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Issue(s): Non-Unanimous Stipulation
and Agreement
Witness/Type of Exhibit: Robinett/Affidavit
Sponsoring Party: Public Counsel
Case No.: EO-2018-0092

**AFFIDAVIT OF JOHN A. ROBINETT
IN OPPOSITION OF THE
NON-UNANIMOUS STIPULATION AND AGREEMENT**

Submitted on Behalf of the Office of the Public Counsel

EMPIRE DISTRICT ELECTRIC COMPANY

CASE NO. EO-2018-0092

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*Denotes Confidential Information
that has been redacted*

May 9, 2018

Public Version

OPC Exhibit No. 209-P
Date 5-14-18 Reporter A.F.
File No. EO-2018-0092

Public Version

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**BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI**

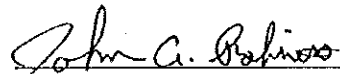
In the Matter of the Application of The Empire)
District Electric Company for Approval of Its)
Customer Savings Plan) Case No. EO-2018-0092

AFFIDAVIT OF JOHN A. ROBINETT

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

John A. Robinett, of lawful age and being first duly sworn, deposes and states:

1. My name is John A. Robinett. I am a Utility Engineering Specialist for the Office of the Public Counsel.
2. Attached hereto and made a part hereof for all purposes is my statement in opposition.
3. I hereby swear and affirm that my statements contained in the attached statement are true and correct to the best of my knowledge and belief.




John A. Robinett
Utility Engineering Specialist

Subscribed and sworn to me this 4th day of May 2018.



JERENE A. BUCKMAN
My Commission Expires
August 23, 2021
Cole County
Commission #13754037



Jerene A. Buckman
Notary Public

My Commission expires August 23, 2021.

1. I am the same John A. Robinett who previously submitted Rebuttal and Surrebuttal testimony in this docket on behalf of the Office of Public Counsel (“OPC”).
2. The Empire District Electric Company (“Empire”), Midwest Energy Consumers Group (“MECG”), Staff of the Missouri Public Service Commission (“Staff”), Renew Missouri Advocates (“Renew Missouri”), and Missouri Department of Economic Development – Division of Energy (“DE”) executed and filed a Non-Unanimous Stipulation and Agreement (“S&A”) in this case on April 24, 2018.
3. Empire, MECG, and Staff witnesses filed affidavits in support of the S&A on April 24, 2018.
4. This affidavit is in opposition to the S&A and the affidavits of the signatories to the S&A.
5. Empire’s original position on closing its Asbury coal-fired plant is contrary to what it is agreeing to in the settlement. Before it entered into the S&A Empire provided the following response to OPC data request 8523: “The Asbury retirement and wind construction are linked together. The significant financial decisions surrounding both parts of the Customer Savings Plan need regulatory certainty before the Company can proceed forward.” However, in the S&A the signatories, including Empire, “agree that Asbury shall not be retired at this time.” The signatories, however, acknowledge that the future operations of Asbury “shall be determined at the discretion of management”
6. At this time, the locations of the wind farms are still to be determined. Based on the timeline provided in Empire Witness Mr. Timothy N. Wilson’s direct testimony and Empire’s response to OPC data request number 8554 Empire is lagging by approximately two months for executing purchase and sale agreements to build the wind farms.
7. Empire provided its short list of potential wind farm developers to OPC in its response to OPC data request number 8554.
8. Empire’s direct filed case was based on a 30 year plan consistent with expectations of the lives of the wind assets proposed to be built. The 30-year plan related to the S&A does not assume any retirements after 2038 through 2048 as described by Empire Witness Mr. James McMahon in response to OPC data request number 8556. This is

not a reasonable assumption given the estimated retirements are provided in depreciation studies as part of rate cases. The 2016 depreciation study supplied in Case Number ER-2016-0023 has five generation facilities that are estimated to retire between the years of 2038 and 2048. Based on the 2016 depreciation study, Energy Center units 3 and 4 are projected to retire in 2043, Stateline 1 combustion turbine is to retire in 2040, and Iatan 1 is projected to retire in 2040. This equates to the retirement of 279 Mega-Watts (MW) of power that were not modeled as part of Empire's thirty-year plan. Additionally in its S&P, no addition of generation was modeled to offset these projected retirements described in the depreciation study. Each of these would have affected the present value revenue requirement of the stipulation.

