

**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 Construct 69 kV)
Transmission Lines And Associated Facilities)
In Pike County, Kentucky)
("Belfry Area Transmission Line Project"))

Case No. 2022-00236

DIRECT TESTIMONY OF

NICOLAS C. KOEHLER

ON BEHALF OF KENTUCKY POWER COMPANY

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I. INTRODUCTION

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

A. My name is Nicolas C. Koehler. My position is Director of East Transmission Planning for American Electric Power Service Corporation (“AEPSC”). AEPSC supplies engineering, financing, accounting, planning, advisory, and other services to the subsidiaries of the American Electric Power (“AEP”) system, one of which is Kentucky Power Company (“the Company”). My business address is 8500 Smiths Mill Road, New Albany, Ohio 43054.

II. BACKGROUND

Q. PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE.

A. I received a Bachelor of Science – Electrical Engineering degree from Ohio Northern University in Ada, Ohio. In 2008, I joined AEP as a Planning Engineer where I advanced through increasing levels of responsibility. I received my Professional Engineer license in the state of Ohio in 2012 (license number 76967). In May 2019, I assumed my current position.

1 **Q. WHAT ARE YOUR RESPONSIBILITIES AS DIRECTOR OF EAST**
2 **TRANSMISSION PLANNING?**

3 A. My role includes organizing and managing all activities related to assessing the adequacy
4 of AEP's transmission network to meet the needs of its customers in a reliable, cost
5 effective, and environmentally compatible manner. I participate in planning activities with
6 Kentucky Power to address overall system performance.

7 **Q. HAVE YOU PREVIOUSLY SUBMITTED TESTIMONY BEFORE THE**
8 **KENTUCKY PUBLIC SERVICE COMMISSION?**

9 A. Yes. I previously submitted testimony in Case No. 2020-00062, Case No. 2021-00346,
10 and Case No. 2022-00118.

11

12

III. PURPOSE OF TESTIMONY

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

14 A. I am testifying in support of Kentucky Power's application for a Certificate of Public
15 Convenience and Necessity authorizing Kentucky Power to retire 8.2 miles of the 46 kV
16 Sprigg – Stone 46 kV Circuit, construct approximately 6.5 miles of the New Camp –
17 Orinoco and Orinoco – Stone 69 kV Transmission Lines, and perform related substation
18 and other work (the “Belfry Area Transmission Line Project” or the “Project”). The Project
19 is being constructed to allow for the retirement of 8.2 miles of 46 kV transmission lines
20 between the existing Sprigg and Stone Substations. Approximately 6.5 miles of this
21 retirement is located in Kentucky with the remainder in West Virginia. I will provide
22 information related to the need for the Project.

23

1 **IV. TRANSMISSION PLANNING AND EXPANSION**

2 Q. **DOES KENTUCKY POWER FOLLOW SPECIFIC GUIDELINES TO**
3 **DETERMINE THE NECESSITY OF SUPPLEMENTAL PROJECTS?**

4 A. Yes. Kentucky Power follows an established and detailed protocol to evaluate and select
5 Supplemental Projects that assures only projects that are needed are pursued. See
6 **EXHIBIT 17**, AEP's Guidelines For Transmission Owner Identified Needs. The
7 guidelines discuss the drivers or inputs that should be considered when evaluating
8 transmission system needs. The guidelines ensure that all AEP-affiliated Transmission
9 Owners are applying consistent criteria in their evaluations; Kentucky Power ultimately
10 determines the mix of Supplemental Projects needed to maintain the reliability of its
11 transmission grid within the AEP Zone. Consistent with the AEP Guidelines for
12 Transmission Owner Identified Needs, Kentucky Power considers safety risks or
13 concerns, asset condition, abnormal operating conditions, reliability performance, RTO
14 or ISO notices, stakeholder and customer input, state and federal standards or policies,
15 including NERC transmission planning standards, and environmental impacts in
16 identifying Supplemental Projects.

17 Q. **WHAT DRIVERS OR INPUTS DOES KENTUCKY POWER CONSIDER IN**
18 **IDENTIFYING SUPPLEMENTAL PROJECTS?**

19 A. Consistent with the AEP Guidelines for Transmission Owner Identified Needs, the
20 considerations include:

21 Equipment Condition, Performance and Risk: These are investments made to
22 ensure the safe and reliable operation of the transmission system. The decision
23 to pursue such projects can be based on equipment performance, obsolescence

1 and expected life concerns, equipment condition, reliability impact,
2 maintenance costs, environmental impact and engineering recommendations.

