCTION AND EQUIPMENT E Jan. Jul. Jul. Jul. Jul.< | } | | | 20 | 05 | 20 | 06 | 20 | 07 | 20 | 08 | 20 | 09 | 20 | 10 |
| $ \begin{array}{c c c c c c c c c c c c c c c c c c c $ | | | | | | | | | | | | | | | |
| c K L I | 1 | CONSTRUCTION AND EQUIPMENT | | Į. | , , | | , i | Jan. | Jul. | Jan. | Jul. | Jan. | Jul. | Jan. | Jul, |
| Total Plant-All Steam Cenceration C 453 460 481 495 518 529 561 580 585 564 579 587 2 Total Plant-All Steam & Nuclear Gen. 452 459 479 493 516 527 559 578 583 561 577 583 4 Steam Production Plant 477 481 495 503 520 571 577 585 578 583 561 577 585 6 Total Plant Edupiment-Cas Fired 312 495 493 484 444 481 494 460 465 477 475 671 504 529 538 501 577 589 577 589 577 589 577 589 577 589 578 583 541 538 5391 577 589 577 589 577 589 577 589 578 583 581 531 538 540 | 1 | | | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | 1 | 1 | 1 | 1 |
| 2 Total Plant-All Steam & Nuclear Gen. 42 43 53 54 577 583 561 577 583 561 577 583 561 577 585 4 Total Plant-All Steam & Hydro Gen. 452 49 452 49 452 49 517 527 583 561 577 585 5 Steam Production Plant 477 481 405 503 520 531 547 578 583 566 577 8 Streaures & Improvements-Indoor 111 458 427 481 451 452 451 453 453 531 531 532 518 535 535 535 535 535 537 535 | | | C | | | | | | | ~~ | | | | | |
| $ \begin{array}{c c c c c c c c c c c c c c c c c c c $ | | | | | | | | | | 561 | 580 | 585 | 564 | 579 | 587 |
| 4 10 | | | | | | | | | | | | | | | |
| 5 Steam Production Plant 477 481 495 503 520 521 547 576 570 554 566 577 8 Sinucures & Improvements-Cal Fired 311 418 425 438 445 457 483 501 530 532 537 585 557 558 550 527 556 561 650 557 557 557 557 557 557 557 557 557 557 557 558 557 557 | | Total Frank-All Steals & Hydro Gell | | 452 | 459 | 479 | 493 | 516 | 527 | 559 | 578 | 583 | 561 | 577 | 585 |
| 6 Total Steam Production Plant 477 481 495 503 520 513 547 576 570 554 566 577 7 Structures & Improvements-Induor 311 418 425 438 451 454 474 482 501 513 514 490 495 499 504 501 513 514 490 495 499 514 521 531 513 544 690 525 577 576 570 535 516 577 576 570 535 530 532 533 530 535 531 545 529 533 550 514 490 452 533 550 514 446 461 471 481 495 513 553 593 | | Steam Production Plant | | | | | | | ļ | . (| | | | | [|
| 7 Structures & Improvements-Amounts-Semi-Outdoor 311 435 438 431 435 474 422 501 532 532 535 9 Boiler Plane Equipment-Coar Fired 312 495 499 514 521 534 433 537 535 537 535 597 736 597 737 595 597 737 595 597 737 595 597 535 550 577 585 539 545 529 535 550 537 556 566 666 666 661 | 6 | Total Steam Production Plant | | 477 | 481 | 495 | 503 | 520 | 531 | 547 | 576 | \$70 | 554 | 366 | 577 |
| 8 Structures & Improvements-Semi-Outdoor 311 418 425 438 445 451 433 557 585 591 577 589 597 9 Boiler Plant Equipment-Case Fired 312 - | | Structures & improvements-Indoor | 311 | | | | | | | | | | - | - | |
| 9 Boiler Plan Equipment-Cas Fired 312 495 499 514 521 534 543 537 585 591 537 585 591 537 585 591 537 585 591 531 530 545 539 538 500 531 533 545 539 532 532 532 532 532 532 532 532 532 532 532 532 532 532 532 532 532 533 531 533 545 539 533 531 533 546 644 645 747 74 | | Structures & Improvements-Semi-Outdoor | 311 | 418 | 425 | 438 | | | | | • | | - 1 | | |
| 11 Boiler Plant Piping Installed 439 437 460 465 477 477 475 491 330 545 529 538 550 12 Tutbogenerator Units 316 464 461 471 483 499 501 535 551 545 529 538 550 557 597 603 14 Mise. Power Plant Equipment 316 511 513 538 540 545 529 537 597 603 16 Nuclear Production Plant 322 406 410 420 427 438 433 447 462 462 451 461 467 475 18 Structures & Improvements 322 339 441 455 453 476 480 489 518 512 522 532 535 532 | 1 | Boiler Plant Equipment-Coal Fired | | | 499 | 514 | 521 | 534 | 543 | \$57 | 585 | 591 | 577 | | · . |
