Exhibit No.:	
Issues:	Rate Design Class Cost of Service
Witness:	Michael S. Scheperle
Sponsoring Party:	MO PSC Staff
Type of Exhibit:	Surrebuttal Testimony
Case No.:	ER-2012-0345
Date Testimony Prepared:	February 4, 2013

MISSOURI PUBLIC SERVICE COMMISSION

REGULATORY REVIEW DIVISION

SURREBUTTAL TESTIMONY

OF

MICHAEL S. SCHEPERLE

THE EMPIRE DISTRICT ELECTRIC COMPANY

CASE NO. ER-2012-0345

Jefferson City, Missouri
February 2013

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of The Empire District Electric Company of Joplin, Missouri Tariffs Increasing Rates for Electric Service Provided to Customers in the Missouri Service Area of the Company	)))))	Case No. ER-2012-0345

AFFIDAVIT OF MICHAEL S. SCHEPERLE

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

Michael S. Scheperle, of lawful age, on his oath states: that he has participated in the preparation of the following Surrebuttal Testimony in question and answer form, consisting of 12 pages of Surrebuttal Testimony to be presented in the above case, that the answers in the following Surrebuttal Testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true to the best of his knowledge and belief.

Michael S. Scheperle
Michael S. Scheperle

Subscribed and sworn to before me this 1st day of February, 2013.

SUSAN L. SUNDERMEYER
Notary Public - Notary Seal
State of Missouri
Commissioned for Callaway County
My Commission Expires: October 03, 2014
Commission Number: 10942086

Susan L. Sundermeyer
Notary Public

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OF

MICHAEL S. SCHEPERLE

THE EMPIRE DISTRICT ELECTRIC COMPANY

CASE NO. ER-2012-0345

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SURREBUTTAL TESTIMONY

OF

MICHAEL S. SCHEPERLE

THE EMPIRE DISTRICT ELECTRIC COMPANY

CASE NO. ER-2012-0345

Q. Please state your name and business address.

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

Q. Are you the same Michael S. Scheperle who filed in this proceeding on December 13, 2012, direct testimony, both in question and answer format and as part of the Missouri Public Service Commission Staff's (Staff) Rate Design and Class Cost-of-Service Report, and who filed on January 16, 2013 rebuttal testimony in question and answer format?

A. Yes, I am.

Q. What is the purpose of your surrebuttal testimony?

A. I respond to the rebuttal testimony of The Empire District Electric Company ("Empire") witness W. Scott Keith; Midwest Energy Users' Association ("MEUA") witness Maurice Brubaker; and the Office of Public Counsel ("OPC") witness Barbara A. Meisenheimer.

Executive Summary

Q. Please summarize your surrebuttal testimony.

A. I will respond to Empire on proof of revenue and Demand-Side Management ("DSM") cost recovery. Staff believes there is agreement between Empire and Staff on the proof of revenue where the final revenue proof (establishment of rate levels) be based on

Empire's overall revenue requirement and normalized billing determinants after true-up. Additionally, there appears to be agreement between Staff and Empire on Staff's recommendation for Empire to recover its DSM costs using a separate charge that will not be applied to the customers opting-out of the energy efficiency programs.

I will respond to MEUA's recommendation that the revenues assigned to rate classes reflect the proper amount of cost recovery associated with the energy efficiency programs. Staff agrees with MEUA's recommendation that the total granted increase be segregated to each applicable rate class by: 1) the energy efficiency revenue requirement to ensure that customers who have opted-out of the energy efficiency programs are not charged costs associated with the energy efficiency programs, and 2) all other additional increase by rate class.

Finally, I will respond to OPC's disagreement with certain aspects of Staff's class cost-of-service ("CCOS") study. Staff would agree with certain aspects and disagree with other aspects. Staff would agree in theory to customer service and information and sales expense allocators; and disagrees with OPC's characterization of Staff's production allocators, transmission allocators, and certain distribution costs.

Proof of Revenue

Q. Does Mr. Keith agree with Staff's proof of revenue?

A. Yes. However, Mr. Keith's concerns[1] are that the rates proposed by Staff do not include the revenue requirement associated with the various true-up items and, therefore, do not represent the final rates that Empire will need coming out of this rate case and the final

[1] Rebuttal Testimony, W. Scott Keith, p 26, lines 19-23 and p. 27, line 1.

revenue proof should be based upon Empire's overall revenue requirement and normalized billing determinants after true-up.

Q. Do you agree with Mr. Keith's rebuttal testimony concerning the proof of revenue?

A. Yes. Staff's proof of revenue was based on Staff's update period which reflects an update period of twelve months ending June 30, 2012. Staff will update its information to the true-up period of December 31, 2012, as information becomes available from Empire. Staff agrees that the revenue requirement should reflect the true-up period.

DSM Cost Recovery

Q. Does Empire object to the Staff's recommendation to recover its DSM costs using a separate charge for customers?

A. No.[2] Mr. Keith acknowledges that Empire is currently working on implementation of such a process in Empire's billing system. Staff recommended a separate DSM cost recovery rate on each applicable rate schedule to ensure customers who have opted-out of DSM programs are not charged costs associated with the DSM programs. Staff recommends wording of "Energy Efficiency Pgm charge" on customer bills for Empire to recover its DSM costs using a separate charge for customers not opting-out of DSM programs.

DSM Cost Recovery - Rate Design

Q. What is Mr. Brubaker's concern for DSM energy efficiency cost recovery?

A. Mr. Brubaker's concern is how energy efficiency costs should be recovered from customers in order to ensure that customers who have opted-out of the energy efficiency

[2] Rebuttal Testimony, W. Scott Keith, p. 27, lines 2 – 9.

programs are not charged costs associated with the DSM programs. Mr. Brubaker proposes a two step allocation process[3] for the allocation of revenues to each class. The first step is an energy efficiency revenue requirement allocation by class of customer based on the kWh for each class less approved opt-out. The second step is to allocate the additional revenue increase less the DSM costs associated with step 1 by class of customer, based on equal percentage applied to current revenue, excluding DSM. Staff supports this concept that revenues assigned to rate classes reflect the proper amount of cost recovery associated with the DSM programs to ensure that customers who have opted out of the DSM programs are not charged costs associated with the DSM programs.