3 Operational Flexibility and Efficiency: These projects can optimize system
4 configuration, lower equipment duty cycles, reduce the impact on and limit the
5 exposure to customers for planned or forced outages and can facilitate
6 improved restoration times. They also provide opportunities to bring the
7 system up to current standards and design principles.

8 Infrastructure Resilience: These projects can improve system ability to anticipate, absorb,
9 adapt to, and/or rapidly recover from disruptive natural or man-made events including
10 severe weather, geo-magnetic disturbances, and physical and cyber security challenges.

11 Customer Service: These projects accommodate new, increasing, or future load so that
12 the system can reliably address customer needs.

13 Other Drivers: Examples include industry recommendations, changes to standards and
14 regulations, and state policy objectives.

15 **Q. HOW DO PJM INTERCONNECTION, LLC (“PJM”), AEP, AND KENTUCKY**
16 **POWER COORDINATE PLANNING AND OPERATION OF KENTUCKY**
17 **POWER’S TRANSMISSION SYSTEM?**

18 A. Kentucky Power’s transmission system is part of the AEP eastern transmission system,
19 which consists of the transmission facilities of ten AEP operating or transmission
20 companies including Kentucky Power, Appalachian Power Company, Ohio Power
21 Company, Indiana Michigan Power Company, Wheeling Power Company, Kingsport
22 Power Company, AEP Indiana Michigan Transmission Company, AEP Kentucky
23 Transmission Company, AEP Ohio Transmission Company, and AEP West Virginia

1 Transmission Company. This expansive system allows the economical and reliable
2 delivery of electric power for all AEP customers, including customers of Kentucky Power.
3 Planning and operation of the system is integrated through the coordinated efforts of PJM
4 and the AEP Transmission Department (“AEP Transmission”), a business unit of AEPSC.
5 AEP Transmission works closely with neighboring utilities, other interconnected
6 entities, and PJM to plan and operate the transmission grid. RTOs align the transmission
7 planning and operating requirements set out in each RTO’s protocols and operating criteria,
8 as further defined through North American Electric Reliability Corporation (NERC)
9 requirements. Kentucky Power has input into the RTO planning process through AEP
10 Transmission.

11 **Q. PLEASE DESCRIBE THE PJM RTEP PROCESS.**

12 A. The PJM RTEP process is a 24-month planning process that identifies reliability issues
13 over a 15-year horizon. The 24-month planning process consists of overlapping 18-month
14 planning cycles to identify and develop shorter lead-time transmission upgrades and one
15 24-month planning cycle to provide sufficient time for the identification and development
16 of longer lead-time transmission upgrades that may be required to satisfy planning criteria.

17 **Q. WHAT TYPES OF PROJECTS RESULT FROM THE RTEP PROCESS?**

18 A. Kentucky Power, through AEP Transmission, participates in the PJM planning process,
19 which is guided by PJM, NERC, RFC, and AEP planning criteria. The process generally
20 results in two categories of projects: Baseline and Supplemental. Each category is
21 described in detail below. The first project category is Baseline Upgrades. Using the
22 aforementioned criteria, PJM and Kentucky Power, in conjunction with AEP, develop
23 projects to address criteria violations. Baseline projects include transmission expansions or

1 enhancements that are required to achieve compliance with respect to PJM's system
2 reliability, operational performance, or market efficiency criteria as determined by PJM's
3 Office of the Interconnection, as well as projects that are needed to meet Transmission
4 Owners' local transmission planning criteria.

5 **Q. WHAT IS THE SECOND PROJECT CATEGORY?**

6 A. The second project category is Supplemental Projects. Supplemental Projects
7 include all projects that are not addressing minimum, bright-line Transmission Planning
8 criteria. These projects are needed to maintain the existing grid as designed, connect new
9 customers to the grid, satisfy contractual and regulatory requirements, and to meet RTO
10 and industry standards, as set forth in the PJM Operating Agreement. Examples of
11 Supplemental upgrades include interconnection of new retail demand, modification to
12 existing delivery points, replacing failed equipment, proactive replacement of deteriorating
13 assets in poor condition prior to failure, modernization and hardening of the grid, improved
14 operational efficiency and performance, and installation and expansion of supervisory
15 control and data acquisition.

