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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 d/b/a

AMERENUE

CASE NO. EC-2002-1

Jefferson City, Missouri
July 2, 2001

Exhibit No. 32
Date 7/10/02 Case No. EC-2002-1
Reporter KPM

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UNION ELECTRIC COMPANY

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.

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 past six years under provisions of the Experimental Alternative Regulatory Plans ("EARP").

SALES AND REVENUES

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

A. My direct testimony on the issue of Sales and Revenues describes my role in the development of specific adjustments to Union Electric Company's ("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 kWh sales and rate revenues that are 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 kWh sales shown on Schedule 1 are inputs into the normalized hourly net system load used in Staff's fuel run for determining the appropriate level of fuel and purchased power expense. The rate revenues shown on Schedule 2 are inputs into Staff's Accounting Schedules for determining net operating income. Rate revenues are also used in developing Staff's rate design proposal and will be used to develop the tariffs required to implement the Commission's ordered revenue requirement and rate design in this case.

Q. What is the relationship between the Missouri rate revenues you are sponsoring and the Missouri operating revenues shown on Accounting Schedule 9?

A. Operating revenue consists of two components: the revenue that the Company collects from the sales of electricity to Missouri retail customers (rate revenue); and the revenue the Company receives for providing other services ("other revenue").

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

A. My testimony addresses Missouri rate revenues and Missouri kWh sales. The testimony of Staff witness Doyle L. Gibbs addresses the other revenue components of operating revenue plus the adjustment to restore lost revenue resulting from territorial agreements.

Mr. Gibbs, Staff witness Lena M. Mantle, and I are responsible for various adjustments to kWh sales at the rate schedule level of detail. Ms. Mantle's testimony will describe the source of the analysis that accounts for the effect of weather on test year kWh sales. Mr. Gibbs is responsible for calculating the effect that growth in the number of customers has on kWh sales. I am responsible for all of the other calculations associated with determining annualized, normalized, growth-adjusted, test year kWh sales. I am also responsible for compiling the table labeled as Schedule 1, which summarizes the results of the work sponsored by Mr. Gibbs, Ms. Mantle and myself relating to adjustments to Missouri kWh sales.

Mr. Gibbs and I are also responsible for adjustments to rate revenues at the rate schedule level of detail. Mr. Gibbs is responsible for calculating the effect that customer growth has on operating revenue. I am responsible for all of the other calculations associated with determining annualized, normalized, growth-adjusted, test year rate revenues, including the adjustments that account for the effects of weather on rate revenue. Schedule 2, attached to this testimony, summarizes the results of the work done by Mr. Gibbs and myself relating to rate revenues. The aggregate adjustments to rate revenue shown on my Schedule 2 are sponsored by Mr. Gibbs in Staff Accounting Schedules 9 and 10.

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

A. The intent of adjustments to test year (historical) revenues is to estimate the revenues that UE 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 revenues correspond to adjustments to kWh sales that also affect the Company's fuel and purchased power costs. The "matching principle" dictates that any change to revenues from historical levels that results from changes in underlying kWh sales must be associated with changes to fuel and purchased power costs that reflect that same adjustment to sales.

Q. What categories of adjustments to sales and revenues 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 deal with events that are known, are expected to continue indefinitely into the future, and whose revenue effect can be reasonably estimated. 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 revenues that would have been realized by the Company if the rates in effect at the end of the test year had been in effect throughout the entire year (i.e., rates changed but each customer's usage remained the same).

Another example of a typical annualization relates to a large customer that either begins or ceases service during the test year or in the 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 during the test year. A corresponding reduction to kWh sales and to fuel and/or purchased power expense should be made to reflect the fact that the Company will no longer incur those costs. Conversely, when a large customer begins service during the test year or update period, UE's revenues, kWh sales, and fuel expense should be increased to reflect both the costs and the future revenue associated with serving the new customer on a year-round 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 be repeated in the future, but what weather will actually occur is not predictable. The objective of the weather normalization process is to remove the effects of non-normal weather from test year kWh sales and rate revenue.

Customer growth adjustments reflect the change in sales and revenue that will occur in the future because of known changes in the number of customers.

Q. Please describe the characteristics of the Missouri kWh sales and rate revenues that have been developed in this case.

A. The Missouri kWh sales and rate revenues 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 non-normal weather; (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 for the rate change that occurred in April 2000; (v) they have been annualized to reflect the elimination of the 10(M) Interruptible Power Service rate schedule; (vi) they account for rate switching by customers between the Small Primary and the Large Primary rate schedules; and (vii) they

have been adjusted to reflect load growth as a result of an increase in the number of customers.

Q. What annualizations to test year kWh sales and rate revenues are you sponsoring?

A. I am sponsoring the annualization made to each applicable rate schedule to reflect the rate changes that occurred in April 2000 as a result of Commission decisions in Case Nos. EM-96-149 and EO-96-15. The overall revenue change implemented from those cases was a reduction of $15.951 million on an annual basis. In addition, a number of rate design changes applicable to individual rate schedules were implemented in April 2000 and in June 2000. The revenue adjustment required in this case for the rate change is approximately $14 million, less that the $15.951 million because the new rates were already in effect for two of the months in the test year (May and June 2000). The annualization for the rate change also reduces billed kWhs slightly, as an effect of rate design changes to Rider C (Adjustments of Meter Readings for Metering at a Voltage Not Provided for in Rate Schedule).

I am also sponsoring an annualization to reflect the elimination of the 10(M) Interruptible Power Service rate schedule in June 2000 and the subsequent reclassification of the five affected customers onto the Large Primary Service rate schedule (three customers) and the Small Primary Service rate schedule (two customers). Rate revenues were calculated for each of the five affected customers by re-pricing each customer's monthly test year billing units on the rate schedule under which they now receive service. The difference between the resultant amount and the customers' actual billed amount on the Interruptible rate schedule was recorded on Schedule 2. As a result of the annualization for the elimination of the 10(M) Interruptible Power Service rate schedule, overall revenues increased by approximately $2

million. This $2 million in additional revenues should not be looked at in isolation, however, because it is largely offset by payments that UE makes to customers based on the provisions of Rider L (Voluntary Curtailment Rider) and Rider M (Option-Based Curtailment Rider), which replaced the 10(M) rate schedule.

The third annualization that I am responsible for reflects rate switching by several large customers. In each case, the customer had switched from the Small Primary rate schedule to the Large Primary rate schedule. I re-priced each affected customer's monthly billing units on the Large Primary rates, as if the customer had been a Large Primary customer throughout the entire test year. A corresponding adjustment was made to reduce Small Primary Service kWh sales and revenues.

The three annualizations that I am responsible for are shown by rate schedule on Schedules 1 and 2, attached to this testimony, and, in aggregate, on Accounting Schedule 10, S-1. Also included on Schedules 1 and 2 are adjustments that represent a number of changes I made in the process of gathering UE test year billing month data to be used in my analysis. While not technically annualizations, these adjustments to kWh sales and rate revenue have been included in the annualization category on Schedules 1 and 2 and are labeled as "Miscellaneous Adjustments to As Billed". These adjustments and the need for each of them will be described in detail later in this testimony.

Q. What normalizations were done to test year billed kWh sales in this case?

A. The normalization of kWh sales results in an estimate of the kWh sales associated with "normal weather", while the recorded kWh sales reflect the actual weather that occurred in the test year. Both kWh sales and net system load were adjusted to a normal

weather basis, as described in Ms. Mantle's testimony. The monthly and annual weather normalization of kWh sales by rate schedule is shown on my Schedule 1.

