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Resource Planning
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Public Counsel
EO-2022-0040 and EO-2022-0193

SURREBUTTAL TESTIMONY

OF

LENA M. MANTLE

Submitted on Behalf of the Office of the Public Counsel

THE EMPIRE DISTRICT ELECTRIC COMPANY

CASE NOS. EO-2022-0040 AND EO-2022-0193

May 27, 2022

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THE EMPIRE DISTRICT ELECTRIC COMPANY

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1 **I. INTRODUCTION**

2 **Q. Please state your name.**

3 A. Lena M. Mantle

4 **Q. Are you the same Lena Mantle who previously testified in rebuttal in both Case Nos.**
5 **EO-2022-0040 and EO-2022-0193?**

6 A. I am.

7 **Q. What is the purpose of your surrebuttal testimony?**

8 A. I am responding to the rebuttal testimony of Missouri Public Service Commission Staff
9 (“Staff”) witness J Luebbert regarding his testimony that Empire “replaced” its Asbury
10 generating unit with wind resources. I also provide support for the surrebuttal testimony of
11 Office of the Public Counsel (“OPC”) witness Dr. Geoff Marke.

12 **Q. Have Empire’s wind projects replaced its Asbury unit?**

13 A. While construction of the wind projects has been completed and the cost will be included in
14 rates soon, and Empire has prematurely retired its 200 MW coal-fired Asbury steam unit when
15 it started building the wind projects, as I explained in my rebuttal testimony, the reliability of
16 the availability of the wind projects to generate electricity to serve load (dispatchability) is
17 much less controllable than that of the Asbury unit. I would not characterize Empire’s wind
18 projects as having replaced its Asbury unit.

19 **Q. Do you have independent support for your opinion?**

20 A. Yes. The difference in the dispatchability of differing generation resources is broadly
21 recognized due to the inherent differences in characteristics of the energy sources from which
22 they generate electricity. For example, in its 2021 Long-Term Reliability Assessment the

1 North America Electric Reliability Corporation's ("NERC") provided as Schedule LMM-S-1
2 to this testimony the NERC states:

3 [Variable Energy Resources ("VERs")] include wind, solar, and run-of-river
4 hydroelectric plants for which electric output can change according to the primary
5 driver (i.e., moving air, sunlight, moving water), resulting in plant output fluctuations
6 on all time scales. Planners and operators must address and prepare for the uncertainty
7 associated with these resources because the magnitude and timing of variable
8 generation output is less predictable than for conventional generation.

9
10 Diminished levels of flexible generation--fuel-assured, weatherized, and dispatchable
11 resources--create vulnerabilities to energy shortfalls when extremely hot or cold
12 weather settles over a wide area for extended duration or when weather-dependent
13 generation is impacted by abnormal atmospheric conditions, such as smoke or wind
14 drought:

15 These quotes show that Empire's wind projects (VERs) have different characteristics from
16 Asbury (conventional generation). They supplement each other, but should not be considered
17 comparable resources that can replace each other. In fact, NERC in this report states:

18 Energy risks emerge when variable energy resources (VER) like wind and solar are not
19 supported by flexible resources that include sufficient dispatchable, fuel-assured, and
20 weatherized generation.

21 And that:

22 Reliable operation of thermal generating units and fuel assurance is critically
23 important, especially during extreme weather events.

24 **Q. Is Empire in the Southwest Power Pool where it participates in the SPP's energy market?**

25 A. Yes.

26 **Q. Has the NERC recently addressed energy reliability risk in the SPP?**

27 A. In its long-term reliability assessment section of its report, NERC merely states that SPP's each
28 year's anticipated reserve margin¹ is greater than the reserve margin SPP has determined
29 provides a loss of load expectation for the entire SPP system of 1 day in 10 years.² Elsewhere

¹ Reserve margin = (Capacity MW minus forecasted peak MW)/forecasted peak MW.

² This analysis does not measure the loss of load expectation for each of SPP's load serving entities, i.e. SPP's loss of load expectation is 1 day in 10 years does not equate to a loss of load expectation of 1 day in 10 years for Empire.

1 in the report, NERC cautions, “Capacity-based estimates, however, can give a false indication
2 of resource adequacy.” This would apply to SPP since its reserve margin is based on forecasted
3 peaks and accredited capacity.

4 However, NERC looks at more than just the reserve margins of the regional
5 transmission organizations. Regarding energy risks in extreme weather, the NERC states:

6 Inadequate winterization of thermal and wind generation in parts of MISO, Southwest
7 Power Pool, and Texas that do not typically experience extreme cold temperatures
8 remains a significant risk in winter reliability until new NERC winterization
9 requirements highlighted in the February 2021 Cold Weather Outages Report are
10 effective. In the meantime, Generator Owners, Generator Operators, and Grid
11 Operators (Reliability Coordinators and Balancing Authorities) in all areas must
12 understand the capabilities that facilities are designed to operate in and incorporate a
13 risk assessment in seasonal operating plans.

14 **Q. Has the NERC assessed SPP’s reliability for this summer?**

15 A. Yes, but not in the long-term reliability assessment attached as Schedule LMM-S-1. It
16 reported its assessment in its 2022 Summer Reliability Assessment report attached as Schedule
17 LMM-S-2. There the NERC states:

18 Expected resources meet operating reserve requirements under normal peak-demand
19 scenarios. Above-normal summer peak load and outage conditions could result in the
20 need to employ operating mitigations (i.e., demand response and transfers) and EEAs.
21 Load shedding may be needed under extreme peak demand and outage scenarios
22 studied.

23 **Q. Why is your opinion and the NERC’s assessments important for purposes of these
24 securitization cases?**

25 A. The NERC, in its 2021 Long-Term Assessment, makes the following recommendations:

26 Regulators and policymakers in risk areas should coordinate with electric industry
27 planning and operating entities to develop policies that prioritize reliability, including
28 those that would promote the development and use of flexible resources and maintain
29 a sustainable and diverse generation mix. (emphasis added)

30
31 Regulators and policymakers should review the scope of their resource adequacy
32 requirements to ensure that they address risks of both energy and capacity shortfalls
33 and consider both peak and non-peak demand hours. They should also consider

1 limitations from neighboring systems during wide-area, long-duration extreme weather
2 events and potential generator fuel supply limitations. (emphasis added)

3 In Missouri, resource planning decisions are made by the electric utility, not the regulators.
4 Empire made the decision to retire Asbury and build the wind projects based on its prediction
5 of future energy revenues from the SPP energy market that would provide revenues to its
6 customers and the certainty of a return on not only the new investment but the old retired
7 investment. Reliability was not an Empire priority nor was Empire maintaining a sustainable
8 and diverse generation mix. Empire's reliability objective was to meet the SPP planning
9 reserve margin, with no consideration to how its resources would meet load during both peak
10 and non-peak hours.

11 Because Empire was imprudent in its resource planning process and did not plan to
12 have resources that would meet its customers' needs, the Commission should not grant total
13 cost recover for the extreme costs Empire incurred during Storm Uri. Also, as OPC witness
14 Dr. Geoff Marke recommends in both his rebuttal and surrebuttal testimonies, the Commission
15 should order a disallowance on the remaining undepreciated balance of the Asbury AQCS, and
16 reject a WACC profit for Empire on the balance of stranded Asbury investment remaining
17 thereafter.

18 **Q. Does this conclude your surrebuttal testimony?**

19 A. Yes.