

**MISSOURI PUBLIC SERVICE COMMISSION**

**STAFF REPORT**

**COST OF SERVICE**

**APPENDIX 3**

**Other Staff Schedules**

**THE EMPIRE DISTRICT ELECTRIC COMPANY**  
**d/b/a Liberty**

**CASE NO. ER-2021-0312**

*Jefferson City, Missouri*  
*October 2021*

Staff has utilized the following in-service criteria to evaluate solar facilities prior to inclusion in a utility's rate base:

1. All major construction work is complete.

Company Response: The Company has provided a Certificate of Substantial Completion from its contractor, Burns & McDonnell, indicating that the facility was substantially complete on March 4, 2021.

Staff is satisfied with certification from the contractor.

2. All preoperational tests have been successfully completed.

Company Response: The Company has provided a Backfeed and Energization Procedure in response to DR0173. The Company also provided a signed and dated copy of the Backfeed and Energization Procedure as a supplement to DR0173 on October 25, 2021.

Staff is satisfied with the company response.

3. Facility successfully meets contract operational guarantees that are necessary for satisfactory completion of all other items in this list.

Company Response: The Company has provided the Capacity Test Procedure and Capacity Test Report, prepared by Burns & McDonnell, in response to DR0173.

Staff reviewed the contract between Empire and Burns & McDonnell and the only operational guarantee related to other items on the list is the satisfactory completion of the Capacity Test, which is further discussed in item 5 below.

4. Upon observation of the facility for 72 consecutive hours, the facility will have demonstrated that when sunlight was shining on it, during that period, it produced power in a standard operating mode.

Company Response: The Company provided a capacity test report, prepared by Burns & McDonnell. The test was completed over a four day period. The results show that the capacity level is 6.74% higher than the contract AC power rating.

Staff reviewed the Capacity Test Report provided by the Company, for the Capacity Test performed February 19, 2021 to February 22, 2021, which demonstrates that power was produced when sunlight was shining.

5. Facility shall meet at least 95% of the guaranteed capacity (in MW AC) based on the Capacity Test Procedures provided in DR0173. The Capacity Test shall determine the facility's Corrected Capacity at the Design Point Conditions.

Company Response: See response to item four.

The Company supplied the Capacity Test Report from February 19, 2021 to February 22, 2021, which determined the facility's measured output was 1.884 MW as compared with the

systems predicted output under the reporting conditions of the testing period of 1.765 MW. The facility's corrected capacity is over 95% of the guaranteed capacity of 1.765 MW.

Criterion 5 has been met.

6. Sufficient transmission/distribution interconnection facilities shall exist for the total plant design net electrical capacity at the time the facility is declared fully operational and used for service.

Company Response: "The Solar Farm outputs on (1) 2.5MVA central inverter that interconnects to an existing 12.47kv distribution line. The interconnection falls below the SPP Interconnection Facility Study threshold.<sup>1</sup>"The Company provided the specification sheets for the central inverter.

Staff is satisfied with the Company response.

7. Sufficient transmission/distribution facilities shall exist for the total plant design net electrical capacity into the utility service territory at the time the facility is declared fully operational and used for service.

Company Response: "The Solar Farm interconnects to a 12.47kv distribution line that feeds customers. It does not interconnect to a transmission line. See attached Central Inverter Specification document for operational expectations.<sup>2</sup>"

Staff is satisfied with the Company response.

---

<sup>1</sup> Company response to Data Request 0173, item number 6.

<sup>2</sup> Company response to Data Request 0173, item number 7.

