

PJM Large Load Show Cause Order Compliance Matrix

Compliance Requirement	
Show cause as to why the Tariff remains just and reasonable and not unduly discriminatory or preferential without Tariff provisions addressing each of the provisions listed below or explain what changes are needed to remedy the identified items. LLSCO ¶¶ 3(1)(a), 3(2).	
To avoid disrupting existing commercial arrangements, tariff revisions should: (a) propose a reasonable implementation period to ensure minimal disruption to such existing commercial arrangements, and (b) allow a reasonable amount of time to finalize ongoing agreements that are nearing completion as of the date such Tariff provisions are filed with the Commission. LLSCO ¶ 5.	
Application Process	
Tariff provisions for: (1) an application process that accepts Eligible Customers' applications for transmission service on behalf of large loads on a rolling basis; (2) a non-refundable application fee and sufficient readiness requirements that escalate at distinct phases of the study process to deter duplicative or speculative requests for transmission service (e.g., meaningful milestones and/or financial commitments); and (3) information and data requirements that Eligible Customers must submit to PJM and/or the Transmission Owners regarding the characteristics of the large load on behalf of which the Eligible Customer is taking transmission service, including disclosure to PJM of any substantially similar pending transmission service requests on behalf of the same large load customer. LLSCO ¶ 59.	
Large Load Study Procedures	
Tariff provisions recognizing within the transmission service request study process the unique operational characteristics of large loads that are willing and able to limit their energy withdrawals under certain conditions, which may thereby lessen or potentially avoid the need for certain Network Upgrades. LLSCO ¶ 60.	
Tariff provisions that: (1) require the evaluation of alternative transmission technologies in transmission service request studies, using models that are capable of evaluating the transmission system to accurately account for advanced transmission technologies, in all instances, without the	

Compliance Requirement	
need for a request from the Eligible Customer seeking transmission service on behalf of a large load; and (2) if traditional Network Upgrades are selected instead of alternative transmission technologies, inclusion in the study report to the Eligible Customer seeking transmission service on behalf of a large load of a sufficiently clear demonstration of why alternative transmission technologies are not feasible (i.e., would not resolve reliability violations identified or meet the relevant planning criteria) or would not result in lower costs or a faster timeline for accommodating the transmission service request. LLSCO ¶ 62.	
Tariff provisions: (1) to evaluate the impact of providing the requested transmission service to Eligible Customers on behalf of large loads, including identifying the Direct Assignment Facilities and Network Upgrades necessary to provide such service reliably; (2) to appropriately recognize within the transmission service study process the unique operational characteristics of large loads; (3) a study deadline of no more than 60-90 calendar days. LLSCO ¶ 63.	
Operational Requirements	
Tariff provisions that: (1) Address ongoing operational requirements for transmission customers taking transmission service on behalf of large loads given the unique nature of these large loads creates challenges for operation of the transmission system and necessitates greater visibility and operational control when providing transmission service to transmission customers on behalf of large loads, without which the reliability of the transmission system could be at risk. LLSCO ¶ 64.	
(2) Specify requirements for necessary control technologies and/or protection systems that may be necessary to limit a transmission customer's withdrawals from the transmission system as appropriate. LLSCO ¶ 64.	
(3) Require transmission customers to provide PJM hourly forecasts, telemetry data, and other data to ensure sufficient visibility or specify requirements for maintaining communication channels between PJM and the transmission customer on behalf of the large load. LLSCO ¶ 64.	
(4) Require transmission owners to install, and transmission customers to pay for, equipment to enable PJM to monitor large loads for impacts of, for example,	

Compliance Requirement	
fast-ramping load that may impact the transmission system too quickly to be captured by conventional data acquisition systems (e.g., the need for phasor measurement units or similar equipment). LLSCO ¶ 64.	
(5) Require the transmission customer to enable PJM to remotely disconnect large loads when necessary to maintain reliability of the transmission system, with the costs of such equipment directly assigned to the transmission customer, as well as the terms and conditions under which PJM may remotely disconnect the large load (e.g., emergency conditions, so that transmission equipment is not harmed). LLSCO ¶ 64.	
(6) Specify ramp rate or ride-through requirements with which the transmission customer taking transmission service on behalf of the large load must comply. LLSCO ¶ 64.	
<i>Pro forma</i> provisions in a transmission service agreement between PJM and the transmission customer taking transmission service on behalf of a large load to memorialize the ongoing operational requirements (e.g., equipment requirements, data requirements, remote disconnect capability). LLSCO ¶ 65.	
Information Posting	
Consistent with PJM/TO's filing rights, Tariff provisions requiring the robust, accurate, and systematic provision of data on PJM's website in a single location, and in an easily accessible format that is searchable and allows users to filter the data, regarding the cost for Network Upgrades needed to provide transmission service to Eligible Customers on behalf of large loads. LLSCO ¶¶ 73-74, 76.	
Tariff provisions to require PJM/TOs to publicly post and regularly update data that details: (1) the aggregate amounts of proposed large load additions in PJM's footprint, including the aggregate amounts in each transmission pricing zone; (2) the planned Network Upgrades needed to provide transmission service to Eligible Customers on behalf of large loads, identified by type of equipment and Network Upgrade (e.g., new substation, reconductoring, a new high-voltage transmission line) for each transmission service request; and (3) cost estimates for those Network Upgrades. LLSCO ¶ 76.	
Cost Recovery Agreement	

