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Issues: Rate Design

Witness: Janice Pyatte
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MISSOURI PUBLIC SERVICE COMMISSION

UTILITY OPERATIONS DIVISION

DIRECT TESTIMONY

OF

JANICE PYATTE

THE EMPIRE DISTRICT ELECTRIC COMPANY

CASE NO. ER-2004-0570

Jefferson City, Missouri
October 2004

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the tariff filing of The Empire District Electric Company to implement a general rate increase for retail electric service provided to customers in its Missouri service area	)))))	Case No. ER-2004-0570

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 following Direct Testimony in question and answer form, consisting of 19 pages of Direct Testimony to be presented in the above case, that the answers in the following 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 October, 2004.

Notary Public

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

My commission expires _____

TABLE OF CONTENTS

DIRECT TESTIMONY

OF

JANICE PYATTE

THE EMPIRE DISTRICT ELECTRIC COMPANY

CASE NO. ER-2004-0570

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. Are you the same Janice Pyatte who previously filed prepared direct testimony on September 20, 2004 on the issue of Revenues?

A. Yes, I am.

Q. What has been your work experience on the issue of rate design in prior cases?

A. I filed testimony on the design of electric rate schedules for The Empire District Electric Company (EDE or Company) in Case No. EO-91-74, EDE's last rate design case (later consolidated with Case No. ER-94-174). I also filed rate design testimony in each of the Company's last four rate increase cases: Case Nos. ER-95-279, ER-97-81, 2001-299, and 2002-424.

Q. What is the purpose of your direct testimony on the issue of rate design?

A. My testimony addresses multiple aspects of EDE's rate design for permanent rates, including rate structure, rate application, and rate levels. Schedule 1 attached to this testimony is a narrative of the history of EDE's rate design changes. I

will report the results of Staff's analyses of seasonal cost recovery and fixed/variable cost recovery by current rates.

I am responsible for the development of the annualized, normalized, growth-adjusted seasonal billing units and seasonal rate revenues that are shown on Schedule 2 attached to and filed with this testimony. The annual rate revenues shown on Schedule 2 in my September 20, 2004 testimony on Revenues is equal to these billing units multiplied by current rates.

The billing units shown on Schedule 2 are listed by type of charge: namely, the number of bills used to compute the customer charge; the level of demand (kW) used to compute the demand charge; and the energy usage (kWh) used to compute the energy charge. These billing units, if adopted by the Commission, will be used to design the final rates that result from the Commission's decision on the appropriate level of the Company's overall revenue requirement

Q. Which Staff witness in this case presents studies that you relied upon in your analysis of seasonal cost recovery by current rates?

A. I relied on the results of Staff witness Hong Hu's class cost-of-service study presented in her direct testimony prefiled September 27, 2004 and the results of her seasonal cost study presented in her rate design testimony prefiled October 4, 2004 in my analysis of seasonal cost recovery by current rates.

Q. Is any other Staff witness addressing rate design in this case?

A. Staff witness James C. Watkins is addressing the rate design of the Interim Energy Charge (IEC) proposed by Staff. The distinction between my testimony and that of Mr. Watkins is that I am addressing the design of EDE's permanent rates.

Q. What rate classes and rate schedules are being addressed in your rate design testimony?

A Ms. Hu's class cost-of-service study and seasonal cost study were done by rate class. Rates need to be designed by rate schedule. The rate schedules and the associated rate classes are:

Rate Schedule	Cost of Service Class
Residential Service ("RG")	Residential
Commercial Buildings ("CB")	Small General Service
Small Heating ("SH")	Small General Service
Total Electric Buildings ("TEB")	Large General Service
General Power ("GP")	Large General Service
Large Power ("LP")	Large Power
Special Transmission-Praxair ("SC-P")	Praxair

Rates for a number of rate schedules which were not studied by Ms. Hu must also be developed. These are PFM-Feed Mills ("PFM"), MS-Traffic Signals ("MS"), LS-Special Lighting ("LS"), SPL-Municipal Street Lighting ("SPL"), and PL-Private Area Lighting ("PL").

Recovery of Seasonal Costs through Seasonal Rates

Q. What do you mean when you use the term "seasonal" rates?

A. A seasonal rate is a rate component used for determining a customer's bill that varies depending upon whether the bill is for service provided during the four summer billing months (mid-June through mid-October) or the eight winter billing months. Most of EDE's existing rate schedules contain energy rate components that vary by season.