16 **Q. WHAT IS THE PROCESS FOR REVIEWING PJM SUPPLEMENTAL**
17 **PROJECTS?**

18 A. The process outlines the following steps and requirements:

- 19 • provide for separate stakeholder meetings to discuss:
 - 20 ○ models, criteria, and assumptions used to plan Supplemental Projects;
21 (Assumptions Meeting);
 - 22 ○ needs underlying Supplemental Projects (Needs Meeting); and
 - 23 ○ proposed solutions to meet those needs (Solutions Meeting).

- 1 • post criteria, assumptions, and models at least 20 calendar days prior to the
2 Assumptions Meeting;
- 3 • post criteria violations and drivers at least 10 days in advance of the Needs Meeting;
- 4 • post potential solutions and alternatives identified by the PJM Transmission
5 Owners or stakeholders at least 10 days in advance of the Solutions Meeting; and
- 6 • submit comments at least 10 days before the Local Plan is integrated into the
7 RTEP for PJM Transmission Owner review and consideration.

8 FERC has been very specific that the changes it required in Docket EL16-71 are
9 prospective only. Thus, Supplemental Projects reviewed prior to the effective date of the
10 new process were and will continue to be subject to the rules applicable when they were
11 reviewed. It is also important to understand that Supplemental Projects that the Company
12 presents through the PJM stakeholder process are no different from the types of projects
13 for which the Company previously sought, and the Commission previously granted,
14 certificates of public convenience and necessity before Kentucky Power joined PJM. This
15 Project followed the updated requirements for Supplemental projects as outlined above.

16 **Q. WHAT IS PJM'S ROLE IN REVIEWING SUPPLEMENTAL PROJECTS?**

17 A. All projects affecting the topology of the grid (i.e., projects that impact the modeled
18 structure of the grid), whether baseline or supplemental, are subject to the stakeholder
19 process within PJM. While PJM does not “approve” Supplemental Projects, these projects
20 are submitted to PJM and reviewed with the TEAC or Sub-regional RTEP Committee –
21 Western on a regular basis (typically monthly). All TEAC and Sub-regional RTEP
22 Committee – Western meetings are open and any transmission stakeholder can attend and
23 participate. Any stakeholder input regarding specific projects is vetted through this PJM

1 committee meeting process. Supplemental Projects are subject to two rounds of review,
2 and detailed system needs and project information, including alternative solutions, are
3 provided to stakeholders.

4 **Q. IS THE DESIGNATION OF A PROJECT AS A BASELINE OR SUPPLEMENTAL**
5 **PROJECT INDICATIVE OF WHETHER THE PROJECT IS NECESSARY, OR**
6 **HOW NECESSARY IT IS?**

7 A. No, it is not. The designation of a project as a Baseline or Supplemental Project is not
8 indicative of the level of, or absence of, need for the project. Instead, the designations
9 simply reflect that the project satisfies different planning requirements and parameters.
10 The criteria for designation as a Supplemental or Baseline project are not mutually
11 exclusive, and a single project sometimes can be justified under either. Supplemental
12 Projects improve or preserve the ability of a PJM Transmission Owner such as Kentucky
13 Power to provide reliable service to its customers, consistent with its obligation to serve,
14 and are grounded in good utility practice.

15 **Q. DOES PJM FACTOR THE AGE OR CONDITION OF EQUIPMENT INTO ITS**
16 **FORWARD LOOKING MODELS FOR SYSTEM RELIABILITY?**

17 A. No, it does not. The forward-looking models that PJM and Kentucky Power transmission
18 owners employ to identify Baseline Projects assume the modeled system will perform as
19 designed without regard to the age or actual condition of all the elements of the
20 transmission system, including those elements constructed, upgraded, or maintained as
21 non-baseline elements. This means that, for modeling purposes, a substation with 75-year
22 old components that are deteriorating is assumed to function with the same reliability as a
23 five year old substation with newer components.

1 Although PJM transmission planning treats load dropping as an acceptable means
2 of mitigating potential system reliability criteria violations under certain scenarios, such a
3 planning approach is contrary to Kentucky Power's obligation under KRS 278.030(3) to
4 provide "adequate, efficient and reasonable service," including the safe and reliable
5 delivery of electricity to its customers. In that regard, Baseline projects alone would be
6 insufficient to satisfy Kentucky Power's obligation to provide safe and reliable service to
7 its customers.

