Pursuant to Rule 212 of the Federal Energy Regulatory Commission’s (the “Commission”) Rules of Practice and Procedure, PJM Interconnection, L.L.C. (“PJM”) submits this motion to lodge in the record of the above-captioned proceedings a copy of PJM’s July 1, 2020 comments and the PJM Value Proposition, both of which were previously filed in Docket No. RM20-10-000. The same Regional Transmission Organization (“RTO”) Participation Adder policy issues addressed in PJM’s July 1 Comments and the attached PJM Value Proposition are implicated in these proceedings. Indeed, some of these same issues may be addressed by the Commission in the paper hearing. As such, the introduction of these materials will help ensure a more accurate and complete record and will assist the Commission’s deliberations. For the reasons set forth herein, the Commission should grant PJM’s motion to lodge.

PJM’s July 1 Comments and the PJM Value Proposition address, among other things, the overall value of PJM membership to consumers. The PJM Value Proposition, in particular, is uncontested evidence submitted in other proceedings addressing how “PJM operations, markets

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and planning result in annual savings of $3.2 – 4 billion. . . . represent[ing] the vital functions that PJM provides and that lead to less cost to consumers.”³ This evidence should be among the factors the Commission considers when deciding whether to award Dayton Power and Light Company’s (“Dayton”) request for the RTO Participation Adder.

PJM is aware that the Commission’s August 17, 2020 Order on Transmission Incentives⁴ focused on seeking briefs addressing two specific questions related to Ohio law. However, through its September 16, 2020 Request for Clarification,⁵ PJM urges the Commission to clarify that its procedural order stating an intent to “explore” the “voluntariness” of Dayton’s participation in an RTO under Ohio law should not be construed as a holding that “voluntariness” is the sole criterion by which to judge the appropriateness of Dayton’s RTO Participation Adder request. PJM’s clarification request notes that although the “voluntariness” issue is relevant to the analysis, the Commission should clarify that under applicable law,⁶ an investigation of this singular issue is not dispositive of the question of the appropriateness of the RTO Participation Adder – especially absent review of a complete record. The material PJM seeks to lodge will help develop a more complete record for the Commission to consider in its deliberations.

Moreover, in addressing requests by transmission owners for the RTO Participation Adder, the Commission has not previously required individual repeat showings in each individual rate

³ July 1 Comments at Exhibit A at 1.
⁵ PJM Interconnection, L.L.C. and The Dayton Power and Light Company, Request for Clarification and Motion to Intervene Out of Time in Docket No. ER20-1068-000 of PJM Interconnection, L.L.C., Docket Nos. ER20-2100-000 and ER20-1068-000 (Sept. 16, 2020) (“Request for Clarification”).
proceeding of the RTO benefits that inure to consumers and members. In fact, the Commission presumes that any transmission owner demonstrating ongoing membership in an RTO is eligible for the RTO Participation Adder.7 Should the Commission seek a specific showing of RTO benefits in each individual transmission owner rate proceeding, the material PJM seeks to lodge will assist the Commission’s analysis on this issue.

Because the issues addressed in the July 1 Comments and the PJM Value Proposition are directly relevant to the ongoing proceedings here, the Commission should grant PJM’s motion to lodge them in the record of these proceedings.

Date: October 19, 2020

Respectfully submitted,

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7 See Promoting Transmission Investment through Pricing Reform, Order No. 679, 116 FERC ¶ 61,057 at P 327 (2006) (“An entity will be presumed to be eligible for the incentive if it can demonstrate that it has joined an RTO, ISO, or other Commission-approved Transmission Organization, and that its membership is on-going.”).
CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon each person designated on the official service list compiled by the Secretary in the above-captioned proceedings.

Dated at Audubon, PA, this 19th day of October, 2020.

/s/ Mark J. Stanisz
Mark J. Stanisz
Attorney for PJM Interconnection, L.L.C.
Exhibit 1
UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Electric Transmission Incentives Policy
Under Section 219 of the Federal Power Act

COMMENTS OF PJM INTERCONNECTION, L.L.C.