| $ \begin{array}{ c c c c c c c c c c c c c c c c c c c$ | 1 | | 312 | | - | | - | • | | • | | | | - | |
| $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | | | 214 | | | | | | | | | | | | |
| 14 Misc. Power Plant Equipment 316 511 513 531 538 500 544 555 593 597 597 603 15 Nuclear Production Plant 21 447 449 462 471 486 489 502 530 521 510 521 532 531 532 531 532 531 532 533 521 530 521 530 521 530 521 530 521 532 531 532 532 532 531 532 533 521 530 521 530 521 530 521 530 521 532 532 532 532 532 532 532 531 532 531 531 533 531 533 531 533 532 533 532 533 532 533 532 533 532 533 532 533 532 533 533 532 533 533 533 533 533 534 544 544 545 < | 1 | | | | | | | | | | | | | | |
| 15 Nuclear Production Plant 447 449 462 471 486 489 502 530 521 532 532 18 Structures & Improvements 321 406 410 420 427 438 433 447 462 462 455 463 464 480 489 518 512 502 513 521 531 521 531 521 532 20 Hydro Production Plant 322 499 441 455 463 476 480 489 518 512 502 513 521 531 532 532 532 532 532 532 532 532 532 532 532 532 532 532 532 532 532 532 532 533 532 532 532 533 532 533 532 538 546 444 444 444 444 444 444 444 444 444 444 444 444 4454 4404 4475 544 | 14 | Misc. Power Plant Equipment | | | | | | | | | | 1 | | | |
| $ \begin{array}{ c c c c c c c c c c c c c c c c c c c$ | 15 | | | | | | 555 | 540 | 344 | 222 | 555 | 722 | 701 | 397 | 003 |
| 18 Structures & Improvements 321 406 410 420 427 438 433 447 462 462 455 511 566 512 512 512 513 521 566 516 518 512 502 513 521 566 467 475 458 461 466 475 458 461 466 475 458 461 467 475 458 451 458 459 442 454 451 458 453 <td< td=""><td></td><td></td><td> </td><td></td><td></td><td></td><td>l.</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<> | | | | | | | l. | | | | | | | | |
| 10 Surfactures & improvements 321 406 410 420 427 438 433 447 462 462 453 451 458 451 458 458 450 480 489 518 512 502 513 521 20 Hydro Production Plant 397 400 410 417 432 442 454 451 458 474 442 501 530 532 518 521 21 Hydro Production Plant 397 400 410 417 432 442 454 451 488 494 441 445 449 441 445 449 23 Water Wheels, Turbines & Generators 333 399 397 406 416 436 444 455 453 451 512 528 453 451 454 460 469 478 494 475 423 447 440 455 453 451 451 454 456 515 522 582 537 541 546 <td></td> <td></td> <td></td> <td></td> <td></td> <td>462</td> <td>471</td> <td>486</td> <td>489</td> <td>502</td> <td>530</td> <td>521</td> <td>510</td> <td>521</td> <td>532</td> | | | | | | 462 | 471 | 486 | 489 | 502 | 530 | 521 | 510 | 521 | 532 |
| 20 21100 <td></td> <td>Structures & Improvements</td> <td></td> <td></td> <td></td> <td>_</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>462</td> <td></td> <td>461</td> <td></td> | | Structures & Improvements | | | | _ | | | | | | 462 | | 461 | |
| $ \begin{array}{ c c c c c c c c c c c c c c c c c c c$ | 1 | Reactor Flant Equipment | 322 | 439 | 441 | 455 | 463 | 476 | 480 | 489 | 518 | 512 | 502 | 513 | 521 |
| $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | 1 | Hydro Production Plant | | | | | | | | | | | | | |
