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Witness:	Janice Pyatte
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MISSOURI PUBLIC SERVICE COMMISSION

UTILITY OPERATIONS DIVISION

DIRECT TESTIMONY

OF

JANICE PYATTE

UNION ELECTRIC COMPANY d/b/a

AMERENUE

CASE NO. EC-2002-1

Jefferson City, Missouri
March 1, ~~2002~~

Exhibit No. 33
Date 7/10/02 Case No. EC-2002-1
Reporter KRM

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JANICE PYATTE

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d/b/a AMERENUE

CASE NO. EC-2002-1

Q. Please state your name and business address.

A. My name is Janice Pyatte and my business address is Missouri Public Service Commission, P. O. Box 360, Jefferson City, Missouri 65102.

Q. What is your present position with the Missouri Public Service Commission?

A. I am a Regulatory Economist in the Energy Department, Operations Division.

Q. Would you please review your educational background and work experience?

A. I completed a Bachelor of Arts degree in Economics at Western Washington State College in Bellingham, Washington and a Masters of Arts (A.M.) degree in Economics at Washington University in St. Louis, Missouri. I have been employed by the Missouri Public Service Commission (Commission) since June 1977. My primary role with the Missouri Public Service Commission Staff (Staff) has been to perform class cost-of-service and rate design studies for the regulated electric utilities in Missouri. A list of the cases in which I have filed testimony before the Commission is shown on Schedule 1.

Q. What has been your work experience in prior Union Electric Company cases?

A. I was a rate design witness in Case No. EO-96-15, the last UE rate design case, and I have been involved in monitoring the disbursement of sharing credits to

customers over the six years when the Experimental Alternative Regulatory Plans (EARP) was in force. I also prepared direct testimony on the issues of Sales and Revenues and Rate Design that was filed on July 2, 2001 in this case.

SALES AND REVENUE

Q. What is the purpose of your direct testimony on the issue of Sales and Revenue in this filing?

A. My direct testimony on the issue of Sales and Revenue describes my role in the development of specific adjustments to Union Electric Company d/b/a AmerenUE (Company or UE) Missouri jurisdictional, test year kilowatt-hour sales (kWh sales) and revenue from kWh sales (rate revenue). My testimony also proposes that, in the future, Union Electric produce a monthly report of billing month kWh sales and rate revenue that is more suitable for Missouri regulatory purposes.

In this filing, I present two schedules that summarize Missouri kWh sales and rate revenue by rate schedule. The test year-adjusted total Missouri retail sales shown on Schedule 2 is consistent with normalized hourly net system load used in Staff's fuel run. The specific adjustments to rate revenue shown on Schedule 3 are shown as adjustments in the Staff's Income Statement (Accounting Schedule 9). Rate revenue by rate schedule was used to calculate the illustrative rates corresponding to Staff's rate design proposal. If adopted by the Commission, the Staff's rate revenue by rate schedule will also be used to develop the rate levels required to implement the Commission's ordered revenue reduction and rate design in this case.

Q. What is the relationship between the Missouri rate revenue shown on your Schedule 3 and the Missouri operating revenue shown on Accounting Schedule 9?

A. Missouri operating revenue consists of two components: the revenue that the Company collects from the sale of electricity to Missouri retail customers (rate revenue), which is shown on Schedule 3; and the revenue the Company receives from other sources ("other revenue").

Q. How does your testimony in this filing relate to the testimony of other Staff witnesses?

A. In addition to the adjustments to kWh sales addressed in my testimony, Staff witness Lena M. Mantle addresses the normalization of kWh sales to account for the effects of deviations from normal weather in the test year, and Staff witness Doyle L. Gibbs addresses the effect that growth in the number of customers had on kWh sales. I am responsible for compiling the table labeled as Schedule 2, which summarizes the results of the work performed by Mr. Gibbs, Ms. Mantle and myself relating to adjustments to Missouri kWh sales.

In addition to the adjustments to Missouri rate revenue addressed in my testimony, the testimony of Mr. Gibbs addresses the other revenue component of operating revenue, the adjustment to restore lost revenue resulting from territorial agreements, and the effect that growth in the number of customers had on rate revenue. Schedule 3, attached to this testimony, summarizes the adjustments done by Mr. Gibbs and myself relating to rate revenue.

Q. How does the substance of your testimony differ from the direct testimony you filed in this case on July 2, 2001?

A. The sales and revenue analysis that was filed on July 2, 2001 was based on a test year of July 1, 1999-June 30, 2000. The analysis done for this filing is based on a test

year of July 1, 2000-June 30, 2001, updated through September 30, 2001. In both filings the analysis, as well as the testimony that supports the results of the analysis, are similar in concept. However, the analyses differ in terms of specifics because the adjustments are related to the specific test year. Both filings in this case include annualizations for billing corrections and/or recording errors, normalizations for weather and days, and annualizations for customer growth. The annualization made in the prior filing to account for a rate change that occurred in April 2000 was unnecessary in this filing because this situation did not re-occur during the new test year. The annualization to account for the elimination of a rate schedule that occurred in June, 2000 was required in both analyses.

Q. What is the rationale for making adjustments to test year kWh sales and revenue?

A. The intent of adjustments to test year (historical) revenue is to estimate the revenue that the company would have collected on an annual, normal-weather basis, based on the information known at the end of the update period. Most of the adjustments to test year revenue correspond to adjustments to kWh sales that also affect the Company's fuel and purchased power costs. The "matching principle" adopted by the Staff dictates that any change to revenue from historical levels that results from changes in underlying kWh sales is associated with changes to fuel and purchased power costs that reflect that same adjustment to sales.

Q. What categories of adjustments to kWh sales and revenue are typically made in a rate increase or an excess earnings complaint case?

A. The three major categories of adjustments are known as annualizations, normalizations, and customer growth.

Annualizations are adjustments that result when test year results are restated as if conditions known at the end of the update period had existed throughout the entire test year. A common example of a revenue annualization is a rate change that occurs during the test year. Actual test year revenue in this situation will be understated or overstated by the difference between what was actually billed and the revenue that would have been realized by the company if the rates in effect at the end of the update period had been in effect throughout the entire year.

Another example of a typical annualization relates to a large customer that either begins or ceases service during the test year or update period. In the situation where a large customer ceases business, test year rate revenue should be decreased by the amount of revenue the customer provided the Company. A corresponding reduction to kWh sales and to fuel and purchased power expense should be made to reflect the costs the company will no longer incur. Conversely, when a large customer begins service, test year revenue, kWh sales, and fuel expense should be increased to reflect both the costs and the revenue associated with serving the new customer on an annual basis.

Normalizations deal with test year events that are unusual and unlikely to be repeated in the years when the new rates from this case are in effect. Test year weather is an example. It is unlikely that the weather that occurred in the test year will, on average, be repeated in the future, but what weather will actually occur is not predictable. The objective of the weather normalization process is to restate test year kWh sales and rate revenue on a "normal-weather" basis.

Growth adjustments reflect any additional sales and revenue that would have occurred in the test year if all of the customers that were on the system at the end of the update period had been customers for all twelve months of the test year.

Q. Please describe the characteristics of the Missouri kWh sales and rate revenue that have been developed for this filing?

A. The Missouri kWh sales and rate revenue that I am presenting have these characteristics: (i) they have been developed by rate schedule; (ii) they have been normalized to remove the effects of deviations from normal weather in the test year; (iii) they have been developed on both a billing month and on a calendar year (i.e., 365 day) basis; (iv) they have been annualized to reflect the elimination of the 10(M) Interruptible Power Service rate schedule; (v) they account for customers switching between the Small Primary and the Large Primary rate schedules; and (vi) they have been adjusted to reflect load growth as a result of growth in the number of customers.