Pursuant to the Federal Energy Regulatory Commission’s (“Commission”) Notice of Proposed Rulemaking (“Proposed Rule”),PJM Interconnection, L.L.C. ("PJM") hereby submits comments that:

- affirm the Proposed Rule’s findings related to the Commission’s proposal to continue to grant the Congressionally-mandated incentive for joining a Transmission Organization, including independent system operators (“ISOs”) and regional transmission organizations (“RTOs”), like PJM (the “RTO-Participation Incentive”);

- identify potential implementation challenges with certain aspects of the Proposed Rule’s Return on Equity (“ROE”) incentives, including potential consequences of importing aspects of the RTO planning process into the Commission’s ratemaking process; and

- emphasize that although, as the RTO, PJM does not have the authority to function as the rate and incentives regulator and does not wish to be in that role, within clearly defined limits, PJM can provide certain data, analytics and information.

(including benefit-to-cost ratios) that might be helpful to the Commission should it decide to proceed with implementation of the Proposed Rule’s ROE incentives.

As noted below, should the Commission proceed with the Proposed Rule in its present form, PJM would benefit from additional Commission guidance and clarification on certain open questions and challenges posed by the Proposed Rule. As an example, PJM seeks Commission guidance on overcoming the challenges with the implementation of pilot projects in light of the Order No. 1000 competitive proposal process. PJM does not believe that the challenges identified in these Comments are insurmountable to implementation, but they do underscore the need for any final rule to offer additional precision and clarity on the interrelationship of the established drivers embodied in PJM’s tariffed planning processes and the Commission’s various eligibility criteria for incentives outlined in the Proposed Rule’s incentive setting/ratemaking process.

I. COMMENTS

A. Comments in Support of the Proposed Rule’s RTO-Participation Incentive

The Proposed Rule’s proposal to continue (and increase) the RTO-Participation Incentive is appropriate as it is grounded in the legislative and policy backdrop of the Energy Policy Act of 2005 ("EPAct") and implements Congress’s statutory directive and intent. The Proposed Rule’s RTO-Participation Incentive recognizes the many functions RTOs perform today, and the

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corresponding value consumers derive from transmission owners’ participation in RTOs.\(^4\)

1. **The EPAct Expresses Congress’s Intent to Mandate an RTO-Participation Incentive and the Proposed Rule Would Implement that Mandate.**

Congress’s enactment of the EPAct clearly recognizes the value of independent RTOs. Congress relies upon the continued effective functioning of RTOs as a lynchpin to promote Congress’s (and ultimately the Commission’s) energy policy goals. In 2005, Congress incorporated into the EPAct various provisions that emphasize the benefits of an independently operated transmission grid and independently administered auction-based day ahead and real time wholesale markets. By way of example:

- EPAct amended the Public Utility Regulatory Policies Act (“PURPA”) to provide an exemption to the mandatory obligation to purchase electric energy and capacity from qualifying cogeneration or small power production facilities (“QF”) with a net capacity in excess of 20 megawatts if a QF has non-discriminatory access to certain independently administered auction-based and wholesale markets and transmission and interconnection services provided by a Commission-approved regional transmission entity (EPAct § 1253(a); PURPA section 210(m)(1))\(^5\);

- EPAct authorizes federal utilities to transfer control of their transmission systems to RTOs (EPAct § 1222);

- EPAct calls for regional coordination of state energy policies “to provide reliable and affordable demand response services to the public” (EPAct § 1252(e)(1)); and

- EPAct provides that RTO reliability standards that conflicted with proposed Electric Reliability Organization reliability standards were to remain in place until the Commission addressed the conflict (EPAct § 1211(d)(2)).

To further drive home the importance of independent RTOs, Congress directed that

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\(^4\) PJM leaves it to other commenters to address the specific incentive levels offered in the Proposed Rule. The exact level of returns on transmission investment or incentive adders are ratemaking issues beyond PJM’s purview as an RTO charged with planning the expansion of the transmission grid.