| 23 24 Reservoirs, Dams & Waterways Water Wheels, Turbines & Generators331 332 332 333 399331 435 438438 438 438474 441 445 445 445 446 447 441 445 441 445 445 444 445 446 447 441 445 446 447 441 445 446 447 441 445 444 445 446 447 441 445 447 441 445 444 445 446 447 441 445 446 447 441 445 447 441 445 444 445 447 441 445 444 446 447 441 445 447 441 445 447 441 445 447 446 447 441 445 447 447 441 445 447 441 445 447 441 445 447 441 445 447 441 445 447 441 445 447 447 441 445 447 441 447 441 445 447 447 441 445 447 441 445 447 441 445 447 441 445 447 441 445 447 441 445 447 441 445 447 441 445 447 441 445 447 441 445 447 441 447 441 446 446 447 441 447 441 445 447 441 441 447 441 441 447 441 441 441 447 441 441 441 442 447 441 441 441 442 447 441 441 441 442 447 441 441 441 <br< td=""><td>1</td><td></td><td></td><td>397</td><td>اممه</td><td>A10</td><td>417</td><td></td><td>442</td><td>454</td><td>471</td><td>400</td><td></td><td>4.57</td><td></td></br<> | 1 | | | 397 | اممه | A10 | 417 | | 442 | 454 | 471 | 400 | | 4.57 | |
| 24 Reservoirs, Dams & Waterways 332 384 388 399 404 417 428 439 444 445 449 444 445 449 444 445 449 446 447 444 445 449 445 449 445 449 445 449 445 449 445 449 445 449 446 447 444 445 449 445 449 447 441 445 449 445 449 447 441 445 449 445 449 447 441 445 449 447 441 445 449 447 441 445 446 447 441 445 445 446 447 441 445 445 445 446 447 441 445 445 446 447 441 445 445 445 446 447 441 445 445 445 445 445 446 447 441 445 444 444 444 444 444 | 23 | Structures & Improvements | 331 | | | | | | | | | | | | |
| 25 Water Wheels, Turbines & Generators 333 399 397 406 416 436 444 455 493 481 469 478 496 26 Total Other Production Plant Total Other Production Plant 428 435 445 456 516 529 582 603 620 655 675 688 29 Fuel Holders, Producers & Accessories 342 454 460 469 478 494 497 512 548 554 537 541 540 30 Gas Turbogenerators 344 420 427 435 447 511 524 581 602 619 659 680 693 31 Total Transmission Plant 471 485 517 533 567 583 604 627 640 641 638 655 35 Total Transmission Plant 353 483 495 517 533 567 583 604 627 640 641 658 657 36 Poles & Fixtures | | Reservoirs, Dams & Waterways | 332 | | | | | | | | | | | | |
| 27 Other Production Plant 428 435 445 456 516 529 582 603 620 655 675 688 29 Fuel Holders, Producers & Accessories 342 454 460 469 478 494 497 512 548 554 537 541 540 30 Gas Turbogenerators 344 420 427 435 447 511 524 581 602 619 659 680 693 31 Total Transmission Plant 471 485 512 528 553 566 603 631 640 591 617 619 34 343 495 517 533 567 583 604 627 640 641 658 656 35 Towers & Fixtures 354 436 439 454 457 468 494 513 515 520 505 574 574 564 571 583 569 574 574 574 574 574 574 <t< td=""><td></td><td>Water Wheels, Turbines & Generators</td><td>333</td><td>399</td><td>397</td><td>406</td><td>416</td><td></td><td></td><td></td><td>· · · · ·</td><td></td><td></td><td></td><td></td></t<> | | Water Wheels, Turbines & Generators | 333 | 399 | 397 | 406 | 416 | | | | · · · · · | | | | |
| 28Total Other Production Plant Fuel Holders, Producers & Accessories Gas Turbogenerators34243544545651652958260362065567568830Gas Turbogenerators34442042743544751152458160261965968069331Total Transmission Plant34442042743544751152458160261965968069332Transmission Plant35348349551753356758360462764064165866535Towers & Fixtures35443643945445745849451351552350050650636Poles & Fixtures35547649350251552652956157058358759657437Overhead Conductors & Devices35651743643643847747244527351552652956157058358759657430Underground Conductors & Devices35651746449250353755557358359152652956156758359152631Underground Conductors & Devices366152557790594605610790828829840836828 | | | | | | | | | | | | | | | |