All Missouri electric companies achieve their system peak demand and their highest costs in the summer. So seasonal rates in Missouri are higher in the summer than in the winter.

Q. For the test year, have you examined how much revenue would be collected in each of the two seasons based on EDE's current Missouri rates?

A. Yes, I have. By rate schedule, the seasonal revenues that EDE would collect on a normalized, growth-adjusted basis are shown on Schedule 2. I developed these seasonal revenues by multiplying the seasonal billing units I developed by EDE's current seasonal rates. $100,840,818 would be collected in the summer and $142,267,158 would be collected in the winter; i.e., 41% of total rate revenue would be collected in the four summer billing months and the remaining 59% would be collected in the eight winter billing months.

Q. How do the seasonal revenues that would be collected by current rates compare to EDE's seasonal costs?

A. According to the seasonal cost study results that Ms.Hu presents in Schedule 2.6 of her rate design testimony prefiled in this case on October 4, 2004, 37% (=$86,729,090/$231,571,610) of EDE's total Missouri costs are incurred in the summer and 63% are incurred in the winter. The table below presents, by season, a comparison of the proportion of revenue collected with the costs incurred.

Season	Revenues	Costs
Summer	41%	37%
Winter	59%	63%

Q. Why did you analyze EDE's seasonal cost recovery in its current Missouri rates?

A. The Company has expressed concern on several occasions that the existing rates do not adequately match recovery of changes in its costs with those changes in costs and, thus, do not provide sufficient revenue stability. The question that this analysis was designed to answer is: does the existing rate design collect revenues in each season that correspond to the costs that are incurred in each season?

Q. Based on your analysis what is your answer to that question?

A. No significant changes to the relationship between summer and winter rates are warranted.

Q. Do you have any other comments regarding EDE's billing of seasonal rates?

A. EDE's current application of seasonal rates results in some customers being priced on summer rates and others being priced on winter rates in the calendar months of June and October. As far as I can determine from examining EDE's billing data, this practice is consistently followed. Thus, over the calendar year, each customer will have exactly four summer bills and eight winter bills. The main difficulty with this practice is that the Company does not collect and retain aggregate billed kWh sales and billed revenue by rate schedule and billing season in those months. To rectify this data gap I recommend that EDE's Revenue Report be expanded to include a breakdown by billing season.

Recovery of Fixed and Variable Costs through Fixed and Variable Rates

Q. Did you examine the fixed/variable cost recovery in EDE's current Missouri rates?

A. Yes. I performed an analysis to address the question: does the existing rate design appropriately recover fixed costs through fixed charges and variable costs through variable charges?

Q. Please explain how rates are structured to recover fixed and variable costs for each customer class.

A. For large customers (rate schedules LP, GP, and TEB), the customer-related costs (e.g. material and labor cost of the meters and services) are to be recovered through recurrent monthly customer charges. The capacity-related costs (e.g. cost of distribution lines) are to be recovered through demand charges that are applied to customer demands for each month. And the energy-related costs (e.g. cost of fuel) are to be recovered through energy charges that are applied to the amount of electricity that a customer consumes in each month.

For residential customers and small non-residential customers (rate schedules CB and SH), demand meters are not installed. In other words, it is not possible to measure customer demands for these customers and demand charges cannot be applied. Therefore, in addition to the direct customer-related costs being recovered through recurrent monthly customer charges, all the other costs would have to be recovered through energy charges which are applied to the amount of electricity a customer consumed in each month.

Q. What analysis has been done to determine the proportion of revenues that are designed to recover fixed and variable costs?

A. I summed the energy charges for all customer classes to determine the proportion of revenue that is designed to recover variable costs. Approximately 82% of Missouri rate revenue was collected through energy charges in the test year.

Q. What analysis has been done to determine the portion of fixed and variable costs that needs to be recovered through different rates?

A. I have summed up the costs related to the production function and transmission function to determine the proportion of variable costs that needs to be recovered through energy charges. In addition, since there is no demand charges for the residential, CB and SH rates, the demand-related distribution costs are also included in the calculation of variable costs that needs to be recovered through energy charges. As a result, approximately 86% of Missouri costs are to be recovered through energy charges.