Q. Which annualizations to test year kWh sales and rate revenue are you responsible for?

A. I am responsible for a number of annualizations made to reflect selected billing corrections and/or recording errors that UE made during the test year. These adjustments to kWh sales and rate revenue are shown on Schedules 2 and 3 as Miscellaneous Adjustments.

One annualization reflects the elimination of the 10(M) Interruptible Power Service rate schedule in June 2000. Although this rate schedule had been eliminated prior to the current test year, kWh sales and rate revenue relating to the 10(M) rate schedule were recorded in the Company's books and records in July 2000 and August 2000. My analysis

indicated that the data recorded after the elimination of this rate schedule resulted from the Company's three attempts to correctly bill one of the affected customers. I eliminated the kWh sales and rate revenue recorded in the test year for the 10(M) rate schedule. This adjustment is included in Schedules 2 and 3 as a Miscellaneous Adjustment.

A second annualization reflects rate switching by two large customers. One of the customers switched from the Small Primary Service rate schedule to the Large Primary Service rate schedule during the test year. Since there was no discernable change in the customer's load during the test year, I re-priced the customer's monthly billing units on the Large Primary Service rates, as if the customer had been a Large Primary Service customer throughout the entire test year. A corresponding adjustment was made to reduce Small Primary Service kWh sales and revenue. The second rate switching situation was a Large Primary Service customer who underwent a dramatic reduction in load and subsequently switched to the Small Primary Service rate schedule during the update period. The annualization for this customer was to remove its test year kWh sales and rate revenue from the Large Primary Service class and to add an estimate of its annual kWh sales and revenue associated with its reduced load to the Small Primary Service class. These adjustments are shown on Schedules 2 and 3 as an annualization for rate switching.

Q. What normalizations to test year billed kWh sales were done for this filing?

A. Two normalizations of test year kWh sales were done for this filing. The first normalization restates test year kWh sales on a "normal weather" basis; i.e., to the level of kWh sales that would have occurred in the test year if test year weather had been normal. The second normalization represents the change in kWh sales associated with adjusting the twelve test year billing months to 365 days.

Ms. Mantle is sponsoring both the weather normalization and the days adjustments to kWh sales. Her annual results are shown by rate schedule on my Schedule 2, a summary of Missouri kWh sales. Please refer to Ms. Mantle's testimony for a more complete description of the weather normalization concept and methodology.

Q. Which normalizations to test year rate revenue are you responsible for?

A. I am responsible for calculating the adjustments to rate revenue that are associated with both of Ms. Mantle's adjustments to kWh sales.

The assumption underlying my methodology for normalizing rate revenue is that weather normalization process has no effect on either the number of customers or on the fixed charges those customers pay. I assume that weather normalization only affects the energy usage of each existing customer and thus only affects those charges directly related to kWh usage.

The procedure I used to calculate the weather adjustment to revenue for each specific rate schedule was to apply a single seasonal energy rate to the monthly weather adjustment to kWh sales. In the situation where a rate schedule has multiple energy rates within a specific season, the choice of the specific rate used was based on the rate component specified in the Report and Order to Case No. EM-96-149, Attachment 1, pages 48-49. This document specifies the rate components, such as "the base kWh block", the "over 350 HU block", etc., to be used in the weather normalization of revenue of the first EARP's annual credits. While this document is not binding on the parties to this case, I used the same methodology because I believe that it is reasonable.

I applied the same methodology and rates to the days adjustment that was used to calculate the weather adjustment to revenue.

The annual weather-normalization adjustment to revenue for each rate schedule is shown in Schedule 3. The aggregate adjustment is also shown in Accounting Schedule 10. The monthly weather and days adjustments to kWh sales, the rate used for pricing, and the revenue adjustments by rate schedule are shown in Schedule 4.

Q. How was the effect of customer growth on kWh sales and revenue accounted for?

A. Conceptually, the customer growth adjustment reflects the additional kWh sales and rate revenue that would have occurred if all customers active at the end of the update period (September 30, 2001) had existed throughout the entire test year. Mr. Gibbs is sponsoring the customer growth adjustments to kWh sales and rate revenue that are shown by rate schedule on Schedule 2 and Schedule 3 attached to this testimony. The aggregate customer growth adjustment to rate revenue is shown on Accounting Schedule 10.

Q. What was the source of the data you used as the starting point for the various annualizations and normalizations?

A. Test year billed kWh sales and rate revenue were obtained from UE's CIS Report #1901 for the Residential and Small General Service rate classes. UE's CURST Reports #235 and #128 were the source of the data for the Large General Service, Small Primary Service, and Lighting rate classes. Individual customer billing data provided by the Company was used as the source data for the 59 customers in the Large Primary Service rate class. UE's CURST Report #235 was the source of the data for the special contract customer listed as Public Authority, but I supplemented the data with my estimate of "unrecorded" kWh sales.

CIS Report #1901, CURST Report #235, and CURST Report #128 are collectively known as "Sales Analysis". Any differences between Sales Analysis and other sources of data that I used appear as separate adjustments in the Miscellaneous Adjustments category shown on Schedules 2 and 3.

Q. Why did you choose to use individual customer billing data for the largest customers?

A. My decision to use individual customer billing data for the largest customers was made for a number of reasons. One reason was that I had previously used this data for the analysis done for the June 30, 2000 test year and had found the data to be internally consistent.

The second reason is that, in the process of tracking down the various inconsistencies between different sources of test year data, I discovered that there was a systematic recording error in both the CURST #235 report and in the monthly billing unit reports. I determined that this recording error was not present in the individual customer billing data.

The third reason is that the individual customer billing data is the most accurate data regarding kWh sales and rate revenue that the Company has. The various reports and the Company's official accounting records represent various aggregations of this fundamental individual customer billing information. While any errors in the fundamental data are also contained in the aggregated data, it is free of any programming errors in the report-generating software.

Q. Please describe the adjustments you made to kWh sales and rate revenue to account for the differences between Sales Analysis and the individual customer billing data for the Large Primary Service rate class.

A. I recorded the differences between the kWh sales and rate revenue reported in Sales Analysis and the annual sum of the individual customer billing data for the 59 Large Primary Service customers as aggregate adjustments to both kWh sales and rate revenue on Schedules 2 and 3. The adjustment to sales is a negative 3,343,727 kWh and the adjustment to rate revenue is $3,018,291.

Q. Please describe the difficulties you experienced in acquiring source data to use for developing the adjustments to kWh sales and rate revenue.

A. I spent weeks analyzing the data contained in the monthly sales, revenue, billing unit, and customer count reports that are generated from the Company's new billing system (CSS). I spent hours on the phone talking to Ameren Services' Rate Engineering Department, the department responsible for the design and administration of the Missouri tariffs. The various monthly reports generated by CSS are not consistent even with one another on a monthly basis, and they do not appear to be consistent with the Company's official accounting records. UE has not been able to satisfactorily explain to me the process by which individual customer billing data, the most fundamental data relating to kWh sales and rate revenue, becomes the Company's official records via the CSS system.

Q. Why didn't you use the kWh sales and rate revenue data contained in the Company's official accounting records for your analysis?

A. The kWh sales and rate revenue data contained in the Company's official accounting records is not suitable for calculating the standard regulatory adjustments that need to be done in a rate increase case, an excess earnings complaint case, or a rate design case for the following reasons: (i) the data is recorded on a calendar-month, rather than a billing month, basis; (ii) the data lacks the required rate schedule level of detail; and (iii) the

rate revenue recorded in the Company's official accounting records includes gross receipts taxes. The Staff's procedure is to reconcile billing month data to the Company's official accounting data. In this filing, $2,196,129 was impossible to reconcile.