CCOS Study

Q. Did the Office of Public Counsel prepare a class cost-of-service study?

A. No. OPC did not prepare a CCOS study. Staff is the only party that prepared a CCOS study.

Q. Does OPC agree with Staff's CCOS study?

A. Not entirely. OPC outlines four concerns of Staff's CCOS study which Staff addresses below. The four concerns are:

1. Staff's use of a non-coincident peak ("NCP") rather than a coincident peak ("CP") in allocating production costs.[4]
2. Staff's use of NCP rather than CP in allocating transmission costs.[5]
3. Staff's allocation for the secondary portion of certain distribution accounts.[6]
4. Staff's method of allocation for certain customer service and information and sales expense accounts.[7]

[3] Schedule MEB-RD-REB-1, Pages 1 and 2.
[4] Rebuttal Testimony of Barbara A. Meisenheimer, page 8.
[5] Rebuttal Testimony of Barbara A. Meisenheimer, pages 9 and 10.
[6] Rebuttal Testimony of Barbara A. Meisenheimer, page 10.
[7] Rebuttal Testimony of Barbara A. Meisenheimer, pages 10 and 11.

Q. Do you agree with OPC's first concern that Staff's use of a NCP rather than a CP in allocating production costs is problematic?

A. No. Staff consistently has applied NCP information in allocating production costs. Staff outlined the reasons for its NCP use in the Staff's Rate Design and Class Cost-of-Service Report.[8] OPC outlines that Staff used a NCP measure in this case to reflect that some customers might not receive a fair allocation of costs if they had reduced or have no demand during the coincident peak period.[9] OPC does agree that free ridership could be a problem if the coincident peak does not reflect a normally anticipated distribution of class contributions to the peak demand.[10] OPC acknowledges this potential for free ridership exists. Staff outlined such scenarios for four different classes of customers in Schedule MSS-5 of Staff's Rate Design and CCOS study. Staff is again attaching a duplicate of Schedule MSS-5 from that Report as Schedule MSS-S1 to this testimony for ease of use and to highlight its concerns with using CP information. Staff's use of NCP information, alleviates any concern of free ridership or irrational CP allocations for certain classes. Free ridership is when service rendered completely off-peak or not at the system peak time is not assigned any responsibility for production cost. In this case, three different lighting classes would avoid some of the demand cost assignment as system peaks generally occur during daylight hours[11]. Schedule MSS-S1 highlights the three lighting class concerns and also highlights the Special Transmission Service Contract: Praxair reduced load in the summer when Empire was peaking. Another example of free ridership is when a utility has demand reducing provisions in its tariff (interruptible service or curtailment programs) where a utility may control its

[8] Staff's Rate Design and Class Cost-of-Service Report, pages 9 – 16.
[9] Rebuttal Testimony of Barbara A. Meisenheimer, page 9, lines 3 -5.
[10] Rebuttal Testimony of Barbara A. Meisenheimer, page 9.
[11] See Staff's Rate Design and Class Cost-of-Service Report, Schedule MSS-5.

peaking dates and times. To alleviate any concern of free ridership or irrational CP allocations, Staff uses NCP information. Another concern with utilizing a CP-based factor is that various Empire's tariff provisions allow Empire the flexibility to implement demand reductions during time of system peaks or for operational and economic reasons. These provisions are contained in Empire's Tariff:

- Section 2 Sheet Nos. 9 – 9b Special Transmission Service Contract: Praxair (1 customer) (Schedule MSS-S2)
- Section 4 Sheet nos. 4 – 4c Interruptible Service (3 customers) (Schedule MSS-S3)

Schedule MSS-S2 outlines curtailment limits and usage for Praxair during times of system peak. Schedule MSS-S3 outlines interruptible service criteria and the need for curtailment. These tariff provisions may lead to irrational CP allocations for certain classes if CP information is used. To alleviate these concerns, Staff uses NCP information in its production allocator.

Additionally, OPC in its last electric CCOS[12] study submitted used NCP information in its production allocator in its Average and Excess ("A&E") method. OPC criticizes Staff for use of the NCP information in this case, but OPC used NCP information in its alternative method in its last CCOS filed case. OPC states in Case No. ER-2012-0166:

> My primary recommendation is to apportion production costs to classes using a weighted average of the annual energy use and share of system peak (coincident peak) demand for each class. …
> As an alternative, I have also prepared a study which allocates production and production-related costs using a weighted average of annual usage and excess demand. Excess demand is measured as the difference between the sum of all classes' maximum demand (whether or not the maximum demands at the coincident peak) and average annual demand. I will refer to this allocator as Avg & Excess **4NCP**. Conceptually, this allocator is similar to the production cost allocator used by the Company. If the Commission decides to adopt an Average and Excess method for assigning production and production-related costs to

[12] Direct Testimony of OPC witness Barbara a. Meisenheimer, Case No. ER-2012-0166, Class Cost of Service and Rate design, pages 4 -5.

> consumers then I recommend the alternative CCOS study presented in my testimony. (Direct Testimony of Barbara Meisenheimer, Case No. ER-2012-0166, pages 4 -5) (Emphasis denoted)

Furthermore, the last ruling by the Commission concerning the production allocator endorsed the A&E method[13] which uses NCP and not CP information. The National Association of Regulatory Commissioners ("NARUC") outlined thirteen (13) generation allocation methods in its 1992 Electric Utility Cost Allocation Manual ("Manual"). In a lot of the production allocators described by NARUC, the NCP and CP are common allocation methods for allocating production costs. While CCOS studies are very analytic, it is also an art. There is no "right" answer. However, there are reasonable and unreasonable answers. The modified Base, Intermediate, Peak ("BIP") allocation method recommended by Staff uses NCP information which provides a reasonable method of cost allocation. Staff used NCP information instead of CP information to alleviate any free ridership and the possibility of irrational CP allocations for any class.

