

AEP OHIO EXHIBIT NO. \_\_\_\_\_

BEFORE  
THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of	)	
Ohio Power Company for Authority to	)	Case No. 23-23-EL-SSO
Establish a Standard Service Offer	)	
Pursuant to §4928.143, Ohio Rev. Code,	)	
in the Form of an Electric Security Plan.	)	

In the Matter of the Application of	)	
Ohio Power Company for Approval of	)	Case No. 23-24-EL-AAM
Certain Accounting Authority	)	

DIRECT TESTIMONY OF  
JAMES G. GARRETT IV  
IN SUPPORT OF AEP OHIO'S  
ELECTRIC SECURITY PLAN

Filed: January 6, 2023

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JAMES G. GARRETT IV

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BEFORE  
THE PUBLIC UTILITIES COMMISSION OF OHIO  
DIRECT TESTIMONY OF  
JAMES G. GARRETT IV  
ON BEHALF OF  
OHIO POWER COMPANY

1   **I.    PERSONAL BACKGROUND**

2   **Q1.   PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

3   A.    My name is James G. Garrett IV, and my business address is 700 Morrison Rd, Gahanna,  
4       Ohio 43230.

5   **Q2.   BY WHOM ARE YOU EMPLOYED AND WHAT IS YOUR POSITION?**

6   A.    I am employed by Ohio Power Company (“AEP Ohio” or the “Company”) a subsidiary  
7       of American Electric Power Company, Inc. (“AEP”) as Customer Service Manager.

8   **Q3.   WOULD YOU PLEASE DESCRIBE YOUR EDUCATIONAL AND**  
9       **PROFESSIONAL BACKGROUND?**

10  A.    I graduated with an Associate of Applied Science Degree from West Virginia University  
11       in 2020. I joined AEP in September 2006 as a Line Mechanic for Kentucky Power. In 2014,  
12       I transferred to AEP Ohio and was promoted to Line Crew Supervisor. In that role I was  
13       responsible for executing field construction efforts to support new customers, reliability  
14       improvements and outage restoration in the Lancaster area. I was promoted to the  
15       Distribution System Supervisor in 2017, overseeing all construction operations in  
16       Southeast Columbus. In 2018, I assumed the role of Manager of Distribution Systems,  
17       managing AEP Ohio field resources in Columbus. In 2021, I was promoted to my current  
18       role as Customer Service Manager.

1 **Q4. WHAT ARE YOUR RESPONSIBILITIES AS CUSTOMER SERVICE**  
2 **MANAGER?**

3 A. I am responsible for customer service activities for the key accounts in AEP Ohio's central  
4 Ohio service territory. I lead a team of Key Account Managers that work with large  
5 business and industrial managed accounts to meet their needs for service, contracts,  
6 account maintenance and reliability.

7 **II. PURPOSE OF TESTIMONY**

8 **Q5. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

9 A. The purpose of my testimony is to explain and support the need for AEP Ohio's proposed  
10 Community Grid Resiliency Pilot Program ("Pilot" or "CGR Pilot"). I will discuss the  
11 Pilot's features, benefits, monitoring and evaluation plan, and estimated costs.

12 **III. OVERVIEW OF COMMUNITY GRID RESILIENCY PILOT**

13 **Q6. WHY IS AEP OHIO PROPOSING THE CGR PILOT?**

14 A. The CGR Pilot is intended to test the ability to limit the impact of power outages within  
15 socially vulnerable communities.<sup>1</sup> Although outages will continue to occur under both  
16 normal and extreme operating circumstances throughout the Company's service territory,  
17 the Company's goal, and the purpose of this Pilot, is to help mitigate disproportionate  
18 impacts of outages to socially vulnerable areas.

19 A number of social vulnerability factors, including poverty, lack of access to  
20 transportation, and crowded housing may weaken a community's ability to prevent human  
21 suffering and financial loss during extreme weather events and power interruptions.

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<sup>1</sup> Social Vulnerability as defined by CDC/ATSDR [CDC/ATSDR SVI Fact Sheet](#).