\(^5\) Pending at the Commission today is a Notice of Proposed Rulemaking that proposes to reduce this threshold from 20 MW to 1 MW for small power production facilities, but not cogeneration facilities. *Qualifying Facility Rates & Requirements Implementation Issues Under the Public Utility Regulatory Policies Act of 1978*, 168 FERC ¶ 61184, at PP 10, 118, 126 - 130 (Sept. 19, 2019).
through rulemaking:

The Commission shall, to the extent within its jurisdiction, provide for incentives to each transmitting utility or electric utility that joins a Transmission Organization.\(^6\)

In 2006, the Commission promulgated precisely such RTO-Participation Incentive rules through the adoption of Order No. 679 and the rehearing orders that followed.\(^7\)

Congress’s enactment of the EPAct clearly sought to provide a stronger push toward the RTO model by superseding Order No. 2000’s provisions (which merely called for transmission owners to “consider” joining RTOs) with explicit policy directives, including a specific directive to the Commission to implement an RTO-Participation Incentive requirement as embodied in section 1241 of the EPAct. The Proposed Rule is consistent with these Congressional directives.\(^8\)

2. The Proposed Rule Appropriately Recognizes that the Commission’s Observations in Order No. 679 Are Even More Applicable Today.

In first promulgating the RTO-Participation Incentive rules in 2006, the Commission

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\(^8\) Proposed Rule P 97.
summarized Congress’s purpose in enacting section 1241 of the EPAct as follows:

the incentive applies to all utilities joining transmission organizations, irrespective of the date they join, based on a reading of section [1241 of EPAct] in its entirety. . . . The stated purpose of section [1241 of EPAct] is to provide incentive-based rate treatments that benefit consumers by ensuring reliability and reducing the cost of delivered power. We consider an inducement for utilities to join, and remain in, Transmission Organizations to be entirely consistent with those purposes.  

The Commission further noted that the benefits of RTO participation inure to customers on an ongoing basis and also noted the continued value of transmission-owning utilities’ stable membership in RTOs:

The consumer benefits, including reliability and cost benefits, provided by Transmission Organizations are well documented, and the best way to ensure those benefits are spread to as many consumers as possible is to provide an incentive that is widely available to member utilities of Transmission Organizations and is effective for the entire duration of a utility’s membership in the Transmission Organization. To limit the incentive to only utilities yet to join Transmission Organizations offers no inducement to stay in these organizations for members with the option to withdraw, and hence risks reducing Transmission Organization membership and its attendant benefits to consumers. Because the incentive is applicable to utilities that join Transmission Organizations and is consistent with the requirements of section 219 of the FPA, the incentive complies with EPAct 2005 and the FPA.  

The Commission’s observations about membership stability and the need for an incentive that is ongoing, rather than static, is even more relevant today than in the past as RTOs continue to expand in different parts of the nation. Incentivizing consistent and stable RTO membership is essential to the RTO’s ability to achieve grid reliability and consumer cost benefits.

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9 Order No. 679-A P 86.
10 Order No. 679-A P 86 (emphasis added).
3. *The RTO-Participation Incentive Achieves a Fair and Appropriate Balance Between Costs and Benefits.*

Congress was well aware that RTO participation was voluntary in light of the Commission’s Order No. 2000. Thus, at its core, the RTO-Participation Incentive, as implemented by the Commission, was required by Congress to promote RTO membership while providing some symmetry between, on the one hand, the costs borne by the transmission owners for joining an RTO (in the form of relinquishing functional control of its assets, agreeing to RTO oversight and approval of the use of the owner’s assets, planned maintenance outages, and RTO-driven regional grid expansion decisions), and, on the other hand, the benefits consumers uniquely enjoy due to the efficiencies of the grid system realized by transmission owners’ decisions to relinquish control over system operations and attendant market rules (for example, on account of the RTO’s markets and more efficient dispatch). Greater alignment between these costs and benefits should continue to be encouraged and is in fact reinforced by the Commission in the Proposed Rule because, as noted further below, the dollar value of benefits for consumers are related to RTOs’ reliability, market, and planning functions – benefits that do not necessarily show up in the bottom line of transmission owner operations.

The Proposed Rule’s RTO-Participation Incentive appropriately balances the noted asymmetry in terms of the size of benefits that consumers receive versus the added costs and smaller dollar value of benefits that transmission owners receive. Although the benefits continue to far outweigh the costs to consumers, the RTO-Participation Incentive rules represent a modest attempt by the Commission to address this asymmetry between the transmission owners’ costs.