Q. Please describe why the kWh sales and rate revenue data used for Missouri regulatory adjustments are on a billing month, rather than on a calendar month, basis.

A. The standard regulatory adjustments (annualizations and normalizations) to kWh sales and rate revenue are developed on a billing month, rather than a calendar month, basis because UE's seasonal rates are applied by billing month. For example, the revenue UE records for the calendar month of June consists of some kWh sales billed on May (winter) rates and some kWh sales billed on June (summer) rates. Similarly, the calendar month of October includes kWh sales billed on September (summer) rates as well as kWh sales billed on October (winter) rates.

Q. Please describe why the kWh sales and rate revenue data needs to be on a rate class, rather than on a revenue class, basis.

A. The standard regulatory adjustments (annualizations and normalizations) to kWh sales and rate revenue must be developed by rate class rather than by revenue class in order to determine the adjustments to revenue, because rates are unique for each rate class and revenue classes include customers served on various rate schedules. UE's Missouri rate classes are designated as residential, small general service, large general service, small primary service, and large primary service, plus four separate lighting rate schedules. Revenue classes are designated as residential, commercial, industrial, public authority, and street lighting. These two classifications are fundamentally different. For example, the rate revenue recorded for the commercial revenue class consists of revenues determined from

kWh sales billed on five different rate schedules: small general service, large general service, small primary service, large primary service, and customer-owned street lighting service.

Q. Please describe why the rate revenue data used for Missouri regulatory adjustments should not include gross receipts taxes.

A. Gross receipts taxes levied by various taxing authorities are a "pass-through" to customers' electric bills. The utility company is simply collecting these taxes from its customers and remitting them to the appropriate taxing authority. The gross receipts tax revenue is not derived from kWh sales.

Q. Did you experience any difficulty acquiring accurate kWh sales and revenue data by rate class from UE in this case?

A. Ameren has begun using a new billing system and a new accounting system since its last Missouri rate case. This is Staff's first close look at the reports generated by these new systems. My analysis of the data from the CSS system indicates that the seasonal rates seem to be correctly applied when billing customers; however, the kWh sales and rate revenue associated with customers billed at the end of the calendar month seem to be consistently recorded in the wrong billing month (i.e., lagged one month) and the system generates reports that are inconsistent with, and to me irreconcilable to, the Company's official books and records.

Q. Please describe the discrepancy that you found between the billing month in which the certain customers were billed and the billing month in which those customers' billed data was recorded?

A. My investigation indicated that this lag between the billing month and the "recording" month is built into the CSS system, preventing aggregate data from being

recorded on a billing month basis. This primarily affects those customers who are billed at the end of the month. Large Primary Service customers are the group most affected.

Q. Please describe your proposal for avoiding such data problems in the future.

A. My proposal is that UE create a monthly report of its billing month kWh sales and rate revenue by both rate schedule and revenue class that has these characteristics: (i) gross receipts taxes should be recorded separately; (ii) rate revenue relating to riders applicable to multiple rate schedules (such as interruptible credits, delivery voltage credits, and economic development credits) should be recorded separately; (iii) unbilled kWhs and unbilled revenue should be recorded separately; and (iv) the report should be provided to Staff upon request as an electronic file, preferably in a spreadsheet format.

An example report illustrating my proposal is shown on Schedule 5 attached to this testimony.

Q. What is your definition of a "billing month"?

A. UE uses a cycle billing system that results in the rendering of bills to various customers on different days of the month. Each of these days corresponds to an assigned "cycle", and the number of cycles corresponds to the average number of working days in a month. A billing month is the period over which a bill is rendered to customers on all cycles.

UE also has seasonal rates. Summer rates are applied in the billing months of June, July, August, and September. Each year a customer will receive four summer bills and eight winter bills. Thus, the June billing month starts when bills are rendered to customers in the first cycle billed on summer rates and ends when a bill has been rendered to customers in all of the cycles.

Because the number of working days varies from month to month, the billing months in each year do not always correspond to calendar months. The first day of the June billing month may well be May 31 in some years. The last day of the June billing month may be July 1 in some years.

Q. How do billing month sales differ from calendar month sales?

A. The distinction between billing month sales (and revenue) and calendar month sales (and revenue) is a different matter. Billing month sales are the sum of all sales to every customer billed during the billing month. Billing month sales for June will include usage in both May and June, and perhaps July. In fact, almost all of the usage in the first bill cycle billed in June will have occurred in May. On the other hand, calendar month sales for June are all usage between 12:00 a.m. on June 1 and 12:00 a.m. on July 1.

Q. What quality tests should this report be required to pass?

A. The reported billing month kWh sales and rate revenue should be reconciled monthly to the Company's books and records, which are typically based on calendar months.

Q. Is it reasonable to require UE to produce the proposed report of kWh sales and rate revenue each month?

A. Yes. It is essential that the Company's billing and accounting records be accurate. I believe that the report that I am recommending could be generated without undue burden on the Company. The Company's official books and records are derived from the same individual customer billing data that would be used to develop the proposed report. The process would also be the same.

The proposed report would require a new (or modified) piece of computer code. Developing computer code is a one-time cost. The requirement to reconcile this proposed

report with the Company's official kWh sales and rate revenue on a monthly basis and the requirement to record each customer's bill in the correct billing month will entail additional tasks, but this reconciliation is critical for accurate reports.

Q. Do you have a recommendation for the Commission regarding kWh sales and rate revenue?

A. I recommend that the Commission adopt the adjustments to kWh sales and rate revenue that I am sponsoring in this filing. I also recommend that the Commission order Union Electric Company to produce accurate reports of its billing month kWh sales and rate revenue on a going-forward basis as I have described in this testimony.

Q. Does this conclude your direct testimony on the issue of Sales and Revenue in this case?

A. Yes, it does.

RATE DESIGN

Q. What is the purpose of your direct testimony on the issue of Rate Design in this filing?

A. My testimony explains the process and demonstrates the outcome of applying the Staff's rate design recommendations, as described in the testimony of Staff witness James C. Watkins, to a $250 million decrease in UE Missouri revenues. My testimony will answer three basic questions: (1) What revenue decreases to the various rate classes will result from implementing Staff's rate design proposals?; (2) What rate levels will result from implementing Staff's rate design proposals?; and (3) What will be the impact on the typical residential customer of implementing Staff's rate design proposals?

Since the Staff's rate design recommendations in this case are based on a Stipulation and Agreement from Case No. EO-96-15 (UE Rate Design Case), my testimony will also provide a brief summary of relevant provisions of that case and related cases.

Q. What classes are covered by Staff's rate design proposals?

A. My illustration of Staff's rate design recommendations cover six classes: (i) Residential; (ii) Small General Service (Small GS); (iii) Large General Service and Small Primary Service combined (LGS/SPS); (iv) Large Primary Service; and (v) Lighting. Each of these classes corresponds to one or more of UE's existing tariff classifications. A sixth class (Public Authority) was treated separately in my analysis.

Q. How was the Public Authority class treated in Staff's rate design?

A. The Public Authority class consists of one customer whose contract with Union Electric Company specifies that the customer's rates change by the same percentage as overall Missouri revenue. My computations assume that the contract provisions are followed.

THE HISTORY OF UE'S RATE DESIGN WITHIN THE EARPs

Q. Please briefly describe the history of UE's permanent rates during the six years in which the Experimental Alternative Regulatory Plans (EARPs) were in effect.

A. Case No. ER-95-411, the case that initiated the first EARP for Union Electric Company in 1995, provided for a $30 million reduction in UE's permanent rates and a $30 million one-time credit to electric customers' bills. The resulting permanent rates became effective on August 1, 1995. Both the first EARP, and the subsequent EARP that became effective in Case No. EM-96-149, provided for the possibility of three annual adjustments to the Company's revenue in the form of "sharing credits" to be disbursed to

customers as one-time bill credits.