## List of Sub-Accounts Included and Excluded for FAC

<u>GL</u>	<u>Descriptions</u>	<u>GL</u>	<u>Descriptions</u>	<u>GL</u>	<u>Descriptions</u>
<b>501</b>	<b><u>Included:</u></b>	<b>506</b>	<b><u>Included:</u></b>	<b>555</b>	<b><u>Included:</u></b>
501042	Fuel -Coal	506127	Limestone Expense -Iatan	555430	Direct Purchases
501045	Fuel -Oil	506128	Powdered Activated Carbon	555431	Purchase Power Tolling Fees
501054	Fuel -Natural Gas	506129	Ammonia Expense	555432	Energy Imbalance
501183	Sales Of Ash	506201	Limestone Expense	555437	Interrupt Svc Compensation
501211	Ineffect (Gain)Loss Deriv Steam	506202	Ammonia Expense	555501	Wind Hedge - (Gain)/Loss [*] Replaces 547302
501212	Effective (Gn)Lss Deriv Steam	506203	Powdered Activated Carbon	555800	DA Asset Energy
501216	NonFAS133Deriv(Gain)/LossSteam	506204	Lime Expense	555810	DA Non-Asset Energy
501300	Fuel -Tires			555820	DA Virtual Energy
501401	Ops Mtls-Fuel Handling	<b>548</b>	<b><u>Included:</u></b>	555840	DA Reg-Up
501607	Fuel Adm E Trader Commission	548202	Ammonia Expense	555850	DA Reg-Down
				555860	DA Spinning
<b>501</b>	<b><u>Excluded:</u></b>	<b>447</b>	<b><u>Included:</u></b>	555870	DA Supplemental
501011	Conv & Seminar-Fuel	447113	Gen Ark Off-Sys Sale-Resale	555880	DA Other PP Expense
501400	Ops Labor-Fuel Handling	447124	Gen Ks Off-System Sale-Resale	555900	RT Asset Energy
501601	Fuel Administration -Asbury	447133	Gen Mo Off-Sys Sale-Resale	555910	RT Non-Asset Energy
501604	Fuel Administration -Riverton	447143	Gen Ok Off-Sys Sales-Resale	555920	RT Virtual Energy
501605	Fuel Administration Plum Point	447810	SPP IM Revenue -AR	555940	RT Reg-Up
		447820	SPP IM Revenue -KS	555950	RT Reg-Down
<b>547</b>	<b><u>Included:</u></b>	447830	SPP IM Revenue -MO	555960	RT Spinning
547205	Natural Gas SLCC Tolling	447840	SPP IM Revenue -OK	555970	RT Supplemental
547206	Nat Gas-Tolling SLCC Ineffectiv	447850	SPP IM Revenue	555980	RT Other PP Expense
547207	Nat Gas-Tolling SLCC Effective	447860	Bilateral/Off Line Aux Revenue	555999	Purchased Power - Net Metering [*]
547208	Comb Turb Fuel Sales -Nat Gas	447851	MJMEUC Revenue [#]		
547210	Combust Turb Fuel Natural Gas	447861	MJMEUC FAC Revenue Excluding Long-Term	<b>555</b>	<b><u>Included:</u></b>
547211	Ineffect (Gain)Loss Deriv Gas			555990	TCR Activity
547212	Effective (Gain)Loss Deriv Gas	<b>447</b>	<b><u>Excluded:</u></b>	555995	ARR Activity
547213	Fuel -No 2 Oil Fuel	447430	Aec -Off-Sys-Missouri		
547301	NonFAS133 Deriv (Gain)/Loss	447540	Oklahoma G R D A Off-System		<b><u>Excluded:</u></b>
547302	Wind Hedge (Gain)/Loss [*] DELETE	447610	Energy Imbalance -Arkansas	555502	Wind Hedge Stub Period- (Gain)/Loss [*]
547607	Fuel Adm E Traders Commission	447620	Energy Imbalance -Kansas		
		447861	MJMEUC FAC Revenue Long-Term Capacity Only	<b>565</b>	<b><u>Included:</u></b>
<b>547</b>	<b><u>Excluded:</u></b>	447630	Energy Imbalance -Missouri	565413	Trans Of Electricity By Others
547605	Fuel Adm State Line	447640	Energy Imbalance -Oklahoma	565414	SPP Fixed Chg -Native Load Exclude S1-A
547606	Fuel Adm Energy Center			565416	Non SPP Fixed Chg -Native Load
547210	Natural Gas Fixed Transportation and Fixed Storage	<b>457</b>	<b><u>Excluded:</u></b>	565417	PP Non SPP Var -Native Load
		457137	Ot El RvOffSys LTFSTF PTP Trns [@]	565418	Gen Non SPP Var -Native Load
<b>409</b>	<b><u>Included:</u></b>	457138	Ot El RvOffSys NnFrm PTP Trns [@]	565419	Off Sys Sales Trans Costs
409115	Prov-Red Inc-PTC[*]	457141	Sch 11 NITS [@]		
		457142	Sch 11 PTP [@]	<b>565</b>	<b><u>Excluded:</u></b>
<b>411</b>	<b><u>Included:</u></b>	457160	Sch 1 PTP [@]	565414	SPP Schedule 1-A only [@]
411800	Gains-Disposition Emmiss Allow			565415	SPP Var Chg Schedule 12 [@]
		<b>457</b>	<b><u>Excluded:</u></b>		
<b>509</b>	<b><u>Included:</u></b>	457131	Oth El Rev-Sched Sys Ctrl&Disp	<b>575</b>	<b><u>Excluded:</u></b>
509052	Emission Allowance Exp	457139	Ot El RvOffSys NITS Rev	575700	IM Market Facilitation, Monitor [*] [@]
		457140	Oth El Rev-Off-Sys Losses		
				<b>456</b>	<b><u>Included:</u></b>
				456071	Misc Elec Rev-Green Credits-AR
				456072	Misc Elec Rev-Green Credits-KS
				456073	Misc Elec Rev-Green Credits-MO
				456074	Misc Elec Rev-Green Credits-OK
				456075	REC Revenue
				456210	REC Revenue - Wind [*]
				456230	PTC Revenue - Wind [*]
				456250	Misc Revenue - Wind [*]
				456260	Wind - PAYGO - FAC [*]
				456270	Wind - Partner Contribution/Distributions - FAC [*]

