

LIBERTY UTILITIES
EMPIRE DISTRICT ELECTRIC COMPANY

2018
ANNUAL RENEWABLE ENERGY STANDARD
COMPLIANCE REPORT

Prepared in Compliance with 4 CSR 240-20.100

April 2019



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2018 ANNUAL RENEWABLE ENERGY STANDARD COMPLIANCE REPORT

INTRODUCTION

Pursuant to the Missouri Public Service Commission's (Commission) renewable energy standards rule, 4 CSR 240-20.100(8), The Empire District Electric Company (EDE or Empire), a Kansas corporation, is filing the Annual Renewable Energy Standard (RES) Compliance Report. The rule became effective in September 2010, and pursuant to the rule EDE must file the 2018 RES Compliance Report on or before April 15, 2019.

EDE began to develop its wind renewable energy portfolio on December 10, 2004, when it entered into a 20-year contract with Elk River Windfarm, LLC (owned by Avangrid Renewables, LLC) to purchase all of the energy generated at the 150-megawatt Elk River Windfarm located in Butler County, Kansas.

On June 19, 2007, EDE enhanced its renewable energy portfolio when it entered into a 20-year purchased power agreement with Cloud County Wind Farm, LLC. EDP Renewables North America, LLC is an indirect parent company of Cloud County Wind Farm, LLC. Pursuant to the terms of the agreement, EDE purchases all of the output from the 105-megawatt Phase 1 Meridian Way Wind Farm located in Cloud County, Kansas.

In addition, the Ozark Beach Hydroelectric Project, owned by EDE has produced renewable hydropower for many years. The RES rules allow for the banking of Renewable Energy Credits (REC) for up to a three year time period. In the past, this has allowed the use of eligible Ozark Beach RECs generated in earlier years. In 2018, RECs generated in 2018 were used for the RES requirement.

Effective May 16, 2015, Empire began offering rebates for Missouri customers for qualifying solar installations in accordance with the Missouri RES and Empire's Solar Rebate Rider approved by the Commission, which continued in 2018.

The following sections provide information required to indicate compliance with the rule:

SECTION (8) (A) 1 A, B: TOTAL MISSOURI RETAIL ELECTRIC SALES AND REVENUE

The following table represents the number of megawatt-hours (MWh) of electricity delivered in 2018 by EDE to its Missouri retail customers, as reflected in the monthly billing statements. In addition, a column is provided capturing the revenue from total retail electric sales to Missouri customers:

Table 1: Missouri 2018 Total Retail Sales

Year	MWh	Revenue
2018	4,321,595	\$522,849,829

Data Source: Customers Kilowatt Hours Revenue Report

SECTION (8) (A) 1 C: TOTAL RETAIL ELECTRIC SALES SUPPLIED BY RENEWABLE ENERGY RESOURCES

The following table indicates the renewable generation sources used during 2018 and the MWhs that were supplied.

Table 2: Total 2018 Retail Electric Sales supplied by Renewable Energy

Facility	Generation (MWh)	Percentage	Energy Supplied to MO Retail Customers (MWH)
Elk River	450,910	88.76%	400,228
Cloud County Meridian Way	309,259	88.76%	274,498
Ozark Beach	49,431	88.76%	43,875
TOTAL			718,601

SECTION (8) (A) 1 D: CURRENT NUMBER AND VALUE OF RECS CREATED BY EDE OWNED FACILITY.

In 2018, EDE-owned Ozark Beach generated energy which allowed for the creation of 49,431 RECs. Using the provision of the Missouri RES allowing for additional credit of 0.25, the resultant RECs available for compliance totaled 61,788 RECs (49,431 x 1.25). The RECs generated from the EDE-owned source are utilized first to meet compliance as additional costs are not incurred to the rate payer in order to acquire RECs. The RECs generated from Ozark Beach have little value as they typically cannot be used to meet Renewable Portfolio Standards (RPS) in other states. The value of the energy generated by Ozark Beach for calendar year 2018 was **\$confidential information**/MWh as determined by the locational marginal pricing through the Southwest Power Pool (SPP). The value of the customer generated solar energy was \$67.88/SREC. This value is determined using the rebate amount of \$15,940,554.05 paid in solar rebates divided by 23,482 (the amount of SRECs received). The rebate entitles EDE to receive SRECs from these systems for 10 years.

SECTION (8) (A) 1 E, F: SOURCE AND NUMBER OF RECS ACQUIRED, SOLD, TRANSFERRED, RETIRED

EDE receives renewable energy from four sources: ownership of Ozark Beach; two purchased power agreements (one with the Elk River Windfarm and the other with the Cloud County Meridian Way Wind Farm); and customer-generated solar. (See ATTACHMENT 1)

Pursuant to the terms of the two 20-year windfarm agreements, EDE will purchase all of the output from the 150-megawatt Elk River Windfarm, and 105-megawatts from the Cloud County Meridian Way Wind Farm. EDE anticipates annual generation of approximately 530,000 MWhs from Elk River and approximately 330,000 MWhs from Meridian Way.

During 2018, 40,583 vintage 2018 RECs from hydroelectric generation at Ozark Beach were retired to help fulfill the non-solar Missouri compliance obligation. In addition, 323,692 vintage 2017 and 2018 RECs from generation at the Elk River Windfarm were retired for the non-solar RES obligation for 2018. In March of 2019, 8,848 additional 2018 RECs from hydroelectric generation at Ozark Beach, plus 25,952 RECs generated in 2018 at the Elk River Windfarm were retired.