Case No. EM-96-149, the UE-CIPS merger case, also specified that: (i) a decrease in permanent Missouri rates might take place after the end of the first EARP; (ii) the amount of any rate decrease would be based upon the results of the weather-normalized sharing credits during the three years of the first EARP; and (iii) the structure of the permanent rates to implement any resulting revenue decrease would be considered in Case No. EO-96-15, a case established to investigate UE's class cost of service and rate design.

The overall Missouri revenue decrease resulting from Case No. EM-96-149 was not large enough to fully realize all of the rate design objectives that the parties to the Rate Design Case agreed needed to be addressed, depending on the size of a rate reduction that might occur on or after September 1, 1998. As described in the testimony of Mr. Watkins, Staff's rate design recommendation in the present case is to reduce UE's permanent rates by the amount of excess earnings shown in Accounting Schedule 1, and to do so in a way that realizes the rate design objectives laid out in Case No. EO-96-15 to the extent possible.

Q. What is the relationship between the revenue reduction ordered in Case No. EM-96-149 and the rate design settlement in Case No. EO-96-15?

A. Case No. EM-96-149 provided that a reduction in permanent rates might occur after the end of the first EARP, described the method to be used to determine the size of any overall rate decrease, and provided that Case No. EO-96-15 would determine the rate design of the permanent rates occurring as a result of any rate reduction. The Commission determined the amount of the sharing credits for the first three years of the first EARP in Case No. EO-96-14 and, as a consequence, then determined in Case No. EM-96-149 the amount of the rate reduction that was to occur based on the three-year average of the

weather-normalized sharing credits from Case No. EO-96-14. This amount was $16.321 million. UE sought a stay of the Commission's decision by the Cole County Circuit Court. The decision of the Cole County Circuit Court resulted in $370,000 of the Commission-ordered revenue reduction being stayed by the Court until the resolution of the Company's appeal, which is presently before the Cole County Circuit Court.

The resulting revenue reduction of $15,951,000 in April 2000 (after the first EARP) was too small to fully accomplish all of the rate design objectives specified in Case No. EO-96-15.

The revenue reduction that went into effect in April 2000 is the only change in UE's permanent rates that has occurred since permanent rates were reduced in 1995 to re-base rates prior to the commencement of the first EARP.

REVENUE DECREASES TO RATE CLASSES

Q. What is Staff's proposal for determining how any decrease in overall Missouri revenue should be applied to classes?

A. Staff's proposal, as found on page 3 of Mr. Watkins's direct testimony, is that each class's share of the decrease in overall Missouri revenue should be determined as follows:

> [First, t]he remainder of the rate reduction associated with the first $25,000,000 of the rate reduction contemplated in the rate design case should be distributed to the non-residential, non-lighting customer classes by an equal percentage of weather–normalized current rate revenues.
>
> [Then, t]he remainder of the rate reduction should be applied as an equal percentage reduction to each rate component, except the customer charges, of each rate schedule.

My testimony describes the process I used to apply this recommendation to various reductions in overall Missouri revenue. The results can be seen on Schedule 6.

Q. Which classes were included in the "non-residential, non-lighting customer classes"?

A. The non-residential, non-lighting customer classes were defined to be the Small General Service, Large General Service/Small Primary Service (LGS/SPS), and Large Primary Service rate classes.

Q. How did you determine what level of revenue reduction represents "the remainder of the rate reduction associated with the first $25,000,000 of the rate reduction contemplated in the rate design case"?

A. The rate design agreement specified that each of the non-residential, non-lighting classes would receive a 2.71% reduction if the overall Missouri revenue decrease was $25 million. A 1.73% revenue reduction was actually implemented. Therefore, each of the non-residential, non-lighting rate classes should receive an additional 0.98% (= 2.71% - 1.73%) revenue reduction before the residential and lighting classes begin sharing the remaining revenue decrease.

The revenue reductions resulting from applying this proposal total $9,834,790, and are distributed to classes as follows:

The Small General Service class should get a $2,252,752 reduction in revenue;

The LGS/SPS class should get a $5,989,255 reduction in revenue, on a combined basis; and,

The Large Primary Service rate class should get a $1,592,813 reduction in revenue.

Q. How did you compute the revenue reductions to each class that result when the overall reduction is in excess of $9,834,790?

A. The revenue reductions to each class that result when the overall reduction is in excess of $9,834,790 are based on each class's rate revenue, excluding revenue associated with the customer charge, after the initial revenue reduction has occurred.

Q. Please describe Schedule 6.

A. Schedule 6 displays the results of applying Staff's rate design recommendation to various overall reductions, ranging from $50 million to $300 million, in Missouri revenue. The $250 million overall reduction scenario shown towards the bottom of Schedule 6 will be used to demonstrate the application of Staff's rate design proposal to rate components.

Q. What revenue decreases would each rate class receive if the Commission were to determine that a $250 million overall revenue reduction should be implemented in accordance with Staff's rate design recommendation?

A. At an overall revenue decrease of $250 million, the rate classes would experience the following revenue reductions:

Residential	$100,801,237
Small GS	$32,127,012
LGS/SPS	$89,416,534
Large Primary	$24,065,854
Lighting	$3,581,673
Public Authority	$7,691

RATE LEVELS

Q. How is the Staff's rate design recommendation applied to the computation of individual rate components?

A. Any additional decrease in overall revenue, beyond the first $9,834,790, should result in the same percentage decrease in all rate components, except customer charges, on all affected rate schedules.

Q. Is this shown differently in your July 2, 2001 filing?

A. Yes. The prior filing showed an equal percentage decrease in all rate components, except customer charges, only within each rate class. Since the proportion of customer charge revenue to total revenue is different for each rate class, the rate components for each rate class were reduced by different factors.

Q. Why did you change your interpretation of how to calculate the rate components?

A. The calculation presented in this filing preserves rate continuity between the existing rate schedules and allows the charges and credits associated with multiple rate schedules to be reduced by the same percentage.

Q. What specific rates would result from implementing Staff's rate design proposal if overall Missouri revenue were to be reduced by $250 million?

A. Schedule 7 shows the specific rates that result from applying Staff's rate design proposals to an overall revenue reduction of $250 million. This schedule also compares these illustrative rates to UE's existing Missouri rates.

LARGE GENERAL SERVICE / SMALL PRIMARY SERVICE RATE DESIGN

Q. How will the initial revenue decrease to the combined LGS/SPS class be distributed between the Large General Service rate class and the Small Primary Service rate class?

A. Once the revenue decrease is determined for the combined LGS/SPS class, a method is needed to determine the revenue split between the two rate schedules that define the class (i.e., Large General Service and Small Primary Service). The section of Staff's rate design recommendation that relates to the design of the Large General Service and the Small Primary Service rate schedules states the following:

> 2. The resulting rate reduction to the Large General Service/Small Primary Service Class should first be applied to the Large General Service Rate Schedule, to the extent possible, to adjust its demand charges to be $0.20 higher than the corresponding Small Primary Service Rate Schedule demand charges and its energy charges to be 1.01% higher than the corresponding Small Primary Service energy charges. [Watkins, direct, p. 3]

Q. How did you interpret this recommendation?

A. I interpreted this recommendation to mean that I should work towards the specific rate design objectives that were agreed to, but only partly achieved, in the UE Rate Design Case.