Q. What is Staff's recommendation based upon the results?

A. The results of this analysis show that there is no significant misalignment between the recovery of fixed and variable costs through fixed and variable rates. Therefore the Staff believes no adjustment to the current fixed/variable rate structure is warranted.

"Small Customer" Rate Structure/Rate Design Proposals

Q. How do you define "small customers"?

A. I am defining "small customers" to be those customers who are equipped with energy-only metering. These customers are served on the RG-Residential, CB-Commercial Buildings, SH-Small Heating, PFM-Feed Mills, MS-Traffic Signals, and LS-Special Lighting rate schedules.

Q. What is the relationship between "small customer" rate schedules, rate structure, and energy-only metering?

A. The current "small customer" rate structure consists of a monthly customer charge ($ per bill) that is independent of usage, and one or more energy (cents per kWh) rates. Energy rates are generally seasonally differentiated and may contain multiple rate blocks (different rates for additional usage). Other common rate structure elements, such as demand ($ per kW) rates, cannot be used to bill these customers, because they lack the appropriate metering to collect the required data.

Q. Please summarize Staff's rate structure/rate design proposals for "small customer" rate schedules:

A. Staff's rate structure/rate design proposals for "small customer" rate schedules are:

- Maintain the existing rate blocks
- Maintain the seasonally-differentiated energy rates (i.e., higher rates charged in the summer season than in the winter billing season)
- Maintain the "flat" (uniform cents per kWh) feature of the summer energy rates to provide proper "price signals" to customers
- Charge the same standard customer charge on the CB and SH rate schedules

"Large Customer" Rate Structure/Rate Design Proposals

Q. How do you define "large customers"?

A. I am defining "large customers" to be those customers who are equipped with metering that measures both energy (kWh) and demand (kW) (known as demand-metering). All customers served on the GP-General Power, TEB-Total Electric Buildings, LP-Large Power, and SC-P Praxair rate schedules meet this criterion. In addition, there may be a few demand-metered customers on SGS rate schedules due to rate switching.

Q. What is the relationship between "large customer" rate schedules, rate structure, and demand metering?

A. The current rate structure for the GP, TEB, LPS, and SC-P rate schedules consists of a customer charge ($ per bill), a demand charge ($ per kW), and a multi-block energy charge (cents per kWh). Both the demand rates and the energy rates are seasonally differentiated. Demand metering on each customer's premise makes application of a demand charge possible. It also allows for customer-specific blocking of energy (Hours Use rates).

Q. Please summarize Staff's rate structure/rate design proposals for "large customer" rate schedules.

A. Staff's rate structure/rate design proposals for "large customer" rate schedules are:

- Maintain seasonally-differentiated energy and demand rates (i.e., different rates charged in the summer season than in the winter billing season)
- Introduce a distribution facilities charge to the GP, TEB, and LP rate schedules
- Introduce a discount to the Large Power rate schedule to apply to any customers delivered at a higher-than-primary voltage level
- Maintain the multi-HU rate block feature of the energy charge
- Preserve the "continuity-between-rate-schedules" feature of the GP and LP rate schedules.
- Charge the same standard customer charge on the GP and TEB rate schedules

The tariff filing that initiated this case indicated that the Company is proposing to change a number of these features of the existing rate design.

I am also proposing that customers who switch rate schedules be billed based on the customer charge of the rate schedule they switched from, rather than the one the customer switched to. This proposal is in response to the large number of customers who switched from one rate schedule to another during the test year.

Customer Charges

Q. Please briefly describe the structure and design of EDE's customer charges.

A. All active customers are currently assessed a monthly, fixed-dollar customer charge. Customer charges are designed to recover those costs that relate to being an active customer (i.e., being supplied by the company with the potential to use electricity), whether there is any electricity used or not. Examples of these costs are a line to deliver electricity to the customer's premise ("services"), a meter ("meters"), the need to collect usage data ("meter reading"), computing/sending/collecting a bill ("billing"), and assisting the customer ("customer service").

While all customers within a rate schedule are assessed the same monthly dollar customer charge, the amount can vary by rate schedule. In general, rate schedules designed to provide service to larger size customers (measured in terms of both usage and demand) have higher customer charges than rate schedules designed provide service to smaller customers, to reflect such differences as more expensive meters and facilities needed to deliver electricity to their premise and the need to collect more monthly usage data (in many cases from multiple meters) and perform more complex rate calculations.