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11 Proposed Rule P 97 (“find[ing] that the RTO-Participation Incentive remains an effective incentive to recognize the benefits, risks, and associated obligations of RTO membership”); Order No. 679 P 8 (“Section 219(c) requires that the Rule provide for incentives to each transmitting utility or electric utility that joins a Transmission Organization and to ensure that any recoverable costs associated with joining may be recovered through transmission rates charged by the utility or through the transmission rates charged by the Transmission Organization that provides transmission service to the utility.”).
and benefits as compared to consumers’ costs and benefits. This modest effort devised in 2006 through the design of the RTO-Participation Incentive continues to be sound public policy today as set forth in the Proposed Rule.

4. Commission Orders Since 2006 Further Underscore the Need for the RTO-Participation Incentive to Better Align Costs to the Transmission Owners and Benefits to Consumers.

The Proposed Rule’s approach to the RTO-Participation Incentive also consistently tracks a number of Commission Orders that have underscored the need to maintain a certain degree of balance between costs of RTO participation to transmission owners versus customer benefits. For example, as a result of the competitive bidding processes directed in Order No. 1000 and largely administered by RTOs, the planning process has become more complex for all parties than it was in 2006 when the RTO-Participation Incentive was first established. Thus, the proposals to maintain and increase the RTO-Participation Incentive are appropriate to promote membership stability given the altered landscape for economic opportunities compared to the landscape at the time of the incentive’s initiation in 2006. By the same token, since 2006, RTO markets have further facilitated the recognition of demand response and energy efficiency resources. These developments, which have clearly benefited consumers, can potentially erode the need for new transmission. This represents another changed circumstance that weighs in

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13 See Proposed Rule P 96.

14 Although it is true that if a transmission owner were to leave an RTO, the transmission owner would still maintain an Order No. 1000 obligation, the larger footprint-based planning process utilized by RTOs triggers more robust competitive alternatives which benefits customers.
favor of maintaining the RTO-Participation Incentive to address asymmetries between costs to the transmission owner and benefits to the consumer.

5. The Annual Value to Consumers from Transmission Owner Participation in PJM Ranges From $3.2 to $4 Billion.

Despite significant developments in how transmission is planned, developed, operated, and maintained (for example, the issuance of Order No. 1000), in the years since the Commission promulgated Order No. 679 and a related policy statement, the justifications for the Congressional and Commission policies favoring the creation and vitality of RTOs continue to grow. The present day realities fortify the Commission’s already strong policy justifications for implementing the Congressionally-mandated RTO-Participation Incentive as set forth in the Proposed Rule.

By way of example, as with all other RTOs and ISOs, PJM’s Value Proposition for consumers has continued to increase over the last thirteen years. Today, PJM calculates that it provides a total estimated annual savings of $3.2 to $4.0 billion to the energy marketplace driven in no small part because of the stability of PJM’s membership and the corresponding geographic footprint PJM services. Breaking this overall value down reveals:

- $300 million in annual reliability savings, inclusive of savings relating to congestion reduction;
- $1.2 to $1.8 billion in annual savings relating to lower reserve margins and competition from alternative resources due to planning efficiencies over a large region;
- $1.1 to $1.3 billion in annual savings relating to integrating more efficient resources; and
- $600 million in annual savings relating to energy production costs on account of the PJM footprint’s expanded dispatch area.
A copy of PJM’s Value Proposition is attached hereto as Exhibit A, and can be accessed on the PJM website.¹⁵

As recognized by the Proposed Rule,¹⁶ the ongoing value of RTOs based on the stability of their membership and footprint strongly suggests that the incentive should be continuously awarded (because the benefits to consumers accrue based upon ongoing RTO membership by transmission owners), and not simply awarded once or for a fixed period of time.

It should also be noted that PJM does not have expensive exit fees that could work to disincentive transmission owners from opportunistically leaving PJM’s membership ranks depending upon short-term market conditions (which could impose costs on members who remain to absorb the costs of longer-term market impacts).¹⁷ Thus, in crafting the Proposed Rule’s RTO-Participation Incentive, the Commission duly considered the appropriateness of maintaining the RTO-Participation Incentive in order to ensure membership stability for such RTOs, including PJM, that do not have expensive exit fees. PJM does not believe that imposing exit fees should be a means to drive membership stability. Rather, Congress’s incentive-based directive is consistent with the current PJM model for transmission owner participation in the PJM RTO.

