

**BEFORE THE
PUBLIC UTILITIES COMMISSION OF OHIO**

In the Matter of the Application of Ohio Power :
Company for New Tariffs Related To Data : **Case No. 24-508-EL-ATA**
Centers and Mobile Data Centers :

APPLICATION FOR APPROVAL OF NEW TARIFFS BY OHIO POWER COMPANY

Now comes Ohio Power Company (“AEP Ohio” or “the Company”) and states as follows:

1. AEP Ohio is a “public utility,” as that term is defined in Section 4905.02 of the Ohio Revised Code (“R.C.”).
2. AEP Ohio files this Application pursuant to R.C. 4909.18, not for an increase in rates, seeking to establish two new classifications of customers going forward. Specifically, AEP Ohio requests approval of the following tariffs to create two new customer classifications: (1) the Data Center Power tariff for new data center customers that will use a monthly maximum demand of 25 MW or greater at a single location; and (2) the Mobile Data Center tariff for new mobile data center customers (*e.g.*, cryptocurrency miners) that will use a monthly maximum demand of 1 MW or greater at a single location. Data center and cryptocurrency mining customers that have signed service agreements with the Company prior to the proposed tariffs being effective will continue to be served under the Company’s existing General Service tariffs. But as part of its next base distribution rate case or some other appropriate proceeding in the future, the Company reserves the right to migrate those grandfathered customers to the new tariffs (or some other applicable tariff at that time).

3. Both proposed tariffs include a long-term capacity commitment to help ensure the capacity expansion is needed at the level requested and to help justify the time and cost associated with building the requisite high-voltage transmission to serve these unique customers. The Mobile Data Center tariff has further terms and conditions to address the additional load characteristics and mobility of mobile data centers. The key terminology used herein and the other proposed terms and conditions are set forth in the proposed tariffs and supporting testimony.

Data Center and Mobile Data Center Background

4. A data center consists of a centralized facility housing computer systems, servers, networking equipment, and related components necessary for the efficient operation of IT infrastructure used for the management, storage, processing, and dissemination of data and information.

5. Data centers can often be massive, highly scalable, energy intense facilities that require large capital investments – both on the customer side and the utility side of the meter. Data centers play a crucial role in supporting the modern digital economy by providing the infrastructure for cloud computing, big data analytics, and other high-performance computing tasks.

6. Not only are data centers typically associated with hyperscale loads, the load profile of data centers is unique because, unlike other commercial or industrial businesses that run varying shifts of production or only operate during normal business hours, they require high levels of demand – operating 24 hours a day, 7 days a week, 365 days a year with no natural cycling. Consequently, data center customers often have load factors that exceed 95%.

7. Mobile data centers, unlike traditional data centers, which often involve millions

of dollars if not tens of millions of dollars of investment in real property and infrastructure, are more transient in nature. Despite their transient nature, however, they still have intense electricity needs. These mobile data center customers present additional challenges to AEP Ohio and its other customers.

8. Mobile data centers are often lacking structures physically affixed to the ground. For example, mobile data center customers often operate out of shipping containers or other minimal structures. Even those that have structures have minimal capital investment compared to other commercial and industrial customers, including traditional data centers, which are incredibly capital intense projects. As a result, mobile data center customers can easily locate without much stranded investment on their side of the meter.

9. Cryptocurrency mining is a process involving blockchain networks, like Bitcoin and other cryptocurrencies, which are used to finalize transactions. When computers on the network verify and process transactions, new bitcoins are created, or “mined.” Utilizing powerful (and power-hungry) computers, cryptocurrency miners (also referred to herein as “crypto miners”) employ a process of creating new units of cryptocurrency by solving complex mathematical equations / validating transactions. The effort to solve these equations and validate transactions is known as “mining.” In exchange for solving these equations, crypto miners are rewarded with new cryptocurrency units.