9. OPC issued data request 8551 and 8552 related to Figure 3 on page 6 of Empire Witness James McMahon's Affidavit in support of the S&A. These data requests sought information related to Energy Center Units 1 and 2, and Riverton Units 10 and 11. According to Mr. McMahon's affidavit these units were no longer being retired in the 20-year plan, which is inconsistent with Empire's 2016 depreciation study. Empire's responses to these data requests is that the figure in Mr. McMahon affidavit was to show differences in generating unit additions; not shown are the retirements that occur during the period of the table. Figure 3 also falls short of showing the projected capital additions and retirements over the 30 years consistent with Empire's 30 year plan as filed in direct testimony. Empire's data request responses only show a comparison of the stipulation to Empire's direct filed plan; it fails to compare the S&A to Empire's preferred plan (originating from its 2016 integrated resource planning).
10. The signatory parties have agreed that Asbury shall not be shut down at this time per paragraph 19 of their S&A. Additionally the signatory parties have agreed that if the Asbury unit is shut down before full recovery of the CCR investment, the signatories will not object to Empire getting return on and of the environmental investment costs to comply with the CCR rule, if the unit is retired before full recovery.
11. It is unclear from the S&A if the signatories have agreed that compliance with Federal CCR guidelines is prudent to perform even if Missouri passes laws that would shift compliance to the department of natural resources that may reduce the price of compliance with a state rule.

12. The signatories did not make the same agreement for Empire recovery through rates for the previous upgrades of the Asbury facility and the existing plant in service values which is and was a major concern with the plan in Empire's initial filing. Empire had proposed continued recovery of and on a stranded asset for an early retirement of a generating unit just a short time after environmental upgrades doubled the rate base value of the plant.
13. OPC agrees with the signatories to the S&A that it is Empire's management who determines the future operations of Asbury.
14. Empire Witness Krygier at page 4 paragraph 5 of his Affidavit discusses **

** OPC issued a confidential data request number 8571 to the each of the signatory parties seeking clarification of this statement. The responses from parties are **

So while the agreement would **

**

15. According to its response to OPC data Request 8521 Empire did not study the economic impact of its original plan to shut down the Asbury facility, nor did Empire analyze the impact associated with vary blocks of wind additions in Missouri. While Empire is agreeing to keep operating Asbury, at least in the short-term, OPC is concerned about the economic impact of operations and maintenance jobs of the wind turbines since OPC anticipates that Missouri Empire customers will be paying roughly eighty-five percent of the costs of the units. In response to OPC data request number 8522 Empire estimated it would require 40-45 regional employees to operate and maintain its original request for 800 MW of wind farms. With reduction to 600 MW in the S&A OPC anticipates that the number of required employees to operate the 600 MW of wind farms will likely decrease.

16. The confidential statement of Empire Witness Krygier at page 4 paragraph 5 of his Affidavit draws into question the life and depreciation rates of the wind assets. The timing discussed **

** potentially shows two different possible lives of the assets. Based on my review of the bids and the response to the short list bidders **

** Further the stipulated depreciation rate contains no allowance for net salvage (gross salvage less cost of removal). The purpose of depreciation expense is to return to the utility its investment plus net salvage over the useful life of the asset. While OPC is not certain at this time what the value of the steel will be when the turbines are retired, OPC is certain that it will cost something to remove turbines. In its response to OPC data request number 8567 which asked whether the stipulated depreciation rate of 3.33% contained net salvage component, Empire responded that it did. Currently, the net salvage is set to zero, with the understanding that the depreciation study contemplated by the agreement would revisit that rate. However the wind assets contemplated by this project will not have sufficient retirement history at the time of the next study to warrant a change. The only thing possible would be a peer review similar to what Mr. Watson did for the life of the turbines in this case, but not for net salvage. In its response to OPC data request 8515 which asked Empire if there was an average net salvage that had been ordered for wind assets industry wide, Mr. Watson stated there was not.

17. Wind turbine efficiency will decay over the life of the turbine just as any other mechanical system will lose efficiency over its life. Based on my review of the S&A it is clear to me that the costs to repower the wind turbines at some point in their service life was modeled as a capital expense to be incurred.

18. Additionally, signatories to the S&A stated in their responses to OPC data request 8567 that the depreciation study contemplated by the agreement would revisit that rate. OPC interprets the responses to mean the life rate of the wind turbines and also the net salvage rate. However, item 14(f.)ii of the S&A which reads, "Empire shall consider the Wind Projects as part of its next depreciation study, if it has enough information concerning the Wind projects to include them in the depreciation study" is not

guarantee that the wind asset depreciation rates will be reviewed as part of the next depreciation study.

19. Empire filed its last depreciation study to the Commission in Case No. ER-2016-0023 on October 19, 2015. Depending on the in-service date for the wind farm project(s) Empire's next depreciation study required by rules 4 CSR 240-3.160 and 4 CSR 240-3.175 may not include the wind turbines as plant-in-service. The timing of Empire's next general rate case may allow Empire to use the same depreciation study that it filed in 2015, as that rate case may not be filed more than five years since Empire filed its 2016 depreciation study with the Commission.