The normalization adjustment to kWh sales shown on Schedule 1 also includes a separate adjustment for the difference between a billing year and a calendar year. This normalization is known as an "unbilled" adjustment or as an "adjustment to 365 days". The assumption is that unbilled adjustments to kWh sales, while done monthly, end up as only adjustments to the end months of the test year because all of the unbilled sales in the internal months net to zero.

Q. What normalizations to test year rate revenues were done in this case?

A. I am responsible for calculating the adjustments to rate revenues that are associated with the weather adjustments to kWh sales. An assumption underlying the methodology for normalizing revenues is that weather has no effect on either the number of customers or on the monthly demands of existing customers. In essence, only the revenues associated with energy charges are affected by weather.

The procedure I used to calculate the weather adjustment to revenue for each specific rate schedule was to apply a single energy rate by season 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 to use 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 the first EARP's annual credits. While this document is not binding on the parties in this case, the methodology remains appropriate.

I am also responsible for calculating the adjustments to rate revenues that are associated with the unbilled adjustment to kWh sales. I applied the same methodology and rates to the unbilled adjustment to sales as was used to calculate the weather adjustment to revenues.

The annual weather-normalization adjustment to revenue for each rate schedule is shown in Schedule 2. The aggregate adjustment is also shown in Accounting Schedule 10, S-1. The monthly weather and unbilled adjustments to kWh sales, the rate used for pricing, and the revenue adjustment for each applicable rate schedule are shown in Schedule 3.

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

A. Conceptually, the customer growth adjustment reflects the additional kWh sales and rate revenues that would have occurred if all customers active at the end of the update period (December 2000) had existed throughout the entire test year. Staff witness Doyle L. Gibbs sponsors the customer growth adjustments to kWh sales and rate revenues that are shown by rate schedule on Schedule 1 and Schedule 2 attached to this testimony. The customer growth adjustment to revenues is also shown, in aggregate, in Accounting Schedule 10, S-1.

Q. What source data did you use as the starting point for the various annualizations and normalizations that you are sponsoring?

A. I used actual test year billed kWh sales and revenues from CIS Report #1901 as the source data for the Residential and Small General Service rate schedules. I used CURST Report #235 as the source data for the Large General Service and Small Primary rate

schedules. I used individual customer billing data as the source data for the 59 customers on the Large Primary and Interruptible rate schedules. I used CURST Report#235 as the source data for the lighting rate schedules and for a special contract customer listed as Public Authorities, but supplemented both categories with my estimate of "unrecorded" kWh sales.

Essentially, I used the billed kWh sales and rate revenues from CIS Report#1901 and CURST #235 (collectively called "Sales Analysis") as my starting point and recorded any difference between Sales Analysis and my other choices of source data as a separate adjustment in the "Miscellaneous Adjustments to As Billed" category. I will describe each of these adjustments later in this testimony.

Q. Why did you choose to use individual customer billing data for the largest customers rather than CURST Report #235?

My choice to use individual customer billing data for the largest customers was made for a number of reasons. The first reason for my choice was that the rate structure changes implemented in April 2000 and June 2000 would be difficult to accurately replicate on an aggregate basis.

The second reason for my choice was that the reports containing aggregate billing units that UE provided were inconsistent with the individual customer billing data. In the process of tracking down the various inconsistencies between different sources of test year data, I determined that there was a systematic recording error in both the CURST #235 report and in the monthly billing unit reports that was not present in the individual customer billing data.

The third reason for my choice was that the individual customer billing data contained an inordinately large number of customer bills that the Company had originally billed incorrectly, but had subsequently corrected. While these billing problems are difficult to deal with analytically on an individual customer basis, they are virtually impossible to "sort out" in aggregate data. It is important to recognize that individual customer billing data is the most accurate data regarding kWh sales and rate revenues that the Company has. All of the other data shown in the various reports and in the Company's official accounting records represents various aggregations of this fundamental individual customer billing information. Thus, any problems in the fundamental data are also contained in the aggregated data.

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

A. I literally 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 CSS billing system. I spent countless 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 with one another on a monthly basis. They also do not appear to be consistent with the Company's official accounting records. No one at UE has 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 revenues, becomes the company's official records under 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. Typically Staff develops regulatory adjustments from billing month data that is disaggregated by rate schedule and then reconciles this source data with the Company's official accounting data. In this case, $3,313,760 was impossible to reconcile.

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

The standard regulatory adjustments (annualizations and normalizations) to kWh sales and rate revenues must be developed on a billing month, rather than a calendar month, basis because UE's Missouri seasonal rates are applied by billing month. For example, the official rate revenue recorded 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.

The difference between kWh sales and rate revenue on a billing month basis (i.e., based on UE's actual cycle reading and cycle billing process) and calendar month kWh sales and rate revenue (estimated from billing month data) is known as "unbilled" sales and "unbilled" rate revenue. In this particular case there is large discrepancy ($40 million) between the amount of test year unbilled revenue shown in the Company's official accounting

records ($28.86 million) and the test year unbilled revenue that the Company calculated at Staff's request for this case (negative $11.27 million).

Q. Please describe why the kWh sales and rate revenue data used for Missouri regulatory adjustments must be on a rate-schedule, rather than a revenue-class, basis.

A. The standard regulatory adjustments (annualizations and normalizations) to kWh sales and rate revenues must be developed by rate schedule rather than by revenue class because rates are unique for each rate schedule and revenue classes include customers served on various rate schedules. UE's Missouri rate schedules are designated as residential, small general service, large general service, small primary service, and large primary service. There are also four separate Missouri lighting rate schedules. Revenue classes are designated as residential, commercial, industrial, public authority, and street lighting. The rate revenue recorded for the commercial revenue class consists of 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).

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

A. Gross receipts taxes levied by various taxing authorities are included on customer electric bills, but they are not part of the utility company's revenue. The utility company is simply collecting these taxes from its customers and remitting them to the appropriate taxing authority. The revenue data in the official accounting records includes both a billed amount of gross receipts taxes plus an unbilled amount of taxes. The unbilled amount of gross receipt taxes have been calculated on a revenue class basis and thus is unknown by rate schedule.

Q. What has caused the problem with acquiring suitable kWh sales and revenue data?

A. Ameren has acquired a new billing system (CSS) and accounting system since its last Missouri rate case. The current case is Staff's first close look at the output of these new systems. The output of these systems is inconsistent with and, to us, irreconcilable to the Company's official accounting records.

Q. Please describe the adjustments you made to kWh sales for three of the lighting rate schedules.

A. This adjustment reflects my estimate of "unrecorded" kWh sales for the various lighting rate schedules for the first six months of the test year. In most cases, each customer's bill for lighting service is based on the type of Company-owned lighting equipment (a specific type of light, a pole, etc.) the customer uses, and the kWh sales are estimated rather than metered. The Company's new system failed to record any kWh sales for the unmetered lighting rate schedules during the first six months of the test year. The Company's other reports were inconsistent. One source indicated that total lighting sales were approximately 8 million kWhs per month; a second source indicated 16 million; and a third source indicated 55 million kWh per month. My analysis determined that the 55 million kWh per month number was considerably too high, and I have asked the Company to re-write the computer code that generates that particular report. I believe that the 8 million kWh number, which CSS is providing the Company's Corporate Planning Department, is probably also incorrect (too low). My estimate of total lighting sales is approximately 19 million kWh sales per month. My adjustment to lighting kWh sales in this case assumes that the lighting kWh sales recorded in CURST Report#235 for the last six months of the test year are accurate, and

that the missing six months of data can be estimated from the recorded six months of data. This adjustment increased test year kWh sales. There was no corresponding adjustment to rate revenues because there was no missing rate revenue data for the lighting rate schedules.