The Staff's objective in that case was that Large General Service and Small Primary Service rates be designed in such a way that the only differences between the rates should reflect those cost differences attributable to voltage level; namely, customer ownership of equipment (transformers), metering cost differences (if any), and losses. A 20-cent per kW difference in the demand charge was determined to be the proper reflection of customer-

ownership vs. company-ownership of a transformer. A one percent differential between energy charges on the two rate schedules was believed to properly reflect losses.

Q. How were the words "to the extent possible" in Staff's rate design recommendation interpreted in this situation?

A. I interpreted the words "to the extent possible" to mean that I should attempt to reach the two stated rate design objectives, using only the money available to the combined class in the initial overall $9.8 million revenue reduction step.

Q. Were the stated rate design objectives fully realizable using only the money available in the initial revenue reduction step?

A. No. My analysis indicated that it would require an $18.5 million decrease in Large General Service rates, holding Small Primary Service rates at existing rate levels, to fully achieve the two rate objectives listed in the quoted recommendation. The revenue decrease to the combined LGS/SPS class in the initial step is less than $6 million, far short of the amount required.

Q. What procedures did you use to design the rates required to implement the Staff's recommendation relating to LGS/SPS rate design?

A. I reduced Large General Service rates by the entire $5,989,255 and left Small Primary Service rates at existing levels during the initial $9.8 million of overall revenue reduction. After the initial reduction to Large General Service, both rate schedules were treated the same as any other rate class when determining the share of any additional revenue decrease.

Q. How is the implementation in this filing different from that done in the July 2, 2001 filing?

A. In the July 2, 2001 filing, I reduced Large General Service rates to achieve both rate design objectives before applying any revenue decrease to Small Primary Service. As a result, rate continuity between the Small Primary Service and Large General Service rate schedules was negatively affected.

IMPACT OF STAFF RATE DESIGN ON RESIDENTIAL ELECTRIC BILLS

Q. How do the electric bills currently incurred by residential customers served by UE compare to the electric bills paid by residential customers served by the other regulated Missouri electric utilities?

A. The lower table on Schedule 8 compares the electric bills that the typical residential customer would incur if served by each of the various regulated electric utilities in Missouri. The average monthly electricity bill incurred by the typical residential customer, when served by Union Electric Company, is $71.33.

The average monthly electricity bill for the typical residential customer is higher at UE than it would be at St. Joseph Light & Power or Kansas City Power & Light Company. The bill incurred at UE is lower, however, than would be the case if the typical residential customer were served by The Empire District Electric Company or Missouri Public Service or Citizens Electric Corporation.

Q. How will the outcome of this case affect the electric bills paid by residential customers served by UE?

A. If the Commission determines that UE is over-earning in excess of $10 million and orders UE's revenues to be reduced in accordance with Staff's rate design recommendation, every residential electric bill, except those bills where the customer uses no energy during the month, will be reduced. The exception will be customers who use no

energy during the month. They will continue to receive monthly electricity bills of $7.25 per month.

If the Commission orders a $250 million revenue reduction and adopts Staff's rate design recommendation, the electricity bills paid by residential customers served by UE will decrease by approximately 12.6%. (See Schedule 8). Under this scenario, all energy (kWh) rates will decrease by 14.0% and the customer charge will remain the same. This translates into a monthly decrease of $8.98 (from $71.33 to $62.35 per month) for the typical residential customer. UE's Missouri residential electricity bills would become the lowest of all the Missouri regulated electric utilities.

Q. Please describe the methodology that was used to determine the comparison between Union Electric Company's average rates and those of the five other Missouri regulated electric utilities.

A. The "typical residential customer" methodology was used to measure UE's rank among the six regulated Missouri electric utilities because this methodology "controls" for differences in typical residential usage in various parts of the state. As a result, the entire difference in electric bills between regulated electric utilities for the typical residential customer is attributable to differences in rate level and rate structure. The monthly usage of the "typical UE residential customer" was determined, on a normal-weather basis, during the weather normalization analysis done in this case. The "typical residential customer" methodology consists of calculating the monthly electric bills that would result from the application of the current residential rate schedule of each of the comparison utilities to UE's typical residential customer usage, calculating the average monthly bill by summing the monthly bills and dividing by twelve, and ranking them from lowest to highest. The choice

of a different typical residential customer may result in a different ranking.

Q. Does this conclude your direct testimony on the subject of Rate Design in this filing?

A. Yes, it does.

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

The Staff of the Missouri Public Service Commission, Complainant,	)	
vs.	)	Case No. EC-2002-1
Union Electric Company, d/b/a AmerenUE, Respondent.	)	

AFFIDAVIT OF JANICE PYATTE

STATE OF MISSOURI)
) **ss**
COUNTY OF COLE)

Janice Pyatte, of lawful age, on her oath states: that she has participated in the preparation of the foregoing written Direct Testimony in question and answer form, consisting of 27 pages to be presented in the above case, that the answers in the attached written Direct Testimony were given by her; that she has knowledge of the matters set forth in such answers; and that such matters are true to the best of her knowledge and belief.

Janice Pyatte

Subscribed and sworn to before me this 1st day of March, 2002.

DAWN L. HAKE
Notary Public – State of Missouri
County of Cole
My Commission Expires Jan 9, 2005

Notary Public

My commission expires

Rate Case Proceedings
Janice Pyatte

Company	Case Number
UtiliCorp United, Inc. d/b/a Missouri Public Service	ER-2001-672
The Empire District Electric Company	ER-2001-299
UtiliCorp United and St. Joseph Light & Power Co.	EM-2000-292
St. Joseph Light & Power Company	ER-99-247 & EC-98-573
St. Joseph Light & Power Company	HR-99-245
Union Electric Company	EO-96-15
St. Joseph Light & Power Company	EC-98-573
Missouri Public Service	ER-97-394 & ET-98-103 & EC-98-126
Missouri Public Service	ER-97-394 & ET-98-103
Missouri Public Service	EO-97-144 & EC-97-362
The Empire District Electric Company	ER-97-81
Kansas City Power & Light Company	EC-96-57
The Empire District Electric Company	ER-95-279
The Empire District Electric Company	ER-94-174 & EO-91-74
St. Joseph Light & Power Company	ER-93-41
Missouri Public Service	ER-93-37
Union Electric Company	EM-92-225 & EM-92-253
Arkansas Power & Light Co. and Union Electric Co.	EM-91-29
Union Electric Company	EO-87-175
Arkansas Power & Light Company	ER-85-265
Kansas City Power & Light Company	ER-85-128 & EO-85-185
Union Electric Company	EO-85-17 & ER-85-160
Union Electric Company	ER-84-168
Laclede Gas Company	GR-84-161
Arkansas Power & Light Company	ER-83-206
Union Electric Company	ER-83-163
Kansas City Power & Light Company	ER-83-49
The Empire District Electric Company	EO-82-40
The Empire District Electric Company	ER-81-209
Kansas City Power & Light Company	EO-78-161
Laclede Gas Company	GO-78-38
Union Electric Company	EO-78-163
St. Joseph Light & Power Company	EO-77-56

UNION ELECTRIC COMPANY - CASE NO. EC-2002-1
MISSOURI RETAIL KWH SALES BY RATE SCHEDULE
SUMMARY TABLE

RATE SCHEDULE	Test Year Billed kWh Sales	Miscellaneous Adjustments	Annualization for Rate Switching	Normalization for Weather	Normalization for 365 Days	Growth Adjustments	Test Year Adjusted kWh Sales
RESIDENTIAL	12,409,442,725			(670,397,000)	17,795,000	44,937,115	11,801,777,840
SMALL GENERAL SERVICE	3,538,873,162			(101,474,000)	(2,395,000)	32,474,390	3,467,478,552
LARGE GENERAL SERVICE	7,274,143,144	40,403		(138,289,000)	15,387,000	227,004,713	7,378,286,260
SMALL PRIMARY SERVICE	4,422,093,305		(8,605,588)	(43,074,000)	(21,831,000)	(17,031,704)	4,331,551,012
LARGE PRIMARY SERVICE	3,921,726,938	(3,343,727)	(51,948,102)	(15,847,000)	21,396,000		3,871,984,109
INTERRUPTIBLE	14,942,222	(14,942,222)					0
LIGHTING	234,582,105						234,582,105
PUBLIC AUTHORITY	-	141,698					141,698
TOTAL MO RETAIL SALES	31,815,803,601	(18,103,848)	(60,553,690)	(969,081,000)	30,352,000	287,384,513	31,085,801,575