| 29Fuel Holders, Producers & Accessories34245446046947849449751254855453754154030Gas Turbogenerators34442042743544751152253260261965968069331Transmission Plant34442042743544751152458160261965968069332Transmission Plant47148551252855356660363164059161761934Station Equipment35348349551753356758360462764064165866535Towers & Fixtures35443643945445745849451351552350050650636Poles & Fixtures35547643545255657352858158759657439Underground Conductors & Devices35651154260564367869753882984083682841Distribution Plant40841744646649950756356258156758359142Total Distribution Plant40841744646649950756356258156758359144Poles, Towers & Fixtures | | | 1 | 42.0 | | | | | | | | { | | | - { |
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| $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | | | | 720 | 427 | 455 | 44/ | 211 | 524 | 281 | 602 | 619 | 639 | 680 | 693 |
| 34 Station Equipment 353 434 495 517 533 566 603 601 640 641 658 665 35 Towers & Fixtures 354 436 439 454 457 468 494 513 515 523 500 506 665 665 36 Poles & Fixtures 355 476 493 502 515 526 529 561 570 583 587 596 574 37 Overhead Conductors & Devices 356 511 542 605 643 678 695 753 828 831 580 669 677 38 Underground Conductors & Devices 358 529 547 590 594 605 610 790 828 829 840 836 828 40 Distribution Plant 408 417 446 466 499 507 563 562 581 567 583 591 41 Distribution Plant 408 417 446 | | | | | | | | | | | | [| | | () |
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| 43 Station Equipment 362 457 440 466 499 503 502 581 567 583 591 44 Poles, Towers & Fixtures 362 457 464 492 503 537 555 573 595 606 608 629 637 45 Overhead Conductors & Devices 365 489 512 555 579 609 624 670 715 725 612 666 679 46 Underground Conduit 366 420 422 449 451 471 468 487 495 509 507 509 600 715 725 612 666 679 47 Underground Conductors & Devices 367 382 393 423 428 507 514 554 586 647 639 593 600 48 Line Transformers 368 275 283 320 361 408 416 602 506 532 555 581 606 50 Se | | | | | | | | | | | | | | | |
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| 45 Overhead Conductors & Devices 365 439 512 555 579 609 624 670 715 725 612 666 679 46 Underground Conduit 366 420 422 449 451 471 468 487 495 509 507 501 504 47 Underground Conductors & Devices 367 382 393 423 428 507 514 554 586 647 699 503 609 609 602 606 632 505 501 504 47 Underground Conductors & Devices 367 382 393 423 428 507 514 555 581 606 48 Line Transformers 368 275 283 320 361 408 416 602 506 532 555 581 606 49 Pad Mounted Transformers 368 492 541 562 653 689 820 642 759 728 665 668 646 < | | | | | | | | | | | | | 608 | 629 | 637 |
| 46 Underground Conduit 366 420 422 449 451 471 468 487 495 509 507 501 504 47 Underground Conductors & Devices 367 382 393 423 428 507 514 554 586 647 695 503 600 670 501 504 48 Line Transformers 368 275 283 320 361 408 416 602 506 532 555 581 606 49 Pad Mounted Transformers 368 492 541 562 653 689 820 642 759 728 665 668 646 50 Services-Overhead 369 395 402 428 428 451 452 475 485 491 457 477 484 51 Services-Underground 369 279 292 335 372 356 352 349 350 325 327 328 350 52 Meters Inst | | | | | | | | | | | | | | | |
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| 54 Mast Arms & Luminaires Installed 373 482 496 524 555 574 587 709 705 714 728 55 Street Lighting-Underground 373 510 517 535 615 640 651 671 708 766 784 899 735 | | | | | • | | | | | | | | | | |
| 55 Street Lighting-Underground 373 510 517 535 615 640 651 671 708 766 784 809 735 | 1 | | 1 1 | 1 . | | | | | | | | | | | |
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| | | |]]] | 1 | 1 " | 222 | 015 | 040 | 1001 | 0/1 | 708 | /00 | 784 | 809 | 735 |

