

Exhibit No. 11

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Liberty – Exhibit 11
Shaen T. Rooney
Direct Testimony (EO-2022-0193)
File Nos. EO-2022-0040 & EO-2022-0193

Exhibit No.: _____
Issues: Asbury Market Performance
Witness: Shaen T. Rooney
Type of Exhibit: Direct Testimony
Sponsoring Party: The Empire District
Electric Company
Case No.: EO-2022-0193
Date Testimony Prepared: March 2022

**Before the Public Service Commission
of the State of Missouri**

Direct Testimony

of

Shaen T. Rooney

on behalf of

The Empire District Electric Company

March 2022



DIRECT TESTIMONY OF SHAEN T. ROONEY
THE EMPIRE DISTRICT ELECTRIC COMPANY
BEFORE THE MISSOURI PUBLIC SERVICE COMMISSION
CASE NO. EO-2022-0193

1 **Q. Please state your name and business address.**

2 A. My name is Shaen T. Rooney, and my address is 602 Joplin Street, Joplin, Missouri,
3 64801.

4 **Q. By whom are you employed and in what capacity?**

5 A. I am employed by Liberty Utilities Service Corp. as the Senior Manager of Strategic
6 Projects for the Liberty Central Region. My primary responsibility is managing large
7 capital projects in energy supply for The Empire District Electric Company d/b/a
8 Liberty (“Liberty” or the “Company”). I am also responsible for Liberty’s
9 environmental department, which works to ensure operations remain compliant with
10 state and federal regulations.

11 **Q. On whose behalf are you testifying in this proceeding?**

12 A. I am testifying on behalf of Liberty.

13 **Q. Please describe your educational and professional background before joining
14 Liberty.**

15 A. I graduated from the University of Missouri-Columbia in 2001 with a Bachelor of
16 Science Degree in Chemical Engineering. In February 2002, I was employed by the
17 Missouri Department of Natural Resources’ Air Pollution Control Program as an
18 environmental engineer, primarily responsible for air quality planning, especially
19 focused on construction permitting, energy production, and fuels.

20 **Q. Please describe the positions you have held at Liberty, particularly with regard to
21 the Asbury Generating Station.**

1 A. In November 2004, I joined the Company as Environmental Coordinator. In that
2 position, I was responsible for assisting management with generating fleet operations
3 in order to comply with state and federal air pollution regulations. I was also
4 responsible for obtaining necessary air permits for construction projects.

5 From October 2006 until June 2008, I was employed as the Local Projects
6 Manager at the Company's Asbury Generating Station ("Asbury"). Duties included
7 assisting in power plant construction projects, including the construction of a selective
8 catalytic reduction ("SCR") system, and various operating and maintenance ("O&M")
9 activities. In June 2008, I took a position as a Plant Operations Supervisor at Asbury.
10 My duties included leading a team of plant operators in the operation of the plant, while
11 prioritizing safety, maximizing production, and maintaining compliance with all
12 applicable state and federal regulations.

13 In November 2010, I assumed the position of Manager of Strategic Projects,
14 where I was responsible for generation resource planning, origination of projects,
15 development of project specifications, selection of contractors, and oversight of project
16 progress. During my time as Manager of Strategic Projects, the Company executed the
17 Asbury Air Quality Control System ("AQCS") retrofit and Riverton 12 Combined
18 Cycle Conversion.

19 In May 2015, I returned to the Asbury Generating Station, this time as the Plant
20 Operations Manager. My responsibilities in this role were to set plant goals that aligned
21 with the Company's goals and to lead all plant operations teams to achieve those goals
22 while remaining focused on safety, maximizing production, and complying with all
23 applicable regulations. In June 2018, I assumed the position of Generation Operations

1 Project Manager, where my responsibilities were the same as when I had been
2 employed as Manager of Strategic Projects.

3 In August 2019, management of the Company's environmental department was
4 added to my responsibilities, and my title was changed to Senior Manager of Strategic
5 Projects.

6 **Q. Have you previously testified before the Missouri Public Service Commission**
7 **(“Commission”) or any other regulatory agency?**

8 A. Yes. I filed testimony with this Commission in Liberty's most recent general rate case,
9 Case No. ER-2021-0312. I have also testified on behalf of Liberty before the Kansas
10 Corporation Commission, and I previously testified before the Oklahoma Corporation
11 Commission.