1        Additionally, vulnerable populations are less equipped to prepare for, cope with, and  
2        recover from power disruptions, particularly for extended durations. The CGR Pilot will  
3        directly address the most critical needs of AEP Ohio’s most vulnerable customers through  
4        innovative strategies to supplement traditional distribution system investments. To address  
5        those impacts, the Pilot involves the addition of battery energy storage systems on the line  
6        side of critical customer facilities for short-term outage needs, portable generators when  
7        longer outage support is required for basic customer needs, and the addition of microgrids  
8        to provide site hardening for critical customer locations. Through the Pilot, the Company  
9        will be able to identify cost effective methods by type and location of need to improve  
10        resiliency during severe weather events as well as test opportunities during non-storm  
11        events to manage critical peak circuit loading and planned outage impacts for customers.

12                Further, as more distributed energy resources connect to the distribution system  
13        enabled by FERC 2222<sup>2</sup>, it is important that the Company explore and test the different  
14        ways batteries and generators can be managed to operate the distribution grid safely and  
15        determine customer benefits from the new technologies that distributed energy resources  
16        could bring to the distribution system. The Pilot components are complementary to the  
17        reliability investments addressed by Company witness Forbes and Kratt.

18    **Q7.    WHICH COMMUNITIES ARE ELIGIBLE FOR THE PILOT?**

19    A.        AEP Ohio will coordinate with state, county, and local community officials throughout its  
20        service territory to ensure a diverse set of participants are included in the Pilot. Efforts will  
21        be made to include communities in both metropolitan and rural Ohio. Participating

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<sup>2</sup> [FERC Order No. 2222: Fact Sheet.](#)

locations will be in areas at the census tract level, with a score of greater than or equal to 0.6 on the Social Vulnerability Index.<sup>3</sup> The Centers for Disease Control/Agency for Toxic Substances and Disease Registry Social Vulnerability Index ranks each tract on social factors, including socioeconomic status, household characteristics, racial and ethnic minority status, and housing type and transportation.<sup>4</sup>

**Q8. HOW WILL THE COMMUNITIES, BUILDINGS AND LOCATIONS FOR THE PILOT INVESTMENTS BE DETERMINED?**

A. The CGR Pilot will focus on providing resiliency options for the most impactful locations within selected communities. AEP Ohio will work with communities to select sites that serve key community structures, such as housing, grocery stores, community centers, shelters, healthcare, and emergency services.

**Q9. WHAT ARE THE UNIQUE REASONS SOCIALLY VULNERABLE COMMUNITIES NEED MORE RESILIENCY?**

A. Socially vulnerable populations are disproportionately impacted in extreme weather events that can often result in power interruptions.. Vulnerable portions of Ohio communities are generally less financially able to prepare for and recover from the unique hardships caused by power outages that impact employment, transportation options, childcare, and household economics. Additionally, the disruption, or lack of transportation options make it important and beneficial to provide support for residents within the affected communities. To provide resources for its residents during extreme events, communities

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<sup>3</sup> [CDC/ATSDR Social Vulnerability Index.](#)

<sup>4</sup> [CDC SVI Documentation.](#)

1 are often reliant on local entities such as community centers, churches, grocery stores,  
2 healthcare, etc.

3 Forced outages and storm-related damage resulting from extreme weather events,  
4 such as the recent derecho followed by an extreme heat wave, impact many Ohio  
5 communities, but uniquely impact those with vulnerable populations. In such  
6 circumstances, medical equipment may not be available for use and if backup power is not  
7 available, outages can disproportionately impact those requiring oxygen or other medical  
8 support. With many vulnerable households having a limited income, food loss due to power  
9 outages can have a significant financial impact. Additionally, without power, air  
10 conditioning and furnace fans are not available to help residents cope with the high  
11 temperatures in the summer and cold temperatures in the winter. During large scale outage  
12 events, community resources can be strained to offer cooling and heating center  
13 information, basic tips, and expanded transportation to those who need to temporarily  
14 relocate for heating or cooling during extreme temperature events.

#### 15 **IV. SCOPE OF THE COMMUNITY GRID RESILIENCY PILOT**

##### 16 **Q10. WHAT ARE THE COMPONENTS THAT WILL BE PILOTED?**

17 A. The CGR Pilot identifies four components (see Figure JGG-1) designed to limit the effects  
18 of power outages and provide support for socially vulnerable communities served by AEP  
19 Ohio. Multiple technologies including renewables, batteries, and distributed energy  
20 resources are targeted for use during the Pilot. A diverse mix of resiliency options will help  
21 to ensure the goals of the Pilot are met responsibly.