Settlement of all Non-wage Maintenance Issues for Kansas City Power & Light Case No. ER-2009-0089 and KCPL Greater Missouri Operations Case No. ER-2009-0090 (non-KCPL labor, dollars are total company except where noted)

KCP&L

Production (excluding Wolf Creek)

Production maintenance expense, excluding Wolf Creek, will be based on 2008 actual expense of \$31,150,277 per Data Request 178R, with no addition at true-up for Iatan 1 AQC. This amount is made up of FERC accounts 510, 511, 512, 513 and 514 of \$29,753,040 and FERC accounts 551, 552, 553 and 554 of \$1,397,237.

<u>Production - Wolf Creek (excluding amortization of refueling outage costs</u> <u>determined to be above "normal outage levels")</u>

Wolf Creek production maintenance expense will be based on unadjusted 2007 actual expense of \$10,386,698 including \$7,378,432 for test year amortization of Outage #15 costs but before consideration of Outage #16 costs identified as being above "normal outage levels" addressed as a separate issue below.

Transmission & Distribution

Transmission and Distribution maintenance expense will be based on 2008 actual expense of \$17,365,704 (transmission- \$1,920,763 and distribution- \$15,444,941) per Data Request 178R plus an additional \$3,100,000 (Missouri jurisdictional) for incremental costs related to the new Vegetation Management regulations. Infrastructure and Reliability Reporting effects will be deferred for consideration in the next rate case.

KCPL agrees to maintain reasonable and adequate records to separately identify the costs to implement the vegetation management costs between Missouri and Kansas using FERC accounts 593000 (distribution) and 571005-006 (transmission), department 252. Similar segregation of costs will occur for the infrastructure (inspection) costs, involving many different FERC accounts.

KCPL agrees not to request a Vegetation Management tracker mechanism in this case.

IT Maintenance

IT maintenance will be based on 2008 actual expense of \$3,132,762.

Wolf Creek Refueling O&M Costs

The Missouri jurisdictional portion of Wolf Creek Outage #16 refueling O&M costs considered to be above "normal outage levels" (\$1,570,581) will be set up in a regulatory

asset and amortized over five years beginning with the effective date of new rates in this case, with one-fifth of this cost included in cost of service in this case.

GMO

Maintenance expense in this case will be based on the 12 months ending December 2008 for production, distribution and transmission maintenance expense. The amounts using this method for MPS are: production- \$14,695,784; transmission- \$1,782,445; and distribution- \$10,238,425, for a total of \$26,716,654. For SJLP the amounts are: production- \$6,232,522; transmission- \$617,729 and distribution- \$2,194,658 for total of \$9,044,909. GMO is not requesting any additional funds for the new Vegetation Management, Infrastructure or Reliability Reporting regulations in this case.

GMO agrees to maintain reasonable and adequate records to separately identify the costs to implement the vegetation management costs between Missouri and Kansas using FERC accounts 593000 (distribution) and 571005-006 (transmission), departments 752 (MPS) and 952 (SJLP). Similar segregation of costs will occur for the infrastructure (inspection) costs, involving many different FERC accounts.

GMO agrees not to request a Vegetation Management tracker mechanism in this case.

SCHEDULE 8

HAS BEEN DEEMED

HIGHLY CONFIDENTIAL

IN ITS ENTIRETY



Kansas City Power & Light Company File No. ER-2010-0355

Total Purchased Power Expense for Haw 5 Catalyst outage (2/24/07-3/9/07)

\$ 2,305,700.00

Replacement power studies serve as the source for this information. These studies import a "base case" output file from PACE. "Base case" references actual conditions on our system (load, generation, purchases and sales). The output file is modified to consider a scenario where a particular unit is available (in this case Haw5).

SCHEDULE 9 - 1

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Kansas City Power & Light Company File No. ER-2010-0355

