

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

Electronic Application Of Kentucky Power)
Company For A Certificate Of Public Convenience)
And Necessity To Expand And Upgrade Portions Of)
The Baker Substation In Lawrence County,)
Kentucky (Baker Reactor Breaker Project))

Case No. 2025-00335

DIRECT TESTIMONY OF
JASMINE L. MOORE
ON BEHALF OF KENTUCKY POWER COMPANY

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TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
I. INTRODUCTION	1
II. BACKGROUND.....	1
III. PURPOSE OF TESTIMONY	2
IV. TRANSMISSION PLANNING AND EXPANSION.....	3
V. PROJECT DESCRIPTION.....	4
VI. NEED FOR THE PROJECT	5
VII. ALTERNATIVES TO THE PROJECT	6

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I. INTRODUCTION

1 **Q. PLEASE STATE YOUR NAME, POSITION AND BUSINESS ADDRESS.**

2 A. My name is Jasmine L. Moore. My business address is 8500 Smiths Mill Road, New
3 Albany, Ohio 43054. I am employed by American Electric Power Service Corp.
4 (“AEPSC”), a subsidiary of American Electric Power (“AEP”). My title is Transmission
5 Planning Manager.

II. BACKGROUND

6 **Q. PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND**
7 **BUSINESS EXPERIENCE.**

8 A. I received a Bachelor of Science Electrical Engineering degree from Ohio Northern
9 University in Ada, Ohio. In 2002, I joined AEP as a Protection and Controls Engineer in
10 the Station Projects Engineering Group. I received my Professional Engineering license in
11 the state of Ohio in 2006 (license number 71494). In 2007, I transitioned to the Planning
12 group where I was initially a Planning Engineer. In 2016, I became the Planning Customer
13 Connections Supervisor. In 2017, I became the Transmission Planning Manager for the
14 Ohio Region and transitioned to the Appalachian Power and Kentucky Power Region
15 Planning Manager in 2018.

1 **Q. WHAT ARE YOUR RESPONSIBILITIES AS TRANSMISSION PLANNING**
2 **MANAGER?**

3 A. My responsibilities include organizing and managing activities related to assessing the
4 adequacy of AEP's transmission network to meet the needs of its customers in a reliable,
5 safe, cost-effective, and environmentally compatible manner. I participate in planning
6 activities with Kentucky Power ("Kentucky Power" or the "Company") to address overall
7 system performance.

III. PURPOSE OF TESTIMONY

8 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

9 A. I am testifying in support of Kentucky Power's Application for a certificate of public
10 convenience and necessity ("CPCN") authorizing Kentucky Power to expand and add new
11 breakers at the Baker Substation (the "Baker Reactor Breaker Project" or the "Project")
12 located in Lawrence County. The Project is being constructed to address baseline
13 violations associated with operational needs identified by PJM Interconnection, LLC
14 ("PJM") and Kentucky Power. I am providing information related to the need for the
15 Project.

16 **Q. ARE YOU SPONSORING ANY EXHIBITS OR ATTACHMENTS IN THIS**
17 **APPLICATION?**

18 A. Yes, I am sponsoring **Exhibit 10** to this testimony, which demonstrates the baseline
19 needs being addressed by the proposed Project, as presented by PJM at its Transmission
20 Expansion Advisory Committee (TEAC) meetings on March 22, 2024 and April 2, 2024.

IV. TRANSMISSION PLANNING AND EXPANSION

1 **Q. HOW DID THIS PROJECT ORIGINATE?**

2 A. Kentucky Power and PJM identified an immediate operational need at Baker Substation.
3 The 765kV reactor at Baker Substation on the Baker-Broadford 765 kV circuit is a fixed
4 reactor which requires the Broadford-Baker 765kV circuit to be switched out of service
5 to energize or de-energize the line reactors. As system conditions change during day-to-
6 day operations, the reactors may need to be switched off (under higher transfers or heavy
7 load conditions) or on (to manage potential high voltages under low transfer conditions).
8 Currently, the Baker-Broadford 765kV line needs to be taken out of service to allow for
9 safe switching of its line reactors. These reactors need to be removed from service prior
10 to system issues developing, and most of the time it is not feasible to perform such a
11 switching maneuver during real-time operations. Additionally, switching the 765kV line
12 out of service during high transfer conditions poses operational risk and adds unnecessary
13 operation cycles to the main line breakers.

14 **Q. HAS THE PROJECT BEEN REVIEWED THROUGH THE PJM PROCESS?**

15 A. Yes, the baseline immediate need was presented by PJM at its Transmission Expansion
16 Advisory Committee (TEAC) meetings on March 22, 2024 and April 2, 2024. The solution
17 was presented by PJM at the TEAC meetings on April 30, 2024 and June 4, 2024. This
18 Project has been designated as project identification number b3847.1.