8 **Q. IS ALL OF THE WORK ASSOCIATED WITH A TRANSMISSION PROJECT**
9 **SUBMITTED TO PJM?**

10 A. No. There are project elements that either do not change the transmission grid's topology,
11 or that are implicit in the description of larger projects, that are not required to be submitted
12 to PJM for explicit review. These project elements do not affect the transmission grid
13 analysis within the framework of PJM's FERC-approved planning process. These project
14 elements nevertheless are essential to the larger projects submitted to PJM.
15 For example, when a new breaker installation project is submitted to PJM, the
16 breaker would likely be the only major piece of equipment listed in the submission. The
17 PJM submission would not include a listing of elements such as Coupling Capacitor
18 Voltage Transformers (CCVTs) and relaying required for the breaker to function properly.
19 CCVTs are utilized for real time voltage sensing on the grid. Relays receive information
20 from CCVTs and other instrument transformers and determine the proper course of action
21 for the equipment to which they are tied. Without the relays and CCVTs, the breaker would
22 not know when or how to operate.

23 **Q. IS THERE ALSO A PROCESS FOR REVIEWING TRANSMISSION PROJECTS**

1 **AT FERC?**

2 A. Yes. In addition to the PJM stakeholder review, there is another opportunity to evaluate the
3 prudence of transmission projects at FERC. Specifically, AEP’s annual transmission
4 formula rate filings include protocols for the review of both the annual projection and true
5 up of the AEP formula rates.

6 **V. PROJECT NEED.**

7 **Q. PLEASE DESCRIBE THE NEED DRIVING THE PROJECT.**

8 A. This project was initially driven by Equipment Condition/Performance/Risk on the Sprigg
9 – Stone 46 kV Circuit. The Stone – Sprigg 46 kV transmission lines total approximately
10 8.2 miles in length and were originally installed in the 1940s. About 6.5 miles of line
11 passes through Kentucky and is owned by the Company; about 1.7 miles of line is located
12 in West Virginia and is owned by Appalachian Power Company. From 2017 to 2021, the
13 Sprigg – Stone 46 kV Circuit experienced 10 Momentary and 5 Permanent outages, which
14 resulted in 880,039 customer minutes of interruption for the customers served via this line.
15 The momentary outages were due to lightening (9) and ice/snow (1) causes. The permanent
16 outages were due to vegetation fall-ins outside of the right of way (2), wind (1), lightening
17 (1), and crossarm failure (1) causes. This transmission line is comprised of 55 structures,
18 of which 47 structures are located in Kentucky. The majority of these structures are wood
19 structures. Inspections of the circuit indicate open conditions have been observed (Open
20 conditions being the existing and unaddressed physical conditions associated with a
21 Transmission Line component) along the line. Of the 47 structures located in Kentucky, 32
22 unique structures are with at least one open condition (which is 70% of the structures on
23 this circuit in Kentucky). There are currently 112 open structural conditions consisting of

1 poles with rot top (30), poles with rot heart (27), crossarms with rot top (10), woodpecker
2 damaged poles (8), loose knee/vee braces (6), cracked poles (5), insect damaged poles (5),
3 knee/vee braces with rot top (4), leaning in-line poles (2), bowed crossarms (2), broken
4 crossarms (2), bowed X-braces (2), cracked X-braces (2), a broken pole (1), a pole with rot
5 pocket (1), a push pole with rot heart (1), a broken X-brace (1), a disconnected X-brace
6 (1), a bowed knee/vee brace (1), and an insect damaged knee/vee brace (1). There are
7 currently 11 open hardware conditions consisting of loose guys (9), a broken guy (1), and
8 a broken insulator (1). There are currently 7 open forestry conditions consisting of bush
9 clearances (6) and a hazard tree (1). There are currently 3 open conductor conditions
10 consisting of broken strands (1), burnt conductor (1), and damaged conductor (1).

11 Subsequent to the need being presented in PJM SRRTEP meeting, in the 2020 PJM window
12 on 2025 RTEP (Regional Transmission Expansion plan) case, voltage drop violations were
13 identified at New Camp 69 kV Substation in the event of an N-1-1 scenario that involves
14 the loss 138/69 kV transformer at Johns Creek and loss of Inez - Sprigg 138 kV Line.

