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The Honorable Jeff Duncan
Chair
Subcommittee on Energy, Climate and Grid Security
Committee on Energy and Commerce
House of Representatives
2125 Rayburn House Office Building
Washington, D.C. 20515-6115

The Honorable Diana DeGette
Ranking Member
Subcommittee on Energy, Climate and Grid Security
Committee on Energy and Commerce
House of Representatives
2125 Rayburn House Office Building
Washington, D.C. 20515-6115

Dear Chair Duncan and Ranking Member DeGette:

On behalf of Stu Bresler, PJM Executive Vice President, and the entire team at PJM Interconnection, we want to thank you for affording Mr. Bresler the opportunity to testify at the subcommittee's September 28 hearing entitled "Powering America's Economy, Security, and Our Way of Life: Examining the State of Grid Reliability."

Through this submittal, we are responding to the Questions for the Record that were sent to us as a follow-up to the hearing. We stand ready to meet further on our responses and answer any follow-up questions you may have.

We have valued our long-standing relationship with the committee and this subcommittee and its excellent staff. Please feel free to contact me at Craig.Glazer@pjm.com or by phone at (202) 423-4743 should you wish to follow up on these responses.

Thank you.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Craig Glazer'.

Craig Glazer
Vice President – Federal Government Policy

Cc: Kaitlyn Peterson



Attachment A: Additional Questions for the Record to PJM Interconnection, L.L.C.

The Honorable Jeff Duncan

- 1| In your written testimony before this Committee you discussed how PJM's strong interconnected ties with neighbors "have allowed [PJM] to facilitate exports to [your] neighbors in the MISO, TVA, Duke Energy-Carolinas and the Southwest Power Pool (SPP) during tight conditions, such as those experienced in Winter Storm Elliott in December of 2022, and have allowed end-use customers within the PJM region to benefit from lower-cost supplies of electricity from our neighbors during other times of the year."¹

In a presentation following Winter Storm Elliott, you and other PJM executives discussed how PJM curtailed exports during Winter Storm Elliott as PJM's capacity position deteriorated due to generation failures inside the PJM system.² Curtailments during Winter Storm Elliott to Firm and non-Firm export schedules were further discussed by PJM in a July report.³ Both reports show that PJM was a net importer during critical hours of the event on the morning of December 24. Additionally, FERC and NERC recently highlighted that most curtailments during Winter Storm Elliott were not related to transmission constraints.⁴

Please provide a detailed worksheet summarizing curtailments to exports made by PJM on December 23 and December 24. The worksheet should include information including type of service (Firm/non-Firm), curtailed MW, curtailed MWh, delivery balancing authority area, and delivery hour. Please also explain why PJM was forced to curtail exports during the event, how PJM came to the decision to curtail Firm exports, and whether the curtailment of Firm exports prevented PJM from shedding load.

PJM RESPONSE: Attachment B provides the requested spreadsheet. Information on how PJM came to the decision to curtail these exports can be found in Attachment C, which is the relevant portion, for purposes of this question, to the larger PJM Report on Winter Storm Elliott. The full report can be accessed at [Winter Storm Elliott: Event Analysis and Recommendation Report](#).

¹ https://d1dth6e84htgma.cloudfront.net/09_28_23_ENG_Testimony_Bresler_b0ba75c54b.pdf, page 4

² <https://pjm.com/-/media/committees-groups/committees/mic/2023/20230111/item-0x--winter-storm-elliott-overview.ashx>, slide 15

³ <https://pjm.com/-/media/library/reports-notices/special-reports/2023/20230717-winter-storm-elliott-event-analysis-and-recommendation-report.ashx>, figures 23-28

⁴ <https://www.ferc.gov/news-events/news/presentation-ferc-nerc-regional-entity-joint-inquiry-winter-storm-elliott>, slide 6.



2| A historic benefit of wholesale markets is that they created competition and shifted financial risk from ratepayers to private investors.

a. Do you believe that state policies mandating the use of, or providing subsidies for, certain types of generation shift the financial risk back to ratepayers?

PJM RESPONSE: We agree that the effect of state mandates and subsidies shifts financial risk of the viability of those projects to the ratepayers (or, depending on the structure of the subsidies, the taxpayers).

3| Is there evidence that subsidies for grid scale battery storage, solar, and wind resources suppress capacity and energy market prices in your region? If so, please describe.

PJM RESPONSE: Prices are certainly lower than they would otherwise be if supply resources are entering the market and clearing in the capacity auctions that would not otherwise enter if they were not subsidized. The public policy decisions being made at the state and federal level evidence an intent of policymakers to either want to add (or in the case of nuclear, retain) resources that might otherwise not economically clear in the market. As a result, although there is no question that these decisions impact prices, the public policy decision comes down to whether addition or retention of those resources being subsidized in the name of supporting various policy goals exceeds the value of allowing all resources to compete economically. This is a question for policymakers as the market mechanisms in place in PJM and other RTOs can, at least in the short run, adjust and produce prices consistent with either policy choice. In the long run, wide-scale subsidization of resources that do not provide a comparable level of attributes needed to ensure reliability will negatively impact reliability and needed investment.

a. In your opinion, have subsidies negatively affected market outcomes? Do subsidies for batteries, solar, and wind discourage investment for new dispatchable thermal generation? How much have these market conditions contributed to the retirement of existing dispatchable thermal resources?