FINAL

REPORT ON DEPRECIATION ACCRUAL RATES

Electric utility property through
December 31, 2014

B&V PROJECT NO. 188366

PREPARED FOR

The Empire District Electric Company

SEPTEMBER 2015

5.1 STEAM PRODUCTION PLANT

The steam electric generating stations owned by Empire include one unit at Asbury, Iatan Unit 1 (12 percent ownership), Iatan Unit 2 (12 percent ownership) and one unit at Plum Point (7.52 percent ownership).

Table 5-2 summarizes the nameplate rating, year of installation, and forecast retirement date for each unit as provided by Empire.

Table 5-2. Steam Production Plant Data

Line	[A] Steam Production Plant	[B] Nameplate Rating MW	[C] Date Installed	[D] Estimated Retirement	[E] Estimated Service Life years
1	Asbury 1	198	1970	2035	65
2	Iatan 1 (a)	85	1980	2040	60
3	Iatan 2 (b)	105	2010	2070	60
4	Plum Point (c)	50	2010	2060	50

(a) EDE owns a 12% share of Iatan 1

(b) EDE owns a 12% share of Iatan 2

(c) EDE owns a 7.52% share of Plum Point

Asbury.

The Asbury station, located in Asbury, MO, has one steam generating unit with a maximum net capability of 198 MW. The age of this station at the end of 2014 was 44 years and the remaining life is estimated to be 21 years based on the forecast retirement of the plant in 2035. In order to achieve this life, there were major capital additions at Asbury in 2014 to install mercury, sulfur dioxide, and particulate matter emissions controls as well as a retrofit and upgrade of the steam turbine. Asbury Unit 2 was placed in service in 1986 and was retired coincident with the Unit 1 environmental upgrade. Other than this major capital addition, nominal levels of interim additions and interim retirements are expected to be made over the remaining life of the station. The Appendix summarizes the derivation of remaining life rates applicable to Asbury. A remaining life accrual rate of 5.43 percent is shown in Table 5-1. The accumulated depreciation reserve for the Asbury is \$41,725,501 compared to the depreciable plant balance of \$285,502,250 as of June 30, 2015.

Riverton.

The Riverton Plant is located in Riverton, KS and has been in service since 1905. Currently there are no operational steam units; the last steam unit was retired in June 2015. There is currently \$3.2 million of plant remaining in service in the Riverton steam accounts. This plant is primarily associated with a building and other common facilities that are expected to be retired and decommissioned in the 2017-2018 timeframe. The accumulated reserve for depreciation associated with the remaining Riverton steam common plant is \$2.1 million. Notably, there is currently a negative depreciation reserve balance for the Riverton steam accounts of -\$4.7 million, consisting of

The Empire District Electric Company | REPORT ON DEPRECIATION ACCRUAL RATES

the \$2.1 million associated with the common plant and a deficiency of \$6.8 million associated with the retired Riverton Units 7 and 8 (\$2.1 million less \$6.8 million equals an overall Riverton steam plant depreciation reserve of -\$4.7million).

Based on the final retirement of the building and other common facilities at the Riverton steam plant in 2018 and the net plant amount of approximately \$1.1 million (remaining plant only), we recommend an 11.52 percent depreciation rate to collect the balance of the plant in service by its retirement date ($\$1,104,455 / 3 \text{ years} / \$3,196,964 = 11.52\%$).

Iatan.

The Iatan Plant is located in Weston, MO and was placed in service in 1980. Empire owns a 12 percent share of Iatan 1 and Iatan 2, or approximately 85 MW and 105 MW respectively. At the end of 2014, the age of Iatan 1 was 34 years and the remaining life is estimated to be 26 years based on the forecast retirement of the unit in 2040. Iatan 2 began commercial operation in 2010 and has an estimated remaining life of 56 years based on the forecast retirement of the unit in 2070. The retirement dates used for Iatan 1 and Iatan 2 in our analysis are consistent with the lives used by the primary owner of the plants, Kansas City Power & Light Company.

Based on the unit property methodology, the remaining life accrual rate for Iatan 1 is 3.12 percent as shown in Table 5-1. The analysis showing the development of the rates is shown in the Appendix. The accumulated depreciation reserve for Iatan 1 is \$42,695,210 compared to the depreciable plant balance of \$100,329,034 as of June 30, 2015.