HAWTHORN 5 REPLACEMENT COST SUMMARY - 2007 Daily Summary for Month of Feb

| Feb07H5 | | | - Uni | It Off | | , | 1.14 | النسر. | a second to | UnUn | ilt Oi | n . | 1 | | | | | Net Di | ffarence | | | Tota | a Replace |
|----------|----------|-------|-----------|-------------|---------|----------|---------|----------|---------------------------------------|---------------------------------------|----------|-----------|---------------------------------------|------|----------|-----------|----|-----------|----------|-------|-----------------|----------|---------------------------------------|
| | Tota | l Gen | a a | 1 | Total P | urcha | 160 | CT's Rep | H5 Add | | si Ge | en | Total | Purc | chase | Increased | Ge | neration | Redu | ced P | urchases | 1. (| Costs |
| - Date | MWh | · · | \$. | Miv | NH | T | \$ | MWh | MWhat | | 1 | \$ | MWH | | j - \$ | MWh. | Т | \$ | MWh | T | \$ | 1 | \$ |
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| Feb0707. | | | _ | | | | | | | | | | [| | | | 1 | | 1 | | | | |
| eb0807. | | | | <u> </u> | | | | | | | 1 | | | - | | | | | | | | | |
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| Feb1507. | i | | | | | | | | | | | | | -† | | | -1 | | l | + | | | |
| Feb1607. | | | | | | | | | | j | 1 | | | + | | | 1- | | f | | | <u> </u> | |
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| eb1807. | | | | | | | | | | | | | | + | | | | | | | | | ······ |
| eb1907. | | | | | | <u> </u> | | · | · · · · · · · · · · · · · · · · · · · | | + | | · | -† | | | | | 1 | | | | |
| eb2007. | | | | | | | | | | | <u> </u> | | · | -† | | · | +- | | | | | | · |
| eb2107. | | \$ | - | | - | 5 | - | | | | 5 | | | 15 | | | 5 | | | - 1 | 5 - | 5 | |
| eb2207. | - | \$ | | | - | 5 | | | • | · · | 13 | | - | 15 | | • | ŝ | - | | - | š - | ŝ | |
| eb2307. | | S | | | - | 5 | | | | - | Ś | - | - | 15 | | - | ŝ | | t | - + | Ś | 5 | |
| eb2407 | 44,423 | \$ | 593,950 | | 3,130 | s | 201,840 | | 2,888 | 47,309 | 15 | 554,640 | 244 | 15 | (4,690) | 2,886 | 15 | (39,110) | (2.1 | 166) | \$ (206,530,00) | Š | 245,640 |
| eb2507. | 44,392 | | 544,810 | | 3,316 | | 144,520 | | 3,182 | 47,574 | | 555,260 | 134 | | (6,720) | 3,182 | | 10,450 | | | \$ (151,240.00) | | 140,790 |
| ab2607. | 48,506 | | 601,600 | | 2,114 | | 136,360 | | 2,109 | 50,615 | | 524,650 | | 15 | (110) | 2,109 | | (76,950) | | 09) | | | 213,420 |
| eb2707. | 49,155 | | 602,420 | | 1,558 | | 62,710 | | 1,110 | 50.265 | | 520,470 | 448 | | (28,770) | 1,110 | | (81,950) | | 10) | | | 173,430 |
| eb2807. | 49,213 | | 555,850 | | 753 | | 17,820 | | 736 | 49,949 | | 517,130 | | 15 | (10) | 736 | | (38,720) | | 36) | | | 56,550 |
| | | \$ | | | | \$ | | | | | 15 | | | 15 | | | 15 | | | | | Š | |
| | | | | | | | | | | | <u>†</u> | | | 1- | | | Ť | | | -+ | | <u> </u> | ······ |
| | | | | | | | | | ····· | | | | | 1- | | | | | | | | - | - |
| iotal | 235,689 | | 2,898,630 | | 10,871 | | 563,250 | 0 | 10,023 | 345 74 3 | | 2,872,350 | | | (40,300) | 10,023 | | (226,280) | (10,0 | | i (603,550) | | 829,830 |

Notes:

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1) Production calculations based on daily WindowCouger unit commitment runs.

For the Units Off case, the model runs a fixed dispatch for the day as it occurred; Generation, Load, Sales and purchases are all as they actually occurred for the day. For the Units On case, the model is made to run H5 at max of 560 MW, L-1 at 350 MW, L-2 at 340 MW, M-1 at 160 MW, M-2 at 170 MW, M-3 at 179 MW, I-1 at 469 MW x 24 hrs per day.

commit and dispatch generating units, dispatch purchases (use as needed), and keep load and sales as they accurred in the base case (unless higher capacity is demonstrated).

2) The production cost runs do not evaluate any potential lost interchange sales.

3) Runs can be reproduced; Files are in a:/pub/couger/2005/mmmddyy.inp

4) LaCygne 1 Add MWH represents the additional generation that could have been produced had the unit been available.