1

**Figure JGG-1**

Pilot Component		Estimated Scope	Estimated Cost
<b>1</b>	Portable distributed energy resources and onsite connections – small scale	30-50 Connection Points 7-15 Portable 500 KW Generators	\$4,000,000
<b>2</b>	Portable distributed energy resources and connections – large scale	2-4 Portable 1-2 MW Generators	\$3,000,000
<b>3</b>	Onsite Batteries and portable distributed energy resources - site specific	5-8 Sites	\$3,000,000
<b>4</b>	Community Micro-grids	2-4 Locations	\$5,000,000
Total Estimated Cost			\$15,000,000

2           These dollar figures are assuming full adoption of each component. To the extent that one  
3           program is not fully adopted, the Company will allocate resources to the other components  
4           up to the total proposed estimated cost.

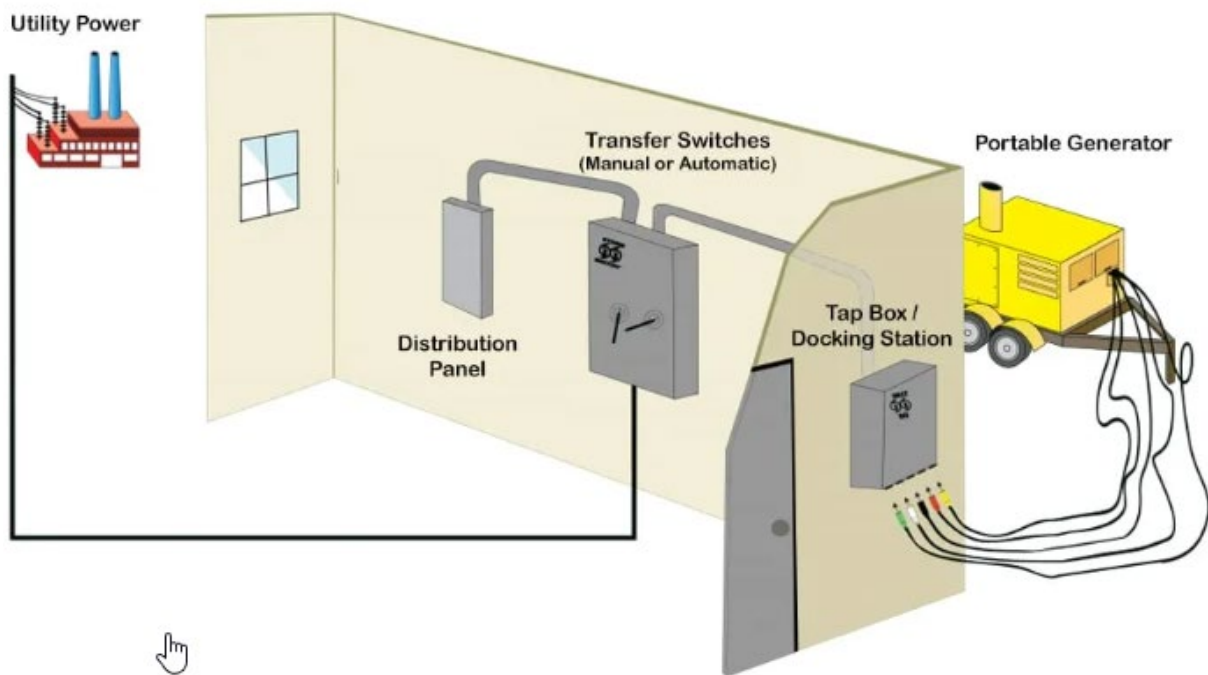
5   **Q11. DESCRIBE THE PORTABLE DISTRIBUTED ENERGY RESOURCES AND**  
6   **ONSITE CONNECTIONS – SMALL SCALE COMPONENT OF THE PILOT.**

7   A.   To decrease the impact of long duration outages caused by extreme weather conditions,  
8       transfer switches/generator connection points will be installed at selected sites to facilitate  
9       power restoration within four to six hours with the use of portable generators (see Figure  
10      JGG-2). Primary candidates will be critical sites that can manage short duration  
11      interruptions, allowing time for generator deployment. AEP Ohio will maintain 7-15  
12      portable generators to provide temporary electrical service at the selected sites until  
13      restoration is made to the distribution system. Each of the 7-15 generator units will serve a



single location while deployed. Any transfer switches/generator connection points installed during the Pilot will remain available for use by customers after the Pilot has concluded.

