



November 7, 2025

Dear Customers,

The purpose of this letter is to explain the results of the formal load studies that Ohio Power Company (“AEP Ohio”) and transmission planning personnel in the AEP Service Corp. (“AEP Transmission”) have conducted as part of “Step Two” of the “Process for Signing Up for New Schedule DCT Customers” in the Stipulation approved by the Public Utilities Commission of Ohio in Case No. 24-508-EL-ATA (“Data Center Tariff Case”).

I. Background

Under “Step One” of the Stipulation process, customers in AEP Ohio’s Central Ohio data center queue had 45 days from the effective date of Schedule DCT to submit a request and pay a one-time fee for AEP Ohio to “conduct a formal study of their prospective load.” Stipulation ¶ III.F.1. This deadline was September 8, 2025, by which time AEP Ohio received requests to formally study 36 data center sites totaling 13,022.7 MW of total load. Of those applications, 32 sites totaling 9,807.7 MW of load were located within Central Ohio. (In this letter, we will refer to the 13,022.77 MW as “New Data Center Projects,” and we will refer to all data center customers who signed LOAs or ESAs before the effective date of Schedule DCT as “Grandfathered Data Center Projects.”)

Under “Step Two” of the Stipulation process, AEP Ohio is required to “make reasonable efforts to complete the load study within: (i) 60 days if regional transmission upgrades are needed to serve the customer; or (ii) 45 days (for all other situations).” Stipulation ¶ III.F.2. AEP Ohio is then required to present customers with LOAs and ESAs under “Step Three” of the process, and customers have 60 days to sign these contracts under “Step Four” of the process. Stipulation ¶ III.F.3-4.

AEP Ohio has now completed “Step Two”—the load study process—and is providing this letter to share and explain the results before proceeding to Step Three.

II. Explanation of Load Study Process

The load study process had two primary objectives:

- *Determine the Need for Regional Projects* – The first objective was assessing the extent to which regional transmission investments would be required to support the New Data Center Projects. As described below, AEP Transmission determined that regional upgrades will be necessary for all 36 New Data Center Projects. Since these upgrades typically have the longest lead times, the timing of these upgrades has become the gating factor in determining the estimated in-service date for all New Data Center Projects.
- *Define the Local Service Plan* – The second objective was to develop a local service plan for each New Data Center Project, identifying the local system upgrades needed to connect the data center to the transmission network. Since regional upgrades are required for all projects, AEP Transmission assumed that local upgrades—which generally take less time to complete—would be constructed in parallel with the regional work. As a result, local upgrades are not the limiting factor in determining in-service dates. However, they remain a key component of the LOA, as

they determine the amount of the customer's required Contribution in Aid of Construction (CIAC) and the amount the customer agrees to reimburse in the event the customer cancels its project.

A. Determining the Need for Regional Upgrades

To assess the regional transmission upgrades required to support New Data Center Projects, AEP Transmission conducted load studies using North American Electric Reliability Corporation Transmission Planning ("NERC TPL") standards. This involved integrating the proposed data center load into transmission system models and evaluating system performance under various scenarios. The goal was to identify any reliability concerns that could arise due to the New Data Center Projects.

The following analyses were conducted:

- **N-1 Thermal Analysis** – This scenario evaluated whether the failure of any single transmission system element (e.g., line, transformer) would cause another element to exceed its thermal capacity. AEP Transmission simulated the outage of each element of the transmission system individually and assessed whether any resulting thermal overloads occurred.
- **N-1-1 Thermal Analysis** – This analysis considered the sequential failure of two elements of the transmission system. Unlike an N-2 event (simultaneous failures of two elements), the N-1-1 scenario allows the system to re-dispatch and stabilize after the first failure before simulating the second. This required extensive modeling of all possible two-step failure combinations to identify potential thermal violations.
- **N-1-1 Voltage Magnitude Analysis** – Using the same N-1-1 sequential failure approach as above, this analysis checked whether voltage magnitudes remained within acceptable limits after each contingency event.
- **N-1-1 Voltage Drop Analysis** – Similar to the voltage magnitude analysis, this scenario evaluated whether voltage drops exceeded allowable thresholds following sequential N-1-1 outages.

If the addition of the New Data Center Projects resulted in violations under any of these analyses, AEP Transmission identified the regional transmission upgrades that were necessary before the load could be safely integrated into the system. These contingency analyses are essential to ensure the transmission system remains reliable and resilient, forming the foundation of planning practices designed to prevent widespread or cascading outages across the bulk electric system.

Additionally, as outlined in the Data Center Tariff Case Stipulation, because regional upgrades were necessary for all New Data Center Projects, AEP Transmission "grouped customers from the queue into tranches based on the expected capacity increase associated with each regional upgrade project." Stipulation ¶ III.F.2. As explained more fully below, AEP Transmission referred to these tranches as "clusters."

B. Transmission Analysis Assumptions

To conduct the analyses, AEP Transmission made several key assumptions to ensure the modeling reflected the most current and relevant system conditions.

