

FAQ: PJM's Role in Regional Planning and RTEP Windows

Version: April 2, 2026

What is PJM, and what is its role in regional transmission planning?

PJM Interconnection is what is known as a regional transmission organization (RTO), charged by the Federal Energy Regulatory Commission (FERC) with coordinating the sale and movement of electricity in all or parts of 13 states and the District of Columbia. Our job is to ensure there is enough reliable electricity for more than 67 million people in our region, every second of the day, when and where it is needed. PJM is a member-based organization and does not make profits.

Planning for the future needs of the electric system is an integral part of [PJM's role](#). PJM conducts a long-range [Regional Transmission Expansion Plan](#) (RTEP) process that regularly identifies what changes and additions to the grid are needed over the next 15 years to maintain reliability – meaning the uninterrupted flow of electricity at all times.

How does PJM's planning role compare with local planning by transmission owners?

PJM's planning objective is to prepare the high-voltage transmission system to meet the demand and supply changes coming in our future. This includes growth in electricity demand, power generator retirements and new generation, such as renewable resources connecting to the grid. The process by which transmission infrastructure is developed is outlined in this [illustration](#) (PDF).

PJM concentrates on regional needs and benefits. Its transmission analysis is guided by national and regional standards as well as criteria developed by PJM and its members. Because the projects it solicits are regional in nature, their costs are allocated to the areas they will benefit.

Transmission owners focus on local issues and benefits, like connecting new customers and following local laws and policies. Solutions to meet these needs usually have a localized benefit and are called “supplemental” projects. The costs of these projects are allocated within the respective local transmission zone.

Is PJM's planning process competitive?

Competition is central to PJM's planning process and is required by FERC under Order 1000, enabling nonincumbent transmission developers (those who don't own transmission facilities) an opportunity to participate in the regional planning and expansion of the bulk electric system. By publishing a set of system needs and soliciting solutions from competing transmission developers, PJM aims to encourage innovative, cost-effective and timely solutions to the challenges of building and maintaining a highly reliable electric system.

When transmission needs are identified, PJM opens competitive planning “windows” so that transmission owners and other developers can submit solutions they've designed. If a solution is selected and approved by the PJM Board of Managers, the developer will, as appropriate, seek siting approval for, construct and maintain the substations and transmission lines included in its proposal.

PJM's competitive window planning process encourages submissions from a variety of sources and gives PJM the opportunity to assess creative and efficient regional transmission solutions – for example, by combining parts of different proposals. This competitive planning process incentivizes the more efficient or cost-effective solutions.

How are new electricity users connected in PJM?

Retail customers work with their local electric distribution company, often a utility, to connect new sources of electricity demand, also called load. The distribution companies will define the requirements and schedule for the customer to ensure that the load is safely and reliably connected to the local system. Larger load consumers such as data centers also will be assessed by the transmission owner, which will work with PJM on identifying any associated regional needs.

What are PJM's obligations to serve the electricity demand of large customers and data centers?

As a regional transmission organization, PJM has the responsibility to meet the needs of the region under requirements set forth by FERC and the North American Electric Reliability Corporation, or NERC.

Generally, local electric utilities, which are members of PJM, have an obligation to serve all load customers in their footprint. New load connections are managed by these companies. Each utility has a process defined by its own local tariffs (the legal documents that lay out the utility's rules and rates), which outline cost, requirements, future obligations and timelines to connect new customers. PJM is mandated to support and enable its member organizations to integrate load growth.

Why can't PJM slow down the growth of demand from new load – for example, tell data centers that they have to wait to come online?

PJM can't simply say "no" to our utility members that have customers who want to connect to the system and receive electricity – it is similar to the expectation that when someone builds a new home, electric service will be available. PJM carefully studies large electric customer projections and adjusts its demand forecasts and associated transmission plans. PJM needs to plan to allow for those customers to connect and receive electricity in a reliable manner. Generally, PJM and its member utilities have an obligation to serve.

What problems are you solving with recent planning windows?

The way power is produced and consumed is rapidly changing, putting new and different stresses on the bulk power grid. While planning for these near-term demands, PJM is looking holistically at the future needs of the entire grid as part of the RTEP process.