Total Replacement Cost \$ 829,830

1.0

Kansas City Power & Light Company File No. ER-2010-0355

HAWTHORN 5 REPLACEMENT COST SUMMARY - 2007 Daily Summary for Month of Mar

| Mar07H5 | 1 - | | Uni | t Off | | | - 10 C | aa | Un | it O | in · | | | | · · · · | | Net Diffe | ence . | | ton, | Tota | al Replace |
|---|---------|----------|-----------|---------|------|-----------|----------|--------|---------------|------|--------------|---------|------|----------|-----------|----------|-----------------|-----------|-----|--------------|--------|------------|
| 1 A A A A A A A A A A A A A A A A A A A | Tota | al Gei | n sa | Total P | urch | | CT's Rep | HS Add | lise all Tota | G | ₽ 1): | Total P | Junc | chase . | Increased | Gen | ieration | Reduced I | Рыг | chases | - 1 ju | Costs 🔹 |
| Date 🗄 | - MWh | T | | MWH | | 1.5 | MWh | MWh | MWh | | \$ | MWH | 17 | \$. | MWh | <u> </u> | \$ ⁻ | MWh | | \$ | | \$ |
| Mar0107. | 48,495 | 15 | 545,630 | 3,617 | \$ | 183,740 | | 3,428 | 51,923 | | 532,480 | 189 | | | 3,428 | \$ | (13,150) | (3,428) | | (186,930,00) | | 200,080 |
| Mar0207, | 49,680 | \$ | 537,480 | 2,445 | 5 | 127,690 | | 2,168 | 52,048 | | 532,940 | 277 | \$ | (3,010) | 2,168 | \$ | (4,540) | (2,160) | | (130,700,00) | \$ | 135,240 |
| Mar0307. | 51,579 | \$ | 532,580 | 1,045 | \$ | 60,930 | | 1,045 | 52,624 | | 523,630 | - | \$ | a, - | 1,045 | | (8,950) | (1,045) | \$ | (60,930.00) | \$ | 69,880 |
| Mar0407. | 50,263 | 5 | 525,840 | 397 | 5 | 25,010 | | 397 | 50,660 | \$ | 518,080 | • | \$ | - | 397 | | (7,760) | (397) | \$ | (25,010.00) | \$ | 32,770 |
| Mar0507. | 43,160 | 15 | 554,740 | 4,311 | | 264,450 | | 4,311 | 47,471 | | 476,010 | • | \$ | | 4,311 | | (78,730) | | | (264,450.00) | \$ | 343,180 |
| Mar0607. | 41,353 | 5 | 580,950 | 4,681 | | 322,010 | | 4,681 | 46,034 | | 448,640 | _ | \$ | • | 4,681 | | (132,310) | | | (322,010,00) | | 464,320 |
| Mar0707. | 40,143 | 15 | 449,720 | 5,433 | \$ | 373,190 | | 1,210 | 41,353 | | 580,950 | 4,681 | \$ | 322,010 | 1,210 | \$ | 131 230 | (752) | \$ | (51,180,00) | 5 | (80,050) |
| Mar0807. | 41,644 | \$ | 499,190 | 5,444 | \$ | 365,060 | | 5,444 | 47,088 | | 551,100 | - | \$ | - | 5,444 | 5 | 51,910 | (5,444) | \$ | (365,060.00) | \$ | 313,150 |
| Mar0907. | 43,447 | 5 | 518,390 | 5,708 | \$ | 300,240 | | 5,617 | 49,064 | \$ | 504,060 | 91 | \$ | 4,360 | 5,617 | \$ | (14,330) | (5,617) | \$ | (295,880.00) | \$ | 310,210 |
| Mar1007. | | <u> </u> | | | | | | | | | | | 1 | | | | | | | | | |
| Mar1107. | - | \$ | | - | \$ | | | - | | \$ | | | \$ | · | - | 5 | - | | \$ | | \$ | - |
| Mar1207. | - | \$ | - | - | \$ | - | | - | - | \$ | | | \$ | - | - | 5 | - | | \$ | - | \$ | • |
| Mar1307. | • | \$ | - | - | 5 | - | | - | | \$ | - | | \$ | • | - | \$ | | - | \$ | | \$ | |
| Mar1407. | - | 5 | | - | \$ | - | | - | - | \$ | • | | \$ | - | - | \$ | - | | \$ | - | \$ | <u> </u> |