**Figure JGG-2**



**Q12. DESCRIBE THE PORTABLE DISTRIBUTED ENERGY RESOURCES AND CONNECTIONS - LARGE SCALE COMPONENT OF THE PILOT.**

- A. To address resiliency on a community scale, the Company will obtain two to four portable 1-2 MW primary voltage generators that will allow the Company to power portions of the selected communities during extended severe outages such as wind or ice events. When not needed for restoration, the Company-owned assets will be used to reduce the impact of planned outages. In addition, the assets may be utilized for relieving anticipated peak demand constraints on the grid to the extent the potential for outages caused by the constraint may affect resiliency. Any utilization for demand response should also be

monetized through PJM to the extent possible with 80% of any net revenue going to reduce the cost of the Pilot and 20% retained by the Company.<sup>5</sup> Company witness Heitkamp discusses how any monetization will be treated in the Customer Experience Rider (“CER”). This effort will maximize the efficient use of the equipment, but only to the extent that these resources are not needed for their primary purpose of outage restoration.

**Q13. DESCRIBE THE ONSITE BATTERIES AND PORTABLE DISTRIBUTED ENERGY RESOURCES– SITE SPECIFIC COMPONENT OF THE PILOT.**

A. This component of the Pilot will involve the installation and use of Company-owned onsite battery storage and portable generators to ensure the highest level of reliability. Locations that would be greatly impacted by any service interruptions and lack existing backup power would be primary candidates for this component of the Pilot. The installation of a battery storage system will supply the site with two to six hours of electrical service, allowing time for power restoration or deployment of generator assets for longer duration outages. Any battery installations will be placed on the utility side of customer meters, generator connections point locations will be site specific.

**Q14. DESCRIBE THE COMMUNITY MICRO-GRIDS COMPONENT OF THE PILOT.**

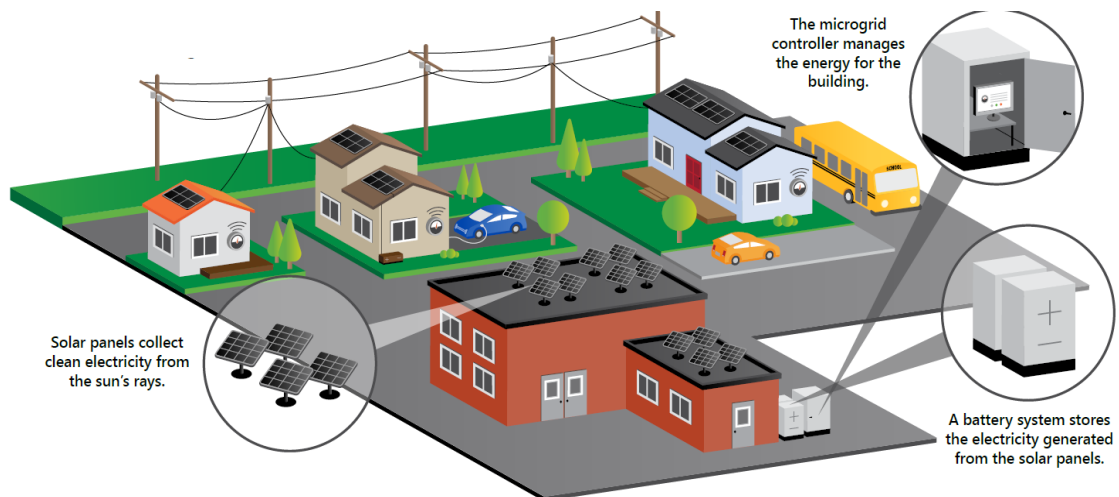
A. This component of the Pilot will involve the installation of two to four microgrid systems for key sites within selected communities. A microgrid is a small-scale power grid that can operate independently, also referred to as islanding, or in conjunction with the electric grid