2025 RTEP Window 1

This planning window addresses separate needs in the eastern, southern and western areas of the PJM footprint. Those needs are driven by accelerated load growth in multiple regions, the addition of new generation in Virginia, accounting for the likely delays of New Jersey offshore wind projects, and regional flows toward the eastern and southern PJM regions.

The Western, Mid-Atlantic and Southern regions all show need for backbone transmission enhancements to maintain reliable operation over the next five to eight years and beyond. Dominion area, which includes parts of Virginia and North Carolina, shows multiple violations of reliability standards along its primary South-North corridor in 2032. The future reliability needs are being driven predominantly by the following factors:

- Additional generation added in southern Virginia that is flowing to the load centers in northern Virginia

- Increases in electricity demand, or load, with a heavier concentration in the northern Virginia area
- Further increase in PJM load overall – including data center load in Northern Virginia, Ohio and the PPL service territory in Northeast/Central Pennsylvania
- Increase of west to east regional transmission flows across the entire western and Mid-Atlantic regions from the PJM western border all the way to eastern Pennsylvania close to the Mid-Atlantic shoreline.

These needs require bulk, backbone infrastructure that needs to be right sized to accommodate efficient utilization of the needed new infrastructure taking longer term needs into consideration. The southern transmission backbone will support the transfer of generation resource capacity from the southern edge of the PJM system into northern Virginia and help balance flows West to East and South to North.

2024 RTEP Window 1

This window called for proposals that address regional transfer capability enhancement needs and other more local needs driving regional projects to meet accelerated load growth in various areas of the PJM footprint, changes in the mix of generation resources, and the resulting shifts to regional power flows. The forecasted load growth is driven primarily by data centers and other large electricity users, and to a lesser extent by the electrification of vehicles and building heating systems. If left unaddressed, these transmission needs will result in multiple instances of overloaded transmission lines and voltage performance issues, heightening the risk of power outages in the region. The PJM Board approved [these projects](#) (PDF) in February 2025.

2022 RTEP Window 3

With the transmission projects solicited in 2022 RTEP Window 3, PJM is preparing for increased electricity demand, combined with the retirement of fossil-fuel generators. Factors considered include up to 7,500 MW of new data centers to be sited in Virginia and Maryland, as well as widespread effects from the announced deactivation of more than 11,000 MW of generation across the PJM footprint of 13 states and Washington, D.C. (For context, 1 MW is roughly enough to power about 800 homes.)

The [2022 RTEP Window 3 proposal](#) (PDF), approved by the Board in December 2023, will be able to scale to serve future needs of all 65 million customers in the PJM footprint through 2027, as well as the new generation seeking to connect to the grid.

What is the process for planning windows?

Throughout the year, PJM facilitates planning updates and seeks to address reliability needs through open, transparent engagement with members, stakeholders, regulatory agencies, states and other parties.

The Transmission Expansion Advisory Committee (TEAC) is the main public forum for stakeholders and PJM staff to exchange ideas, discuss study assumptions and review results. Following the stakeholder review process, PJM staff recommends projects to the PJM Board of Managers for consideration, approval and inclusion in the RTEP, and subsequently files the related cost allocation assignments for the projects with FERC.

2025 RTEP Window 1

A total of 134 proposals were submitted from 19 entities (includes combined/portfolio proposals). Of these, 57 were greenfield projects and 77 were upgrades to existing facilities. Ninety proposals included cost containment

provisions. Ten proposals included Grid Enhancing Technologies, split between high-voltage direct current (HVDC) lines and advanced conductors.

For this window, there are three main regional focus areas, one in the western region (ATSI/AEP/DAYTON), one in the Mid-Atlantic region (MAAC Regional), and one in the southern region (DOM Regional). The larger regional clusters were assigned to proposals that are more of a holistic solution or portfolio, typically including 500 kV and 765 kV solutions that improve regional transfer or address a larger set of violations caused by the large load pockets. Selected proposals were approved by the PJM Board of Managers in Feb 2026.