**Footnotes:** [\*] indicates new proposed account.  
 [#] indicates account previously excluded from FAC.  
 [@] indicates account Empire proposed to include and Staff proposes to keep excluded

EMPIRE DISTRICT ELECTRIC COMPANY  
DEPRECIATION SCHEDULE

<u>DEPRECIABLE GROUP</u>	<u>PROB. RET.</u> <u>DATE</u>	<u>SURVIVOR</u> <u>CURVE</u>	<u>NET SALV.</u> <u>PCT.</u>	<u>REM. LIFE</u> <u>RATE</u>	<u>COMP.</u> <u>REM. LIFE.</u>
311 Structures & Improvements					
IATAN 1	Dec-40	68-R2	-10	2.13	19.3
IATAN 2	Dec-70	68-R2	-10	2.12	44.7
IATAN COMMON		68-R2	-10	1.68	60.9
PLUM POINT	Dec-60	68-R2	-10	2.48	37.5
312 Boiler Plant Equipment					
IATAN 1	Dec-40	39-L1	-10	3.69	17
IATAN 2	Dec-70	39-L1	-10	2.90	29.8
IATAN COMMON		39-L1	-10	3.09	30.8
GROUP 4100	Dec-60	39-L1	-10	3.46	26.8
312.1 Unit Train/Train Lease					
IATAN 1 UNIT TRAIN		15-SQ	0	17.89	2.5
PLUM POINT TRAIN LEASE		15-SQ	0	7.98	5
UNIT TRAIN PLUM POINT		15-SQ	0	8.45	8.5
314 Turbogenerator Units					
IATAN 1	Dec-40	40-L1	-10	4.12	17
IATAN 2	Dec-70	40-L1	-10	3.21	29.7
IATAN COMMON		40-L1	-10	3.10	31.5
PLUM POINT	Dec-60	40-L1	-10	3.41	27.2
315 Accessory Electric Equipment					
IATAN 1	Dec-40	55-L1	-10	3.46	18.6
IATAN 2	Dec-70	55-L1	-10	2.60	37.1
IATAN COMMON		55-L1	-10	2.11	46.4
PLUM POINT	Dec-60	55-L1	-10	2.80	32.5
316 Misc. Power Plant Equipment					
IATAN 1	Dec-40	67-L0	-10	2.96	18.9
IATAN 2	Dec-70	67-L0	-10		
IATAN COMMON		67-L0	-10	1.67	61.7
PLUM POINT	Dec-60	67-L0	-10	2.62	33.5
331 Structures & Improvements	Dec-53	70-O3	-10	3.42	27.6
332 Reservoirs, Dams,& Waterways Water Wheels, Turbines,&	Dec-53	35-L1.5	-10	7.72	8.3
333 Generators	Dec-53	90-S6	-10	6.60	13.7
334 Accessory Electric Equipment	Dec-53	60-L2.5	-10	2.98	26.7
335 Misc. Power Plant Equipment	Dec-53	80-O4	-10	3.60	26.3
341 Structures & Improvements					
ASBURY WIND SERVICES		75-R3	-5	1.95	53.9
ENERGY CENTER	Dec-26	75-R3	-5	7.33	7
ENERGY CENTER FT8	Dec-43	75-R3	-5	3.37	23.5
RIVERTON 12	Dec-57	75-R3	-5	2.57	37.2
RIVERTON 9, 10, 11	Dec-33	75-R3	-5	6.57	11.9