For comparison purposes, Staff calculated its modified BIP production method using NCP information as proposed by Staff and the CP method. Each rate class comparison is shown below:

[13] Report and Order, Case No. ER-2010-0036, pages 82, 87.

TABLE 1

Class	NCP Staff Proposed (1)	CP (2)
Residential	47.76%	48.56%
Commercial Building	9.01%	8.79%
Commercial Space Heating	2.32%	2.32%
General Power	18.34%	18.83%
Special Transmission: Praxair	0.92%	0.83%
Total Electric Building	8.56%	8.67%
Feed Mill and Grain Elevator	0.02%	0.01%
Large Power	11.74%	11.53%
Miscellaneous Lights	0.00%	0.00%
Street Lights	0.60%	0.24%
Private Lights	0.50%	0.20%
Special Lights	0.22%	0.01%

(1) Staff proposed using Modified BIP for Production Investment and costs using NCP information
(2) Staff using Modified BIP for Production Investment and costs using CP information

Table 1 shows that there is not a large variation for any class. The largest variation is the residential class where more production investment and costs would be assigned to the residential class if CP information is used. Staff supports use of the NCP information instead of CP information to alleviate free ridership and irrational CP allocations.

Q. Do you agree with OPC's second concern that CP information should be used instead of NCP information for transmission costs?

A. No, not in this case. OPC is correct that Staff has used a 12 CP to allocate transmission related costs in the past. However, Staff has the same concerns with using CP

information and the free ridership scenarios Staff outlined in Staff's Rate Design and CCOS Report and explained above in its production allocator explanation, Staff recommends use of NCP information which alleviates all the shortcomings of using CP information.

For comparison purposes, Staff calculated its transmission allocator using NCP information and CP information. Each rate class comparison is shown below:

TABLE 2

Class	NCP Staff Proposed (1)	CP (2)
Residential	48.32%	47.43%
Commercial Building	8.41%	8.49%
Commercial Space Heating	2.55%	2.62%
General Power	17.59%	18.50%
Special Transmission: Praxair	0.98%	0.87%
Total Electric Building	9.21%	9.85%
Feed Mill and Grain Elevator	0.02%	0.01%
Large Power	11.67%	12.22%
Miscellaneous Lights	0.002%	0.002%
Street Lights	0.68%	0.00%
Private Lights	0.47%	0.00%
Special Lights	0.11%	0.00%

(1) Staff proposed 12 NCP for Transmission Investment and costs

(2) Using 12CP for Transmission Investment and costs

Table 2 shows that there is not a large variation for any class. However, there is free ridership for three lighting classes (noted in shading) and use of NCP information alleviates this free ridership. In this case, Staff prefers the consistency of using NCP information to alleviate free ridership for lighting classes and the potential for irrational CP allocation for

Special Transmission Contract customer: Praxair. NCP information for production and transmission allocation factors, which does not favor any one class or looks for the lowest allocation method per class.

Q. Do you agree with OPC's third concern that it is unclear why the Staff changed its method of allocation for certain distribution accounts and why the weightings are appropriate in allocating secondary costs?

A. No. Staff has consistently used NCP information and Maximum Daily Demand ("MDD")[14] information in its last five CCOS studies if MDD information is available.[15] It is true that Staff did not use MDD information in Empire's last electric general rate increase filing (Case No. ER-2011-0004). Staff uses a combination of NCP and MDD information. Staff's Rate Design and CCOS Report in ER-2012-0345 outlines Staff's recommendation as follows:

> Load diversity is important in allocating demand-related distribution costs because the greater the diversity among customers within a class or among classes, the smaller the total capacity (and total cost) of the equipment required for the utility to meet those customers' needs. Load diversity exists when the peak demands of customers do not occur at the same time. The spread of individual customer peaks over time within a customer class reflects the diversity of the class load. Therefore, when allocating costs of demand-related distribution costs that are shared by groups of customers, it is important to choose a measure of demand that corresponds to the proper level of diversity.
>
> Diversified demand is the weighted average of the Class's customer maximum demand and its annual maximum class peak demand. ……
>
> Staff recommends allocating the costs of distribution secondary and line transformers on the basis of each class's annual peak demand and on customer maximum demands. Only secondary customers served at the secondary voltage level were included in the calculation of the allocation factor, so that distribution secondary costs were allocated only to those customers that use these facilities. (Staff's Rate Design and Class Cost-of-Service Report, pages 18 -19).

[14] MDD factor is based on the maximum annual demands of each customer for secondary voltage.

[15] Staff has used NCP and MDD information in developing its secondary allocator in Case No. ER-2012-0166 (Ameren Missouri); Case No. ER-2012-0174 (Kansas City Power and Light Company); Case No. ER-2012-0175 (KCP&L Greater Missouri Operations for both CCOS studies for MPS and L&P); and this case ER-2012-0345 (Empire District Electric Company) for 2012.

The secondary demand allocations are based on NCP information and MDD information and weighted to capture various cost-causation differentials for two reasons. First, the MDD (individual customer demand) adds an additional component that reflects the fact that the maximum demand of individual customers dictates the sizing and load characteristics of service and secondary facilities needed by customers. Second, an additional dimension is added to the secondary allocation as NCP and MDD information is weighted in performing the calculation factor, only using NCP information is the class maximum for one hour of 8,760 hours in a year. The weighting of NCP and MDD adds another element to the allocation factor where more than one hour is used to allocate secondary demand.

For comparison purposes, Staff prepared Table 3 below detailing the differences in using only an NCP allocation, an MDD allocation, and a weighting of using NCP and MDD information.