10. Like traditional data centers, mobile data centers, such as crypto mining, operate 24/7 with no predictable cycling because they mine bitcoins as long as it is economical (*i.e.*, power prices and other costs of mining compare favorably with bitcoin prices). Thus, there are no set business hours, no stable demand curves and no permanency to crypto mining operations.

11. As described by AEP Ohio witnesses Kelso and McKenzie, these two sets of customers have distinct characteristics that set them apart from general service customers. The Company's testimony also shows that, while data centers (and mobile data centers) can generate economic development, it is often less impactful than the economic development generated by other commercial and industrial customers. Through the proposed tariffs, AEP Ohio is proposing to create new customer classes for data center customers and cryptocurrency mining customers.

Growth in AEP Ohio Service Territory

12. As described by AEP Ohio witnesses Ali, Kelso, and McKenzie, AEP Ohio is experiencing an unprecedented load growth from data centers in the AEP Ohio service territory, especially in central Ohio. AEP Ohio has signed Letters of Agreements or Electric Service Agreements with data center customers that will more than double the amount of load in central Ohio by 2030. This includes expanded load from the existing data center customers ramping up their current operations as well as new data center customers. Absent additional capacity (discussed below), even just the future load growth that is under contract will leave minimal amounts of reserve capacity for additional (non-data center) load growth for all existing and future customers in central Ohio. At least AEP Ohio's Top 5 largest customers will be data center customers by 2030.

13. In addition, as witness McKenzie explains, there have been over 50 customers at approximately 90 sites have submitted requests to reserve capacity for new or expanded load (that have not yet executed contracts) totaling more than 30,000 MW. The Company is filing the proposed tariffs in order to balance the interests of data center customers and other current and future customers of AEP Ohio.

14. AEP Ohio has also signed agreements for mobile data center load elsewhere within the AEP Ohio footprint outside of central Ohio.

15. The influx in load under contract, along with their future load requests to serve, is quickly consuming capacity throughout the service territory, most prominently in central Ohio. If left unresolved, these demands could constrain development of all types of future load, including natural growth of residential load as well as non-residential load especially in Central Ohio.

Impact of Data Center and Mobile Data Center Growth

16. As explained by AEP Ohio witnesses Ali and McKenzie, there is no longer any RTO-controlled generation in central Ohio; instead, the load is served by importing power through a robust 765 kV network. Under National Energy Regulatory Commission (NERC) requirements, however, AEP is required to plan for two simultaneous outages on the system. As further described by AEP Ohio witness Ali, significant transmission investments will be required for AEP Ohio to continue to provide safe and reliable electricity to the existing customers and customers with signed agreements for service commencing in the near future. AEP Ohio has begun this process by including in its load forecast to PJM Interconnection, LLC (PJM) demand for which it has signed agreements. But this is a fraction of what investments would be required to accommodate the more than 30,000 MW of requested load that has not been included in any PJM forecasts.

17. Building electrical infrastructure required to serve this kind of load is not an immediate solution and can take years for planning, regulatory approvals, material acquisition, and construction. For instance, 120 miles of 765 kV line would take approximately 7-10 years to build and could cost hundreds of millions of dollars. In order to protect future ratepayers

and future economic development of non-data center load, both the time and cost necessary to plan for dramatic load increases that are being seen in the AEP Ohio service territory make it imperative to have accurate customer predictions. As such, AEP Ohio needs to implement solutions to ensure that new data center customers, driving the exponential growth in demand, will follow through with their plans to justify the time and costs associated with the associated transmission investment.

18. AEP Ohio witness McKenzie explains the detailed reasons why the existing processes are not sufficient to address these capacity issues. At the time they were last updated, AEP Ohio's current tariffs were not designed to address (and did contemplate) either the current growth curve based on hyperscale data center development or the unique demands for serving this new class of data center customers.