Schedule 2

UNION ELECTRIC COMPANY - CASE NO. EC-2002-1
MISSOURI RETAIL RATE REVENUES BY RATE SCHEDULE
SUMMARY TABLE

RATE SCHEDULE	Test Year Billed Revenue	Miscellaneous Adjustments	Annualization for Rate Switching	Normalization for Weather	Normalization for 365 Days	Growth Adjustments	Test Year Retail Rate Revenue
RESIDENTIAL	$848,972,133			($47,477,368)	$1,446,734	$3,490,775	$806,432,274
SMALL GENERAL SERVICE	$234,842,995			($6,956,193)	($191,361)	$2,248,158	$229,943,599
LARGE GENERAL SERVICE	$399,528,760	$5,402		($4,489,852)	$609,325	$13,004,684	$408,658,319
SMALL PRIMARY SERVICE	$206,079,239		($544,164)	($1,363,537)	($820,846)	($675,006)	$202,675,686
LARGE PRIMARY SERVICE	$161,009,883	$3,018,291	($1,620,317)	($386,382)	$560,575		$162,582,050
INTERRUPTIBLE	$454,380	($454,380)					$0
LIGHTING	$25,633,368						$25,633,368
PUBLIC AUTHORITY	$56,547						$56,547
UNKNOWN	$2,196,129						$2,196,129
TOTAL MO RATE REVENUE	$1,878,773,434	$2,569,312	($2,164,481)	($60,673,332)	$1,604,427	$18,068,611	$1,838,177,971

Schedule 3

UNION ELECTRIC COMPANY - CASE NO. EC-2002-1
EFFECT OF WEATHER NORMALIZATION AND DAYS ADJUSTMENT TO MISSOURI SALES & REVENUES
12 MONTHS ENDED 6/30/2001

RESIDENTIAL

	WEATHER ADJ (MWH)	RATE ($/KWH)	REVENUE ADJUSTMENT
Jul-00	23,514	0.08130	$1,911,688
Aug-00	(106,220)	0.08130	($8,635,686)
Sep-00	(223,395)	0.08130	($18,162,014)
Oct-00	(51,563)	0.05770	($2,975,185)
Nov-00	(18,185)	0.05770	($1,049,275)
Dec-00	(100,647)	0.05770	($5,807,332)
Jan-01	(85,991)	0.05770	($4,961,681)
Feb-01	45,876	0.05770	$2,647,045
Mar-01	6,694	0.05770	$386,244
Apr-01	(24,280)	0.05770	($1,400,956)
May-01	(69,612)	0.05770	($4,016,612)
Jun-01	(66,588)	0.08130	($5,413,604)
	(670,397)		**($47,477,368)**

SMALL GENERAL SERVICE

	WEATHER ADJ (MWH)	RATE ($/KWH)	REVENUE ADJUSTMENT
Jul-00	2,563	0.07990	$204,784
Aug-00	(11,939)	0.07990	($953,926)
Sep-00	(24,788)	0.07990	($1,980,561)
Oct-00	(8,198)	0.05960	($488,601)
Nov-00	(8,007)	0.05960	($477,217)
Dec-00	(16,694)	0.05960	($994,962)
Jan-01	(14,169)	0.05960	($844,472)
Feb-01	7,948	0.05960	$473,701
Mar-01	2,424	0.05960	$144,470
Apr-01	(5,157)	0.05960	($307,357)
May-01	(14,875)	0.05960	($886,550)
Jun-01	(10,582)	0.07990	($845,502)
	(101,474)		**($6,956,193)**

LARGE GENERAL SERVICE

	WEATHER ADJ (MWH)	RATE ($/KWH)	REVENUE ADJUSTMENT
Jul-00	2,648	0.03960	$104,861
Aug-00	(11,329)	0.03960	($448,628)
Sep-00	(26,088)	0.03960	($1,033,085)
Oct-00	(10,748)	0.02860	($307,393)
Nov-00	(16,992)	0.02860	($485,971)
Dec-00	(20,889)	0.02860	($597,425)
Jan-01	(22,760)	0.02860	($650,936)
Feb-01	9,324	0.02860	$266,666
Mar-01	3,576	0.02860	$102,274
Apr-01	(8,277)	0.02860	($236,722)
May-01	(22,906)	0.02860	($655,112)
Jun-01	(13,848)	0.03960	($548,381)
	(138,289)		**($4,489,852)**

SMALL PRIMARY SERVICE

	WEATHER ADJ (MWH)	RATE ($/KWH)	REVENUE ADJUSTMENT
Jul-00	1,114	0.03760	$41,886
Aug-00	(4,493)	0.03760	($168,937)
Sep-00	(10,101)	0.03760	($379,798)
Oct-00	(4,239)	0.02730	($115,725)
Nov-00	(5,905)	0.02730	($161,207)
Dec-00	(3,227)	0.02730	($88,097)
Jan-01	(2,612)	0.02730	($71,308)
Feb-01	2,284	0.02730	$62,353
Mar-01	933	0.02730	$25,471
Apr-01	(3,632)	0.02730	($99,154)
May-01	(8,461)	0.02730	($230,985)
Jun-01	(4,735)	0.03760	($178,036)
	(43,074)		**($1,363,537)**

Schedule 4-1

UNION ELECTRIC COMPANY - CASE NO. EC-2002-1
EFFECT OF WEATHER NORMALIZATION AND DAYS ADJUSTMENT TO MISSOURI SALES & REVENUES
12 MONTHS ENDED 6/30/2001

	LARGE PRIMARY SERVICE			TOTAL MISSOURI			
	WEATHER ADJ (MWH)	RATE ($/KWH)	REVENUE ADJUSTMENT		WEATHER EFFECT (MWH)	AVG ($/KWH)	REVENUE ADJUSTMENT
Jul-00	388	0.02620	$10,166	Jul-00	30,227	0.07521	$2,273,385
Aug-00	(2,598)	0.02620	($68,068)	Aug-00	(136,579)	0.07523	($10,275,245)
Sep-00	(2,890)	0.02620	($75,718)	Sep-00	(287,262)	0.07530	($21,631,176)
Oct-00	(1,763)	0.02310	($40,725)	Oct-00	(76,511)	0.05133	($3,927,629)
Nov-00	(1,328)	0.02310	($30,677)	Nov-00	(50,417)	0.04372	($2,204,347)
Dec-00	(276)	0.02310	($6,376)	Dec-00	(141,733)	0.05288	($7,494,192)
Jan-01	(175)	0.02310	($4,043)	Jan-01	(125,707)	0.05197	($6,532,440)
Feb-01	243	0.02310	$5,613	Feb-01	65,675	0.05261	$3,455,378
Mar-01	181	0.02310	$4,181	Mar-01	13,808	0.04799	$662,640
Apr-01	(2,349)	0.02310	($54,262)	Apr-01	(43,695)	0.04802	($2,098,451)
May-01	(3,827)	0.02310	($88,404)	May-01	(119,681)	0.04911	($5,877,663)
Jun-01	(1,453)	0.02620	($38,069)	Jun-01	(97,206)	0.07225	($7,023,592)
	(15,847)		**($386,382)**		**(969,081)**		**($60,673,332)**