TABLE 3

Class	**Secondary NCP (1)**	**Secondary MDD (2)**	**NCP & MDD Secondary Weighted (3)**
Residential	57.34%	66.16%	62.94%
Commercial Building	9.75%	8.90%	9.21%
Commercial Space Heating	3.26%	3.30%	3.29%
General Power	16.04%	11.19%	12.96%
Special Transmission: Praxair	0.00%	0.00%	0.00%
Total Electric Building	10.48%	8.53%	9.24%
Feed Mill and Grain Elevator	0.02%	0.02%	0.02%
Large Power	1.66%	1.06%	1.28%
Miscellaneous Lights	0.0019%	0.0011%	0.0014%
Street Lights	0.62%	0.36%	0.46%
Private Lights	0.54%	0.31%	0.39%
Special Lights	0.29%	0.16%	0.21%

(1) NCP secondary - maximum class demand for 1 hour during year
(2) MDD secondary - maximum demand for each customer during year
(3) Staff proposed weighting during year

Table 3 shows that only using NCP information or only using MDD information can have an adverse or positive effect on certain classes of customers. For example, using NCP information for the residential class is 57.34% while using only MDD information is 66.16%. Staff recommends a combination of NCP and MDD information for the two reasons stated above to balance out any one method of only using NCP or only using MDD information.

Q. Do you agree with OPC's fourth concern that staff appears to have changed the method of allocation of accounts 906 – 910 (Customer Service and Information Expenses) and its allocation of accounts 911 – 916 (Sales Expenses).

A. Yes. Staff would agree that this concern is credible and will adjust its customer service and information and sales expense allocators to Staff's allocator used in Case No. ER-2011-0004, Empire's prior rate case.

For comparison purposes, Staff is attaching Schedule MSS-S4 which compares Staff's Direct filing and its revised filing based on adjusting its customer service and information expense allocator and its sales expense allocator.

Q. Do these adjustments change Staff's rate design recommendations?

A. No. Staff still recommends revenue-neutral adjustments as follows:

- Based on CCOS results, Staff recommends adjustments be made first on a company-wide revenue-neutral basis to the residential class, commercial building class and general power class. The Empire residential class should receive a positive 0.5% adjustment. The Empire commercial building class and general power class should receive a negative adjustment of approximately 0.82%. All other classes should receive the system average increase (commercial space heating, special transmission: Praxair, total electric building, feed mill and grain elevator, large power, lighting and miscellaneous).

Q. Does this conclude your surrebuttal testimony?

A. Yes, it does.

Missouri Public Service Commission
Case No. ER-2012-0345

		Coincidental Peak - CP Information (Missour Retail)											
Month	RG	CB	SH	GP	SC-P	TEB	PFM	LP	Misc	SPL	PL	Special	Total
January	469,588	67,736	28,291	132,064	6,820	90,064	74	80,756	16	0	0	0	875,409
February	391,194	59,593	23,000	120,971	6,931	76,099	85	81,430	17	0	0	0	759,320
March	335,932	52,211	20,512	120,778	7,135	72,267	77	79,957	16	0	0	0	688,885
April	189,493	52,849	13,707	129,605	7,869	53,172	29	94,528	17	0	0	0	541,269
May	258,043	63,876	15,441	133,092	7,048	58,618	58	101,094	16	0	0	0	637,286
June	398,479	76,920	19,852	159,726	6,943	71,351	86	103,782	17	0	0	0	837,156
July	433,013	63,659	18,356	155,980	6,727	72,283	70	96,621	16	0	0	0	846,725
August	417,078	85,528	21,727	171,453	74	80,185	51	99,690	16	0	0	0	875,802
September	358,697	57,772	16,008	151,572	6,740	63,430	98	95,091	17	0	0	0	749,425
October	243,415	51,131	12,732	112,581	7,443	69,381	55	80,427	16	0	0	0	577,181
November	286,910	58,921	16,553	122,517	6,925	69,675	40	87,119	17	0	0	0	648,677
December	425,727	62,826	26,087	130,905	6,808	97,256	57	83,862	16	0	0	0	833,544
Total	4,207,569	753,022	232,266	1,641,244	77,463	873,781	780	1,084,357	197	0	0	0	8,870,679
Percent	47.432%	8.489%	2.618%	18.502%	0.873%	9.850%	0.009%	12.224%	0.002%	0.000%	0.000%	0.000%	100.000%

		Non-Coincidental Peak - NCP Information (Missouri Retail)											
Month	RG	CB	SH	GP	SC-P	TEB	PFM	LP	Misc	SPL	PL	Special	Total
January	532,071	74,195	30,241	135,725	8,178	92,433	98	87,999	16	5,702	3,110	405	970,173
February	469,201	63,398	25,057	132,088	8,178	81,876	99	89,282	17	5,711	3,586	161	878,654
March	405,968	59,155	20,512	127,005	8,172	72,267	95	96,395	16	5,698	3,706	206	799,195
April	281,002	59,353	16,183	142,590	8,320	66,351	99	96,890	17	5,735	4,226	607	681,373
May	300,458	70,444	17,107	146,811	8,382	62,594	117	104,574	16	5,772	4,561	1,199	722,035
June	429,289	79,502	20,590	165,807	8,320	75,856	192	112,073	17	5,770	5,007	2,654	905,077
July	459,586	90,486	22,370	167,517	8,153	81,779	179	103,586	16	5,794	4,794	2,597	946,857
August	470,445	87,358	22,471	176,038	8,147	82,347	178	104,665	16	5,644	4,507	1,551	963,367
September	358,697	75,302	20,044	169,106	8,147	74,464	196	102,059	17	5,612	4,010	858	818,512
October	300,079	61,196	15,630	148,015	8,172	69,381	171	96,855	16	5,614	3,473	665	709,267
November	392,900	61,835	21,188	127,259	8,135	71,348	102	92,915	17	5,743	3,289	388	785,119
December	471,672	65,239	26,087	135,464	8,128	97,256	159	88,807	16	5,670	3,156	199	901,853
Total	4,871,368	847,463	257,480	1,773,425	98,432	927,952	1,685	1,176,100	197	68,465	47,425	11,490	10,081,482
Percent	48.320%	8.406%	2.554%	17.591%	0.976%	9.205%	0.017%	11.666%	0.002%	0.679%	0.470%	0.114%	100.000%

THE EMPIRE DISTRICT ELECTRIC COMPANY

P.S.C. Mo. No. 5 Sec. 2 11th Revised Sheet No. 9

Canceling P.S.C. Mo. No. 5 Sec. 2 10th Revised Sheet No. 9

For ALL TERRITORY

SPECIAL TRANSMISSION SERVICE CONTRACT: PRAXAIR
SCHEDULE SC-P

AVAILABILITY:

This schedule is available for electric service to PRAXAIR, INC. (Customer) as stated in the contract for power service between THE EMPIRE DISTRICT ELECTRIC COMPANY (Company) and PRAXAIR, INC. ("the contract").