¹⁵ https://www.pjm.com/about-pjm/~media/about-pjm/pjm-value-proposition.ashx. The Commission should also take note of the fact that other RTOs and ISOs publish similarly compelling value propositions that add further support to the points PJM advances in these comments. See, e.g., MISO claims $3.6 billion in annual benefits to its members (https://www.misoenergy.org/about/miso-strategy-and-value-proposition/miso-value-proposition/). Moreover, the Commission has recently adopted an RTO Metrics report so the public can see the benefits in a single report using common metrics.

¹⁶ Proposed Rule P 98 (“propos[ing] that the RTO-Participation Incentive should be applied to transmitting utilities that join and remain enrolled in an RTO/ISO regardless of the voluntariness of their participation”).

¹⁷ See generally Amended and Restated Operating Agreement of PJM Interconnection, L.L.C. (“Operating Agreement”), Section 18.18.2.
6. **The Proposed Rule Would Appropriately Award the RTO-Participation Incentive Independent of Whether a Transmission Owner’s Participation in an RTO is Voluntary or Not.**

The Proposed Rule appropriately declines to condition receipt of the RTO-Participation Incentive based on an examination as to whether a particular transmission owner’s decision to join an RTO was truly “voluntary.”

A “voluntary” requirement has never been an express requirement for the RTO-Participation Incentive under Order No. 679 and the orders on rehearing for good reason: the benefits realized from the transmission owners’ relinquishment of functional control exist regardless of whether that relinquishment is voluntary or not. As a practical matter, any reliance on the “voluntariness” of RTO membership would likely require the Commission to determine what “voluntary” membership actually means by examining the text and underlying legislative history of many different states’ laws and examining in detail the specific circumstances and trade-offs that led to a utility proposing RTO membership as part of settlement and resolution of a disputed corporate merger proceeding either at the state or federal level, or potentially both. The Proposed Rule’s proposal to award the RTO-Participation Incentive regardless of whether membership is voluntary will minimize ongoing Commission litigation about transmission owners’ motives for joining an RTO and the degree of “voluntariness” of their decision given the facts facing their management at the time the decision was made.

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18 Proposed Rule ¶¶ 8, 95, 98.

19 Proposed Rule P 98 (“not[ing] that the issue of whether RTO/ISO membership is voluntary for certain transmitting utilities within RTOs/ISOs has become subject to litigation and challenges at the Commission”); see, e.g., *Pac. Gas & Elec. Co.*, 168 FERC ¶ 61,038 (July 18, 2019), reh’g denied 170 FERC ¶ 61,194 (2020) (following remand from the Ninth Circuit, reaffirming the Commission’s prior grant of PG&E’s request for the RTO-Participation Incentive based upon findings that California law does not mandate PG&E’s participation in California Independent System Operator Corporation, and that the RTO-Participation Incentive induces PG&E to continue its membership).
to join was made.\textsuperscript{20} Imposing a requirement that the utility demonstrate that its decision was “voluntary” would also overlook the merits associated with stable, robust RTO membership going forward.

It is also important to recall that although several states have mandatory RTO membership provisions in their statutes, such provisions were generally included at the time of passage as part of a comprehensive state restructuring statute to transform the then-vertically integrated utility framework. As part of that restructuring initiative, RTO participation language was included as part of the \textit{quid pro quo} of the state opening up retail markets and granting stranded costs. For example, the Ohio statute is explicit in this regard: “no entity shall own or control transmission facilities as defined under federal law and located in this state \textit{on or after the starting date of competitive retail electric service} unless that entity is a member of, and transfers control of those facilities to, one or more qualifying transmission entities[.]”\textsuperscript{21} As noted above, the RTO-Participation Incentive serves to re-balance the asymmetry between these costs to the transmission owners and the benefits received by the consumers.

Congress assigned the creation of an RTO-Participation Incentive to the Commission. Congress was well aware at the time that some states such as Ohio had passed their own mandates for RTO participation. Nevertheless, Congress did not condition its directive to the Commission on the existence or non-existence of such state legislation. As a result, the Proposed Rule is appropriately cautious about having Congress’s policy directives on this targeted issue turn on state legislation.