For Iatan 2 and Iatan Common plant, based on the unit property methodology, the remaining life accrual rate is 2.20 percent as shown in Table 5-1. The analysis showing the development of the rates is shown in the Appendix. The accumulated depreciation reserve for Iatan 2 is \$17,713,138, plus a Regulatory Plan Amortization balance of \$37,312,953, for a total of \$55,026,091 compared to the depreciable plant balance of \$218,208,718 as of June 30, 2015. The accumulated depreciation reserve for Iatan Common is \$4,835,108 compared to the depreciable plant balance of \$60,036,052 as of June 30, 2015.

Plum Point.

The Plum Point Plant is located near Osceola, Arkansas and was placed in service in 2010. Empire owns a 7.52 percent share of Plum Point, or approximately 50 MW. At the end of 2014, the age of the facility was 4 years and the remaining life is estimated to be 46 years based on the forecast retirement of the unit in 2060.

Based on the unit property methodology, the remaining life accrual rate for Plum Point is 2.39 percent as shown in Table 5-1. The analysis showing the development of the rates is shown in the Appendix. The accumulated depreciation reserve for Plum Point is \$10,107,354 compared to the depreciable plant balance of \$104,727,276 as of June 30, 2015.

5.2 HYDRAULIC PRODUCTION PLANT

Empire owns the Ozark Beach hydraulic production plant which consists of four generating units installed in 1931. The current licensing period for Ozark Beach ends in 2022, however Empire expects to extend the life of the Ozark Beach plant through another 30 year licensing period. We have used an estimated final retirement date of 2053 which corresponds to the expiration of the renewed licensing period. We believe that substantial additional capital additions may be required to achieve this estimated retirement date.

Table 5-3. Hydraulic Production Plant Data

Line	[A] Hydraulic Production Plant	[B] Nameplate Rating MW	[C] Date Installed	[D] Estimated Retirement	[E] Estimated Service Life years
1	Ozark Beach 1	4	1931	2053	122
2	Ozark Beach 2	4	1931	2053	122
3	Ozark Beach 3	4	1931	2053	122
4	Ozark Beach 4	4	1931	2053	122

Based on the unit property methodology, the remaining life accrual rate for Ozark Beach hydraulic facility is 2.65 percent as shown in Table 5-1. The analysis showing the development of the rates is shown in the Appendix. The accumulated depreciation for Ozark Beach is \$2,919,149 compared to the depreciable plant balance of \$9,292,873 for the period ending June 30, 2015.

5.3 OTHER PRODUCTION PLANT

The other electric generating stations owned by Empire include the Energy Center combustion turbines, the Riverton combined cycle and combustion turbines, and the State Line combined cycle and combustion turbine. Table 5-4 summarizes the nameplate rating, year of installation, and forecast retirement date for each unit as provided by Empire.

Table 5-4. Other Production Plant Data

Line	[A] Other Production Plant	[B] Nameplate Rating MW	[C] Date Installed	[D] Estimated Retirement	[E] Estimated Service Life years
1	Energy Center 1	85	1978	2023	45
2	Energy Center 2	84	1981	2026	45
3	Energy Center 3 (FT8)	49	2003	2043	40
4	Energy Center 4 (FT8)	49	2003	2043	40
5	Riverton 10	16	1988	2033	45
6	Riverton 11	16	1988	2033	45
7	Riverton 12 ^(a)	150	2007	2057	50
8	State Line 1, CT	96	1995	2040	45
9	State Line 2, CC ^(b)	300	2001	2051	50

(a) Riverton 12 is being converted to a combined cycle plant in 2016

(b) Empire owns a 300 MW share of State Line 2 (combined cycle)

Energy Center.

The Energy Center is located in LaRussell, MO. Units 1 and 2 are combustion turbines and were installed in the period 1978 and 1984, respectively, and are forecast to be in service for 45 years. Units 3 and 4 are FT8 combustion turbines and were installed in 2003 and are forecast to be in service for 40 years.

Based on the unit property methodology, the remaining life accrual rate for Energy Center Units 1 and 2 is 2.43 percent as shown in Table 5-1. The analysis showing the development of the rates is shown in the Appendix. The accumulated depreciation for the Units 1 and 2 is \$31,345,227 compared to the plant balance of \$40,068,437 for the period ending June 30, 2015.

For Energy Center Units 3 and 4, the remaining life accrual rate is 3.25 percent as shown in Table 5-1. The analysis showing the development of these rates is shown in the Appendix. The accumulated depreciation for the plant is \$8,780,222 compared to the depreciable plant balance of \$55,798,599 for the period ending June 30, 2015.

Riverton.