Q. Please describe the adjustments you made to kWh sales and rate revenues to account for any differences between Sales Analysis and the individual customer billing data for the Interruptible rate schedule?

A. Prior to analyzing the effect that the elimination of the Interruptible rate schedule had on kWh sales and rate revenues, I made two adjustments to the kWh sales and rate revenue recorded for this rate schedule. The first adjustment was to include two additional months of post test-year data in my analysis. Although the interruptible rate schedule was eliminated in June 2000, Company records showed kWh sales and rate revenues recorded in July 2000 and August 2000. My analysis indicated that the data recorded after the elimination of the rate schedule resulted from the Company's need to make three attempts to correctly bill one of the affected customers.

I also made an adjustment to eliminate the Interruptible data recorded in the first month of the test year because it belongs to the prior (non-test year) month. The CSS billing system consistently recorded the kWh sales and rate revenue for all five interruptible customers in the wrong billing month (i.e., lagged one month). These customers seem to have been correctly billed, i.e., the correct rates were applied when calculating their bills.

Q. Was the disparity that you found between the billing month in which the Interruptible customers were billed and the billing month in which these customers' billing data was recorded unique to the Interruptible customers?

A. My investigation in this case indicates that a lag between the billing month and the "recording" month is built into the CSS system, and that this systematic disparity primarily affects those large customers who are billed at the end of the month. Large Primary Service customers are the group most affected by this problem.

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

A. The total difference between Sales Analysis and the annual sum of the individual customer billing data for the 54 Large Primary Service is an aggregate adjustment to both kWh sales and rate revenues. I made no attempt to separate the adjustments specifically due to the "recording lag" that I have discussed above from other problems with the data.

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

A. My proposal is that UE create a monthly version of its official kWh sales and rate revenues that has these characteristics: (i) data should be recorded by both rate schedule and revenue class; (ii) gross receipts taxes should be recorded separately; (iii) rate revenues relating to items applicable to multiple rate schedules or riders (such as interruptible credits, voltage credits, and economic development credits) should be recorded separately; (iv) all data should be recorded in the billing month in which it was billed, rather than the current practice of recording end-of-the month bills in the immediately succeeding month; (v) unbilled kWhs and unbilled rate revenue should be developed by both rate schedule and revenue class; (vi) unbilled kWhs and unbilled rate revenues should be recorded separately; (vii) the proposed "Missouri regulatory" version of kWh sales and rate revenues should be reconciled

monthly with the official accounting version; and (viii) the report should be saved as an electronic file, preferably in a spreadsheet format, and be available to Staff upon request in this format.

An example report illustrating my proposal is shown on Schedule 4 attached to this testimony.

Q. Would requiring UE to produce a Missouri regulatory version of kWh sales and rate revenues each month be burdensome?

A. Requiring accuracy in the Company's billing and official accounting records is not unreasonable, even if doing so was burdensome. However, in this particular situation, I suspect that the report that I am recommending could be generated without undue burden on the Company. It is important to understand that the Company's "official" version of monthly kWh sales and rate revenues is derived from the same billing data that would be used to develop the "Missouri" version. The process would also be the same. The major difference is that the "Missouri" version would be done at a lower level of aggregation, and thus would require a different (or modified) piece of computer code. Developing computer code is a one-time cost. UE should anticipate that Staff will be requesting such data in the next case and in succeeding cases. The requirements to reconcile this proposed report with the Company's official kWh sales and rate revenues on a monthly basis and the requirement to record each customer bill in the billing month in which it was billed will require additional tasks.

Q. What are your recommendations to the Commission regarding kWh sales and rate revenues in this case?

A. I recommend that the Commission adopt Staff's adjustments to kWh sales and rate revenue that I am responsible for and that Mr. Gibbs is sponsoring in this case. I also

recommend that the Commission order Union Electric Company to produce accurate monthly reports of kWh sales and rate revenues on a going-forward basis in the format that I have described in this testimony.

Q. Does this conclude your direct testimony on the issue of Sales and Revenues 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 will describe both the process and the outcome of applying the Staff's rate design recommendations, as described in the testimony of Staff witness James C. Watkins, to the overall revenue decrease shown on Accounting Schedule 1. My testimony will answer three basic questions: (1) What distribution of class revenue decreases 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.

THE HISTORY OF UE'S RATE DESIGN WITHIN THE EARP

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

A. Case No. ER-95-411, the case that initiated the first EARP for Union Electric

Company in 1995, also prescribed a $30 million reduction in UE's permanent rates and a $30 million one-time credit to electric customer bills. The resulting permanent rates became effective on August 1, 1995. Both of the EARPs provided for three annual adjustments to the Company's revenues, in the form of "sharing credits" to be disbursed to customers as one-time bill credits, rather than as decreases in permanent rates, as is done under traditional regulation.

Case No. EM-96-149, the UE-CIPS merger case, specified that: (i) a decrease in permanent Missouri rates would take place in September 1998, after the end of the first EARP; (ii) that the amount of the permanent revenue decrease would be based upon the results of the weather-normalized earnings from the first three years of the first EARP; and (iii) that the outcome of Case No. EO-96-15, a case established to consider only rate design issues ("rate design case"), would determine how to structure the permanent rates to implement the resulting revenue decrease.

Case No. EO-96-15 was the rate design case that determined how to structure the permanent rates associated with the revenue decrease from Case No. EM-96-149. The in overall Missouri revenues that the Commission ordered in Case No. EM-96-149 was too small to fully realize all of the rate design objectives that were stipulated by the parties to the Rate Design Case. 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 fully realizes the rate design objectives agreed to by all parties in Case No. EO-96-15.

Q. What is the relationship between the rate reduction ordered in Case No. EM-96-149 and the rate design objectives agreed to by the parties in UE's Rate

Design Case No. EO-96-15?

A. The current rates now in effect for UE are the result of the Commission's decisions in Case No. EM-96-149 (which initially specified that a reduction in permanent rates should occur at the end of the first EARP and described the method to determine the size of the overall revenue decrease and ultimately determined that UE should reduce rates by $16.321 million), Case No. EO-96-15 (which determined the rate design to be used to design the permanent rates), plus decisions made in Cole County Circuit Court (which stayed the implementation of $370,000 of the rate reduction). The current rates, effective April 2000, were designed to reduce overall Missouri revenues by $15,951,000. This rate reduction was not large enough to accomplish all of the rate design objectives agreed to in the Rate Design Case; namely that no class's revenues would be increased as a result of implementing the other rate design objectives.

This rate reduction, which has been in effect since April 2000, is the only change in UE's permanent rates that has occurred since the permanent rates were last reduced in 1995 to rebase rates prior to the commencement of the first EARP

DISTRIBUTION OF OVERALL REVENUE DECREASE TO CLASSES

Q. What is Staff's rate design recommendation in this case for determining each customer class's share of the decrease in overall revenue?