MONTHLY RATE:

	Summer Season	Winter Season
CUSTOMER ACCESS CHARGE	$ 231.18	$ 231.18
ON-PEAK DEMAND CHARGE		
Per kW of Billing Demand	22.46	15.26
SUBSTATION FACILITIES CHARGE		
Per kW of Facilities Demand	0.451	0.451
ENERGY CHARGE, per kWh:		
On-Peak Period	0.0483	0.0343
Shoulder Period	0.0390	
Off-Peak Period	0.0301	0.0284

The Summer Season will be the first four monthly billing periods billed on and after June 16, and the Winter Season will be the remaining eight monthly billing periods of the calendar year. The On-Peak hours will be weekdays, excluding holidays, from 12:00 p.m. through 7:00 p.m. during the Summer Season and 6:00 a.m. through 10:00 p.m. during the Winter Season. The Shoulder hours will be weekends from 12:00 p.m. through 9:00 p.m. and weekdays from 9:00 a.m. through 12:00 p.m. and 7:00 p.m. through 10:00 p.m. during the Summer Season. All other hours are Off-Peak. Holidays include New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day, as specified by the North American Electric Reliability Council (NERC).

FUEL ADJUSTMENT CLAUSE:

The above charges will be adjusted in an amount provided by the terms and provisions of the Fuel Adjustment Clause, Rider FAC.

DETERMINATION OF DEMANDS (CPD, MFD, ID):

An appropriate level of demand at the time of the Company's system peak shall be determined for PRAXAIR under this Schedule. This Customer Peak Demand ("CPD") shall be either PRAXAIR's actual maximum measured kW demand during a peak period, or a calculated amount based upon conditions involving PRAXAIR's actual or expected operations, and agreed upon between Company and PRAXAIR.

CURTAILMENT LIMITS:

The number of Curtailment Events in a Curtailment Year shall be no more than thirteen (13). Each Curtailment Event shall be no less than two or no more than eight consecutive hours and no more than one occurrence will be required per day unless needed to address a system reliability event. The cumulative hours of curtailment per Customer shall not exceed one hundred hours (100) during each Curtailment Year. The Curtailment Contract Year shall be June 1 through May 31.

DETERMINATION OF BILLING DEMAND:

The monthly "On-Peak Demand" shall be determined as being the highest fifteen (15) minute integrated kilowatt demand registered by a suitable demand meter during the peak hours as stated above. In no event shall the Peak Demand be less than the lesser of 6000 kW or Customer's MFD for Customers that have contracted interruptible capacity as specified in the contract or any future amendments thereto.

DETERMNATION OF MONTHLY FACILITIES DEMAND:

The monthly "Substation Facilities Demand" shall be determined as being the highest fifteen (15) minute integrated demand registered by a suitable demand meter during all hours. In no event shall Substation Facilitiy Demand, if applicable be less than the greater of 6000 kW and Customer's CPD for Customers that have contracted interruptible capacity as specified in the contract or any future amendments thereto.

METERING ADJUSTMENT:

The above rates apply for service metered at transmission voltage. Where service is metered at substation voltage, metered kilowatts and kilowatt-hours will be increased prior to billing by multiplying metered kilowatts and kilowatt-hours by 1.0086.

THE EMPIRE DISTRICT ELECTRIC COMPANY

P.S.C. Mo. No. 5 Sec. 2 6th Revised Sheet No. 9a

Canceling P.S.C. Mo. No. 5 Sec. 2 5th Revised Sheet No. 9a

For ALL TERRITORY

SPECIAL TRANSMISSION SERVICE CONTRACT: PRAXAIR
SCHEDULE SC-P

MINIMUM MONTHLY BILL:

The net minimum bill after any interruptible credits shall be the Customer Charge plus any Substation Facilities Charge plus any Demand Charges applicable to the current MFD. In no event shall the interruptible credit be greater than the Demand Charge.

The CPD shall be specified in the contract. The contract shall also specify an amount of kW demand which PRAXAIR can curtail or otherwise not cause to be placed on the Company's system by PRAXAIR agreeing to a maximum level of demand during periods of requested interruption. This Maximum Firm Demand ("MFD") of PRAXAIR shall be specified in the contract. The MFD shall be the level of demand which PRAXAIR agrees not to exceed during periods of requested interruption in return for receiving credits under this Schedule. For verification purposes, PRAXAIR shall be required to demonstrate, at the Company's request, its ability to curtail its operations to the MFD level. The difference between the CPD and the MFD, to be known as the Interruptible Demand ("ID"), expressed in kW, shall be the demand upon which credits under this Schedule shall be available to PRAXAIR.

Praxair shall be permitted to specify two sets of seasonal CPD's and MFD's. However the CPD's and MFD's must be specified in a manner that the numerical resultant "ID" amount is the same in each season.

DEMAND REDUCTION:

Company-initiated interruptions under this Schedule shall be initiated by a designated Company representative contacting PRAXAIR by telephone. The Company shall give PRAXAIR a notice prior to demand reduction, as specified in the contract. The Company will not request more hours of interruption over each 12 month period, starting with June 1 of each year than is specified in the contract.

PRAXAIR shall receive a credit on the monthly bill during the appropriate months of the contract year for the appropriate ID amount multiplied by the appropriate credit amount specified in this Schedule, providing that all conditions of this Schedule are met.

The failure of PRAXAIR during a period of requested interruption to keep its demand at or below the MFD, shall result in the following consequences:

1. The MFD shall be increased to equal the actual demand placed on Company's system during the requested interruption;
2. The ID specified above shall be decreased to equal the amount of the CPD minus the new MFD established during the called-for interruption;
3. The foregoing changes shall be effective prospectively for the remainder of that contract term;
4. Customer shall refund to Company (or Company may offset from future credits) any interruptible credits received under the current contract an amount equal to the change in ID times 150% of the contract rate times the number of months the current contract has been in effect.