Current customer charges are $8.75 per month (Residential), $12.32 per month (SGS), $44.73 per month (LGS), and $164.53 per month (LP).

Q. What feature of EDE's current customer charge should be retained?

A. EDE's current rate structure for the customer charge has a feature that Staff recommends be retained; namely, that both rate schedules contained in Staff's rate classes are assessed identical customer charges. This applies to both SGS rate schedules (CB and SH); both LGS rate schedules (GP and TEB); and to the LP and SC-Praxair rate schedules.

Q. What new feature of the customer charge is Staff proposing?

A. An additional, attractive feature of EDE's current customer charges is that LGS customers who have the same type of metering as LP customers are assessed the LP customer charge, despite being served on one of the LGS rate schedules. Staff's proposal is to expand this feature so that customer size (as measured by the customer's maximum demand over the month being billed and the prior 11 months) be used to determine which of the three customer charges (SGS, LGS, LP) will be used in the billing of any individual customer.

Under this proposal, customer charges will continue to be billed on a $-per-bill basis but the choice of which particular $-per-bill rate to be used will be based on the customer's size, rather than based solely on the specific rate schedule.

Q. Who would be affected by this proposal to base customer charges partly on size?

A. It will only apply to those customers who switch between rate schedules. Under this proposal, many customers who switch rate schedules will continue to pay the customer charge of the rate schedule they left, rather than the one they switched to.

Q. What is the rationale for partly basing the level of the customer charge on customer size?

A. The rationale for such a proposal is that customer costs and the associated customer charges are designed for the "average" customer in the rate class. A large-size customer who switches from a large-customer rate schedule to a smaller-size customer rate schedule (such as LP to LGS or LGS to SGS) has not suddenly become an "average" customer on the new rate schedule in terms of customer-related costs, so it should not be treated in the rate design as if it were.

This proposal is in response to the large number of customers who switched from one rate schedule to another during the test year.

Facilities Charges

Q. Please describe Staff's proposal to introduce a facilities charge.

A. Staff's proposal is to split the existing demand charges into two components: a component that recovers fixed-demand and the customer-related distribution costs not recovered in the customer charge; and a component that recovers variable distribution costs. The "variable" portion would continue to be charged on a $-per-billed- kW basis, continue to be called a "demand charge," and the associated rates would continue to be seasonally differentiated. The "fixed" component would be billed on a $-per-maximum-kW basis, would be called a "facilities charge," and the associated rates would be the same in both the summer and winter billing seasons.

Q. Which rate schedules would have a distribution facilities charge under your proposal?

A. Ideally a facilities charge would apply to all but the very smallest non-residential customers. Praxair is currently served on a rate schedule that contains a facilities charge. The only other EDE customers currently assessed demand charges are those on the GP, TEB, and LP rate schedules. Smaller customers, such as those on the CB, and SH rate schedules lack the metering to record and bill monthly demands. Thus this proposal will only apply to the GP, TEB, and LP rate schedules.

Q. Would the level of the facilities change by rate schedule?

A. The facilities charge rate would be the same on a loss-adjusted basis on all affected rate schedules.

Q. How would the proposed facilities charge be billed?

A. The proposed facilities charge would be customer-specific, and would be based upon each customer's maximum demand over the month being billed and the prior 11 months (facilities demand). Annual maximum demand would be used for billing the facilities charge rather than billing demand because it is a better proxy for the sizing of facilities the Company has installed for each customer.

Schedule 1 presents the billing units that would be applicable for billing a facilities charge for the GP, TEB, and LP rate schedules.

Q. Why would the facilities rate per kW be the same in the summer as in the winter billing months?

A. Because the costs being recovered through the facilities charge (fixed-demand and the customer-related distribution costs) do not vary by season.

Q. What is the rationale for adding a facilities charge to the existing rate structure?

A. One of the difficulties of designing rates for customers served on the GP, TEB, and LP rate schedules that there is considerable heterogeneity in terms of size (max kW) and load factor (constancy of usage over time) among the customers. Class cost of service can provide insight into how to price the "average customer" in the class but rate design has to deal with the fact that no customer is exactly average. Assessing the portion of the existing demand charge that is solely related to customer size will better match intra-class cost causation with the recovery of those costs.