15 This area 69kV system has received multiple new customer requests from Crypto Currency
16 Mining customers. Cyber Innovations Group LLC has 10 year Economic Development
17 Rider (EDR) contract approved by Kentucky Public Service Commission (KY PSC) for
18 their Belfry Facility for 23 MW of load whereas Discover AI LLC has a 10 year EDR
19 approved by KY PSC for their Kimper facility for 15 MW in Pike County. This additional
20 load and further aggravates the voltage drop issues stated earlier. The project adds a new
21 69 kV source to Hatfield substation (via New Camp – Stone line) which strengthens the
22 69kV system, improves reliability for existing as well as new customers and allows for
23 further load growth in the area.

1 **Q. HOW MANY CUSTOMERS ARE SERVED BY THE SPRIGG-STONE 46 KV**
2 **CIRCUIT IN THE AREA?**

3 A. The Sprigg – Stone 46kV circuit serves the Belfry Substation. The Belfry Substation
4 serves approximately 12.2 MVA of load and 1547 customers

5 **Q. HOW MANY CUSTOMERS ARE SERVED BY THE HATFIELD-NEW CAMP 69**
6 **KV LINE IN THE AREA?**

7 A. The Hatfield – New Camp 69kV line is the sole source for the New Camp substation. The
8 New Camp Substation serves approximately 13.9 MVA of load and 947 customers. New
9 Camp Substation also serves an Appalachian Regional Hospital facility, a water treatment
10 plant, a wastewater treatment plant, along with police, and fire facilities.

11 **Q. HAS THE PROJECT GONE THROUGH THE PJM PROCESS?**

12 A. Yes. This project need was reviewed with stakeholders at the April 20, 2020 need
13 meeting. The Baseline portion of the project was selected on January 15, 2021 and the
14 supplemental solution was presented on January 15, 2021 at the Sub-Regional RTEP-
15 Western meetings hosted by PJM. The Baseline IDs b3288 and Supplemental ID s2446
16 were assigned by PJM. The project costs in the local plan slides reflect transmission cost
17 estimates and do not reflect distribution substation cost estimates. Any further updates to
18 the local plan slides, including cost estimates, anticipated to occur during this proceeding
19 will be submitted accordingly.

20 **Q. PLEASE DESCRIBE HOW THE PROJECT ADDRESSES THE NEEDS YOU**
21 **IDENTIFY ABOVE.**

22 A. This line adds another 69 kV source to the system which in turn solves the identified
23 voltage violations. Additionally, this work would eliminate the need to rebuild the entire

1 8.2 miles of the Sprigg – Stone 46 kV Circuit and allow retirement of this 46 kV circuit.

2 In order to do so, this project proposes to construct approximately 6.5 miles of 69 kV line
3 between New Camp and Stone Substations via Orinoco Substation, which will replace
4 Belfry 46 kV Substation.

5 **Q. WILL DISTRIBUTION LINE WORK BE UNDERTAKEN AT THE TIME OF THE**
6 **TRANSMISSION PROJECT?**

7 A. Yes. As part of the project, Distribution lines will be built to connect Orinoco Substation
8 with Belfry Substation Distribution lines as Belfry Substation is slated to be retired along
9 with the Sprigg – Stone 46 kV Circuit.

10
11 **VI. PROJECT DESCRIPTION.**

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

13 A. The Project consists of five baseline and seven supplemental components to address the
14 needs discussed above. Baseline components are related to greenfield work and
15 supplemental components are mostly related to retirement work.

16 The baseline portion of the work includes,

17 (1) The construction of approximately 4.2 miles of 69 kV transmission line from New
18 Camp Substation to Orinoco Substation (proposed New Camp – Orinoco 69 kV Line);

19 (2) The construction of approximately 2.3 miles of 69 kV transmission line from Orinoco
20 Substation to Stone Substation (proposed Orinoco – Stone 69 kV Line);

21 (3) At Stone Substation, Circuit breaker A will remain in place and will be utilized as the
22 T1 low side breaker. Circuit Breaker B will remain in place and will be utilized as the new
23 Hatfield (via Orinoco and New Camp Substations) 69 kV line breaker. A new 69 kV

1 Circuit Breaker E also will be added for the Coleman line exit. The 46 kV equipment in
2 the Stone Substation will be retired;

3 (4) Reconfigure the New Camp 69 kV Tap through access road improvements/installation;
4 perform temporary wire and permanent wire work; and install dead end structures; and

5 (5) At New Camp Substation, rebuild the 69 kV bus, add 69 kV MOAB W, and replace the
6 69 kV Ground switch Z1 with a 69 kV Circuit Switcher on the New Camp Transformer.