\textsuperscript{20} A “voluntary” requirement could also precipitate a flood of state legislation that would make RTO membership mandatory under the guise of saving consumers the costs of the RTO-Participation Incentive. But such a result would incentivize an “end-run” around Congress’s express statutory directive to implement the RTO-Participation Incentive in furtherance of federal energy policy objectives. The Commission should not invite a new round of FERC/state jurisdictional tensions.

\textsuperscript{21} Ohio Revised Code Ann. § 4928.12 (emphasis added).
As noted above, RTO benefits to consumers are ongoing. State legislation does not void the need for this Commission to ensure fair alignment between the costs to transmission owners to remain members of an RTO versus the ongoing benefits realized by consumers. The Proposed Rule’s RTO-Participation Incentive strikes the appropriate balance in light of the relevant policy considerations.

B. The Proposed Rule Should Be Clarified and Simplified to Avoid Adding Additional Complexity to PJM’s Commission-Approved Regional Planning Process.

1. Overview of PJM Comments on the ROE Incentives.

As has been documented in various analyses, new transmission development provides significant benefits to customers in improving market efficiency, enhancing reliability, and effectuating state public policies. Congress so recognized this in Section 219 of EPAct and PJM’s analysis of the value of transmission to consumers was examined in a 2019 paper that PJM proposes to be made part of this record.

Nevertheless, PJM’s comments also aim to highlight challenges that may be encountered in the implementation of the Proposed Rule. In an effort to be helpful to the Commission, PJM also outlines certain information that is produced out of PJM’s planning process that PJM can submit to the Commission for consideration during the Commission’s review of proposed incentives should the Commission decide to proceed with the Proposed Rule.

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23 Special Report: The Benefits of the PJM Transmission System (Apr. 16, 2019), attached as Exhibit B.

24 As noted above, the level of returns on transmission investment or incentive adders are ratemaking issues beyond PJM’s purview as an RTO charged with planning the expansion of the transmission grid. PJM leaves it to other commenters to address the specific incentive levels offered in the Proposed Rule.
PJM’s Value Proposition
PJM Value Proposition

PJM Interconnection’s operation of the high-voltage power grid, wholesale electricity markets and its long-term planning process provide significant value to the 65 million people in the region it serves.

**PJM operations, markets and planning result in annual savings of $3.2 – 4 billion.** These savings represent the vital functions that PJM provides and that lead to less cost to consumers:

- Ensuring reliable power 24 hours a day, 7 days a week
- Providing capacity for the future and reserves for emergencies
- Managing generation and other resources in real time to meet consumer demand
- Procuring specialized services that protect the stability of the grid
- Lowering emissions by encouraging generator efficiency
- Offering additional benefits including training, compliance audits and knowledge sharing

24/7

- Generation Investment
  - $1.2–1.8 B SAVINGS
- Energy Production Costs
  - $600 M SAVINGS
- Reliability
  - $300 M SAVINGS
- Integrating More Efficient Resources
  - $1.1–1.8 B SAVINGS
- Emissions
  - +10 M fewer tons of emissions (annual avg.)

**Total Annual PJM Value**

$3.2–4 B

All numbers are estimates.

Working to Perfect the Flow of Energy
Reliability

Transmission enhancements in PJM are expected to reduce costs by nearly $300 million a year by alleviating congestion.

Regional Planning Efficiencies

PJM’s regional planning process assesses the need for transmission upgrades to ensure reliability, increase efficiency and support public-policy goals.

PJM’s large footprint makes the transmission planning process more effective by considering the region as a whole, rather than by individual states or separate transmission-owner territories, in determining transmission needs.

Investing in the transmission system can increase its ability to move more power, which can decrease congestion costs. Transmission enhancements in PJM are expected to reduce costs by nearly $300 million a year by alleviating congestion.

$300 M SAVINGS

Generation Investment

This results in savings of $1.2–1.8 billion.

Lower Reserve Margin and Competition from Alternative Resources

The fact that PJM plans for resource adequacy over a large region results in a lower reserve margin than otherwise would be necessary.

Resource adequacy means having enough generating resources available to meet the demand for electricity, plus a reserve margin to cover emergencies.

