

THE EMPIRE DISTRICT ELECTRIC COMPANY d.b.a. LIBERTY

P.S.C. Mo. No. 6 Sec. 4 1st Revised Sheet No. 17i

Canceling P.S.C. Mo. No. 6 Sec. 4 Original Sheet No. 17i

For ALL TERRITORY

FUEL & PURCHASE POWER ADJUSTMENT CLAUSE
RIDER FAC
For service on and after June 1, 2022

The two six-month accumulation periods, the two six-month recovery periods and filing dates are set forth in the following table:

<u>Accumulation Periods</u>	<u>Filing Dates</u>	<u>Recovery Periods</u>
September–February March–August	By April 1 By October 1	June–November December–May

The Company will make a Fuel Adjustment Rate (“FAR”) filing by each Filing Date. The new FAR rates for which a filing is made will be applicable starting with the Recovery Period that begins following the Filing Date. All FAR filings shall be accompanied by detailed workpapers with subaccount detail supporting the filing in an electronic format with all formulas intact.

DEFINITIONS

ACCUMULATION

PERIOD:

The six calendar months during which the actual costs and revenues subject to this rider will be accumulated for the purpose of determining the FAR.

RECOVERY PERIOD:

The billing months during which a FAR is applied to retail customer usage on a per kilowatt-hour (“kWh”) basis.

BASE ENERGY COST:

Base energy cost is ordered by the Commission in the last rate case consistent with the costs and revenues included in the calculation of the Fuel and Purchase Power Adjustment (“FPA”).

BASE FACTOR (“BF”):

The base factor is the base energy cost divided by net generation kWh determined by the Commission in the last general rate case. BF = \$0.00870 per kWh for each accumulation period.

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APPLICATION

FUEL & PURCHASE POWER ADJUSTMENT

$$FPA = \{[(FC + PP + E - OSSR - REC - B) * J] * 0.95\} + T + I + P$$

Where:

FC = Fuel costs, excluding decommissioning and retirement costs, incurred to support sales and revenues associated with the Company's in-service generating plants, consisting of the following:

The following costs reflected in Federal Energy Regulatory Commission ("FERC") Accounts 501 and 506: coal commodity and railroad transportation, switching and demurrage charges, applicable taxes, natural gas costs, alternative fuels (i.e. tires, and bio-fuel), fuel additives, Btu adjustments assessed by coal suppliers, quality adjustments assessed by coal suppliers, fuel hedging costs, fuel adjustments included in commodity and transportation costs, broker commissions and fees associated with price hedges, oil costs, combustion product disposal revenues and expenses, consumable costs related to Air Quality Control Systems ("AQCS") operation, such as ammonia, lime, limestone, and powdered activated carbon, and settlement proceeds, insurance recoveries, subrogation recoveries for increased fuel expenses in Account 501.

The following costs reflected in FERC Accounts 547 and 548: natural gas generation costs related to commodity, oil, transportation, fuel losses, hedging costs for natural gas and oil, fuel additives, and settlement proceeds, insurance recoveries, subrogation recoveries for increased fuel expenses, broker commissions and fees.

PP = Purchased Power Costs:

1. Costs and revenues for purchased power reflected in FERC Account 555, excluding 1) all charges under Southwest Power Pool ("SPP") Schedules 1a and 12, and 2) amounts associated with energy purchased from the SPP market to serve research and development projects of the Company. Such costs include:

DATE OF ISSUE May 2, 2022 DATE EFFECTIVE June 1, 2022
ISSUED BY Charlotte Emery, Director Rates and Regulatory Affairs, Joplin,

FILED
Missouri Public
Service Commission
ER-2021-0312; YE-2022-0252

THE EMPIRE DISTRICT ELECTRIC COMPANY

P.S.C. Mo. No. 6 Sec. 4 1st Revised Sheet No. 17k

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- A. SPP costs or revenues for SPP's energy and operating market settlement charge types and market settlement clearing costs or revenues including:
- i. Energy;
 - ii. Ancillary Services;
 - a. Regulating Reserve Service
 - b. Energy Imbalance Service
 - c. Spinning Reserve Service
 - d. Supplemental Reserve Service
 - iii. Revenue Sufficiency;
 - iv. Revenue Neutrality;
 - v. Demand Reduction;
 - vi. Grandfathered Agreements;
 - vii. Virtual Energy including Transaction Fees;
 - viii. Pseudo-tie;
 - ix. Combined Interest Resource Adjustments;
 - x. Ramp Products; and
 - xi. Miscellaneous;
- B. Non-SPP costs or revenue as follows:
- i. If received from a centrally administered market (e.g. PJM / MISO), costs or revenues of an equivalent nature to those identified for the SPP costs or revenues specified in sub part A of part 1 above;
 - ii. If not received from a centrally administered market:
 - a. Costs for purchases of energy; and
 - b. Costs for purchases of generation capacity, provided such capacity is acquired for a term of one (1) year or less; and
- C. Settlements, insurance recoveries, and subrogation recoveries for purchased power expenses.
2. Costs of purchased power will be reduced by expected replacement power insurance recoveries qualifying as assets under Generally Accepted Accounting Principles.
3. Transmission service costs reflected in FERC Account 565:

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- A. Nineteen point three nine percent (19.39%) of SPP costs associated with Network Transmission Service:
 - i. SPP Schedule 2 – Reactive Supply and Voltage Control from Generation or Other Sources Service;
 - ii. SPP Schedule 3 – Regulation and Frequency Response Service; and
 - iii. SPP Schedule 11 – Base Plan Zonal Charge and Region-wide Charge.