DAYS ADJUSTMENT	**MWh**	**RATE**	**REVENUE**
Residential	17,795	0.08130	$1,446,734
Small General Service	(2,395)	0.07990	($191,361)
Large General Service	15,387	0.03960	$609,325
Small Primary	(21,831)	0.03760	($820,846)
Large Primary	21,396	0.02620	$560,575
Total Days Adjustment	**30,352**		**1,604,427**

REVENUE IMPACT OF WEATHER AND DAYS

	MWh	**Revenue**
Weather	**(969,081)**	**($60,673,332)**
Days	**30,352**	**$1,604,427**
Total	**(938,729)**	**($59,068,905)**

Schedule 4-2

UNION ELECTRIC COMPANY - CASE NO. EC-2002-1
EXAMPLE FORMAT OF REQUESTED REPORT

Revenue Class/ Rate Class	(1) No. of Custs	(2) Billed Sales (kWh)	(3) Rate Revenue	(4) Revenue Credits	(5) GRT Taxes	(6) Unbilled Sales (kWh)	(7) Unbilled Revenue	= (2) + (6) Booked Sales (kWh)	= (3)+(4)+ +(5)+(7) Booked Revenue($)
RESIDENTIAL	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx
COMMERCIAL									
2(M) Small General Service	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx
3(M) Large General Service	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx
4(M) Small Primary Service	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx
6(M) Lighting (Cust-owned)	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx
11(M) Large Primary Service	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx
INDUSTRIAL									
2(M) Small General Service	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx
3(M) Large General Service	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx
4(M) Small Primary Service	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx
11(M) Large Primary Service	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx
PUBLIC AUTHORITIES	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx
STREET & HIGHWAY LIGHTING									
5(M) Lighting (Company-owned)	xxxxxx	xxxxxx	xxxxxx		xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx
6(M) Lighting (Customer-owned)	xxxxxx	xxxxxx	xxxxxx		xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx
7(M) Incandescent Street Lighting	xxxxxx	xxxxxx	xxxxxx		xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx
8(M) Ornamental Street Lighting	xxxxxx	xxxxxx	xxxxxx		xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx
TOTAL MISSOURI RETAIL									
WHOLESALE	xxxxxx	xxxxxx	xxxxxx		xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx
TOTAL MISSOURI	xxxxxx	xxxxxx	xxxxxx		xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx

Schedule 5

STAFF PROPOSAL FOR THE REVENUE DECREASE TO EACH CLASS
FOR VARIOUS REDUCTIONS IN OVERALL MISSOURI REVENUE
CASE NO. EC-2002-1

	RESIDENTIAL	SMALL GS	LGS & SPS	LARGE PS	LIGHTING	PUBLIC AUTH	TOTAL MO
Current Revenue	$806,432,274	$229,943,599	$611,334,005	$162,582,050	$25,633,368	$56,547	$1,838,177,971
Rate Design Case:							
Stipulated %	0.00%	-2.706646%	-2.71%	-2.71%	0.00%	0.00%	@ $25 Million
Implemented %	0.00%	-1.726949%	-1.73%	-1.73%	0.00%	0.00%	@ $15.951 Million
Remainder of $25M Restated at Current Revenues:							
Remainder ($)	$0	($2,252,752)	($5,989,225)	($1,592,813)	$0	$0	($9,834,790)
Remainder (%)	0.00%	-0.979698%	-0.98%	-0.98%	0.00%	0.00%	-0.54%
@ $50 Million	($16,857,885)	($7,248,890)	($19,941,514)	($5,351,179)	($598,995)	($1,538)	($50,000,000)
% revenue change	-2.09%	-3.15%	-3.26%	-3.29%	-2.34%	-2.72%	-2.72%
@ $100 Million	($37,843,723)	($13,468,420)	($37,310,269)	($10,029,847)	($1,344,665)	($3,076)	($100,000,000)
% revenue change	-4.69%	-5.86%	-6.10%	-6.17%	-5.25%	-5.44%	-5.44%
@ $150 Million	($58,829,561)	($19,687,951)	($54,679,024)	($14,708,516)	($2,090,334)	($4,614)	($150,000,000)
% revenue change	-7.30%	-8.56%	-8.94%	-9.05%	-8.15%	-8.16%	-8.16%
@ $200 Million	($79,815,399)	($25,907,481)	($72,047,779)	($19,387,185)	($2,836,004)	($6,152)	($200,000,000)
% revenue change	-9.90%	-11.27%	-11.79%	-11.92%	-11.06%	-10.88%	-10.88%
@ $250 Million	($100,801,237)	($32,127,012)	($89,416,534)	($24,065,854)	($3,581,673)	($7,691)	($250,000,000)
% revenue change	-12.50%	-13.97%	-14.63%	-14.80%	-13.97%	-13.60%	-13.60%
@ $300 Million	($121,787,075)	($38,346,543)	($106,785,288)	($28,744,522)	($4,327,343)	($9,229)	($300,000,000)
% revenue change	-15.10%	-16.68%	-17.47%	-17.68%	-16.88%	-16.32%	-16.32%

FORMULA	RESIDENTIAL	SMALL GS	LGS & SPS	LARGE PS	LIGHTING	PUBLIC AUTH
First $9,834,790	No Change	Equal Percent of Current Revs	Equal Percent Current Revs	Equal Percent Current Revs	No Change	
Over $9,834,790	Equal Percent of Non-Customer Charge Revs	Equal Percent of Non-Customer Charge Revs	Equal Percent of Non-Customer Charge Revs	Equal Percent of Non-Customer Charge Revs	Equal Percent of Non-Customer Charge Revs	System Avg

Schedule 6

UNION ELECTRIC COMPANY - CASE NO. EC-2002-1
CURRENT AND ILLUSTRATIVE STAFF RATES - BY RATE SCHEDULE
(ASSUMES $250,000,000 DECREASE IN OVERALL REVENUES)

RESIDENTIAL SERVICE

	Current Rates	Proposed Rates	Difference (Dollars)	Difference (Percent)
Customer Charge	$7.25	$7.25	$0.00	0.0%
Energy Charges:				
Summer kWh	$0.0813	$0.0699	($0.0114)	-14.0%
Winter				
First 750 kWh	$0.0577	$0.0496	($0.0081)	-14.0%
Over 750 kWh	$0.0389	$0.0335	($0.0054)	-14.0%
TIME-OF-DAY				
Customer Charge	$15.00	$15.00	$0.00	0.0%
Energy Charges:				
Summer				
Peak kWh	$0.1182	$0.1017	($0.0165)	-14.0%
Off-Peak kWh	$0.0485	$0.0417	($0.0068)	-14.0%
Winter				
Peak kWh	$0.0697	$0.0600	($0.0097)	-14.0%
Off-Peak kWh	$0.0345	$0.0297	($0.0048)	-14.0%

SMALL GENERAL SERVICE

	Current Rates	Proposed Rates	Difference (Dollars)	Difference (Percent)
Customer Charges:				
Single Phase	$7.25	$7.25	$0.00	0.0%
Three Phase	$15.10	$15.10	$0.00	0.0%
Energy Charges:				
Summer kWh	$0.0799	$0.0680	($0.0119)	-14.9%
Winter				
Base kWh	$0.0596	$0.0507	($0.0089)	-14.9%
Seasonal kWh	$0.0345	$0.0294	($0.0051)	-14.9%
TIME-OF-DAY				
Customer Charges:				
Single Phase	$15.00	$15.00	$0.00	0.0%
Three Phase	$30.00	$30.00	$0.00	0.0%
Energy Charges:				
Summer				
Peak kWh	$0.1186	$0.1010	($0.0176)	-14.9%
Off-Peak kWh	$0.0781	$0.0665	($0.0116)	-14.9%
Winter				
Peak kWh	$0.0484	$0.0412	($0.0072)	-14.9%
Off-Peak kWh	$0.0359	$0.0306	($0.0053)	-14.9%