A. Staff's recommendation in this case is that each customer class's share of the decrease in overall revenue be determined by this formula:

> The remainder of the first $25,000,000 of the rate reduction contemplated in the rate design case (approximately $8.7 million) should be distributed to the non-residential, non-lighting customer classes by an equal percentage of weather–normalized current rate revenues. [Watkins, direct, p. 3]

The Stipulation and Agreement in the UE Rate Design Case specified that the first $25 million of any revenue decrease from Case No. EM-96-149 would be distributed on an equal percentage basis to the Small General Service class ("Small GS" or "SGS"), the combined Large General Service and Small Primary Service class ("LGS&SPS"), and the Large Primary Service class ("LPS"). Neither the Residential class ("RES") nor the Lighting ("LGT") class would participate in any revenue reductions until the overall revenue decrease exceeded $25 million. All classes would share any revenue decrease in excess of $25 million on an equal-percentage-of-revenue basis.

When the Stipulation and Agreement in the Rate Design Case was negotiated, the amount of the overall revenue decrease from Case No. EM-96-149 was unknown. The amount of the overall revenue decrease that was eventually implemented was less than $25 million (i.e., $15.951 million).

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

A. The agreed-upon methodology in the Rate Design Case for determining the distribution of any overall decrease in total Missouri revenues to customer classes displayed the agreement in terms of both dollars and percentages for each class. The agreement specified that each of the three customer classes that participated in the initial revenue reduction (Small GS, LGS&SPS, LPS) was to receive a 2.71% reduction when the overall revenue decrease was $25 million. The same methodology shows that a 1.73% class revenue reduction was actually implemented. Mr. Watkins' recommendation in this case is that each of the three non-residential, non-lighting customer classes (Small GS, LGS&SPS, LPS) are to

receive an additional 0.98% (= 2.71% - 1.73%) revenue reduction before all customer classes begin sharing the revenue decrease equally.

As a result, I calculated that the amount of the current rate reduction associated with implementing the "remainder of the $25 million specified in the rate design case" is $9,695,231, when measured in terms of the rate reduction from current revenues in this case. The quantification of Mr. Watkins' recommendation for determining the distribution of any overall decrease in total Missouri revenues to customer classes is shown on Schedule 5 attached to this testimony.

Q. Why wouldn't the "remainder of the $25 million specified in the rate design case" simply be the difference between $25 million and the $16.321 million that was ordered to be implemented?

A. The "remainder of the $25 million specified in the rate design case" would only be the difference between the stipulated amount of $25 million and the ordered amount if one believed that $25 million in July 2001 was equivalent to $25 million in September 1998, the target date for implementing the permanent rates. This is not the case. Thus the "remainder of the $25 million specified in the rate design case" must be some number larger than the simple subtraction of the ordered or implemented amount from the stipulated amount. A further adjustment was required to reflect the temporary stay of a portion of the rate reduction ordered by the Commission.

Q. What would be the overall distribution of revenue decreases by class if the Commission were to adopt the Staff's rate design recommendation, as well as the Staff's recommended overall revenue decrease of $231.9 million at the mid-point of its recommended range for the rate of return?

A. At an overall revenue decrease of $231.9 million, the Residential and Lighting classes would each experience a 12.41% decrease in class revenues. The other three classes (Small GS, LGS&SPS, LPS) would experience a 13.27% decrease in class revenues. This distribution, plus examples of the distribution of revenue decreases to classes that would result at six hypothetical levels of overall revenue decrease, is shown on Schedule 5.

Q. How is the Public Authorities class affected by the overall revenue reduction?

A. The Public Authorities class consists of one customer whose contract with Union Electric specifies that the customer's rate per horsepower changes by the same percentage as overall Missouri revenues. My computations assume that the contract provisions are followed.

LARGE GENERAL SERVICE & SMALL PRIMARY SERVICE RATE DESIGN

Q. How will any revenue decrease that is allocated to the combined LGS&SPS class be distributed between the Large General Service rate schedule and the Small Primary Service rate schedule?

A. The Staff rate design proposal discussed previously results in a specific level of revenue decrease for the combined LGS&SPS class. It does not specify how any revenue decrease allocated to the combined class should be distributed between the two rate schedules that define the class (i.e., Large General Service, Small Primary Service). The Staff recommendation found in Mr. Watkins' testimony that addresses that particular issue is:

> The rate reduction to the Large General Service/Small Primary Service Class should first be applied to the Large General Service Rate Schedule 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]

One of the agreements described in the Stipulation and Agreement in the UE Rate Design Case was that UE's Large General Service and Small Primary Service rates should be designed in such a way that the only differences between the rates should reflect cost differences attributable to voltage level; namely, customer ownership of equipment (transformers), metering cost differences (if any), and losses. The Rate Design Case spelled out specific parameters. It was agreed: that: (i) a 20 cents per kW difference in the demand charge was the proper reflection of customer-ownership vs. company-ownership of a transformer; and (ii) a one percent differential between energy charges on the two rate schedules properly reflected losses. In the design of the LGS and SPS rates that followed the conclusion of the Rate Design Case, the revenue decrease allocated to the combined LGS&SPS class was insufficient to fully realize the agreed-upon objective. All of the combined class' revenue decrease was applied to reducing the LGS energy rates. The SPS rates remained unchanged.

Consequently, UE's current LGS and SPS rates still do not accurately reflect the actual cost differences attributable to voltage level. In this case, Staff's recommendation is to fully realize the LGS/SPS rate design agreement objective agreed-upon by the parties in the Rate Design Case.

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

A. The first step in implementing the Staff's recommendation relating to the LGS/SPS rate design is to calculate the LGS rates that would meet all of the stipulated conditions, with no change to the current SPS rates. These rates are labeled the "best" LGS

rates and are shown on page 1 of the attached Schedule 6, along with proof that these "best" LGS rates meet all of the stipulated conditions.

The second step is to determine what amount of revenue reduction is required to move the current LGS rates to the "best" LGS rates, while maintaining the current SPS rates. I computed this amount as the dollar difference between the revenues that result from the application of the "best" LGS rates to the normalized, growth-adjusted LGS billing units from this case and the results of applying the current LGS rates to the same units. My computations show that a $17,635,765 revenue reduction to the LGS rate schedule would be required to properly align the LGS rate to the current SPS rate. Thus, the allocation of any revenue reduction to LGS and SPS can be described as follows:

> The first $17,635,765 of revenue reduction for the LGS&SPS class should reduce the LGS rate schedule in such way that the Large General Service Rate Schedule demand charges will be $0.20 higher than the corresponding Small Primary Service Rate Schedule demand charges and its energy charges will be 1.01% higher than the corresponding Small Primary Service energy charges. Any revenue reduction for the LGS&SPS class in excess of $17,635,765 should be applied as an equal percentage to the demand and energy charges on both the LGS and SPS rate schedules.

Q. What LGS and SPS rates would result if the Commission were to adopt all of the Staff's rate design recommendations, as well as an overall revenue decrease of $231.9 million?

A. The attached Schedule 6-2 displays the LGS and SPS rates that result from applying Staff's rate design recommendation to an overall revenue decrease of $231.9 million. The result is a uniform 10.8% reduction in all demand and energy charges on the current SPS rate schedule and the same 10.8% decrease when measured from the "best" LGS rates. Since it was necessary to first reduce current LGS rates by $17,635,765 to achieve the "best" LGS

rates, the overall percentage reduction to the LGS demand and energy rates (when compared to current LGS rates) is 14%.