AEP Transmission used the PJM 2030 Summer RTEP Case as the foundation of the model. This base case was then updated to incorporate all new large load additions across the AEP Ohio service territory (including all Grandfathered Data Center Projects), other AEP affiliates, and neighboring transmission

owners (such as Duke and AES). These updates included all projects submitted to PJM through the M3 supplemental planning process after the original 2030 case was developed.

Another critical assumption involved the outcome of the 2025 PJM Competitive Window, which solicited proposals to address anticipated voltage violations in Central Ohio. Since PJM has not yet selected a winning project at the time of the study, AEP Transmission assumed that the proposal submitted by AEP Transource—identified as “2025W1-570”—would be selected and placed in service by its proposed in-service date of approximately Q4 2031.¹ This assumption is significant. If PJM ultimately selects a different project or if the 2025W1-570 project is delayed, the estimated in-service dates reflected in the LOAs and ESAs that AEP Ohio will provide to New Data Center Projects could be materially affected. If PJM selects a project other than 2025W1-570, AEP Transmission will promptly re-evaluate its analysis, and AEP Ohio will provide updated information to customers regarding the anticipated in-service dates for the New Data Center Projects.

C. Generation Resource Assumptions

The transmission model used by AEP Transmission assumes that adequate generation resources are available to serve the new data center loads. Under Ohio law, AEP Ohio does not own generation assets, and therefore AEP Transmission did not evaluate the sufficiency of generation supply or the potential impact of the New Data Center Projects on wholesale generation prices.

In addition to the modeling assumptions and caveats discussed above, the adequacy of generation resources within PJM represents another external factor that could influence both the timing and the amount of New Data Center Project load AEP Ohio is ultimately able to serve. While not within AEP Ohio’s control or scope of study, this variable may affect system reliability and market dynamics as these projects move forward.

III. Results of the Analysis

A. Key Conclusions

After conducting extensive iterations of the analyses described above, AEP Transmission reached the following key conclusions:

- 1) *Regional Upgrade Requirement for All Projects* – None of the 13,022.7 MW of New Data Center Load can be reliably served until the completion of the 2025W1-570 project (or a comparable regional solution selected by PJM) anticipated to be in service by approximately Q4 2031. This project is essential to resolving transmission system constraints identified in the analysis.
- 2) *“Cluster 1” and “Cluster 3” Can Be Served Post-2025W1-570* – Once the 2025W1-570 (or equivalent) project is placed in service, AEP Ohio will be able to serve New Data Center Projects in “Cluster 1” and “Cluster 3.” Cluster 1 consists of the first 5,454.5 MW of New Data Center Projects located *inside* Central Ohio, as well as additional data center projects from other Ohio utilities that are located in Central Ohio and will affect AEP Ohio’s Central Ohio transmission capacity. “Cluster 3,” furthermore, consists of all New Data Center Projects located *outside* Central Ohio (totaling 3,215 MW), as well as additional data center projects from Ohio other utilities. Importantly, although the 2025W1-570 (or equivalent) regional solution is the gating factor for the timing of Clusters 1 and 3, AEP Transmission also

¹ The proposed 2025W1-570 project would entail building a 765 kV line from Greentown Substation in Indiana to Melissa Substation in Central Ohio, as well as additional supporting 345 kV investments.

identified a number of non-regional transmission upgrades that must be completed in parallel with the regional solution before Clusters 1 and 3 can be served without violating system reliability standards.

- 3) *Additional Regional Upgrade Required for “Cluster 2”* – The remaining cluster, “Cluster 2,” consists of the remaining 4,353.2 MW of New Data Center Projects located in Central Ohio not included in Cluster 1, as well as additional data center projects from other utilities located in Central Ohio. To serve Cluster 2, an additional regional transmission solution will be required. This regional upgrade must go through PJM’s competitive planning process, and as such, AEP Transmission cannot predict with certainty when it will be selected or completed. For planning purposes, AEP Ohio will use an estimated in-service date of 2033 in the LOAs and ESAs for Cluster 2 customers. Execution of these agreements is necessary for AEP Ohio to formally submit the load to PJM, which is a prerequisite for PJM to initiate the competitive window for the required regional upgrade. However, the 2033 date is merely a planning estimate and subject to change. Also, as with Clusters 1 and 3, AEP Transmission identified several non-regional upgrades that must be constructed in parallel with the future regional solution before Cluster 2 can be served.

B. Study Outputs

Based on these conclusions, AEP Transmission provided three outputs, or deliverables, of its load study process:

- Estimated in-service dates for all New Data Center Projects: Q4 2031 for Clusters 1 and 3, and 2033 for Cluster 2.
- A list of required non-regional transmission upgrades that must be completed in parallel with the regional projects. These non-regional investments are detailed in each new Data Center Project customer’s service plan and are subject to change based on evolving conditions within PJM.
- A local service plan for each New Data Center Project, identifying the specific upgrades needed to connect each load to the transmission system.

AEP Ohio used these outputs to develop the LOAs, ESAs, and Services Plans that we will provide to New Data Center Project customers, as outlined below.