DEPRECIABLE GROUP	PROB. RET.	SURVIVOR	NET SALV.	REM. LIFE	COMP.
	DATE	CURVE	PCT.	RATE	REM. LIFE.
STATE LINE 1	Dec-40	75-R3	-5	0.73	20.4
STATE LINE CC	Dec-51	75-R3	-5	2.36	30.8
STATE LINE COMMON		75-R3	-5	1.20	59.2
342 Fuel Holders, Producers & Access.					
ASBURY WIND SERVICES		75-R2.5	-5	1.97	53.4
ENERGY CENTER	Dec-26	75-R2.5	-5		
ENERGY CENTER FT8	Dec-43	75-R2.5	-5	2.95	23.3
RIVERTON 12	Dec-57	75-R2.5	-5	2.20	35.9
RIVERTON 9, 10, 11	Dec-33	75-R2.5	-5	4.18	13.7
STATE LINE 1	Dec-40	75-R2.5	-5	1.51	20.2
STATE LINE CC	Dec-51	75-R2.5	-5		31
STATE LINE COMMON		75-R2.5	-5		
343 Prime Movers					
ENERGY CENTER	Dec-26	50-R2	-5	5.34	6.7
ENERGY CENTER FT8	Dec-43	50-R2	-5	4.06	21.8
RIVERTON 12	Dec-57	50-R2	-5	2.63	33.7
RIVERTON 9, 10, 11	Dec-33	50-R2	-5	5.77	13
STATE LINE 1	Dec-40	50-R2	-5	2.92	18.7
STATE LINE CC	Dec-51	50-R2	-5	2.80	26.8
STATE LINE COMMON		50-R2	-5	2.10	47.8
344 Generators					
ENERGY CENTER	Dec-26	50-R1	-5	5.79	6.8
ENERGY CENTER FT8	Dec-43	50-R1	-5	4.61	22.1
RIVERTON 12	Dec-57	50-R1	-5	2.86	31.7
RIVERTON 9, 10, 11	Dec-33	50-R1	-5	4.21	12.5
STATE LINE 1	Dec-40	50-R1	-5	3.69	18.9
STATE LINE CC	Dec-51	50-R1	-5	2.96	26.6
345 Accessory Electric Equipment					
ASBURY WIND SERVICES		55-R0.5	-5	3.42	30.7
ENERGY CENTER FT8	Dec-43	55-R0.5	-5	3.45	21.3
ENERGY CENTER COMMON		55-R0.5	-5	2.58	38
RIVERTON 12	Dec-57	55-R0.5	-5	2.91	31.9
RIVERTON 9, 10, 11	Dec-33	55-R0.5	-5	6.72	13.2
STATE LINE 1	Dec-40	55-R0.5	-5	2.97	18.9
STATE LINE CC	Dec-51	55-R0.5	-5	2.58	27
STATE LINE COMMON		55-R0.5	-5	1.68	49
346 Misc. Power Plant Equipment					
ASBURY WIND SERVICES		60-R2.5	-5	2.44	43
ENERGY CENTER	Dec-26	60-R2.5	-5	0.44	7
ENERGY CENTER FT8	Dec-43	60-R2.5	-5	3.20	22.7
RIVERTON 12	Dec-57	60-R2.5	-5	2.39	35.2
STATE LINE 1	Dec-40	60-R2.5	-5	3.59	20.6
STATE LINE CC	Dec-51	60-R2.5	-5	2.80	29.1
STATE LINE COMMON		60-R2.5	-5	1.80	46.4