RATE LEVELS

Q. How are the specific rates to be charged customers determined under the Staff's rate design proposal?

A. Staff's proposal for determining rate levels is:

> After satisfying both of these goals, the 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. [Watkins, direct, p. 3]

The attached Schedule 7 shows the specific rates that result from applying all of the Staff's rate design proposals to an overall revenue reduction of $231.9 million. It also shows how these new rates compare to current rates.

IMPACT OF STAFF RATE DESIGN PROPOSAL ON ELECTRIC BILLS

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

A. When measured on a typical customer basis, the average monthly electricity bill paid by Missouri residential customers served by Union Electric Company was $68.07, which ranks in the middle of the six regulated Missouri electric utilities. (The average monthly bills ranged from a low of $60.34 at St. Joseph Light & Power Company to a high of $70.53 at Citizens Electric Corporation). The $68.07 average monthly electricity bill for UE includes an annual sharing credit of $10.44. This comparison is shown on Schedule 8.

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

A. If the Commission adopts a $231.9 million revenue decrease and the Staff's proposed rate design, the electricity bills paid by residential customers served by UE would decrease by approximately 11%. Under Staff's rate design proposal, all energy (kWh) rates will decrease by 13.9% and the customer charge will remain the same. Every residential customer, except those who use no energy during the month, will receive a decrease in their monthly electricity bill. Those customers who use no energy during the month will pay the same amount as under current rates. This translates into a decrease of $7.71 (from $68.07 to $60.36 per month) for the typical residential customer. UE's Missouri residential electricity bills would become some of the lowest (tied with St. Joseph Light & Power Co.) of all the Missouri regulated electric utilities.

Q. How does the average electricity rate paid by commercial and industrial customers served by UE compare to the average electric rate paid by commercial and industrial customers served by the other regulated Missouri electric utilities?

A. The average annual electricity rate paid by UE's commercial and industrial customers was 5.59 cents per kWh (according to data in the Company's FERC Form 1 for 2000). This rate is the highest average rate paid by commercial and industrial customers at the various regulated Missouri electric utilities.

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

A. If the Commission were to adopt both a $231.9 million revenue decrease and the Staff's rate design proposals, the electric bills paid by commercial and industrial customers served by UE will decrease by approximately 13% overall, although the impact on individual customers will vary. This decrease would result in UE's commercial and industrial rates being

below the average of all of 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.

No "typical customer" was developed for commercial and industrial customers so the comparisons of UE's rates vs. the rates at the other Missouri regulated electric utilities implicitly include both the effects of rate levels/rate structure and differences in customer usage patterns. In particular, UE has a much larger proportion of very large industrial customers than do any of the other regulated electric utilities.

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

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 29 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

Janice Pyatte

Subscribed and sworn to before me this 2nd day of July, 2001.

MICHELLE SCHWARTZE
NOTARY PUBLIC STATE OF MISSOURI
COLE COUNTY
MY COMMISSION EXP. APR. 25,2005

Michelle Schwartze
Notary Public

My commission expires_____

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

RATE SCHEDULE	Test Year Billed kWh	Annualization Adjustments (1)	Normalization Adjustments (2)	Growth Adjustments (3)	Test Year Retail Sales (kWh)
RESIDENTIAL	11,216,095,138		(60,702,083)	102,656,864	11,258,049,918
SMALL GENERAL SERVICE	3,370,492,556		(7,597,640)	92,518,601	3,455,413,517
LARGE GENERAL SERVICE	6,951,130,163	-	(13,471,574)	149,940,466	7,087,599,055
SMALL PRIMARY SERVICE	4,382,339,149	(67,268,497)	(66,410,511)	(3,060,628)	4,245,599,514
LARGE PRIMARY SERVICE	3,442,665,715	527,005,249	(37,797,655)		3,931,873,309
INTERRUPTIBLE	568,587,433	(568,587,433)			0
LIGHTING	201,307,111	27,190,511			228,497,622
PUBLIC AUTHORITIES	-	78,950			78,950
TOTAL MO RETAIL SALES	30,132,617,265	(81,581,220)	(185,979,463)	342,055,303	30,207,111,885

1. Adjustments shown by category on Schedule 2-1.
2. Adjustments resulting from the normalization of kWh sales for weather and for a 365-day year. See Schedule 3 for monthly details.
3. Adjustments resulting from growth in the number of customers.

UNION ELECTRIC COMPANY - CASE NO. EC-2002-1
MISSOURI RETAIL SALES BY RATE SCHEDULE
ANNUALIZATIONS BY CATEGORY

RATE SCHEDULE	Misc. Adjustments to As Billed	Annualization for Rate Change	Annualization for Tariff Elimination	Annualization for Rate Switching	Total Annualizations
RESIDENTIAL					
SMALL GENERAL SERVICE					
LARGE GENERAL SERVICE					
SMALL PRIMARY SERVICE		(619,907)	43,206,200	(109,854,790)	(67,268,497)
LARGE PRIMARY SERVICE	(65,319,539)	(3,996,858)	486,466,856	109,854,790	527,005,249
INTERRUPTIBLE	(38,914,377)		(529,673,056)		(568,587,433)
LIGHTING	27,190,511				27,190,511
PUBLIC AUTHORITIES	78,950				78,950
TOTAL	(76,964,455)	(4,616,765)	0	0	(81,581,220)

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

RATE SCHEDULE	Test Year Billed Revenue	Annualization Adjustments (1)	Normalization Adjustments (2)	Growth Adjustments (3)	Test Year Retail Rate Revenue
RESIDENTIAL	$798,232,579	($1,130,814)	($16,042,797)	$7,561,896	$788,620,865
SMALL GENERAL SERVICE	$230,613,007	($2,883,438)	($2,033,898)	$6,563,852	$232,259,523
LARGE GENERAL SERVICE	$389,264,750	($8,426,757)	($1,359,277)	$9,123,942	$388,602,658
SMALL PRIMARY SERVICE	$207,049,575	($3,012,037)	($2,559,340)	$1,403,884	$202,882,083
LARGE PRIMARY SERVICE	$144,878,440	$21,972,005	($980,217)		$165,870,228
INTERRUPTIBLE	$20,275,891	($20,275,891)	$0		$0
LIGHTING	$21,392,932	$0	$0		$21,392,932
PUBLIC AUTHORITIES	$72,420	$0	$0		$72,420
UNKNOWN	$0	$3,313,760	$0		$3,313,760
TOTAL MO RATE REVENUE	$1,811,779,594	($10,443,171)	($22,975,529)	$24,653,575	$1,803,014,468

1. Adjustments shown by category on Schedule 2-2.
2. Adjustments resulting from the normalization of kWh sales for weather and for a 365-day year. See Schedule 3 for monthly details.
3. Adjustments resulting from growth in the number of customers.