Current Status

19. As explained by AEP Ohio witnesses Ali and Kelso, in March of 2023, AEP Ohio implemented a temporary moratorium or pause on taking new service requests in Central Ohio from data center customers and executing agreements to move forward with serving that load. This moratorium was taken to allow AEP's transmission planning group time to study the impacts that the data center load requests will have on the electrical delivery system in Central Ohio to ensure that the grid can reliably serve the new and existing load. As more analysis has been done, AEP is resolute and unwavering in its conclusion that an updated set of terms and conditions for retail service to data center customers is needed in order to move forward with capacity expansion plans on a just and reasonable basis.

20. AEP Ohio met with and communicated the need for the moratorium with all prospective data center and crypto mining customers that submitted requests for service.

21. As part of the moratorium, AEP Ohio anticipated using a “first come, first served” queue whereby prospective customers looking to expand their existing services or new prospective customers looking to locate in the AEP Ohio service territory could submit their requests for service (without signing any agreements) that would be addressed by the Company in due course. Based on the customer expressions of interest waiting in the queue, there are currently over 50 customers in the queue seeking more than 30,000 MW of load. This pause status needs to be continued while this tariff application remains pending and until the solution is implemented to move forward.

22. Although AEP Ohio has a general obligation to serve all customers within its service territory under R.C. 4905.22, that obligation is qualified to being “in all respects just and reasonable.” In addition, applying tariff conditions in a way that is confiscatory or does not render just compensation to a utility would be unconstitutional and unlawful. Similarly, R.C. 4933.83(B) conditions the obligation to serve on deploying facilities needed to meet “the reasonable needs of the consumers and inhabitants in the certified territory” and rendering “physically adequate service.” Thus, Ohio law does not require AEP Ohio to extend service to customers in a way that would be unreasonable or impose unjust risks for AEP Ohio and its other customers. As a corollary to the conditional obligation for serve, R.C. 4905.26 holds AEP Ohio accountable for complaints as to any service that “will be, in any respect unreasonable, unjust, insufficient, unjustly discriminatory, or unjustly preferential, or that any service is, or will be, inadequate or cannot be obtained...” Based on the existing circumstances, AEP Ohio is unable to continue making commitments to serve additional data center load without resolution of the underlying regulatory issues.

Proposed Tariff Solution

23. Through the filing of this Application, AEP Ohio is proactively proposing tariffs to create a solution for moving forward to serve data center load growth in a manner that justly and reasonably balances the interests of these new classes of data center and cryptocurrency miner customers with the other existing (and future) AEP Ohio customers. More specifically, to address the unique circumstances set forth above and ensure that accommodating the exponential growth attributed to data centers do not create unacceptable risks for AEP Ohio or its customers, AEP Ohio proposes to implement two new tariffs – a Data Center Power Tariff and a Mobile Data Center/Flexible Load Tariff.

24. The Data Center Power Tariff will be applicable to data centers with monthly demand of more than 25 MW that begin commercial operation or expansion of their existing load after the effective date of the tariff.

25. Because of the increased risks that applicable customers pose, the Mobile Data Center/Flexible Load Tariff will be applicable to Mobile Data Centers with monthly demand of greater than 1 MW that begin commercial operation or expansion of their existing load after the effective date of the tariff.

26. To address the concern of properly planning the transmission and distribution network, the data center tariff will apply a minimum billing demand of no less than 90% of the greater of (a) the customer's contract capacity, or (b) the customer's highest previously established monthly transmission billing demand during the past 11 months. This will ensure that data center customers are incentivized to maintain accurate contract capacity levels as they will be billed based on those amounts. A similar provision utilizing a 95% minimum demand

charge is proposed for mobile data centers such as cryptocurrency miners. As explained by AEP Ohio witness McKenzie, these minimum demand requirements will also ensure that investments in the system will be utilized and paid for by those that caused the need for such investments rather than placing the risk of paying for the associated incremental investment on other customers should the data center have lower usage.