The Company recognizes that Customer's effectuation of interruption is dependent upon Customer's electronic measurement and/or control equipment which may malfunction through no fault or error of Customer. Should noncompliance or partial noncompliance with a requested interruption result from the reasonably unforeseeable malfunction or dysfunction of electronic measurement and/or control equipment installed at Customer's facility, the Company shall have discretion, following a reasonable investigation and verification of the cause of such noncompliance, to offer to charge the Customer any incremental annual capacity costs plus any incremental energy costs incurred by the Company for load levels in excess of the MFD during the interruption in lieu of invoking any of the above penalty provisions or adjustments to the contract.

In the event that the Customer should experience an unplanned plant shutdown due to an unexpected catastrophic-type failure of its equipment which lasts longer than seven consecutive days in a single billing period, Company will make a temporary proration of Customer's bill based on the actual number of days that the plant operated during the billing period. Said proration will be based on the same calculations used by Company to issue initial bills and final bills. No more than one such proration shall be made in any contract year, nor shall the proration be made for a period which exceeds 30 calendar days. Such proration, however, may be split between two consecutive billing periods. It shall be Customer's responsibility to notify Company as soon as possible, but no later than 30 days of such an event which would cause this proration to take place. No retroactive proration will be made for plant shutdowns occurring more than thirty days prior to Empire's receipt of said notice from Customer.

THE EMPIRE DISTRICT ELECTRIC COMPANY

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For ALL TERRITORY

SPECIAL TRANSMISSION SERVICE CONTRACT: PRAXAIR
SCHEDULE SC-P

SUBSTATION FACILITIES CHARGE:

The above Substation Facilities Charge does not apply if the stepdown substation and transformer are owned by the Customer.

PAYMENT:

The above rate applies only if the bill is paid on or before fifteen (15) days after the date thereof. If not so paid, the above rate plus 5% then applies.

MONTHLY CREDIT:

A monthly credit of $3.76 on demand reduction per kW of contracted interruptible demand for substation metered Customers will be applied.

GROSS RECEIPTS, OCCUPATION OR FRANCHISE TAXES:

There will be added to the Customer's bill, as a separate item, an amount equal to the proportionate part of any license, occupation, franchise, gross or other similar fee or tax now or hereafter imposed upon the Company by any municipality or any other governmental authority, whether imposed by ordinance, franchise, or otherwise, in which the fee or tax is based upon a flat sum payment, a percentage of gross receipts, net receipts, or revenues from the sale of electric service rendered by the Company to the Customer. When such tax or fee is imposed on the Company as a flat sum or sums, the proportionate amount applicable to each Customer's bill shall be determined by relating the annual total of such sum(s) to the Company's total annual revenue from the service provided by this tariff within the jurisdiction of the governmental body and the number of customers located within that jurisdiction. The amounts shall be converted to a fixed amount per customer, so that the amount, when accumulated from all customers within the geographic jurisdiction of the governmental body, will equal the amount of the flat sum(s). The fixed amount per customer shall be divided by 12 and applied to each monthly bill as a separate line item. The amount shall remain the same until the flat sum may be changed by the governmental body, in which case this process shall be adjusted to the new flat sum. The amount shall be modified prospectively by the Company anytime it appears, on an annual basis, that the Company is either over-collecting or under-collecting the amount of the flat sum(s) by more than five percent (5%) on an annual basis. Bills will be increased in the proportionate amount only in service areas where such tax or fee is applicable.

SPECIAL CONDITIONS OF SERVICE:

1. The minimum ID shall be at least 5600 kW.
2. The Company will give Customer a minimum of 30 minutes notice prior to demand reduction.
3. The Company may request a demand reduction on any day.
4. This schedule, SC-P, is available for service to Praxair, Inc. only in the event there is a contract for power service in effect between the Company and Praxair, Inc.

THE EMPIRE DISTRICT ELECTRIC COMPANY

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Canceling P.S.C. Mo. No. 5 Sec. 4 9th Revised Sheet No. 4

For ALL TERRITORY

INTERRUPTIBLE SERVICE
RIDER IR

APPLICATION:

This Rider is available to any Commercial or Industrial Customer with a minimum monthly billing demand of 200 kilowatts (kW), an anticipated minimum load curtailment capability of 200 kW and currently receiving or requesting electric service under Total Electric Building (TEB), General Power Service (GP) or Large Power Service (LP) rates. Customers must enter into an Interruptible Rider (IR) contract incorporating the provisions of this Rider for a term of from one to five years. Availability is further subject to the economic and technical feasibility of the installation of required Company equipment. The Company reserves the right to limit the total Interruptible load eligible to take service under this Rider. The total kilowatts contracted for by The Empire District Electric Company (Company) shall not be greater than fifty (50) megawatts annually.

PURPOSE:

This Rider is designed to reduce Customer load during peak periods upon request by Company.

TERM OF CONTRACT:

IR contracts shall be for a one-year, three-year or five-year term. Thereafter, Customers may enter into a new IR contract for a term of one, three or five years subject to the terms and conditions of this Rider as may by modified from time to time. Upon expiration of the initial term of the contract, the contract will automatically be renewed for the term of equal length unless termination notice is given by either the Customer or Company at least 30 days prior to the expiration date.

CURTAILMENT YEAR:

The Curtailment Contract Year shall be June 1 through May 31.

CURTAILMENT HOURS:

Curtailment will typically occur during the hours of 12:00 noon through 10:00 p.m., Monday through Friday during the Curtailment Year, but may occur outside of this window to address a system reliability driven event. The curtailment Hours associated with a Curtailment Event will be established at the time of Curtailment Notification.

CURTAILMENT LIMITS:

The number of Curtailments Events in a Curtailment Year shall be no more than ten (10). Each Curtailment Event shall be no less than two or no more than eight consecutive hours and no more than one occurrence will be required per day unless needed to address a system reliability event. The cumulative hours of curtailment per Customer shall not exceed eighty hours (80) during the Curtailment Year.