19 **Q. ARE ALL ELEMENTS OF A TRANSMISSION PROJECT REQUIRED TO BE**
20 **SUBMITTED TO PJM?**

21 A. No. There are project elements that either do not change the transmission grid's topology,
22 or that are implicit in the description of larger projects and are not required to be submitted

1 to PJM for explicit review. These project elements do not affect the transmission grid
2 analysis within the framework of PJM's FERC-approved planning process. Nevertheless,
3 these project elements are essential to the larger projects submitted to PJM. For example,
4 when a new breaker installation project is submitted to PJM, the breaker would likely be
5 the only major piece of equipment listed in the submission. The PJM submission would
6 not include a listing of elements such as Coupling Capacitor Voltage Transformers
7 (CCVTs) and relaying required for the breaker to function properly. CCVTs are utilized
8 for real-time voltage sensing on the grid. Relays receive information from CCVTs and
9 other instrument transformers and determine the proper course of action for the equipment
10 to which they are tied. Without the relays and CCVTs, the breaker would not know when
11 or how to operate.

V. PROJECT DESCRIPTION

12 **Q. PLEASE DESCRIBE THE BAKER SUBSTATION.**

13 A. Baker Substation is a critical station that has extra high voltage ("EHV") interconnections
14 on the 765/345kV level with the Hanging Rock Station located in Ohio, the Broadford
15 Station located in Virginia, and Tri-State Station located in West Virginia. The Baker
16 Substation is also connected to generation through the Substation's 345kV yard. Company
17 Witness Benedum provides additional information about the Baker Substation in his Direct
18 Testimony.

19 **Q. PLEASE PROVIDE AN OVERVIEW OF THE PROPOSED PROJECT.**

20 A. The Project consists of the following baseline scopes to address the baseline needs
21 discussed above:

- 1 a) Expanding the yard (an approximate 640-foot by 185-foot expansion) at
2 the Baker Substation;
- 3 b) Relocating the existing reactors within the expanded yard at the Baker
4 Substation;
- 5 c) Installing a new three-phase 765kV 50kA circuit breaker on the reactors
6 on the Baker-Broadford 765kV line within the Baker Substation;
- 7 d) Reconnecting the existing Baker-Broadford 765kV circuit to the relocated
8 reactors; and
- 9 e) Associated distribution work and relocating an existing gas line located
10 within the property.

VI. NEED FOR THE PROJECT

11 Q. WHY IS THE PROJECT NECESSARY?

12 A. This Project was initially driven by PJM and Kentucky Power after identifying an
13 immediate operational need at the Baker Substation. During day-to-day operations, the
14 reactors may need to be switched off or on based on real time system conditions. Currently,
15 during high load conditions as well as high transfer conditions, the line reactors may need
16 to be switched off to manage low 765kV conditions. The existing reactors cannot be
17 switched off while the 765kV line is energized, which poses operational risk and adds
18 unnecessary operation cycles to the main line breakers. The addition of a reactor circuit
19 breaker enables the reactors to be switched in and out of service independently without
20 having to take the 765kV transmission circuit, which they are connected to, out of service.
21 This operational flexibility is necessary to ensure regional system reliability and optimal

1 performance. **Exhibit 10** includes the information presented at PJM supporting the need
2 for the baseline work included in this Application.

3 Company Witness Benedum provides additional information on why the other components
4 of the Project, including the Substation expansion and reactor relocations, are necessary.

5 **Q. PLEASE DESCRIBE HOW THE PROJECT ADDRESSES THE NEEDS YOU**
6 **IDENTIFY ABOVE.**

7 A. Installing the reactor circuit breaker on the reactors on the Baker-Broadford 765kV line
8 would allow the reactors to switch in and out of service without the need to take the
9 Baker-Broadford 765 kV line out of service. The switchable reactors allow for increased
10 interface limits, which prevents potential voltage collapse conditions that may occur at
11 higher transfers with the reactors connected. Additionally, the switchable reactors enable
12 control of higher voltages during valley/light loading periods.

VII. ALTERNATIVES TO THE PROJECT

13 **Q. WHAT ELECTRICAL ALTERNATIVES TO THE PROJECT WERE**
14 **EVALUATED BY THE COMPANY?**

15 A. Considering the location of the existing reactors and the nature of the request, no viable
16 electrical alternatives were identified that could be constructed in a timely or cost-effective
17 manner in or around the existing Baker Substation. Company Witness Benedum discusses
18 one potential alternative that would necessitate construction of a new, greenfield 765kV
19 substation, and why that alternative is neither cost-effective nor reasonable. PJM's review
20 also determined that there would be no reasonable cost-effective alternative to this Project.
21 Please see **Exhibit 10** for that information. The Proposed Project is the most reasonable,


1 least-cost option, as it addresses the immediate operational concerns in a timely and cost-
2 effective manner.

3 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

4 A. Yes, it does.

VERIFICATION

The undersigned, Jasmine L. Moore, being duly sworn, deposes and says she is a Transmission Planning Manager for American Electric Power Service Corporation, that she has personal knowledge of the matters set forth in the foregoing testimony and the information contained therein is true and correct to the best of her information, knowledge, and belief after reasonable inquiry.

Signed by:

750000205001400
Jasmine L. Moore

Commonwealth of Kentucky)
)
County of Boyd)

Case No. 2025-00335

Subscribed and sworn to before me, a Notary Public in and before said County and State, by Jasmine L. Moore, on 10/23/2025 | 9:09 AM EDT.

Signed by:

E9B1BC7AC31F421
Notary Public

My Commission Expires 05/05/2027

Notary ID Number KYNP71841

MARILYN MICHELLE CALDWELL ONLINE NOTARY PUBLIC COMMONWEALTH OF KENTUCKY Commission #KYNP71841 My Commission Expires 5/5/2027
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