The Riverton Plant is located in Riverton, KS. The existing simple cycle combustion turbines at Riverton were installed in 1988. Units 10 and 11 are forecast to be in service for 45 years. Based on the unit property methodology, the remaining life accrual rate for the Riverton combustion turbines is 3.17 percent as shown in Table 5-1. The analysis showing the development of the rates is shown in the Appendix. The accumulated depreciation reserve is \$7,044,633 compared to the depreciable plant balance of \$18,403,922 as of June 30, 2015.

Riverton Unit 12 was placed into service as a simple cycle combustion turbine in 2007 and is the process of being converted to a combined cycle plant, to be completed in the 2016 timeframe. Riverton Unit 12 has an estimated remaining life of 43 years based on a lifespan of 50 years. Based on the unit property methodology, the remaining life accrual rate is 2.20 percent as shown in Table 5-1. The analysis showing the development of the rates is shown in the Appendix. The accumulated depreciation for the plant is \$6,610,519 compared to the depreciable plant balance of \$39,586,753 for the period ending June 30, 2015.

State Line.

The State Line plant is located west of Joplin, MO and consists of a combustion turbine installed in 1995 and a combined cycle unit installed in 2001 of which Empire owns a 300MW share. At the end of 2014, the ages of the units were 19 and 13 years respectively. The forecast lifespan for State Line combustion turbine is 45 years and the forecast lifespan for State Line combined cycle is 50 years.

Based on the unit property methodology, the remaining life accrual rate for State Line combustion turbine is 2.09 percent as shown in Table 5-1. The analysis showing the development of the rates is shown in the Appendix. The accumulated depreciation is \$22,375,734 compared to the depreciable plant balance of \$40,816,274 for the period ending June 30, 2015.

REPORT ON DEPRECIATION ACCRUAL RATES | The Empire District Electric Company

For the State Line combined cycle plant, the remaining life accrual rate is 2.20 percent as shown in Table 5-1. The analysis showing the development of the rates is shown in the Appendix. The accumulated depreciation for the plant is \$41,542,797 compared to the depreciable plant balance of \$161,022,417 for the period ending June 30, 2015.

5.4 RIVERTON UNITS 7, 8 AND 9 RESERVE DEFICIENCY AMORTIZATION

Empire retired the steam generation assets at the Riverton Plant, Units 7 and 8, in June 2014 and June 2015, respectively. Empire also retired Riverton Unit 9 (other production) in June of 2015. Upon retirement, there was a difference between the plant in service retired and the depreciation expense accumulated in the depreciation reserve for the Riverton steam generation assets. We recommend that the \$6,768,400 of accumulated depreciation reserve deficiency associated with the retired steam assets and the \$758,397 of accumulated depreciation reserve deficiency associated with Unit 9 should be amortized over the period of 5 years to make Empire whole for its investment in the plant. Additionally, Empire had a decommissioning study performed for the retired Riverton units. The estimated decommissioning costs (net cost of removal) of \$3,910,566 for Units 7 and 8, and \$56,093 for Unit 9 should have been collected through depreciation while the units were in service and should also be included in the reserve deficiency amortization. We recommend that Empire request at its next rate case an additional \$2,135,793 annually to amortize the under-depreciated portion of the retired Riverton steam generating assets over a five-year period and \$162,898 annually to amortize the under-depreciated portion of Riverton Unit 9 over a five-year period. Table 5-5 summarizes the calculation of the Riverton depreciation reserve deficiency amortization.

Table 5-5. Riverton Reserve Deficiency Amortization

Line	[A] Description	[B] Units 7&8	[C] Unit 9
1	Accumulated depreciation reserve at 6/30/2015	\$ (4,675,891)	
2	Depreciation reserve associated with remaining plant in service	\$ 2,092,509	
3	Undepreciated amount of retired plant	\$ (6,768,400)	\$ (758,397)
4	Estimated net cost of removal for decommissioning units	\$ (3,910,566)	\$ (56,093)
5	Total amount of depreciation reserve shortfall	\$ (10,678,966)	\$ (814,490)
6	Annual amortization (over 5 years) of Riverton reserve shortfall	\$ 2,135,793	\$ 162,898

The Empire District Electric Company
Response to Office of Public Counsel's Data Requests 8515-8535
Case No. EO-2018-0092

Response provided by: Blake A. Mertens
Title: Vice President, Electric Operations
Company Response Number: 8521
Date of Response: January 5, 2018

Question:

Has Empire performed any economic impact study related to the closure of the Asbury facility? If yes, did the company analyze multiple scenarios of 500 MW built in Missouri, 250 MW built in Missouri, or zero MW built in Missouri? If so, please provide them.

Response:

No.

Responsible person(s): Blake A. Mertens