Q. Do any other Missouri regulated electric companies have distribution facilities charges?

A. Yes. The Kansas City Power & Light Company and Aquila Networks-L&P Missouri rate schedules contain facilities charges. In both instances, the facilities charges are applied to all but the very smallest non-residential customers.

Rate Continuity

Q. What is the "continuity-between-rate-schedules" feature of EDE's existing GP and LP rate schedules?

A. The customers receiving service on the General Power rate schedule exhibit, as a group, significantly different load and cost characteristics than do the group of customers served on the Large Power rate schedule. Despite these "group" differences, there is very little difference between the largest customer on the General Power rate schedule and the smallest customer on the Large Power rate schedule. These rate schedules were deliberately designed to be "continuous" in the sense that these two customers will see very little difference in their electricity bills as they move from one rate schedule to the other. This "rate continuity" encourages the largest GP customer to

gravitate to the Large Power rate schedule as its size and load factor grows and, conversely, the smallest LP customer may easily move to the GP rate schedule if its electricity load shrinks.

Q. What are the consequences of altering the "continuity-between-rate-schedules" feature of the existing rate design?

A. Since the "continuity –between-rate-schedules" feature sends, fundamentally, price signals that guide individual customers in their choice of rate schedules, altering the relationship between rates schedules may be a detriment. To the extent that a change between rate schedules results in large customers switching to rate schedules that were designed for small- or medium-sized customers, or visa-versa, the result will be rates that track the costs of a different group of customers than the group for whom those rates From the perspective of someone who designs or administers tariffs, "rate continuity" is a good thing, because it provides the correct "price signals" to customers. Rate continuity, working in concert with the rate structure and rate levels, keeps large customers on the Large Power rate schedule and keeps medium-sized customers on the General Power rate schedule and so on. Regaining rate continuity, once it is lost, is a very difficult and time-consuming process within the regulatory system, so these rate design "problems" tend to last for a very long time.

From the perspective of customers, rate schedule continuity is irrelevant. Customers do not choose service under a specific rate schedule because it correctly prices their pattern of consumption. Customers are concerned with receiving the lowest electric bill possible for a given level and time pattern of consumption and will readily move from one rate schedule to another if doing so will economically benefit them.

Q. What actions should the Commission take to preserve rate continuity?

A. Rate design proposals that preserve the "continuity-between-rate-schedules" feature are those that uniformly increase all rate components that are "linked."

The revenue effect of rate switching by customers in response to rate design changes needs to be anticipated and explicitly accounted for. Otherwise, the Company will not have a reasonable opportunity to collect the revenues authorized by the Commission. The problem can be mitigated if the Commission allows EDE to account for rate switching as part of their filing of tariffs in compliance with the Report and Order in this case.

Treatment of Voltage Level in Permanent Rates

Q. Briefly describe how customers are classified by voltage level for billing purposes?

A. Customers are put into one of two classifications—receiving service at "primary voltage" or receiving service at "secondary voltage." Secondary voltage level customers are provided delivery of electricity at standard (i.e., household) voltage. The Company is responsible for the acquisition, maintenance, repair, and replacement of all of the required equipment.

Primary voltage-level customers provide their own secondary facilities and assume responsibility for the acquisition, maintenance, repair, and replacement of that equipment. It is the customer's choice whether to be delivered at primary or secondary voltage level (i.e., to provide its own secondary facilities or use Company-provided secondary facilities).

Q. How do EDE's current rate schedules account for differences in the voltage level at which electricity is delivered to a customer?

A. EDE's current rate schedules account for delivery voltage level differences between primary and secondary customers by a $-per-kW discount or adder on the demand charge. For example, the current LPS rate schedule assumes that each customer is primary for billing purposes (i.e., provides its own transformer and secondary facilities). If, instead, the Company provides this equipment/service for the customer's use, the customer pays a per-kW "adder" in addition to the standard demand charge (i.e., a higher demand charge per kW than the primary customers). Similarly, the current GP rate schedule assumes that the Company provides all necessary secondary facilities for each customer. In the situation where a customer supplies its own secondary facilities (i.e., is delivered at primary), a $-per-kW discount to the demand charge is provided.