Find more details on the Window 1 selected proposals on the [PJM Inside Lines](#) news site.

2024 RTEP Window 1

The regional transfer reinforcement projects that PJM seeks to move forward were proposed through a collaborative planning initiative among transmission owners Dominion, FirstEnergy and Transource. PJM further optimized and staged the projects to allow for an orderly development of assets as the electricity demand materializes, while advancing longer-lead transmission development components. The projects address critical west-east regional transfer reinforcement needs by introducing robust and reliable 765 kV transmission lines connecting the AEP system in the west with the rest of the network in central and southern PJM.

PJM also selected other more regional solutions to address specific reliability needs that are more local to a number of transmission regions, including MAAC, ATSI, AEP and ComEd.

2022 RTEP Window 3

The solutions approved by the Board include components of proposals submitted by Dominion, FirstEnergy, Exelon, PPL, NextEra, Transource and PSEG. The proposal includes new 500 kV and 230 kV lines and upgrades to existing transmission lines designed to increase regional transmission capability to ensure reliable delivery of generation to the load. In addition, static compensators (STATCOMs) and capacitors will be added to provide voltage support for the backbone transmission system.

How much is all this expected to cost?

The total cost of the overall solution package for 2025 Window 1, as proposed to the PJM Board, is approximately \$11.8 billion.

The estimated cost of the 2024 RTEP Window 1 projects is approximately \$5.7 billion.

The cost of the proposals selected for the needs of 2022 RTEP Window 3 was estimated at approximately \$5 billion.

How are costs for these projects allocated? Do ratepayers in other states have to pay for transmission to serve these data centers?

Regional transmission solutions benefit all customers in the PJM footprint. The costs associated with the solutions to address the needs of both windows will be allocated pursuant to a cost allocation methodology that has been approved by FERC. PJM publishes a searchable database of project status and cost allocation for projects on its [Project Cost & Allocation](#) page on PJM.com.

On what criteria are projects studied and selected?

PJM's driving approach is to determine efficient, cost-effective, constructible and scalable projects to serve electricity demand in a timely fashion. PJM employs a variety of expertise, including independent outside consultants, to analyze submittals. PJM also considers any cost-capping provisions voluntarily submitted by the developer. PJM is aware of environmental and social impacts and takes them into consideration when evaluating all submitted proposals. We also want to be sensitive to future needs. For example, PJM planning studies may favor a new substation that will have space for additional electrical equipment needed in the future without having to procure additional land from neighboring landowners.

Solutions are judged on several criteria, including:

- **Performance:** the ability to meet the identified system needs and being flexible to address near-future needs
- **Scalability:** robust design able to scale up and meet future needs
- **Impact:** utilizing existing rights of way where possible
- **Cost:** validated by third-party benchmarking metrics, including consideration of cost-capping provisions voluntarily submitted by developers
- **Experience:** prior experience with the design, procurement and operating challenges with 765 kV facilities
- **Risks:** factors that might trigger additional costs, difficulty securing the number or type of permits required, inability to meet in-service date
- **Efficiencies:** avoidance of redundant capital investment, including recognizing synergies with retiring facilities and overlaps with previously approved or imminent upgrades

Some of these projects/routes have been considered and dismissed before. Why are they being revisited?

Many of the needs identified in these windows, particularly those related to regional east-west or west-east transfers, as well as into the Dominion zone and Baltimore Gas and Electric system, are not new. Some of these historical needs already have been addressed through prior backbone projects. Some other previously identified needs were based on needs that shifted from when they were originally identified.

For the current needs, given the proven load growth in the APS and Dominion zones, as well as generation retirements in eastern PJM, developers proposed transmission projects that may be similar to previously considered projects. When similar solutions are proposed multiple times by different developers, it often indicates that these solutions likely represent effective or viable options to address the specific need.

Why not confine the transmission development to the areas/zones driving the need?

The size and scope of some projects trigger the need for both local and regional transmission enhancements. That is the case for the windows discussed here: The load growth within the PJM footprint drives not only local transmission developments, but also the need to reinforce bulk, regional transfer paths to enhance import and export capabilities between regions within the PJM system. Similarly, if a specific area within the footprint loses a significant amount of

generation due to retirements, that specific zone may require further reinforcements to allow more import capability from the rest of the PJM footprint.