- B. Fifty percent (50%) of Mid-Continent Independent System Operator (“MISO”) costs associated with:
 - i. Network transmission service;
 - ii. Point-to-point transmission service;
 - iii. System control and dispatch; and
 - iv. Reactive supply and voltage control.

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ER-2021-0312; YE-2022-0252

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DATE OF ISSUE May 2, 2022 DATE EFFECTIVE June 1, 2022
ISSUED BY Charlotte Emery, Director Rates and Regulatory Affairs, Joplin,

FILED
Missouri Public
Service Commission
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E = Net Emission Costs: The following costs and revenues reflected in FERC Accounts 509 and 411 (or any other account FERC may designate for emissions expense in the future): emission allowance costs offset by revenues from the sale of emission allowances including any associated hedging.

OSSR = Revenue from Off-System Sales (Excluding revenue from full and partial requirements sales to municipalities with the exception of the revenue received net of cost from the sale of energy to the Southwest Missouri Power Electric Pool for service from the effective date of new rates in ER-2021-0312 through May 31, 2025):

The following revenues or costs reflected in FERC Account 447: all revenues from off-system sales and SPP energy and operating market including (see Note A. below):

- i. Energy;
- ii. Capacity Charges associated with Contracts shorter than 1 year;
- iii. Ancillary Services including:
 - a. Regulating Reserve Service
 - b. Energy Imbalance Service
 - c. Spinning Reserve Service
 - d. Supplemental Reserve Service
- iv. Revenue Sufficiency;
- v. Losses;
- vi. Revenue Neutrality;
- vii. Demand Reduction;
- viii. Grandfathered Agreements;
- ix. Pseudo-tie;
- x. Miscellaneous; and
- xi. Hedging.

REC = Renewable Energy Credit Revenue reflected in FERC Account 456 from the sale of Renewable Energy Credits that are not needed to meet the Renewable Energy Standard.

Costs and revenues not specifically detailed in Factors FC, PP, E, or OSSR shall not be included in the Company's FAR filings; provided however, in the case of Factors PP or OSSR the market settlement charge types under which SPP or another market participant bills / credits a cost or revenue need not be detailed in Factors PP or OSSR for the costs or revenues to be considered specifically detailed in Factors PP or OSSR; and provided further, should the SPP or another market participant implement a new charge type, exclusive of changes in transmission revenue.

HEDGING COSTS:

Hedging costs are defined as realized losses and costs (including broker commission fees and margins) minus realized gains associated with mitigating volatility in the Company's cost of fuel, fuel additives, fuel transportation, emission allowances and purchased power costs, including but not limited to, the Company's use of derivatives whether over-the-counter or exchanged traded including, without limitation, futures or forward contracts, puts, calls, caps, floors, collars and swaps.

DATE OF ISSUE May 2, 2022 DATE EFFECTIVE June 1, 2022
ISSUED BY Charlotte Emery, Director Rates and Regulatory Affairs, Joplin,

P.S.C. Mo. No. 6 Sec. 4 1st Revised Sheet No. 17o

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Should FERC require any item covered by factors FC, PP, E, REC or OSSR to be recorded in an account different than the FERC accounts listed in such factors, such items shall nevertheless be included in factor FC, PP, E, REC or OSSR. In the month that the Company begins to record items in a different account, the Company will file with the Commission the previous account number, the new account number and what costs or revenues that flow through this Rider FAC are to be recorded in the account.

B = Net base energy cost is calculated as follows:

$$B = (S_{AP} * \$0.00870)$$

S_{AP} = Actual net system input ("NSI), excluding the energy used by Company research and development projects, at the generation level for the accumulation period.

J = $\frac{\text{Missouri retail kWh sales}}{\text{Total system kWh sales}}$

Where Total system kWh sales includes sales to municipalities that are associated with Empire and excludes off-system sales.

T = True-up of over/under recovery of FAC balance from prior recovery period as included in the deferred energy cost balancing account. Adjustments by Commission order pursuant to any prudence review shall also be placed in the FPA for collection unless a separate refund is ordered by the Commission.

I = Interest applicable to (i) the difference between Total energy cost (FC + PP + E – OSSR – REC) and Net base energy costs ("B") multiplied by the Missouri energy ratio ("J") for all kWh of energy supplied during an AP until those costs have been billed; (ii) refunds due to prudence reviews ("P"), if any; and (iii) all under- or over-recovery balances created through operation of this FAC, as determined in the true-up filings ("T") provided for herein. Interest shall be calculated monthly at a rate equal to the weighted average interest paid on the Company's short-term debt, applied to the month-end balance of items (i) through (iii) in the preceding sentence.