Q. How can Rider XC affect the treatment of delivery voltage level in the rates?

A. Rider XC provides for EDE installation of special facilities or facilities in "excess" of those provided via the standard rate schedule to serve a specific customer. Facilities "acquired" from the Company via Rider XC are "paid for" by a monthly charge of 1.25% of the actual cost of the dedicated facilities. In certain situations, Rider XC facilities will have the effect of changing a customer's billing classification from secondary to primary voltage level. The customer's bill for primary service on the general application rate schedule is computed the same whether the customer acquires its secondary facilities via Rider XC or by some other means.

Q. Has the Staff's class cost-of-service study and seasonal cost study reflected delivery voltage level differences?

A. Yes. Ms. Hu only allocated EDE costs associated with secondary facilities to secondary voltage level customers. In addition, Ms. Hu excluded the costs related to secondary facilities that are paid for via Rider XC from the total costs to ensure that my rate design only recovered the costs to be included in the standard rates.

Q. Is Staff proposing to change the existing treatment of voltage level in the rates?

A. The existing treatment of primary and secondary voltage levels in EDE's existing rate schedules should be maintained. However, the general application Missouri rate schedules do not contemplate that customers will be served at voltage levels above primary. If such high-voltage-level customers exist now or are contemplated to exist in the future, then the rate schedules need to be modified to also reflect an appropriate treatment of higher voltage levels.

Lighting Rate Structure/Rate Design Proposals

Q. What is Staff's rate structure/rate design proposal for the lighting rate schedules?

A. Staff's rate structure/rate design proposal for PL-Private Area Lighting and SPL-Municipal Street Lighting is to apply the overall percentage increase that the Commission determines to be appropriate to each and every rate component. These rate schedules were not studied as part of the class cost-of-service study.

Power Furnace Rate Schedule

Q. What is the Staff proposal for the Power Furnace rate schedule?

A. Staff is proposing to eliminate the existing Power Furnace (PF) rate schedule because there are no longer any customers served on that rate schedule.

Q. Why eliminate the Power Furnace rate schedule rather than maintain it as an option for new customers?

A. The Power Furnace rate schedule was originally designed for customers with very unusual operating conditions. It is unlikely that any new customers would have the same load characteristics as the customers that have departed. Secondly, the existing Power Furnace rate schedule has a decades old, antiquated rate structure. Even if any new customers would have the same load characteristics as the departed customers, I believe that the existing rate needs to be re-designed. Thirdly, EDE can always add a new rate schedule in a separate tariff filing later when (if) a suitable customer (with known load characteristics) appears.

Q. Does this conclude your rate design testimony?

A. Yes, it does.

History of Rate Design Changes to EDE Missouri Rate Schedules

EDE's last rate design case, Case No. EO-91-74 Investigation of the Cost of Service and Rate Design [of] The Empire District Electric Company (later consolidated with Case No. ER-94-174), was the genesis of the rate design contained in the Company's current Missouri rate schedules. Major decisions made in that case, such as what rate schedules would exist and what rate structures would be used to recover costs from individual customers, are still in existence today. In addition, in that case, rate design areas requiring further study and action were identified.

Many of the specific rate design problems identified in Case No. EO-91-74 as requiring further study and action were implemented in two subsequent cases (Case Nos. ER-95-279 and ER-97-81). Rates were changed in ways that narrowed, but did not eliminate, the imbalance between class revenues and class responsibility for costs. All of the planned "phase-outs" agreed to in these cases have been accomplished.

The major rate design focus in the past two EDE rate increase cases (Case Nos. ER-2001-299 and ER-2002-424) has been on the interim energy charge (IEC). No further movements to align class revenues with class cost responsibility were made in these two rate increase cases.

Case No. ER-95-279

In Case No. ER-95-279, the approved rate design changes were to: (i) create and maintain a separate, on-going tracking system of Company investments in special/excess facilities for the dedicated use by individual customers; (ii) charge all customers with special/excess facilities a uniform rate of 1.25% of total investment per month; (iii) change the primary discount/secondary adder on the General Power and Large Power rate schedules to reflect 'typical" facilities; (iv) order EDE to perform a special lighting study; and (v) reduce rate levels and eliminate special discounts on the Municipal Street Lighting rate schedule. In addition, in Case No. ER-95-279 a movement was made to narrow the imbalance between class revenues and class cost responsibility, as measured by class cost-of-service studies.