<u>DEPRECIABLE GROUP</u>	<u>PROB. RET.</u>	<u>SURVIVOR</u>	<u>NET SALV.</u>	<u>REM. LIFE</u>	<u>COMP.</u>
	<u>DATE</u>	<u>CURVE</u>	<u>PCT.</u>	<u>RATE</u>	<u>REM. LIFE.</u>
352 Structures & Improvements		80-R3	-10	1.14	67
353 Station Equipment		50-S1	-10	2.16	39.5
354 Towers & Fixtures		75-R4	-10	1.06	70.7
355 Poles & Fixtures		55-S2.5	-100	3.92	43.4
356 Overhead Conductors & Devices		70-L1	-25	1.69	57
361 Structures & Improvements		60-L1	-10	1.75	52.5
362 Station Equipment		50-R1.5	-10	2.03	41.5
364 Poles, Towers & Fixtures		55-R4	-100	3.76	40.1
365 Overhead Conductors & Devices		64-R2.5	-100	3.10	48.4
366 Underground Conduit		48-S2.5	-35	2.45	37.7
367 Underground Conductors & Devices		54-R2	-15	1.34	44.7
368 Line Transformers		50-L1.5	-10	1.88	39.2
369 Overhead Services		54-R5	-100	3.33	38.6
370 Meters		30-R1.5	0	4.62	15.6
371 Installations on Customers' Premises		30-R0.5	-40	2.64	23.3
373 Street Lighting & Signal Systems		45-R0.5	-50	3.59	34.8
390 Structures & Improvements		53-L1	-10	1.38	44.9
391.1 Office Furniture & Equipment		20-SQ	0	5.00	12.2
391.3 COMPUTER EQUIPMENT		5-SQ	0	20.00	3.5
392 Transportation Equipment		13-L2	10	5.09	10.5
393 Stores Equipment		35-SQ	0	2.86	31.9
394 Tools, Shop & Garage Equipment		20-SQ	0	5.00	15
395 Laboratory Equipment		20-SQ	0	5.00	16.8
396 Power Oper. Eqpt.		17-L3	5	4.62	12.6
397 Communication Equipment		15-SQ	0	6.67	6
398 Miscellaneous Equipment		34-SQ	0	2.94	27.3

6. The Empire District Electric Company shall record as a regulatory asset/liability the costs and revenues identified in the body of this order as of January 1, 2020, related to the closure of the Asbury Power Plant. The regulatory asset/liability should quantify separately dollars related to the categories of costs and revenues.

7. The Empire District Electric Company shall comply with all directives, conditions and reporting requirements as more fully described in the body of this order.

8. This Report and Order shall become effective on August 2, 2020.



**BY THE COMMISSION**

A handwritten signature in cursive script that reads "Morris L. Woodruff".

Morris L. Woodruff  
Secretary

Silvey, Chm., Kenney, Rupp, Coleman, and  
Holsman CC., concur.

Clark, Senior Regulatory Law Judge