Schedule 7-1

UNION ELECTRIC COMPANY - CASE NO. EC-2002-1
CURRENT AND ILLUSTRATIVE STAFF RATES - BY RATE SCHEDULE
(ASSUMES $250,000,000 DECREASE IN OVERALL REVENUES)

SMALL PRIMARY SERVICE

	Current Rates	Proposed Rates	Difference (Dollars)	Difference (Percent)
Customer Charge	$210.00	$210.00	$0.00	0.0%
Demand Charges:				
Summer kW	$3.01	$2.59	($0.42)	-14.0%
Winter kW	$1.10	$0.95	($0.15)	-14.0%
Energy Charges:				
Summer				
First 150 HU	$0.0745	$0.0641	($0.0104)	-14.0%
Next 200 HU	$0.0562	$0.0483	($0.0079)	-14.0%
Over 350 HU	$0.0376	$0.0323	($0.0053)	-14.0%
Winter				
First 150 HU	$0.0469	$0.0403	($0.0066)	-14.0%
Next 200 HU	$0.0349	$0.0300	($0.0049)	-14.0%
Over 350 HU	$0.0273	$0.0235	($0.0038)	-14.0%
Seasonal	$0.0273	$0.0235	($0.0038)	-14.0%
Reactive Charge	$0.24	$0.21	($0.03)	-14.0%
TIME-OF-DAY				
Add'l Cust Charge	$14.00	$14.00	$0.00	0.0%
Energy Adjustments:				
Summer				
Peak kWh	$0.0063	$0.0063	$0.0000	0.0%
Off-Peak kWh	($0.0035)	($0.0035)	$0.0000	0.0%
Winter				
Peak kWh	$0.0023	$0.0023	$0.0000	0.0%
Off-Peak kWh	($0.0013)	($0.0013)	$0.0000	0.0%
Rider B Credits:				
138 kV/Pri	($0.95)	($0.82)	$0.13	-14.0%
34.5 kV/34.5 kV	($0.81)	($0.70)	$0.11	-14.0%
34.5 kV/Primary	($0.81)	($0.70)	$0.11	-14.0%

LARGE GENERAL SERVICE

	Current Rates	Proposed Rates	Difference (Dollars)	Difference (Percent)
Customer Charge	$66.00	$66.00	$0.00	0.0%
Demand Charges:				
Summer kW	$3.79	$3.21	($0.58)	-15.3%
Winter kW	$1.35	$1.14	($0.21)	-15.3%
Energy Charges:				
Summer				
First 150 HU	$0.0784	$0.0664	($0.0120)	-15.3%
Next 200 HU	$0.0591	$0.0501	($0.0090)	-15.3%
Over 350 HU	$0.0396	$0.0336	($0.0060)	-15.3%
Winter				
First 150 HU	$0.0491	$0.0416	($0.0075)	-15.3%
Next 200 HU	$0.0368	$0.0312	($0.0056)	-15.3%
Over 350 HU	$0.0286	$0.0242	($0.0044)	-15.3%
Seasonal	$0.0286	$0.0242	($0.0044)	-15.3%
Reactive Charge	$0.00	$0.00	$0.00	0.0%
TIME-OF-DAY				
Add'l Cust Charge	$14.00	$14.00	$0.00	0.0%
Energy Adjustments:				
Summer				
Peak kWh	$0.0088	$0.0088	$0.0000	0.0%
Off-Peak kWh	($0.0049)	($0.0049)	$0.0000	0.0%
Winter				
Peak kWh	$0.0027	$0.0027	$0.0000	0.0%
Off-Peak kWh	($0.0015)	($0.0015)	$0.0000	0.0%

UNION ELECTRIC COMPANY - CASE NO. EC-2002-1
CURRENT AND ILLUSTRATIVE STAFF RATES - BY RATE SCHEDULE
(ASSUMES $250,000,000 DECREASE IN OVERALL REVENUES)

LARGE PRIMARY SERVICE

	Current Rates	Proposed Rates	Difference (Dollars)	Difference (Percent)
Customer Charge	$210.00	$210.00	$0.00	0.0%
Demand Charge:				
Summer kW	$15.67	$13.35	($2.32)	-14.8%
Winter kW	$7.11	$6.06	($1.05)	-14.8%
Energy Charge:				
Summer kWh	$0.0262	$0.0223	($0.0039)	-14.8%
Winter kWh	$0.0231	$0.0197	($0.0034)	-14.8%
Reactive Charge	$0.2400	$0.2065	($0.0335)	-14.0%
TIME-OF-DAY				
Add'l Cust Charge	$14.00	$14.00	$0.00	0.0%
Energy Adjustments:				
Summer				
Peak kWh	$0.0045	$0.0045	$0.0000	0.0%
Off-Peak kWh	($0.0025)	($0.0025)	$0.0000	0.0%
Winter				
Peak kWh	$0.0020	$0.0020	$0.0000	0.0%
Off-Peak kWh	($0.0011)	($0.0011)	$0.0000	0.0%
Rider B Credits:				
kW@138 kV/Pri	($0.95)	($0.82)	$0.13	-14.0%
kW@34.5 kV/Pri	($0.81)	($0.70)	$0.11	-14.0%
kW@34.5 kV/34.5	($0.81)	($0.70)	$0.11	-14.0%

UNION ELECTRIC COMPANY - CASE NO. EC-2002-1

THE IMPACT OF STAFF RATES ON TYPICAL RESIDENTIAL ELECTRIC BILLS

	SUMMER AVERAGE	WINTER AVERAGE	ANNUAL AVERAGE
NORMALIZED USE (KWH/MONTH)	1,105	958	1,007
BILL ON CURRENT RATES ($/MONTH)	$97.12	$58.44	$71.33
BILL ON PROPOSED RATES ($/MONTH)	$84.52	$51.26	$62.35
DOLLAR CHANGE FROM CURRENT ($/MONTH)	($12.60)	($7.17)	($8.98)
PERCENT CHANGE FROM CURRENT (%)	-12.98%	-12.28%	-12.59%

ASSUMES A $250,000,000 DECREASE IN OVERALL REVENUES.

A COMPARISON OF TYPICAL RESIDENTIAL ELECTRIC BILLS AT MISSOURI INVESTOR-OWNED UTILITIES

	EFFECTIVE DATE	SUMMER AVERAGE	WINTER AVERAGE	ANNUAL AVERAGE
UNION ELECTRIC CO.	Staff Proposal	$84.52	$51.26	$62.35
ST.JOSEPH LIGHT & POWER	10/31/99	$76.34	$55.58	$62.50
KANSAS CITY POWER & LIGHT CO.	08/01/99	$87.91	$59.75	$69.14
UNION ELECTRIC CO.	03/30/00	$97.12	$58.44	$71.33
EMPIRE DISTRICT ELECTRIC CO.	08/31/01	$85.26	$64.74	$71.58
MISSOURI PUBLIC SERVICE	Pending 3/21/02	$84.77	$65.19	$71.72
CITIZENS ELECTRIC CORP.	01/01/02	$88.21	$76.68	$80.52

THE TYPICAL RESIDENTIAL CUSTOMER USAGE IS ASSUMED TO AVERAGE 1,105 KWH IN THE SUMMER MONTHS AND 958 KWH IN THE WINTER MONTHS.