There is considerable diversity in electrical use patterns in the large PJM footprint; not all areas peak at the same time of the year.

As a result, resources in one area of the system are available to help serve other areas at peak times, and a smaller reserve is required.

In addition, the large and varied resource fleet across the entire PJM region spreads the generator outage risk across a larger collection of generators, improving reliability.

PJM’s Reliability Pricing Model capacity market promotes competition between traditional generation and alternative supply resources such as demand response. With more cost-effective alternatives to maintain adequate power supplies, less investment is needed in new generation. This results in savings of $1.2–1.8 billion.

$1.2–1.8 B SAVINGS
Integrating More Efficient Resources

More efficient units demonstrate a savings of $1.1–1.3 billion a year

Replacement of Less Efficient Resources

PJM’s efficient generation interconnection process, combined with the competitive RPM capacity market, has enabled less efficient generation resources to retire and to be replaced with more efficient, less costly, plants.

From the annual RPM auction from 2011 through 2018, nearly 30,000 megawatts of new, increasingly efficient natural gas combined-cycle generation either has already commenced operation or is committed to be built through the RPM auctions.

These resources operate more efficiently, with lower heat rates and in most cases lower fuel costs, than the older, less efficient resources they have replaced through retirement.

Simulations of the increased cost that would be associated with continuing to operate the retired resources instead of the new, more efficient units demonstrate a savings of $1.1–1.3 billion a year.

$1.1–1.3 B SAVINGS

Energy Production Costs

Operating the larger market creates production cost savings of $600 million a year

Expanded Dispatch Area

PJM’s dispatch process enables energy to be exchanged economically and automatically when less expensive resources in one area can be used to meet consumer electricity demand in another area.

Prior to the expansion of the PJM footprint more than a decade ago, energy usually was exchanged between areas only when energy sales transactions were scheduled between two suppliers.

Without the operation of the centralized market structure that exists today, economic energy exchanges occurred much less frequently and efficiently.

Simulations of the economic dispatch and energy exchange before and after the PJM market expansion show that operating the larger market creates production cost savings of $600 million a year.

$600 M SAVINGS
Emissions Savings

Annual average reduction of more than 10 million fewer tons of CO₂ emissions

PJM contributes to climate policy goals while maintaining reliability through the efficient operation of the wholesale power markets.

Competition in organized markets results in greater energy efficiency. Efficient plants burn less fuel and produce fewer emissions. Since 2005, PJM has seen an overall reduction in emissions of approximately 30 percent as a result of an increase in wind generation, other renewables and the inexpensive shale gas boom in the PJM region. This translates to an annual average reduction of more than 10 million fewer tons of CO₂ emissions.

Additional Benefits

PJM is a source of neutral, independent data, analysis, knowledge and expertise for the industry, lawmakers and regulators. In this role, PJM facilitates information sharing and informs decisions that help strengthen the grid and drive the power industry forward.

Training

PJM is dedicated to continuing education and providing training for industry professionals.

- PJM offers more than 160 training days a year, attended by 7,000 trainees, including 1,000 member company operators
- PJM awards 45,000 NERC continuing education hours annually
- 17,000 of the continuing education hours are simulation training, which prepares trainees for real-world experiences in system and market operations
Compliance Audits

As a regional transmission organization, PJM is audited periodically (every three years) by ReliabilityFirst, NERC and SERC Reliability Corporation. These audits review PJM’s compliance with Critical Infrastructure Protection standards, operations and planning standards. The approximate cost for PJM to complete an audit is $2 million. Because PJM is registered as the transmission operator and is audited by ReliabilityFirst, NERC and SERC, individual transmission owners do not have to participate in the audits on their own. The cost for an audit for a transmission owner would vary but could total more than $2 million for one individual transmission owner alone.

Innovation

PJM provides opportunities and a marketplace for innovators – such as PJM member organizations, research and academic institutions, and industry experts – to strengthen and enhance the power grid. PJM also conducts in-depth research and produces detailed white papers on various topics to promote information and knowledge sharing.

PJM supports and facilitates emerging technology programs to integrate batteries, electric vehicles and other power storage into PJM’s markets, as well as ongoing initiatives to explore how the burgeoning development of distributed energy resources can be integrated more effectively with grid operations.