| Mar1507. | | \$ | - | | \$ | - | | - | | \$ | - | | \$ | <u> </u> | | \$ | | | \$ | | \$ | - |
| Mar1607. | - | \$ | | - | \$ | - " | | - | - | \$ | - | | \$ | | - | \$ | - | - | \$ | | \$ - | - |
| Mar1707. | • | 5 | • | | \$ | - | | - | | \$ | - | - | \$ | · · · | - | 5 | | | \$ | • | \$ | • |
| Mar1807. | • | 5 | | | \$ | | | - | - | \$ | - | | 5 | · · | - | \$ | | - | \$ | | \$ | - |
| Mar1907, | | 5 | - | - | \$ | | | - | · · · | \$ | | - | 15 | · · · | - | \$ | | | \$ | · · _ | \$ | - |
| Mar2007. | | \$ | | | \$ | | | - | _ | \$ | - | | \$ | - | - | 5 | | | \$ | | \$ | - |
| Mar2107. | | \$ | - | - | \$ | - | | | - | \$ | - | • | 5 | - | - | \$ | - | - | \$ | | \$ | - |
| Mar2207. | - | \$ | - | - | \$ | | | - | - | 5 | - | - | \$ | - | - | 5 | - | - | \$ | - | \$ | |
| Mar2307. | - | \$ | - | | \$ | | | - | - | 5 | | | \$ | - | | \$ | | | \$ | - 1 | \$ | - |
| Mar2407. | | \$ | - | - | \$ | | | | - | 5 | - | - | \$ | | | \$ | | - | \$ | - | \$ | - |
| Mar2507. | - | \$ | - | | \$ | - | | - | - | \$ | - | - | \$ | <u> </u> | - | \$ | | - | \$ | - | \$ | - |
| Mar2607. | • | \$ | | | \$ | - 1 | | - | • | \$ | - | - | \$ | | | \$ | - 1 | - 1 | \$ | | \$ | |
| Mar2707. | | 5 | - | - | \$ | - | | ÷ , | - | \$ | - | - | \$ | | - | \$ | - | • | \$ | • | \$ | |
| Mar2607. | | \$ | | | \$ | - | | | - | \$ | | - | \$ | - 1 | | \$ | - | | \$ | | \$ | |
| Mar2907. | - | 5 | | | \$ | - 1 | | | | \$ | - 1 | - | \$ | - 1 | - 1 | \$ | | | \$ | - 1 | \$ | |
| Mar3007. | - | \$ | - | - | \$ | | | | - | \$ | | - | \$ | - | | \$ | - | | \$ | - | \$ | |
| Mar3107 | - | \$ | - | • | \$ | - | | - | • | \$ | - | - | \$ | • | | \$ | - | | \$ | | \$ | |
| Total | 409,964 | \$ | 4,744,520 | 33,081 | \$ | 2,022,320 | 0 | 28,301 | 438,265 | \$ | 4,867,890 | 5,238 | \$ | 320,170 | 28,301 | \$ | (76,630) | (27,843) | \$ | (1,702,150) | \$ | 1.778.780 |

Notes:

1) Production calculations based on daily WindowCouger unit commitment runs,

For the Units Off case, the model runs a fixed dispatch for the day as it occurred; Ceneration, Load, Sales and purchases are all as they actually occurred for the day.

For the Units On case, the model is made to run H5 at max of 550 MW, L-1 at 350 MW, L-2 at 340 MW, M-1 at 160 MW, M-2 at 170 MW, M-3 at 179 MW, I-1 at 469 MW x 24 hrs per day,

commit and dispatch generating units, dispatch purchases (use as needed), and keep load and sales as they occurred in the base case (unless higher capacity is demonstrated).

2) The production cost runs do not evaluate any potential lost interchange sales.

3) Runs can be reproduced; Files are in e:\pub\couger\2005\mmmddyy.inp

4) LaCygne 1 Add MWH represents the additional generation that could have been produced that the unit been evailable.

Total Replacement Cost \$ 1,778,780

•1

SCHEDULE 10

HAS BEEN DEEMED

HIGHLY CONFIDENTIAL

IN ITS ENTIRETY