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

RATE SCHEDULE	Misc. Adjustments to As Billed	Annualization for Rate Change	Annualization for Tariff Elimination	Annualization for Rate Switching	Total Annualizations
RESIDENTIAL		($1,130,814)			($1,130,814)
SMALL GENERAL SERVICE		($2,883,438)			($2,883,438)
LARGE GENERAL SERVICE		($8,426,757)			($8,426,757)
SMALL PRIMARY SERVICE		$208,671	$2,164,427	($5,385,134)	($3,012,037)
LARGE PRIMARY SERVICE	($3,142)	($1,964,001)	$18,638,141	$5,301,006	$21,972,005
INTERRUPTIBLE	($1,498,316)		($18,777,575)		($20,275,891)
LIGHTING					$0
PUBLIC AUTHORITIES					$0
UNKNOWN	$3,313,760				$3,313,760
TOTAL MO RATE REVENUE	$1,812,302	($14,196,339)	$2,024,993	($84,128)	($10,443,171)

Schedule 2-2

UNION ELECTRIC COMPANY - CASE NO. EC-2002-1
EFFECT OF WEATHER AND UNBILLED NORMALIZATION ON MISSOURI SALES & REVENUES
12 MONTHS ENDED 6/30/2000

RESIDENTIAL

	WEATHER ADJ (MWH)	RATE ($/KWH)	REVENUE ADJUSTMENT
Jan-00	98,232	0.05770	$5,667,986
Feb-00	121,769	0.05770	$7,026,071
Mar-00	118,202	0.05770	$6,820,255
Apr-00	53,686	0.05770	$3,097,682
May-00	(20,374)	0.05770	($1,175,580)
Jun-00	(33,070)	0.08130	($2,688,591)
Jul-99	(182,379)	0.08130	($14,827,413)
Aug-99	(175,871)	0.08130	($14,298,312)
Sep-99	(59,811)	0.08130	($4,862,634)
Oct-99	(14,931)	0.05770	($861,519)
Nov-99	27,915	0.05770	$1,610,696
Dec-99	86,167	0.05770	$4,971,836
	19,535		**($9,519,523)**

COMMERCIAL SMALL GENERAL SERVICE

	WEATHER ADJ (MWH)	RATE ($/KWH)	REVENUE ADJUSTMENT
Jan-00	18,163	0.05960	$1,082,515
Feb-00	19,750	0.05960	$1,177,100
Mar-00	13,711	0.05960	$817,176
Apr-00	6,247	0.05960	$372,321
May-00	(5,875)	0.05960	($350,150)
Jun-00	(7,383)	0.07990	($589,902)
Jul-99	(19,296)	0.07990	($1,541,750)
Aug-99	(19,869)	0.07990	($1,587,533)
Sep-99	(7,858)	0.07990	($627,854)
Oct-99	(3,428)	0.05960	($204,309)
Nov-99	2,001	0.05960	$119,260
Dec-99	13,515	0.05960	$805,494
	9,678		**($527,632)**

INDUSTRIAL SMALL GENERAL SERVICE

	WEATHER ADJ (MWH)	RATE ($/KWH)	REVENUE ADJUSTMENT
Jan-00	2,183	0.05960	130,107
Feb-00	1,101	0.05960	65,620
Mar-00	917	0.05960	54,653
Apr-00	357	0.05960	21,277
May-00	(290)	0.05960	(17,284)
Jun-00	(396)	0.07990	(31,640)
Jul-99	(1,025)	0.07990	(81,898)
Aug-99	(1,165)	0.07990	(93,084)
Sep-99	(463)	0.07990	(36,994)
Oct-99	(189)	0.05960	(11,264)
Nov-99	103	0.05960	6,139
Dec-99	2,022	0.05960	120,511
	3,155		**$126,143**

COMMERCIAL LARGE GENERAL SERVICE

	WEATHER ADJ (MWH)	RATE ($/KWH)	REVENUE ADJUSTMENT
Jan-00	20,497	0.02860	586,214
Feb-00	29,776	0.02860	851,594
Mar-00	16,324	0.02860	466,866
Apr-00	9,405	0.02860	268,983
May-00	(5,940)	0.02860	(169,884)
Jun-00	(10,942)	0.03960	(433,303)
Jul-99	(23,227)	0.03960	(919,789)
Aug-99	(24,245)	0.03960	(960,102)
Sep-99	(7,987)	0.03960	(316,285)
Oct-99	(6,441)	0.02860	(184,213)
Nov-99	(1,726)	0.02860	(49,364)
Dec-99	13,178	0.02860	376,891
	8,672		**($482,392)**

Schedule 3-1

UNION ELECTRIC COMPANY - CASE NO. EC-2002-1
EFFECT OF WEATHER AND UNBILLED NORMALIZATION ON MISSOURI SALES & REVENUES
12 MONTHS ENDED 6/30/2000

COMMERCIAL SMALL PRIMARY SERVICE

	WEATHER ADJ (MWH)	RATE ($/KWH)	REVENUE ADJUSTMENT
Jan-00	4,059	0.02730	$110,811
Feb-00	4,599	0.02730	$125,553
Mar-00	1,303	0.02730	$35,572
Apr-00	919	0.02730	$25,089
May-00	(1,641)	0.02730	($44,799)
Jun-00	(3,732)	0.03760	($140,323)
Jul-99	(8,004)	0.03760	($300,950)
Aug-99	(13,406)	0.03760	($504,066)
Sep-99	(3,900)	0.03760	($146,640)
Oct-99	(2,082)	0.02730	($56,839)
Nov-99	(2,025)	0.02730	($55,283)
Dec-99	917	0.02730	$25,034
	(22,993)		**($926,841)**

COMMERCIAL LARGE PRIMARY SERVICE

	WEATHER ADJ (MWH)	RATE ($/KWH)	REVENUE ADJUSTMENT
Jan-00	401	0.02310	$9,263
Feb-00	586	0.02310	$13,537
Mar-00	(97)	0.02310	($2,241)
Apr-00	345	0.02310	$7,970
May-00	(1,488)	0.02310	($34,373)
Jun-00	(786)	0.02620	($20,593)
Jul-99	(6,798)	0.02620	($178,108)
Aug-99	(2,179)	0.02620	($57,090)
Sep-99	(1,560)	0.02620	($40,872)
Oct-99	(877)	0.02310	($20,259)
Nov-99	(1,772)	0.02310	($40,933)
Dec-99	(350)	0.02310	($8,085)
	(14,575)		**($371,784)**

TOTAL MISSOURI

	WEATHER EFFECT (MWH)	AVG ($/KWH)	REVENUE ADJUSTMENT
Jan-00	143,535	0.05286	$7,586,896
Feb-00	177,581	0.05214	$9,259,475
Mar-00	150,360	0.05448	$8,192,281
Apr-00	70,959	0.05346	$3,793,322
May-00	(35,608)	0.05033	($1,792,070)
Jun-00	(56,309)	0.06934	($3,904,352)
Jul-99	(240,729)	0.07415	($17,849,908)
Aug-99	(236,735)	0.07392	($17,500,187)
Sep-99	(81,579)	0.07393	($6,031,279)
Oct-99	(27,948)	(0.04789)	($1,338,403)
Nov-99	24,496	0.06493	$1,590,515
Dec-99	115,449	0.05450	$6,291,681
	3,472		**($11,702,029)**

UNBILLED	**MWh**	**RATE**	**REVENUE**
Residential	(80,237)	0.08130	(6,523,275)
Small General Service			
Commercial	(17,669)	0.07990	(1,411,781)
Industrial	(2,761)	0.07990	(220,627)
Large General Service			
Commercial	(30,446)	0.03960	(1,205,653)
Industrial	8,302	0.03960	328,768
Small Primary			
Commercial	(29,724)	0.03760	(1,117,604)
Industrial	(13,694)	0.03760	(514,894)
Large Primary			
Commercial	(6,644)	0.02620	(174,072)
Industrial	(16,579)	0.02620	(434,361)
Total Unbilled	**(189,451)**		**($11,273,499)**