12 **Q. What is the purpose of your Direct Testimony in this proceeding?**

13 A. Given my previous roles with the Company, my Direct Testimony provides technical
14 background on the changes in operations and maintenance practices previously
15 implemented at Asbury to help the plant better compete and operate in the Southwest
16 Power Pool Integrated Marketplace (“SPP IM”) ahead of the eventual decision to retire
17 the plant. My testimony demonstrates and supports the prudence of the Company's
18 decision to retire Asbury in March 2020.

19 **Q. Are you familiar with efforts to improve Asbury's market performance prior to**
20 **the decision to retire the plant?**

21 A. Yes, as I described in my professional background, I was employed in operations
22 management at Asbury. During the time I led the operations department at the plant,
23 Asbury management looked to improve Asbury's performance in the SPP IM.

1 **Q. Why was it necessary to improve Asbury's market performance?**

2 A. In short, it was because the Company transitioned its operation of Asbury to market
3 signals, as opposed to self-committing it to serve baseload. In the past, the Company
4 would self-commit Asbury in order to meet the obligations of its coal transportation
5 contract, which required the receipt of minimum delivery quantities. This practice had
6 the potential to increase customer costs, if Asbury's self-commitment displaced other,
7 lower-cost generation. The Company was successful in renegotiating the terms of
8 Asbury's coal transportation contract in October 2016, removing the minimum delivery
9 requirements and allowing the unit to be dispatched to market signals without the
10 distortion caused by those requirements. After discontinuing self-commitment of
11 Asbury, the unit's annual capacity factor began to decline, as the market selected units
12 with better heat rates, lower fuel costs, shorter start durations, shorter minimum
13 downtimes, and faster ramp rates. Without some change in Asbury's operations, there's
14 no reason to believe this decline in capacity factor would reverse itself. The declining
15 capacity factor would result in lower market revenues, increasing the cost of energy
16 from the plant. Company witness Aaron J. Doll further discusses Asbury and its
17 participation in the SPP IM in this Direct Testimony.

18 **Q. Please describe the changes made to improve the unit's market performance.**

19 A. There are several factors that influence a unit's market performance, including its heat
20 rate, fuel cost, startup duration, and load ramp rates. Liberty continually seeks to
21 improve unit heat rates, and so to avoid duplication of those ongoing activities, this
22 effort would instead focus on shortening startup duration, decreasing minimum
23 downtime, decreasing minimum run time, and increasing the unit's load ramp rate. In
24 early 2018, the Company changed Asbury's Minimum Run Time from 96 hours to 48

1 hours. Additionally, plant personnel were able to successfully operate the plant with a
2 new Minimum Down Time of 6 hours, compared to its previous Minimum Down Time
3 of 48 hours. These changes on Asbury's performance in the SPP IM are further
4 explained in Mr. Doll's Direct Testimony.

5 **Q. How were these changes implemented?**

6 A. Asbury's steam turbine was more flexible and capable of shorter startup times than
7 were initially offered in the SPP IM; however, the turbine was limited by the
8 capabilities of the boiler. By performing boiler tuning and programming changes to the
9 plant controls, especially the burner management system, Liberty was able to remove
10 or reduce the boiler limitations. Of course, human performance would also be a major
11 factor in the success of this program, so the changes were accompanied by additional
12 operator training and the introduction of new standard operating procedures, especially
13 for startup, shutdown, and layup.

14 **Q. What was the effect on Asbury of these changes?**

15 A. During its final two years of operation, Asbury experienced a record number of starts.
16 Unfortunately, this record number of starts was not accompanied by an increase in net
17 capacity factor. In fact, net capacity factor continued to decline. The increased number
18 of starts also raised concerns regarding cycling.

19 **Q. What is cycling?**

20 A. Cycling of a thermal power plant refers to the transition from online status to offline
21 status and back online, or vice versa. It can also refer to transitioning across a unit's
22 load range, especially from minimum load to maximum load.

1 **Q. Why is cycling concerning?**

2 A. Increased cycling has been demonstrated to reduce mean time between failures in units
3 designed and built for baseload operation, like Asbury. These impacts can be mitigated,
4 but only through redesign and replacement of certain steam cycle components or
5 through enhanced inspection and maintenance programs. These additional costs
6 become increasingly difficult to justify for a unit with a net capacity factor that is
7 diminishing.

8 **Q. Does this conclude your Direct Testimony at this time?**

9 A. Yes.

VERIFICATION

I, Shaen T. Rooney, under penalty of perjury, on this 21st day of March, 2022, declare that the foregoing is true and correct to the best of my knowledge and belief.

/s/Shaen T. Rooney