27. Both tariffs will also require contracts to be made for an initial term of not less than 10 years and will include an “exit fee” if the customer chooses to leave early, which time period will commence upon energizing the customer. The contracted time period may also include a three-year “load ramp” of increasing load if that is agreed to by the Company. This provision provides a certain level of flexibility to a data center/crypto customer while providing strong incentives for those customers to follow through with the amounts of capacity that they seek.

28. To protect against the impact of such large load customers declaring bankruptcy or otherwise attempting to avoid paying their financial commitments required under the new tariffs, both tariffs provide for AEP Ohio to determine security and collateral provisions to support enforcement of the tariff provisions.

29. To address the potential of large data center loads causing disruptions on the electric grid, both tariffs require that the customer “will follow all applicable technical operating requirements, such as not intentionally or unintentionally cycling load in a way that creates an imbalanced or unacceptable system frequency, and other requirements that will be maintained and periodically updated for the safety of the larger system.”

30. To address the transient nature of Mobile Data Centers, the Mobile Data Center/Flexible Load Tariff sets forth enhanced collateral, security, and operating provisions

allowing AEP Ohio to determine the appropriate security and collateral provisions, including the requirement of a deposit in the amount of the Exit Fee and/or of any contribution in aid of construction, as well as the ability to terminate service if incorrect information is provided or technical requirements are violated.

31. Both tariffs require that customers participate in the PJM Emergency Demand Response program or Company-declared emergency event and subject to service disconnection if they do not respond.

32. Under the proposed tariffs, the base and rider rates for data center and mobile data center customers are the same as the rates that other Schedule GS customers pay.

33. Customers receiving service under the proposed tariffs may select competitive service from a Competitive Retail Electric Service Provider or Standard Offer Service (SSO). If a customer served under Schedule DCP elects not to shop, AEP Ohio proposes to conduct a special SSO auction for data center and crypto mining customers. AEP Ohio proposes to conduct a separate SSO auction because including that load in the regular SSO auction could add unacceptable risk and complications for participating suppliers, thus increasing prices for all SSO customers (with crypto miner load of less than 25 MW being served through market procurement). The foregoing tariff proposals are addressed in more detail in the testimony of AEP Ohio witness McKenzie.

34. The Data Center Power Tariff and a Mobile Data Center/Flexible Load Tariff are needed to protect AEP Ohio's continued ability to provide just and reasonable service to our existing and future customers and maintain system-wide energy availability and capacity. Specifically, AEP Ohio's proposed tariff solution will permit the time necessary for the lengthy process and planning associated with building additional transmission to import generation that

is not local to AEP Ohio's service territory.

35. The Data Center Power Tariff and a Mobile Data Center/Flexible Load Tariff are also necessary to provide financial assurance that the retail costs of the transmission facilities that must be constructed to serve the data center and mobile data center load will not be under-utilized in the event that the load does not materialize or is cancelled.

Relief Requested

WHEREFORE, as further detailed below, the Company requests that the Commission issue an Entry that continues the moratorium on processing new data center service requests in Central Ohio and adopts the following procedural schedule for reviewing and issuing its final order ruling upon the Company's proposed tariffs:

- a. A technical conference should be scheduled to allow interested persons the opportunity to better understand AEP Ohio's Application. The conference should be held on May 22, 2024 at 10:00 am, at the offices of the Commission;
- b. Motions to intervene shall be filed by May 31, 2024;
- c. Testimony on behalf of intervenors shall be filed by June 21, 2024;
- d. Discovery requests, except for notices of deposition, shall be served by July 10, 2024;
- e. Testimony on behalf of the Commission Staff shall be filed by July 29, 2024;
- f. A procedural conference shall be scheduled for August 15, 2024, at 10:00 a.m., at the offices of the Commission; and
- g. The evidentiary hearing shall commence on September 16, 2024, at 10:00 a.m., at the offices of the Commission.

Respectfully submitted,



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Summary: Application For Approval of New Tariffs electronically filed by Mr. Steven T. Nourse on behalf of Ohio Power Company.