7 The Supplemental portion of the work includes:

8 (1) Replace Belfry Substation with Orinoco Substation by installing a 69 kV double box bay
9 and 12 kV rural bay to be built in the clear, southwest of existing Belfry Substation. Install
10 69/12 kV 20 MVA transformer and three 12 kV breakers;

11 (2) Retire Belfry 46 kV Substation;

12 (3) Retire 46 kV equipment from Stone Substation;

13 (4) Replace at the Hatfield Substation MOAB Y with a 69 kV Circuit Breaker towards Stone
14 Substation (via New Camp and Orinoco Substations);

15 (5) Retire the 46 kV equipment at Sprigg Substation towards Stone Substation (via Belfry
16 Substation);

17 (6) Retire all 0.75 miles of the Turkey Creek 69 kV line and retire the Turkey Creek Tap; and

18 (7) Retirement of approximately 8.2 miles of the 46 kV Sprigg – Stone 46 kV Circuit.

19 **VII. ALTERNATIVES TO THE PROJECT.**

20 **Q. WHAT ELECTRICAL ALTERNATIVES WERE EVALUATED BY THE**
21 **COMPANY?**

22 A. To address supplemental needs, rebuild 8.2 miles of line between Sprigg and Stone
23 Substations to 69 kV standards (operated at 46 kV) and address asset needs at the existing

1 Belfry Substation site. To mitigate the baseline voltage violations, install 28.8 MVAR Cap
2 bank at Johns Creek Substation. Although this work would address the identified needs, it
3 would keep the New Camp Substation radially served.

4 **Q. WHY NOT REBUILD THE EXISTING 46 KV CIRCUIT?**

5 **A.** Rebuilding the existing 46 kV circuit as it exists today does not completely address the
6 area needs. After rebuilding the existing 46 kV circuit, the Company would still need to
7 mitigate the voltage violations identified at New Camp Substation. The proposed solution
8 reduces the total line mileage by approximately 1.7 miles. The outage and terrain
9 constraints limit the ability to rebuild fully within the existing Right of Way.

10 **Q. WOULD THAT ALTERNATIVE BE PREFERABLE COMPARED TO THE**
11 **COMPANY'S PROPOSAL?**

12 **A.** No. While the alternative addresses the identified needs, the proposed work has the
13 following ancillary benefit: It allows for the retirement of 8.2 miles of 46 kV line by
14 building approximately 6.5 miles of 69 kV line. It provides looped service to the New
15 Camp Substation which serves 13.9 MVA of load via approximately a 4.1 mile long radial
16 line from Hatfield Substation. The proposed project also supports new customer requests
17 in the area which can be subject to frequent and longer outages, potentially aggravating the
18 aforementioned voltage violation.

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

20 **A.** Yes, it does.



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E-Signature Summary

E-Signature 1: Nicolas C Koehler (NCK)

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nckoehler@aep.com (Principal) (Personally Known)

E-Signature Notary: Jennifer Young (JAY)

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jayoung1@aep.com
I, Jennifer Young, did witness the participants named above electronically sign this document.



VERIFICATION


The undersigned, Nicolas C. Koehler, being duly sworn, deposes and says he is the Director of East Transmission Planning for American Electric Power Service Corporation, that he has personal knowledge of the matters set forth in the foregoing responses, and the information contained therein is true and correct to the best of his information, knowledge, and belief.

Nicolas C Koehler
Signed on 2022/09/01 13:03:52 -8:00

Nicolas C. Koehler

Commonwealth of Kentucky)
)
County of Boyd) Case No. 2022-000236

Subscribed and sworn before me, a Notary Public, by Nicolas C. Koehler this
__ 1st __ day of September, 2022.


Signed on 2022/09/01 13:03:52 -8:00

Notary Public

My Commission Expires __ 06/21/2025 __

Notary ID Number: __ KYNP31964 __

Notarial act performed by audio-visual communication

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ONLINE NOTARY PUBLIC
STATE AT LARGE KENTUCKY
Commission # KYNP31964
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