Develop Process to Provide Large Load Customers Flexibility to Connect to the Transmission Grid in the PJM Region

Problem / Opportunity Statement

It is undeniable that within the PJM footprint there is a continuous increase in large load applications. Further, Congress, FERC and state legislators and policymakers are championing establishment of rates and programs to accelerate load and gen interconnections while mitigating cost and resource adequacy impacts from these large loads. Moreover, the PJM Board in its January 16, 2026 correspondence specifically directed PJM staff to develop a framework in which the incremental demand associated with such load growth that does not bring its own new generation would be subject to curtailment prior to the deployment of pre-emergency Demand Response and further recognized that a number of future developments will be relevant to the design of longer-term approaches to large load integration.

Planning analysis has often identified significant transmission upgrades required to reliably interconnect these large customers on a standard basis that will impact speed to market for many large loads. This is driving the need to explore customer flexibility solutions that would allow certain large load customers to connect to the grid prior to completion of necessary transmission upgrades. These solutions would require the customer to enforcedly commit to being entirely or partially a non-firm load that could be disconnected or reduced whenever needed to maintain transmission system reliability until the upgrades are complete.

Creating a means to accomplish these shared resource adequacy and transmission system reliability objectives will require the TOs to identify the "non-firm" retail loads that would be interrupted for specific reliability issues and PJM and the TOs to develop a transmission tool to identify when and what curtailment of "non-firm" retail load is needed. Retail tariffs are necessary to establish non-firm service subject to curtailment and provide for accelerated interconnection of such load.

Consistent with its operation of the system today, the PJM Board's January 16th correspondence asserts that PJM will take all reasonable steps to maintain grid stability and avoid curtailment. Although this is true for both PJM and for TOs, ultimately, the determination of which loads are curtailed during emergency conditions rests with TOs, and with LSEs that have direct relationships with their customers. PJM does not have authority to direct individual retail loads to curtail demand.

Should system conditions over a given period force PJM to invoke emergency procedures, the PJM Board has expressed that it is reasonable for certain large loads, including data centers, to

move to their backup generators, or curtail their demand, for a limited number of hours during the year to prevent a larger scale outage for residential and other consumers. Such curtailment would be expected to occur only when necessary to prevent broader system reliability impacts, consistent with PJM's longstanding operational practice of avoiding curtailment whenever possible. However, PJM, in coordination with TOs and in consultation with all stakeholders, must establish an allocation framework whereby TOs and LSEs have advanced notification of the potential magnitude of load reductions that may be required under set conditions. PJM, in coordination with TOs and in consultation with all stakeholders, should explore how to design curtailment allocations based on the contributions of any shortfall to PJM's required reserve margin (resource adequacy) or transmission dfax (transmission constraint).

These concepts are in their infancy in the industry. As to the curtailment tool, EPRI is exploring the concept through DCFlex. Several states and utilities have explored interruptible rates, but few are tied to a transmission curtailment trigger and tool. Dominion has embarked on a pocketed area tariff through its CAPFlex program, but it is not customer-specific and not tied to a strong curtailment tool.

PJM should consider the following options for temporary flexibility to offer loads until transmission upgrades are constructed:

- *Fully matched*: Customer commits to new on-site generation resources that fully matches their load requirement, commits to a unity power factor and essentially does not draw power from the grid other than some ancillary services. The customer will not draw from the grid if the generation resource is unavailable due to planned or forced outage.
    - This configuration could be studied in an accelerated manner in tandem with other retail customer interconnection studies as system upgrades should be less significant in this configuration.
- *Partially matched*: Customer commits to a new on-site generation resource that partially meets their load requirement. The customer would be required to ensure their load demand does not exceed the net studied value in real-time operations.
- *Storage matched*: Customer commits to a new storage resource that meets or partially meets their load requirement. The study process for this approach requires more intense planning analysis as an 8760-hour study would be required to assess transmission reliability impacts during periods when these batteries would need to be available for discharge and to be charged.
- *C&M (Connect and Manage)*: PJM implements a large load flexibility option that guides how and when an individual TO can reliably CONNECT AND MANAGE the loads ahead of completed transmission reliability upgrades. This is very technically challenging.

Implementing these options will take coordinated efforts and require the following considerations:

- PJM is the NERC registered Transmission Planner and Operator for its member TO transmission systems. Thus, PJM must develop the tools and processes to operationalize and implement this customer non-firm flexibility because the impact of these large loads extends beyond the boundaries of any one PJM TO's transmission system. Education should include any current efforts around the country to pilot this concept to demonstrate operational feasibility and encourage stakeholder support as well as PJM/TO implementation.
- Interruptible service to specific individual end use load (as opposed to directing a utility to shed a quality of load in a region) is a term and condition of retail service. To implement mandatory interruption on a specific customer basis will require a retail tariff. Such a tariff may also be required to accelerate interconnection of certain retail loads. Education should include any efforts by individual companies around the country or other regional planning organizations in coordination with state regulated utilities to develop – and be able to file – such tariffs rapidly so that they will be in place when the required transmission tools are ready.

Key Work Activities

This effort is expected to:

- Define the areas of flexibility being sought by LSEs on behalf of large load customers.
- Identify the tools, processes, business rules and regulatory changes required to implement a solution.
- Develop the tools, processes, business rules and regulatory changes required to implement a solution, including load shed prioritization and allocation as well as changes at the PJM level. Although outside of PJM's jurisdiction, consideration should be given that developments likely will be dependent on corresponding required retail tariffs.