CURTAILMENT NOTIFICATION:

Customers will receive curtailment notification a minimum of four (4) hours prior to the start time of a Curtailment Event. Company may use either phone or electronic notification procedures to contact a participating Customer of a curtailment. Customers participating in this program shall be required to acknowledge the Company's notification of curtailment in writing via fax, email or by utilizing a portal provided by the Company at its webpage (www.empiredistrict.com) within one (1) hour of the Company's notification of a Curtailment Event. The specific method of communication used to provide notification of curtailment and customer acknowledgement of curtailment shall be specified in the IR contract.

CURTAILMENT EVENT:

A "Curtailable Event" is defined as an actual customer curtailment request made by Empire.

NEED FOR CURTAILMENT:

Curtailment can be requested for operational or economic reasons. Operational curtailments may occur when physical operating parameters approach becoming a constraint on the generation, transmission, or distribution systems, or to maintain the Company's capacity margin requirement. Economic curtailment may occur when the opportunity to sell

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the energy in the wholesale market affords the Company the opportunity to increase off system sales margins-net of the additional compensation paid ($/kW of ID per hour for actual curtailment) which in turn is reflected in the Fuel Adjustment Clause.

DETERMINATION OF DEMANDS

CUSTOMER PEAK DEMANDS:

An appropriate level of demand at the time of the Company's system peak during the Contract Year shall be determined for each Customer taking service under this Rider. This Customer Peak Demand ("CPD") shall be either the Customer's historical actual maximum measured kilowatts ("kW") demand during a peak period, or an amount determined based upon the specific circumstances involving a Customer's actual or expected operations, and agreed upon between Company and Customer. The CPD shall be specified in the IR contract.

FIRM POWER LEVEL:

This shall be the maximum level of demand that the Customer can place on the system during a Curtailment Event, and will be at least 200 kW lower than the Customer's CPD. The IR contract shall also specify an amount of kW demand, which the Customer can curtail or otherwise not cause to be placed on the Company's system during a Curtailment Event. The maximum level of demand or Maximum Firm Demand ("MFD") of the Customer shall be specified in the IR contract. For verification purposes, the Customer shall be required to demonstrate, at the Company's request, its ability to curtail its operations to the MFD level. The Company may also use a Test Curtailment to establish the MFD for the Customer.

INTERRUPTIBLE DEMAND:

The difference between the CPD and the MFD, to be known as the Interruptible Demand ("ID"), expressed in kW, shall be the demand upon which credits under this Rider shall be available to the Customer. For all Customers under an IR Contract, the ID specified must be 200 kW or greater. The ID shall represent that portion of a Customer's CPD that the Customer is willing and able to commit for curtailment during a Curtailment Event, and that the Company agrees to accept for curtailment. The ID shall be the same amount for each month of the IR contract. Under no circumstances will the ID be less than 200 kW. The Minimum Billing Demand will be no less than the contracted ID during the Curtailment Year(s).

PEAK DEMAND MODIFICATIONS:

The Company may review and, if necessary, adjust the Customer's CPD. MFD and ID levels based upon evidence that the Customer's actual peak demand has changed, or will change, significantly from the demand levels being used to calculate the Customer's ID. If a change in the Customer's demand levels results in a change in the ID, the Customer shall lose and/or repay its curtailment compensation proportional to the number of days curtailment was not available and for the change in ID.

FIRM POWER LEVEL MODIFICATION:

Between September 30 and May 1, and upon ninety (90) days written notice by the Customer to the Company, the MFD may be modified to reflect significant change in Customer load, subject to verification and approval by the Company. At any time the Company may adjust the Customer's MFD downward based upon evidence the Customer's actual annual demand has dropped, or will drop, significantly from the CPD. Any adjusted MFD shall continue to provide for an ID of at least 200 kW. Future Customer participation compensation under this Rider will be adjusted accordingly. Additionally, for any change in MFD that decreases the ID for the Customer shall result in a re-evaluation of all curtailment compensation to the Customer, including any payment or credits made in advance of the Curtailment Year. The Customer shall repay the Company for prior payments/credits made in excess of the curtailment compensation due based on the decreased level of ID.

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THE EMPIRE DISTRICT ELECTRIC COMPANY

P.S.C. Mo. No. 5 Sec. 4 4th Revised Sheet No. 4b

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For ALL TERRITORY

INTERRUPTIBLE SERVICE
RIDER IR

BILLING DEMAND:

The minimum monthly billing demand for all Customers on this rider shall never be less than 200 kW or the contracted interruptible demand (ID), whichever is greater.

CUSTOMER COMPENSATION:

Customer compensation shall be defined within each IR contract and will be based on contract term, the maximum number of Curtailment Events and the number of actual Curtailment Events per Curtailment Year. Timing of all payments/credits shall be specified in the IR contract with each Customer. Compensation shall be paid to the Customer in the form of a check or bill credit as specified in the IR contract. Any payment/credits shall be applied before any applicable taxes. All other billing, operational, and related provisions of other applicable rate schedules shall remain in effect.

PROGRAM PARTICIPATION PAYMENTS:

For each Curtailment Year, a Customer shall receive a payment/credit based upon the IR contract term. The Monthly Program Participation Payment per kW of ID is shown in the table below.

Contract Term	$/kW of ID per month
One year	$0.51
Three years	$1.27
Five years	$2.02

The Customer shall receive a credit on the monthly bill during each month of the Contract Year for the ID kW multiplied by the credit amount specified in this Rider, providing that all conditions of this schedule are met. The IR Customer shall receive Additional Compensation equal to $0.30 per kW of ID for each hour of actual curtailment during the Curtailment Year.

All Additional Compensation payments of $0.30 per kW of ID shall be included in FERC Account 555 to be recovered through the Company's Fuel Adjustment Clause, subject to prudence review. Monthly Program Participation Payments, $/kW or ID per month, shall be charged to the Customer Programs Collaborative Regulatory Asset.