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<sup>5</sup> Ohio Power Company's Energy Efficiency and Peak Demand Reduction Program Portfolio Plan Opinion and Order, [Docket 16-0574-EL-POR](#) filed 1/18/2017

(see Figure JGG-3). The critical components of a microgrid are a battery energy storage system and smart controls that can island the microgrid and keep the power flowing within the microgrid using energy stored in the batteries. Microgrids may include small-scale generation such as solar arrays, wind turbines, or small gas-fired generators that can supplement the energy and capacity provided by battery storage systems during islanding. Islanding allows electric service to be maintained to critical facilities during an outage.

**Figure JGG-3**



**Q15. HOW WILL THE CGR PILOT SCOPE BE FURTHER DEVELOPED?**

A. The detailed project scope will be further developed using participating customer data, evolving technology options, and costs. Each component has estimated target scopes and costs which can change depending on actual customer participation and cost. The Company will be able to shift scope and funding between components as participation and costs change; however, the Company will ensure that each component is tested during the term of the Pilot.

1   **V.    FUNDING**

2   **Q16.   HOW DOES AEP OHIO PROPOSE TO RECOVER THE COST OF THE CGR**  
3       **PILOT?**

4   A.    The capital investment and O&M related to the Community Grid Resiliency Pilot will be  
5       recovered through the CER. The CGR Pilot capital investment and projected O&M costs  
6       during the ESP V term will be capped at \$15M but requires customer participation so a  
7       detailed project plan is not available. The level of capital and O&M will be determined by  
8       actual cost and level of participation. Company witness Heitkamp further explains how the  
9       CER will be designed to recover the costs of the Pilot, as well as how the Company will  
10      inform the Commission of the costs of the Pilot after the CER and Pilot are approved.

11   **Q17.   ARE ADDITIONAL FUNDING OPTIONS BEING PURSUED?**

12   A.    AEP Ohio will partner with qualifying communities to help secure state and federal funding  
13      related to resiliency improvements, if available. Additional funding will allow for  
14      expanded scope and added support for vulnerable communities and further concept testing.

15   **VI.   IMPLEMENTATION, MONITORING, AND REPORTING**

16   **Q18.   WHAT IS THE PLAN FOR IMPLEMENTATION OF THE FOUR**  
17       **COMPONENTS OF THE PILOT?**

18   A.    Upon approval, AEP Ohio will begin by evaluating participants for each component. Once  
19      participants are identified, a detailed scope of work will be developed, and any outside  
20      funding opportunities will be explored. The Company will work with the community and  
21      specific building owners to complete engineering and then plan the installation of the  
22      infrastructure. Data collection will begin upon the completion of the installations.

23   **Q19.   HOW WILL THE PILOT BE MONITORED AND REPORTED?**

1 A. Monitoring will be conducted by the Company throughout the Pilot's funding. AEP Ohio  
2 will provide annual reporting to the Commission Staff that will include information such  
3 as energy consumption, number of deployments, frequency of events, performance of the  
4 pilot facilities, and cost. At the conclusion of the Pilot, AEP Ohio will provide a full report  
5 to the Commission that can be shared with interested stakeholders. Additionally, AEP Ohio  
6 will set out to prove that community resiliency efforts are scalable and document the  
7 positive societal and economic impacts associated with improving grid resiliency.

8 **Q20. DOES THIS COMPLETE YOUR TESTIMONY?**

9 A. Yes.

In accordance with Rule 4901-1-05, Ohio Administrative Code, the PUCO's e-filing system will electronically serve notice of the filing of this document upon the following parties. In addition, I hereby certify that a service copy of the foregoing Ohio Power Company's Direct Testimony of James G. Garrett IV was sent by, or on behalf of, the undersigned counsel to the following parties of record this 6<sup>th</sup> day of January 2023, via electronic transmission.

/s/ Steven T. Nourse

Steven T. Nourse

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Summary: Testimony DIRECT TESTIMONY OF JAY GARRETT ON BEHALF OF  
OHIO POWER COMPANY electronically filed by Mr. Steven T. Nourse on behalf of  
Ohio Power Company