REVENUE IMPACT OF WEATHER AND UNBILLED

		MWh	**$**
Weather		**3,472**	**(11,702,029)**
Unbilled		**(189,451)**	**(11,273,499)**
	Total	**(185,979)**	**(22,975,528)**

Schedule 3-2

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 4

STAFF PROPOSAL FOR DISTRIBUTION OF REVENUE DECREASE TO CLASSES AT VARIOUS DECREASES IN OVERALL MISSOURI REVENUE CASE NO. EC-2002-1

	RESIDENTIAL	SMALL GS	LGS & SPS	LARGE PS	LIGHTING	PUBLIC AUTH	TOTAL MO
Current Revenues	$788,620,865	$232,259,523	$591,484,740	$165,870,228	$21,392,932	$72,420	$1,803,014,468
Rate Design Case:							
Stipulated %	0.00%	-2.71%	-2.71%	-2.71%	0.00%	0.00%	@ $25 Million
Implemented %	0.00%	-1.73%	-1.73%	-1.73%	0.00%	0.00%	@ $15.951 Million
Remainder Restated at Current Revenues:							
Remainder ($)	$0	($2,275,441)	($5,794,763)	($1,625,027)	$0	$0	($9,695,231)
Remainder (%)	0.00%	-0.98%	-0.98%	-0.98%	0.00%	0.00%	-0.54%
@ $25 Million	($6,742,637)	($4,241,784)	($10,802,359)	($3,029,308)	($182,908)	($1,004)	($25,000,000)
% rate change	-0.85%	-1.83%	-1.83%	-1.83%	-0.85%	-1.39%	-1.39%
@ $50 Million	($17,756,864)	($7,453,844)	($18,982,364)	($5,323,229)	($481,691)	($2,008)	($50,000,000)
% rate change	-2.25%	-3.21%	-3.21%	-3.21%	-2.25%	-2.77%	-2.77%
@ $75 Million	($28,771,092)	($10,665,903)	($27,162,369)	($7,617,150)	($780,474)	($3,012)	($75,000,000)
% rate change	-3.65%	-4.59%	-4.59%	-4.59%	-3.65%	-4.16%	-4.16%
@ $100 Million	($39,785,319)	($13,877,962)	($35,342,374)	($9,911,072)	($1,079,257)	($4,017)	($100,000,000)
% rate change	-5.04%	-5.98%	-5.98%	-5.98%	-5.04%	-5.55%	-5.55%
@ $150 Million	($61,813,774)	($20,302,081)	($51,702,384)	($14,498,914)	($1,676,823)	($6,025)	($150,000,000)
% rate change	-7.84%	-8.74%	-8.74%	-8.74%	-7.84%	-8.32%	-8.32%
@ $200 Million	($83,842,229)	($26,726,199)	($68,062,394)	($19,086,756)	($2,274,390)	($8,033)	($200,000,000)
% rate change	-10.63%	-11.51%	-11.51%	-11.51%	-10.63%	-11.09%	-11.09%
@ $231.9 Million	($97,906,590)	($30,827,764)	($78,507,660)	($22,015,925)	($2,655,914)	($9,315)	($231,923,168)
% rate change	-12.41%	-13.27%	-13.27%	-13.27%	-12.41%	-12.86%	-12.86%

FORMULA

	RESIDENTIAL	SMALL GS	LGS & SPS	LARGE PS	LIGHTING	PUBLIC AUTH
First $9,695,231	No Change	Equal Percent	Equal Percent	Equal Percent	No Change	System Avg
Over $9,695,231	Equal Percent	Equal Percent	Equal Percent	Equal Percent	Equal Percent	System Avg

Schedule 5

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

LGS & SPS RATES WITH THE STIPULATED PRIMARY/SECONDARY CHARACTERISTICS

CHARACTERISTIC: THE DIFFERENCE BETWEEN THE LGS AND SPS DEMAND CHARGES SHALL NOT BE LESS THAN 20 CENTS PER KW PER MONTH (IN EITHER SUMMER OR WINTER)

CHARACTERISTIC: THE SPS ENERGY CHARGES SHALL NOT BE GREATER THAN 99% OF THE CORRESPONDING ENERGY CHARGE COMPONENT ON THE LGS RATE SCHEDULE

	Large GS (8/1/95 Rates)	Required Change to Large GS Rates	"Best" Large GS Rates	Small Primary (Current Rates)	Difference from "Best" LGS
Customer Charge	$66.00	$66.00	$66.00	$210.00	
Demand Charges:					
Summer	$3.79	($0.5800)	$3.21	$3.01	($0.20)
Winter	$1.35	($0.0500)	$1.30	$1.10	($0.20)
Energy Charges:					
Summer					
First 150 HU	$0.0810	($0.0057)	$0.0753	$0.0745	99%
Next 200 HU	$0.0611	($0.0043)	$0.0568	$0.0562	99%
Over 350 HU	$0.0409	($0.0029)	$0.0380	$0.0376	99%
Winter					
First 150 HU	$0.0508	($0.0034)	$0.0474	$0.0469	99%
Next 200 HU	$0.0380	($0.0027)	$0.0353	$0.0349	99%
Over 350 HU	$0.0296	($0.0020)	$0.0276	$0.0273	99%
Seasonal kWh	$0.0296	($0.0020)	$0.0276	$0.0273	99%
Reactive Charge	$0.24	$0.24	$0.24	$0.24	
Revenue Change from Current		($17,635,765)			

Schedule 6-1

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

Computation of Proposed LGS and SPS Rates

	Small Primary			Large General Service		
	Current	Proposed	Difference (%)	"Best" Large GS	Proposed	Difference (%)
Customer Charge	$210	$210	0.00%	$66	$66	0.00%
Demand Charge:						
Summer kW	$3.01	$2.69	-10.76%	$3.21	$2.86	-10.76%
Winter kW	$1.10	$0.98	-10.76%	$1.30	$1.16	-10.76%
Energy Charge:						
Summer						
First 150 HU	$0.0745	$0.0665	-10.76%	$0.0753	$0.0672	-10.76%
Next 200 HU	$0.0562	$0.0502	-10.76%	$0.0568	$0.0507	-10.76%
Over 350 HU	$0.0376	$0.0336	-10.76%	$0.0380	$0.0339	-10.76%
Winter		$0.0000				
First 150 HU	$0.0469	$0.0419	-10.76%	$0.0474	$0.0423	-10.76%
Next 200 HU	$0.0349	$0.0311	-10.76%	$0.0353	$0.0315	-10.76%
Over 350 HU	$0.0273	$0.0244	-10.76%	$0.0276	$0.0246	-10.76%
Seasonal	$0.0273	$0.0244	-10.76%	$0.0276	$0.0246	-10.76%
Reactive Charge	$0.24	$0.24	0.00%	$0.24	$0.24	0.00%
Rider B Credits:						
138 kV/Pri	$0.95	$0.95	0.00%	$0.95	$0.95	0.00%
34.5 kV/34.5 kV	$0.81	$0.81	0.00%	$0.81	$0.81	0.00%
34.5 kV/Primary	$0.81	$0.81	0.00%	$0.81	$0.81	0.00%
TOD Adjustments:						
Add'l Cust Charge	$14.00	$14.00	0.00%	$14.00	$14.00	0.00%
Energy Adjustment:						
Summer						
Peak kWh	$0.0063	$0.0063	0.00%	$0.0088	$0.0088	0.00%
Off-Peak kWh	($0.0035)	($0.0035)	0.00%	($0.0049)	($0.0049)	0.00%
Winter						
Peak kWh	$0.0023	$0.0023	0.00%	$0.0027	$0.0027	0.00%
Off-Peak kWh	($0.0013)	($0.0013)	0.00%	($0.0015)	($0.0015)	0.00%