PENALTIES:

The failure of a Customer to interrupt the full amount of the ID or to keep its demand at or below the MFD, for any reason, during a Curtailment Event shall result in the following:

1. The Customer's contract ID shall be adjusted to equal the amount of ID which the Company could utilize during the Curtailment Event;
2. The Customer's contracted MFD shall be adjusted to equal the amount of demand actually placed on the Company's system by the Customer during the Curtailment Event;
3. The adjustments to the Customer's ID or MFD described in paragraphs 1 and 2 above shall remain at those adjusted levels for the remainder of the IR contract term, except that in the event of additional adjustments to the ID or MFD due to the Customer's failure to meet the adjusted ID and MFD levels will result in further adjustments to the levels of ID and MFD, as specified in paragraphs 1 and 2 above;
4. In addition to the adjustments in ongoing ID and MFD levels setout above, the Customer shall refund the Company all credits or payments previously received under the current contract in an amount equal to the change in ID multiplied by 150% of the contract demand rate for the remaining months of the contract period. This refund calculation shall be based on the portion of the ID that the Customer failed to meet during the Curtailment Event. The Company shall include an amount covering the return of the excess Program Participation Payments on a future bill to the Customer.
5. Any Customer who fails to reduce load to its MFD during three or more Curtailment Events during a Contract Year shall be ineligible for this Rider for a period of two-years from the date of the third failure.

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ISSUED BY Kelly S. Walters, Vice President, Joplin, MO

THE EMPIRE DISTRICT ELECTRIC COMPANY

P.S.C. Mo. No. 5 Sec. 4 4th Revised Sheet No. 4c

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For ALL TERRITORY

INTERRUPTIBLE SERVICE
RIDER IR

TEST CURTAILMENT:

The Company reserves the right to request a Test Curtailment of no less than one (1) hour and no more than two (2) hours once each year and/or within three months after a Customer's failure to reduce load to its IR contract MFD during a Curtailment Event. Test Curtailments do not count toward the Maximum Number of Curtailment Events. Customers will not be compensated for Test Curtailments.

CURTAILMENT CANCELLATION:

The Company reserves the right to cancel a scheduled Curtailment Event prior to the start time of such Curtailment Event. If cancellation occurs with less than two hours of the notification period remaining prior to the commencement of a Curtailment Event, the canceled Curtailment Event shall be counted as an actual Curtailment Event with a zero-hour duration.

SPECIAL CONDITIONS OF SERVICE:

1. This Rider requires that the Customer execute an IR contract with a minimum term of one year, which specifies the Customer's applicable CPD, MFD, and ID. The ID shall not be less than 200 kW.

    a. For one-year IR contracts, the Company shall notify the Customer before May 1 of each IR contract period of the amount of interruptible credit that the Company will make available to the Customer. Such offer may be made by the Company as early as November 1 of the year preceding the proposed IR contract term.
    b. For three-year and five-year IR contracts, the Company shall notify the Customer before May 1 in the year the IR contract is due for renewal, or as early as November 1 of the preceding IR contract year.
    c. Customers electing to enter into an IR contract, must reach agreement with the Company and execute the contract no later than seven calendar days following the Customer's receipt of the IR contract requiring the Customer signature, unless such deadline is extended at the sole discretion of the Company.
    d. IR contracts shall normally begin on June 1 and terminate on May 31 of the expiration year, unless the Company deems it necessary to allow a different term of IR contract.
    e. No IR contract shall be less than one year in length nor longer than five years in length.
    f. These IR contracts may be cancelled upon mutual agreement of the Company and the Customer.

2. The Company reserves the right, through inquiry and inspection, to assure itself that any ID subject to curtailment has a reasonable probability of being on the Company's system during periods of the Company's peak demand and that the Customer's load can be readily reduced to the MFD level.

3. The Customer will be responsible for monitoring his or her load in order to comply with the terms of the IR contract.

4. The Company shall have no liability to the Customer or to any other person, firm, association, trust, governmental unit, or corporation, of any kind, for any loss, damage or injury by reason of any interruption or curtailment of the Customer's load as provided herein.

5. For purposes of personnel safety and equipment protection, a Customer prior to the installation of a generator, shall notify the Company to insure conformity to the Company's standards for connection.

6. In order to insure timely verification of the Customer's ID, any Customer on an IR contract will provide an acceptable communication path for retrieval of meter data. Such communication path shall be in place prior to the effective date of the IR contract, unless an alternative deadline is agreed to in writing by the Company.

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Missouri Public Service Commission
Case No. ER-2012-0345
Summary Results of Staff's CCOS Study

Summary Results of Staff's CCOS Study - Empire District Electric Company
Staff's Direct Filing

Customer Class	CCOS % Increase	System Average	Revenue Neutral Increase
Residential	7.67%	3.34%	4.33%
Commercial Building	-1.55%	3.34%	-4.89%
Commercial Space heating	4.92%	3.34%	1.58%
General Power	-3.47%	3.34%	-6.81%
Special Transmission Service Contract: Praxair	1.01%	3.34%	-2.33%
Total Electric building	3.05%	3.34%	-0.29%
Feed Mill and Grain Elevator	6.70%	3.34%	3.36%
Large Power	0.91%	3.34%	-2.43%
Lighting and Miscellaneous (Street, Private, Special, Miscellaneous)	7.75%	3.34%	4.41%

Summary Results of Staff's CCOS Study - Empire District Electric Company
Staff's Revised CCOS

Customer Class	CCOS % Increase	System Average	Revenue Neutral Increase
Residential	7.05%	3.34%	3.71%
Commercial Building	-0.66%	3.34%	-3.99%
Commercial Space heating	5.40%	3.34%	2.06%
General Power	-3.42%	3.34%	-6.76%
Special Transmission Service Contract: Praxair	1.55%	3.34%	-1.79%
Total Electric building	3.09%	3.34%	-0.25%
Feed Mill and Grain Elevator	6.87%	3.34%	3.53%
Large Power	2.27%	3.34%	-1.07%
Lighting and Miscellaneous (Street, Private, Special, Miscellaneous)	8.20%	3.34%	4.86%