Compliance Requirement	
A <i>pro forma</i> cost recovery agreement between PJM, the relevant transmission owner, and the Eligible Customer taking transmission service on behalf of a large load, or to propose Tariff revisions to provide additional transparency and establish such a <i>pro forma</i> cost recovery agreement. LLSCO ¶¶ 67, 77.	
A cost recovery agreement that:	
(1) requires the Eligible Customer to make a minimum contribution toward the transmission owner's transmission revenue requirement, if the Eligible Customer ultimately takes less transmission service than anticipated because the large load does not materialize as planned or is not developed at all. LLSCO ¶ 81.	
(2) bases the minimum contribution on the level of jurisdictional transmission service (in MW) requested by the Eligible Customer on behalf of the large load. LLSCO ¶ 83	
(3) includes a credit support (or other financial security) requirement sufficient to secure the obligations of the Eligible Customer taking transmission service on behalf of a large load to pay the amounts owed pursuant to the cost recovery agreement (however, an Eligible Customer may include a credit support or other financial security posted by a large load as part of a retail agreement to avoid creating duplicative credit support requirements). LLSCO ¶ 83.	
A mechanism to ensure payments made under the cost recovery agreement are appropriately credited toward transmission owners' transmission revenue requirements consistent with the Commission's cost-of-service regulations. LLSCO ¶ 3(1)(b).	
Definitions	
Tariff provisions to define large load (i.e., as a new category of load, which includes a load size and interconnection voltage threshold, should be based on the characteristics of PJM's transmission system). LLSCO ¶ 58.	
Tariff provisions to define Flexible Large Load (e.g., as a subset of large loads that are not co-located with generation, but are willing and able to limit their energy withdrawals from the transmission system under certain conditions). LLSCO ¶ 85.	
Tariff provisions to define "electrically proximate large load" to mean a large load (as defined in the order), that is sufficiently electrically close to the interconnection customer's requested point of interconnection, such that the impact on the transmission system of the	

Compliance Requirement	
combination of the generating facility and the load, with the exception of the transmission facilities between the two, will be effectively the same as if they were located at the same substation (e.g., large load that is located no more than two substations away from the generating facility). LLSCO ¶ 94.	
Transmission Services	
Tariff provisions for Eligible Customers to take the new transmission services on behalf of flexible large loads, including: (1) an interim non-firm network transmission service while Network Upgrades are being constructed (i.e., interim NITS) and (2) permanent firm and non-firm contract demand transmission services (transmission service up to a specified MW quantity, i.e., the contract level, on a firm or non-firm basis). LLSCO ¶ 87.	
Commission encouraged PJM to consider what type of transmission service an Eligible Customer will need to take on behalf of the electrically proximate large load or large co-located load. LLSCO ¶ 101.	
To what extent would PJM allow an interconnection customer's generating facility serving electrically proximate large load or large co-located load to participate in PJM's energy and ancillary services market, and if PJM were to allow them to participate, what restrictions or mitigation would PJM apply. LLSCO ¶ 109.	
To the extent that PJM plans for the electrically proximate large load or large co-located load associated with an interconnection customer's generating facility for resource adequacy purposes, would PJM account for the generating facilities serving electrically proximate large load or large co-located load in the resource adequacy construct? If applicable, would PJM allow the generating facilities serving electrically proximate large load or large co-located load to participate in PJM's capacity market? If so, would PJM accredit these generating facilities using the same method as other PJM generating facilities? LLSCO ¶ 109.	
Generator Interconnection Process for Electrically Proximate Load	
Tariff provisions that establish: (1) a new generator interconnection study process and new interim generator interconnection service that reflect an interconnection customer's commitment, in a generator interconnection agreement, to limit a generating facility's output to match the	

Compliance Requirement	
hourly forecast of an electrically proximate large load or large co-located load; (LLSCO ¶ 100) or	
(2) a generator interconnection study process that allows the use of the existing ERIS or NRIS of an existing generator to connect a new generating facility and a new large load behind the same point of interconnection of the existing generator with necessary control technologies and/or protection systems, which may include a special protection scheme, that ensures that the net injection does not exceed the amount in the existing generator interconnection agreement; (LLSCO ¶ 100) or	
(3) a new generator interconnection service that allows a new generating facility and new large co-located load seeking to interconnect behind the same new point of interconnection with necessary control technologies and/or protection systems, which may include a special protection scheme, to ensure that there is no injection to the transmission system. LLSCO ¶ 100.	
Transmission Planning	
What, if any, potential impacts on regional and local transmission planning would arise from the introduction of the new transmission services discussed herein? For example, when planning for load growth, how would transmission providers and planners account for flexible large loads' potential preference to take the new transmission services, including potential uncertainties around the type, location, and quantity of such expected loads? LLSCO ¶ 106.	