Schedule 6-2

UNION ELECTRC COMPANY - CASE NO. EC-2002-1
CURRENT AND PROPOSED RATE - BY RATE SCHEDULE
(ASSUMES $231,923,168 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	$0.0700	($0.0113)	-13.9%
Winter				
First 750 kWh	$0.0577	$0.0497	($0.0080)	-13.9%
Over 750 kWh	$0.0389	$0.0335	($0.0054)	-13.9%
TIME-OF-DAY				
Customer Charge	$15.00	$15.00	$0.00	0.0%
Energy Charges:				
Summer				
Peak kWh	$0.1182	$0.1018	($0.0164)	-13.9%
Off-Peak kWh	$0.0697	$0.0600	($0.0097)	-13.9%
Winter				
Peak kWh	$0.0485	$0.0418	($0.0067)	-13.9%
Off-Peak kWh	$0.0345	$0.0297	($0.0048)	-13.9%

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	$0.0686	($0.0113)	-14.2%
Winter				
Base kWh	$0.0596	$0.0511	($0.0085)	-14.2%
Seasonal kWh	$0.0345	$0.0296	($0.0049)	-14.2%
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	$0.1018	($0.0168)	-14.2%
Off-Peak kWh	$0.0781	$0.0670	($0.0111)	-14.2%
Winter				
Peak kWh	$0.0484	$0.0415	($0.0069)	-14.2%
Off-Peak kWh	$0.0359	$0.0308	($0.0051)	-14.2%

UNION ELECTRC COMPANY - CASE NO. EC-2002-1
CURRENT AND PROPOSED RATE - BY RATE SCHEDULE
(ASSUMES $231,923,168 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	$2.69	($0.32)	-10.8%
Winter kW	$1.10	$0.98	($0.12)	-10.8%
Energy Charges:				
Summer				
First 150 HU	$0.0745	$0.0665	($0.0080)	-10.8%
Next 200 HU	$0.0562	$0.0502	($0.0060)	-10.8%
Over 350 HU	$0.0376	$0.0336	($0.0040)	-10.8%
Winter				
First 150 HU	$0.0469	$0.0419	($0.0050)	-10.8%
Next 200 HU	$0.0349	$0.0311	($0.0038)	-10.8%
Over 350 HU	$0.0273	$0.0244	($0.0029)	-10.8%
Seasonal	$0.0273	$0.0244	($0.0029)	-10.8%
Reactive Charge	$0.24	$0.24	$0.00	0.0%
TIME-OF-DAY				
Add'l Cust Charge	$14.00	$14.00	$0.00	0.0%
Energy Adjustments:				
Summer				
Peak kWh	$0.0063	$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	$0.95	$0.00	0.0%
34.5 kV/34.5 kV	$0.81	$0.81	$0.00	0.0%
34.5 kV/Primary	$0.81	$0.81	$0.00	0.0%

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	$2.86	($0.93)	-24.4%
Winter kW	$1.35	$1.16	($0.19)	-14.1%
Energy Charges:				
Summer				
First 150 HU	$0.0784	$0.0672	($0.0112)	-14.3%
Next 200 HU	$0.0591	$0.0507	($0.0084)	-14.2%
Over 350 HU	$0.0396	$0.0339	($0.0057)	-14.4%
Winter				
First 150 HU	$0.0491	$0.0423	($0.0068)	-13.8%
Next 200 HU	$0.0368	$0.0315	($0.0053)	-14.4%
Over 350 HU	$0.0286	$0.0246	($0.0040)	-13.9%
Seasonal	$0.0286	$0.0246	($0.0040)	-13.9%
Reactive Charge	$0.24	$0.24	$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)	($0.0015)	100.0%

UNION ELECTRC COMPANY - CASE NO. EC-2002-1
CURRENT AND PROPOSED RATE - BY RATE SCHEDULE
(ASSUMES $231,923,168 DECREASE IN OVERALL REVENUES)

LARGE PRIMARY SERVICE

	Current Rates	Proposed Rates	Difference (Dollars)	(Percent)
Customer Charge	$210.00	$210.00	$0.00	0.0%
Demand Charge:				
Summer kW	$15.67	$13.61	($2.06)	-13.1%
Winter kW	$7.11	$6.18	($0.93)	-13.1%
Energy Charge:				
Summer kWh	$0.0262	$0.0228	($0.0034)	-13.1%
Winter kWh	$0.0231	$0.0201	($0.0030)	-13.1%
Reactive Charge	$0.2400	$0.2400	$0.0000	0.0%
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)	($0.95)	$0.00	0.0%
kW@34.5 kV/Pri	($0.81)	($0.81)	$0.00	0.0%
kW@34.5 kV/34.5	($0.81)	($0.81)	$0.00	0.0%

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

THE IMPACT OF STAFF PROPOSED RATES ON TYPICAL RESIDENTIAL ELECTRIC BILLS

	SUMMER AVERAGE	WINTER AVERAGE	ANNUAL AVERAGE
NORMALIZED USE (KWH/MONTH)	1,063	913	963
BILL ON CURRENT RATES ($/MONTH)	$92.73	$55.74	$68.07
BILL ON PROPOSED RATES ($/MONTH)	$81.67	$49.71	$60.36
DOLLAR CHANGE FROM CURRENT ($/MONTH)	($11.06)	($6.03)	($7.71)
PERCENT CHANGE FROM CURRENT (%)	-11.93%	-10.83%	-11.33%

ASSUMES $231,923,168 DECREASE IN OVERALL REVENUES AND NO SHARING CREDITS

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

	EFFECTIVE DATE	SUMMER AVERAGE	WINTER AVERAGE	ANNUAL AVERAGE
ST.JOSEPH LIGHT & POWER CO.	10/31/99	$73.64	$53.69	$60.34
UNION ELECTRIC CO.	Staff Proposal	$81.67	$49.71	$60.36
EMPIRE DISTRICT ELECTRIC CO.	09/19/97	$75.95	$58.03	$64.00
KANSAS CITY POWER & LIGHT CO.	08/01/99	$84.79	$58.14	$67.02
UNION ELECTRIC CO. (1)	03/30/00	$92.73	$55.74	$68.07
MISSOURI PUBLIC SERVICE	04/17/98	$82.42	$63.71	$69.94
CITIZENS ELECTRIC CORP.	03/28/97	$77.80	$66.90	$70.53

(1) ASSUMES THE TYPICAL CUSTOMER RECEIVES AN ANNUAL SHARING CREDIT OF $10.44 UNDER THE EXPERIMENTAL ALTERNATIVE REGULATION PLAN

(2) THE TYPICAL RESIDENTIAL CUSTOMER USAGE IS ASSUMED TO AVERAGE 1,063 KWH IN THE SUMMER MONTHS AND 913 KWH IN THE WINTER MONTHS.