To meet the compliance obligation, 16,587 SRECs generated from EDE customers in 2017 were utilized. In total, 16,587 SRECs were retired in December of 2018 to fulfill the Missouri compliance obligation. Any remaining SRECs will be banked for future use. RECs from Ozark Beach and SRECs from customer installed net metered systems are entitled to the 1.25 multiplying factor as they represent Missouri based generation.

EDE utilizes the North American Renewable Registry (NARR) as recommended by Staff and approved by the Commission for tracking all RECs. In total, 399,075 RECs and 16,587 SRECs were retired to fulfill the 2018 Missouri compliance obligation. (See ATTACHMENT 2)

SECTION (8) (A) 1 G: IDENTIFICATION OF RECS CARRIED FORWARD

As indicated earlier, RECs and SRECs generated by Ozark Beach, Elk River Windfarm, and EDE Solar Aggregates 1 through 17 which were used for compliance are registered with the NARR. Registration of additional EDE Solar Aggregates 18 – 25 been approved by the NARR for 2018. ATTACHMENT 3 included with this report indicates by source and serial number RECs registered with the NARR that have been carried forward for future use. For 2018

compliance, 2018 Ozark Beach vintage RECs totaling 49,431 were retired. For the 2018 compliance year 349,644 Elk River RECs, vintage 2017 and 2018, were retired for compliance. Carried forward are additional 2018 Elk River RECs totaling 141,477 and 2018 Meridian Way RECs totaling 177,108. The majority of the remaining RECs will be sold after all compliance obligations are met. A portion of the Elk River RECs were retired for compliance with the Kansas voluntary RES. Customer-generated solar SRECS totaling 23,482 will be carried forward for use in future compliance.

In addition to the RECs registered with the NARR EDE receives additional RECs from the Cloud County Meridian Way Wind Farm. The Meridian Way Wind Farm was added to the registry in 2018. The RECs from Meridian Way are not being used for Missouri compliance. EDE does not anticipate utilizing RECs from the Meridian Way Wind Farm for compliance throughout the entirety of the RES compliance period specified in Section 393.1030, RSMo.

SECTION (8) (A) 1 H: GAINS AND LOSSES FROM SALE OR PURCHASE

EDE utilized wind RECs from the Elk River Windfarm purchased power agreement in order to comply with the Missouri non-solar RES. SRECs from customer generation were utilized in order to comply with the solar portion of the Missouri RES.

ATTACHMENTS 4 and 5 include a REC report indicating sales of RECs, and the amount of wind generation allocated for Missouri retail customers by each wind farm. Any gains from sale or purchase were returned to the customers through the fuel adjustment.

SECTION (8) (A) 1 I: ACQUISITION OF RENEWABLE ENERGY

Non-Solar renewable energy is purchased for EDE from the following non-utility owned facilities:

Elk River

Wind (Resource)

Avangrid Renewables (Owner)

14980 SE 190th Rd.

Latham, KS 67072

Meridian Way I (Cloud County)

Wind (Resource)

EDP Renewables North America LLC (Owner)

1409 Iron Road

Concordia, KS 66901

All energy was derived from eligible renewable energy technology (wind, hydro and solar). ATTACHMENT 6 includes information to certify that the renewable energy attributes of the energy from Elk River Windfarm and the Cloud County Meridian Way Wind Farm, have not been used to meet the requirements of any other local or state mandate.

SECTION (8) (A) 1 J: ACQUISITION OF ELECTRICAL ENERGY AND/OR RECS FROM CUSTOMER GENERATORS

ATTACHMENT 7 shows the system operational dates and estimated amounts of SRECs generated from customer generators using the Commission–approved estimation method, PVWatts. The SRECS were acquired by EDE as a condition of receiving the solar rebate instituted in May of 2015 and extending through 2018.

SECTION (8) (A) 1 K: CUSTOMERS RECEIVING SOLAR REBATE

For the calendar year 2018, the annual number of customers that applied and received a solar rebate by December 31, 2018 in accordance with section (4) of the Rule was 572. A total of 1,829 Missouri solar net metering customers have been connected to the Empire system as of that date.

SECTION (8) (A) 1 L: CUSTOMERS DENIED SOLAR REBATE

There were no customers that were denied a solar rebate

SECTION (8) (A) 1 M: FUNDS EXPENDED BY EDE FOR SOLAR REBATES

Annual funds expended by EDE for 2018 solar rebates totaled \$3,086,744. Since the beginning of the rebate program over \$15.9 million has been expended for solar rebates.

SECTION (8) (A) 1 N: ANNUAL COMPLIANCE WITH RES COMPLIANCE PLAN

See Affidavit of Compliance with 2018 Compliance Plan, ATTACHMENT 8.

SECTION (8) (A) 1 O: NON-COMPLIANCE WITH RES COMPLIANCE PLAN

EDE has made every effort to comply and believes it has achieved compliance with the Missouri RES Compliance Plan for the 2018 compliance period.

SECTION (8) (A) 1 P: CALCULATION OF ACTUAL CALENDAR YEAR RETAIL RATE IMPACT