Why not rely on generation closer to where the load is growing to avoid building more transmission?

PJM's RTEP process considers new generation that is being developed within the PJM footprint. There is currently very little additional proposed generation in the areas of interest that would obviate the need for transmission upgrades. In the 2024 RTEP Window 1, PJM accounted for more than 2,000 MW of future generation developments in the Dominion zone that are well-advanced through the connection process and will locally serve part of the Dominion's load growth.

In addition, PJM cannot count on all proposed generation to come online. Even generation with signed agreements might not connect due to siting, permitting, supply chain or other issues outside of PJM's control. As of late 2025, approximately 57,000 MW of projects cleared to connect had not yet moved into operation.

In addition, PJM does not have the authority to direct the building of generation. Generation developers propose their own developments. In all cases, PJM relies on existing generation and new committed generation to maintain reliability in compliance with its planning criteria and rules. PJM also makes necessary assumptions related to future generation additions informed by state and federal policy, as well as economics and resource availability factors.

How does PJM select the routes that are displayed in the maps at the TEAC?

The routes shown in PJM's materials are conceptual and illustrate system needs. PJM does not select specific routes but rather selects projects proposed by transmission developers.

The transmission owners and project developers assess the needs identified in the competitive window presented by PJM and propose solutions. The maps reflect their proposed preliminary locations and routes. Entities selected to build the facilities are responsible for conducting detailed siting studies and public consultations and seeking necessary approvals to build a line.

PJM would not oppose an updated route if the selected transmission owner or developer is required to make modifications to balance the needs of local communities.

Who will evaluate the impact to local communities?

The project developers designated by PJM are obligated to follow all local and state permitting processes to develop their projects. Those processes will weigh those impacts, such as on local environments and preserved open spaces.

In evaluating submitted proposals, PJM takes into consideration the relative impact of these proposals from a wide spectrum of factors, including performance, flexibility and expandability, and impacts at a high level. In the state regulatory review process, PJM may provide supporting evidence on the need and benefits associated with a specific project from the perspective of grid reliability to help state and local officials better understand the project and its impacts.

What happens if the solutions are not completed before the system needs them or if they are rejected by local officials?

Our analysis definitively shows that there are going to be real reliability impacts without further transmission reinforcements. These solutions are required to maintain the reliability of the system.

If the transmission is delayed, operational procedures will need to be put in place that may direct load to be shed – in other words, power outages – under certain conditions on the grid. We currently don't have anything in the New Services Queue planning to come online in time to address the needs solved by the transmission solutions in these windows.

Are there operating restrictions on the proposed data centers – on-site generation, energy efficiency, etc.?

Local utilities are responsible for the connection of new customers bringing new electricity demand, or load. Those entities will document the requirements based on the local retail tariffs.

How do I ask questions or submit comments about projects?

The [TEAC](#) is the main public forum for stakeholders and PJM staff to exchange ideas, discuss study assumptions and review results. Members of the public may register for and attend – either in person or by Webex or phone – and participate in these meetings.

PJM also welcomes written feedback, which is subject to the rules of PJM's stakeholder process. PJM has the responsibility to compile and post comments from TEAC participants to PJM.com and to the Board, with a PJM staff summary of what the issues are, to whom the issues have been assigned, and why the issues are important to Board consideration of RTEP projects.

Will the PJM Board of Managers see my comments?

Comments sent to PJM Customer Service (custsvc@pjm.com) will be forwarded to the Planning Department and also compiled for Board consideration. Any stakeholder may also provide written communication directly with the 10-member PJM Board on issues regarding PJM markets, operations or planning. This communication will be made public, consistent with rules related to “ex parte” communications as outlined in the PJM Code of Conduct. All such communications should be sent to the PJM Members Committee Secretary (David.Anders@pjm.com), who will ensure delivery to the Board of Managers. Notice of Board communications and documents are posted and available on the [Board Communications page](#) of PJM.com.