Case No. ER-97-81

In Case No. ER-97-81, the approved rate design changes were to: (i) begin the phase-out of the special discounts on the Municipal Street Lighting rate schedule; (ii) eliminate the School and Church rider; and (iii) file a thermal energy storage rider. Class revenues were not adjusted towards class cost responsibility in Case No. ER-97-81. An overall rate increase of 8.25% was applied as an equal percentage increase to all customer classes and to each rate component.

Case No. ER-2001-299

The major rate design focus in EDE Case No. ER-2001-299 was the establishment of an interim energy charge (IEC) that was recovered from customers on an equal cents per hour basis. All permanent rate levels were increased by a uniform 8.40%.

Case No. ER-2002-424

Elimination of the IEC and the refund of all of the money collected by that surcharge dominated the rate design in Case No. ER-2002-424. No movement was made towards a class revenue distribution consistent with class cost-of-service study results (each class' total revenues were increased by 4.97%). Both a modest decrease in the seasonal (summer/winter) differential and a disproportionately higher increase in the customer charge were made in the residential rate schedule.

Regulatory Process Used to Create Rate Design Changes

Historically, major re-designs of electricity rate schedules have been handled in dockets that: (i) exclusively address class cost of service and rate design issues; (ii) have no influence on the utility's overall revenues; and (iii) have no statutory time limit for completion. These "EO" dockets, or rate design cases as they are usually called, have generally been established through a Report and Order in an "ER", or rate increase case. For example, EDE's last rate design case, Case No. EO-91-74 Investigation of the Cost of Service and Rate Design [of] The Empire District Electric Company, was initiated in the Report and Order in Case No. ER-90-138.

The focus of rate design cases has been class cost responsibility, as measured by class cost-of-service studies, and the structure/design of the rates to recover costs from individual customers. It is not uncommon for a rate design case to result in the complete

elimination of many rate schedules and the implementation of a number of entirely new rate schedules.

Proposals to "shift" (on a revenue neutral basis) revenues between customer classes and to change rate structures in major electric rate design cases have been implemented either within the context of the "EO" docket itself or within the context of the next (or a concurrent) rate increase case. For The Empire District Electric Company, the rate design changes from Case No. EO-91-74 (a rate design case) were implemented as part of the outcome of Case No. ER-94-174 (a rate increase case), as well as two subsequent rate increase cases.

The rate schedules created within a rate design case are always modified in a rate increase ("ER") case to reflect an overall change in allowable revenues. Changes in rates that narrow any imbalances between class revenues and class cost responsibility can also be made within an "ER" case but, in many instances, are not. In Empire's rate design history (described above), only one of the four "ER" cases since the last "EO" case resulted in modifications to the distribution of class revenues in addition to changes in overall revenue. None of them resulted in rate structure changes.

THE EMPIRE DISTRICT ELECTRIC COMPANY - CASE NO. ER-2004-0570
SEASONAL BILLING UNITS AND SEASONAL REVENUES BY RATE SCHEDULE