C. Central Ohio Queue and Cluster Assignment

As noted above, in the Data Center Tariff case, AEP Ohio explained that after reaching the limits of available regional transmission capacity to import power into the Central Ohio area, it implemented a temporary moratorium on signing LOAs or ESAs with new data center customers in that region. AEP Ohio then established a Central Ohio “queue,” placing potential data center customers in the order they contacted AEP Ohio regarding their projects.

At the time, AEP Ohio could not determine what transmission investments would be required or how long it would take to serve each customer in the queue. However, under the process approved in the Data Center Tariff case, and with the completion of AEP Transmission’s study, it is now clear that the most meaningful outcome of a project’s position in the queue is its assignment to Cluster 1 or Cluster 2, as previously described.

In defining the boundary between Clusters 1 and 2, AEP Transmission maximized the amount of New Data Center Project load that could be served in Central Ohio once the 2025W1-570 project (or a comparable PJM-selected alternative) is placed in service. And, importantly, AEP Transmission respected

the original queue order: Projects earlier in the Central Ohio queue were assigned to Cluster 1, while those later in the queue were placed in Cluster 2.

IV. Next Steps

A. Customer Document Package

Approximately two weeks from today, AEP Ohio's customer team will contact each New Data Center Project customer to provide a package containing three key documents:

- 1) *Local Service Plan Presentation* – This presentation will outline the specific work required to connect the new data center project to the transmission grid. These local upgrades must be completed in coordination with the broader regional and non-regional transmission investments.
- 2) *Letter of Agreement (LOA)* – The LOA will set forth the customer's commitment to reimburse AEP Ohio for the cost of the local service plan investments if the data center project is cancelled prior to those assets being placed in service. The LOA will also provide an estimate of the Contribution in Aid of Construction payment the customer will be required to make under AEP Ohio's tariff.
- 3) *Electric Service Agreement (ESA)* – The ESA will be based on Schedule DCT and will include an estimated in-service date based on the project's assignment to Cluster 1, Cluster 2, or Cluster 3, as determined by AEP Transmission's study.

The 60-day period to execute each LOA and ESA will begin on the date the customer receives the agreements from AEP Ohio (expected to be approximately two weeks from today).

B. Customer Engagement and Project Review Meetings

After sending the document package, AEP Ohio's customer team will work with each New Data Center Project customer to schedule individual meetings. These meetings will provide an opportunity to review the specific details of each project, including the associated local service plan and the proposed LOA and ESA documents. AEP Ohio intends to use this time to answer questions, address any concerns, and ensure customers have a clear understanding of the next steps in the process.

C. Load Ramp Assumptions in ESAs

In preparing the ESAs, AEP Ohio assumed that all new data center projects would utilize a four-year load ramp, the maximum duration permitted under Schedule DCT. However, Schedule DCT allows customers to elect a ramp period ranging from zero to four years. If a New Data Center Project customer wishes to select a shorter ramp period, they should contact AEP Ohio to request a modification to their ESA to reflect their preferred load ramp timeline.

D. Execution Timeline and Collateral

Under the stipulation process approved in the Data Center Tariff Case, customers will have 60 days from the date they receive their ESAs and LOAs to execute them. If a customer chooses not to sign within this timeframe, that customer's position in the queue will be forfeited, and the customer will need to restart the process from the beginning should it wish to pursue its data center project in the future. Customers who do sign will be required to provide the collateral specified in the LOA, ESA, and Schedule DCT—or demonstrate that they qualify for an exemption—within 30 days of signing.

E. Updates to In-Service Dates

Throughout this document, and in the materials provided to customers, AEP Ohio has emphasized that the estimated in-service dates are subject to numerous contingencies, assumptions, and caveats. These dates reflect the best available information at the time of the study but may evolve based on system developments, customer decisions, and PJM processes.

AEP Ohio will make reasonable efforts to update in-service dates as new information becomes available, particularly after customers have signed their LOAs and ESAs. For example, if any Cluster 1 customers choose not to execute their agreements, there may be an opportunity to advance Cluster 2 projects into Cluster 1, thereby improving their estimated in-service dates. In making such adjustments, AEP Ohio will continue to follow the original queue order. AEP Ohio will evaluate these opportunities promptly after the 60-day execution period concludes and it becomes clear which customers have committed to moving forward.

Additionally, it is important to note that once New Data Center Project customers sign and return their LOAs and ESAs, their planned load information will be submitted to PJM for analysis. Based on the assumptions used in PJM's evaluation, it is possible that additional system upgrades may be identified. These upgrades could affect the estimated in-service dates for New Data Center Projects. We anticipate this process will continue through PJM's RTEP analysis in 2026. AEP Ohio's customer team will contact New Data Center Project customers if the PJM analysis results in any changes to in-service dates.

As a final point, once the 60-day execution deadline has passed for all New Data Center Project customers, AEP Ohio will begin processing formal load study requests submitted after the September 8, 2025 deadline. For these and any future load study requests, AEP Ohio will evaluate each project and issue a proposed service plan, LOA, and ESA in the order requests are received.

V. Conclusion

We appreciate your engagement and look forward to our upcoming in-person meeting, where we'll be available to address any questions, you may have.

Sincerely,



Laura Arenschiold
Vice President – Customer Experience
AEP Ohio