P = Prudence disallowance amount, if any, as defined below.

FUEL ADJUSTMENT RATE

The FAR is the result of dividing the FPA by estimated recovery period S_{RP} kWh, rounded to the nearest \$0.00000. The FAR shall be adjusted to reflect the differences in line losses that occur at primary and secondary voltage by multiplying the average cost at the generator by the voltage adjustment factors ("VAF") of 1.0429 and 1.0625, respectively. Any FAR authorized by the Commission shall be billed based upon customers' energy usage on and after the authorized effective date of the FAR. The formula for the FPA is displayed below

$$FAR = \frac{FPA}{S_{RP}}$$

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Where:

S_{RP} = Forecasted Missouri NSI kWh for the recovery period excluding energy projected to be used by Company research and development projects.

= Forecasted total system NSI * $\frac{\text{Forecasted Missouri retail kWh sales}}{\text{Forecasted total system kWh sales}}$

Where Forecasted total system NSI includes kWh sales to municipalities that are associated with Empire and excludes off-system sales and energy projected to be used by Company research and development projects.

GENERAL RATE CASE/PRUDENCE REVIEW

The following shall apply to this FAC, in accordance with Section 386.266.5, RSMo. and applicable Missouri Public Service Commission Rules governing rate adjustment mechanisms established under Section 386.266, RSMo:

The Company shall file a general rate case with the effective date of new rates to be no later than four years after the effective date of a Commission order implementing or continuing this FAC. The four-year period referenced above shall not include any periods in which the Company is prohibited from collecting any charges under this FAC, or any period for which charges hereunder must be fully refunded. In the event a court determines that this FAC is unlawful and all moneys collected hereunder are fully refunded, the Company shall be relieved of the obligation under this FAC to file such a rate case.

Prudence reviews of the costs subject to this FAC shall occur no less frequently than every eighteen months, and any such costs which are determined by the Commission to have been imprudently incurred or incurred in violation of the terms of this rider shall be returned to customers. Adjustments by Commission order, if any, pursuant to any prudence review shall be included in the FAR calculation in P above unless a separate refund is ordered by the Commission. Interest on the prudence adjustment will be included in I above.

TRUE-UP OF FPA

In conjunction with an adjustment to its FAR, the Company will make a true-up filing with an adjustment to its FAC on the first Filing Date that occurs after completion of each Recovery Period. The true-up adjustment shall be the difference between the FPA revenues billed and the FPA revenues authorized for collection during the true-up recovery period, i.e. the true-up adjustment. Any true-up adjustments or refunds shall be reflected in item T above and shall include interest calculated as provided for in item I above.

DATE OF ISSUE May 2, 2022 DATE EFFECTIVE June 1, 2022

ISSUED BY Charlotte Emery, Director Rates and Regulatory Affairs, Joplin,

FILED
Missouri Public
Service Commission
ER-2021-0312; YE-2022-0252

THE EMPIRE DISTRICT ELECTRIC COMPANY d.b.a. LIBERTY

P.S.C. Mo. No. 6 Sec. 4 5th Revised Sheet No. 17g

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For ALL TERRITORY

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	Accumulation Period Ending		August 31
1	Total Energy Cost (TEC) = (FC + PP + E – OSSR - REC)		83,085,695
2	Net Base Energy Cost (B)	-	40,270,201
	2.1 Base Factor (BF)		0.01604
	2.2 Accumulation Period NSI (S _{AP})		2,689,276,000
3	(TEC-B)		42,815,493
4	Missouri Energy Ratio (J)		88.39 ¹
5	Sum of Monthly (TEC - B) * J		37,843,876 ²
6	Fuel Cost Recovery	*	95.00%
7	Sum of Monthly (TEC - B) * J * 0.95		35,951,682
8	Deferred Amount		0
9	True-Up Amount (T)	+	2,473,664
10	Prudence Adjustment Amount (P)	+	0
11	Interest (I)	+	353,474
12	Fuel and Purchased Power Adjustment (FPA)	=	38,778,820
13	Forecasted Missouri NSI (S _{RP})	÷	2,595,845,000
14	Current Period Fuel Adjustment Rate (FAR)		0.01693
		=	
15	Current Period FAR _{PRIM} = FAR x VAF _{PRIM}		0.01765
16	Current Period FAR _{SEC} = FAR x VAF _{SEC}		0.01798
17	VAF _{PRIM} = 1.0429		1.0429
18	VAF _{SEC} = 1.0625		1.0625

¹The Missouri Energy Ratio (J), on line 4, is calculated by dividing the Missouri retail kWh sales by the Total system kWh sales for the current accumulation period as specified by the tariff.

²The (TEC-B)*J, on line 5, is calculated by taking the sum of (TEC-B)*J for each month of the accumulation period. Therefore, because each month is weighted differently, the amount on line 5 will not necessarily equal the product of lines three and four.

FILED - Missouri Public Service Commission - 12/01/2022 - ER-2023-0122 - EO-2023-0123 - JE-2023-0060