		RG	CB	SH	GP	TEB	LP	Praxair	SPL	PL	LS	MS	PFM	Total
Summer	Cust. Charge	$4,078,362	$838,375	$122,801	$264,986	$145,675	$23,001	$658	$0	$0	$0	$246	$739	$5,474,844
		$8.75	*$12.32*	*$12.32*	*$44.73*	*$44.73*						*$12.32*	*$18.48*	
					$164.53	*$164.53*	*$164.53*	*$164.53*						
	Std Bills	466,099	68,050	9,968	5,798	3,227						20	40	
	IDR Bills	0			34	8	140	4						
	Demand	$0	$0	$0	$5,135,538	$1,453,793	$4,601,831	$456,022	$0	$0	$0	$0	$0	$11,647,183
					$6.09	*$3.81*	*$9.73*	*$14.17*						
					($0.211)	*($0.211)*	*$0.205*							
								$0.30						
	Billing Demand				847,606	382,312	472,531	31,512						
	Volt Disc/Adder				125,041	13,347	20,009							
	Fac Demand							31,574						
	Energy	$40,336,373	$10,042,110	$2,359,079	$13,915,652	$7,157,442	$7,887,180	$506,200	$365,903	$1,002,100	$72,238	$14,709	$37,132	$83,696,118
		$0.0719	*$0.0838*	*$0.0838*	*$0.0626*	*$0.0734*	*$0.0387*	*$0.0293*			*$0.1040*	*$0.0598*	*$0.1072*	
		$0.0719	*$0.0838*	*$0.0838*	*$0.0395*	*$0.0464*	*$0.0200*	*$0.0232*			*$0.0812*		*$0.1072*	
					$0.0355	*$0.0418*		*$0.0175*						
	Block1	243,135,892	30,469,124	5,722,694	117,501,384	56,365,309	163,873,760	4,262,868	4,785,686	5,404,508	286,507	245,971	23,561	
	Block2	317,870,686	89,365,122	22,428,610	118,142,356	52,559,061	77,263,266	11,530,215			522,680		322,820	
	Block3				53,336,390	13,911,194		6,502,680						
Sub Total		*$44,414,735*	*$10,880,485*	*$2,481,880*	*$19,316,176*	*$8,756,910*	*$12,512,012*	*$962,880*	*$365,903*	*$1,002,100*	*$72,238*	*$14,955*	*$37,871*	*$100,818,145*
Winter	Cust. Charge	$8,145,962	$1,677,058	$247,793	$530,560	$285,189	$46,041	$1,316	$0	$0	$0	$431	$1,479	$10,935,829
		$8.75	*$12.32*	*$12.32*	*$44.73*	*$44.73*						*$12.32*	*$18.48*	
					$164.53	*$164.53*	*$164.53*	*$164.53*						
	Std Bills	930,967	136,125	20,113	11,623	6,315						35	80	
	IDR Bills				65	17	280	8						
	Demand	$0	$0	$0	$6,958,344	$2,480,629	$4,807,885	$645,087	$0	$0	$0	$0	$0	$14,891,946
					$4.76	*$3.13*	*$5.37*	*$9.99*						
					($0.211)	*($0.211)*	*$0.205*							
								$0.30						
	Billing Demand				1,472,197	794,254	893,885	62,676						
	Volt Disc/Adder				233,720	25,524	37,679							
	Fac Demand							63,174						
	Energy	$58,146,253	$12,826,256	$3,089,327	$17,333,833	$8,117,483	$13,141,351	$823,582	$734,478	$2,019,746	$63,953	$29,465	$57,978	$116,383,704
		$0.0719	*$0.0838*	*$0.0838*	*$0.0368*	*$0.0384*	*$0.0341*	*$0.0202*			*$0.1040*	*$0.0598*	*$0.1072*	
		$0.0452	*$0.0570*	*$0.0436*	*$0.0355*	*$0.0362*	*$0.0192*	*$0.0165*			*$0.0812*		*$0.0973*	
					$0.0346	*$0.0350*								
	Block1	468,282,774	60,744,591	11,770,492	209,664,500	114,079,775	309,311,433	21,507,012	11,346,645	10,906,402	295,930	492,718	43,670	
	Block2	541,520,383	135,716,827	48,233,021	200,805,976	87,866,442	135,095,348	23,584,257			408,580		547,760	
	Block3				71,952,805	15,887,265								
Sub Total		*$66,292,215*	*$14,503,313*	*$3,337,120*	*$24,822,737*	*$10,883,301*	*$17,995,276*	*$1,469,985*	*$734,478*	*$2,019,746*	*$63,953*	*$29,895*	*$59,457*	*$142,211,479*
Total		$110,706,950	$25,383,798	$5,819,000	$44,138,913	$19,640,212	$30,507,288	$2,432,865	$1,100,382	$3,021,846	$136,192	$44,850	$97,329	$243,029,624
Drag Around Money		*($62,155)*	*($28,320)*	*$45,642*	*$31,507*	*$31,407*	*$77,748*	*($11,629)*	*$0*	*$0*	*$12,972*	*($8)*	*($739)*	*$96,425*
Grand Total		$110,644,795	$25,355,478	$5,864,642	$44,170,420	$19,671,619	$30,585,036	$2,421,236	$1,100,382	$3,021,846	$149,164	$44,842	$96,590	$243,126,049

Schedule 2