PJM RESPONSE: See above response for impact on market outcomes. Subsidies for certain generation types certainly mute price signals for other generation types. Premature retirements of generation with attributes needed to maintain reliability are of great concern to PJM. It is for this reason that in 2023 we issued our Report entitled [Energy Transition in PJM: Resource Retirements, Replacements & Risks](#) and have followed up that analysis with specific proposals to the EPA to mitigate the impact of its Greenhouse Gas Proposed Rule and specific proposals to states seeking to adopt policies that could negatively impact reliability.

The penetration of renewables on the PJM system is still relatively limited today (although rapidly growing in the future), making it difficult for us to empirically demonstrate at this point the exact relationship of subsidies for these resources with the decisions of unit owners to retire existing dispatchable thermal resources. There is no doubt that the existing subsidies and the trend of



adding even more such subsidies (as well as uncertainty concerning future policies) is influencing retirement considerations by unit owners. However, empirically answering the “how much” question for those resources that have already announced their retirement is difficult to do in any precise way.

Do these subsidies and their effects on markets make your system more reliable or less reliable?

PJM RESPONSE: The PJM system is reliable today. The PJM markets work together to ensure the procurement of sufficient resources with an adequate reserve margin to meet projected customer demand. For example, PJM procures capacity to meet projected demand on a three-year forward basis along with an adequate reserve margin. To the extent that the reliability contribution of resources added to the system due to subsidies are correctly determined such that price signals still indicate the need for and actually result in the addition of needed resources, reliability would not be affected. On the other hand, to the extent subsidies are driving the premature retirement of generation with attributes needed for reliability without a corresponding entry of new resources with similar attributes, then reliability will be negatively impacted. PJM demonstrated in the report cited above our concern with this lack of symmetry between the pace of new additions vs. the pace of retirements.

b. What steps are you taking to ensure that these subsidies are not unduly discriminatory and preferential, and that rates remain just and reasonable?

PJM RESPONSE: Other than through education of policymakers through reports, comments in proceedings and testimony, PJM has no formal role in determining which resources become entitled to subsidies and under what conditions. Our focus is on maintaining reliability through competitive markets that indicate the need for and actually result in investment when needed.

c. Would you consider state renewable mandates as out of market interventions? Would you consider the mandates as a form of market power?

PJM RESPONSE: Renewable mandates can be characterized as an “out-of-market intervention” as can many other policy actions. Although the recent wide-scale subsidization of one particular class of resources (i.e., renewables) can have significant investment impacts, we are not aware of any market that is totally immune from out-of-market interventions. As a result, this is a question of degree and the nature and design of these out-of-market interventions rather than the mere existence of such interventions.

We do not consider the mandates as a form of market power per se. However, there can be situations where subsidies can be utilized as a form of buyer-side market power. Our present Tariff addressing the Minimum Offer Price Rule retains adjustments to subsidized bids in situations that appear to involve the exercise of buyer-side market power.



4| Are changes to how the capacity market procures resources needed to ensure that sufficient dispatchable thermal resources are, and remain, available to the system? How far in advance of that timeframe do you need to make changes to avoid reliability issues?

PJM RESPONSE: Yes, and PJM is pursuing such changes as part of the two capacity market reform proposals currently in front of FERC. We urge FERC to approve both of our filings expeditiously. Given the multiyear time frame required to develop new thermal resources, changes are required years in advance in order to result in market results that stimulate investment in a time frame that resources can be developed in response to those market outcomes all of which underscores the need for timely FERC action on our filing.

a. Are forward looking markets like capacity markets needed to procure enough resources that can provide essential reliability services?

PJM RESPONSE: PJM believes such forward markets are extremely helpful in this regard. Not only do they provide advance signals as to when resource investment is necessary, they also provide a forward view of when resources may retire. The markets also work to expose the true price to consumers of various policy choices as they reflect the cost of replacement generation when federal or state policies lead to retirement of existing generation.

b. Are you concerned that there will be a recurring need to defer retirements or enter into out of market contracts to retain generators if subsidies persist and the markets do not change to correct inefficiencies?

PJM RESPONSE: Yes. The current pace of resource additions and the preponderance of intermittent resources coming through the interconnection process cause PJM concern with respect to future resource adequacy in the relatively near term, and steps such as these may indeed be necessary to maintain reliability in the face of these challenges. We continue to address these issues with policymakers at the state and federal level through participation in state proceedings and extensive interaction with the U.S. EPA, FERC, DOE and state policymakers.

c. Do all resources with a capacity obligation have a must-offer requirement in the day-ahead market? If not, why not? What effect does not having a must-offer requirement have on the day-ahead and real-time markets?

PJM RESPONSE: Yes, in PJM, all resources with a capacity obligation carry a must offer requirement in the day-ahead market.

5| Please describe your generator retirement process. Are current retirement processes that retain resources while transmission upgrades are implemented sufficient to prevent the scale of retirements facing RTOs/ISOs?



PJM RESPONSE: Following receipt of a deactivation notice for a given generating unit, PJM performs a transmission reliability analysis. If transmission upgrades are required to maintain reliability given the retirement of the indicated generating unit, and such upgrades cannot be completed by the unit's desired deactivation date, then PJM will request that the unit remain in service until such transmission upgrades are completed. The generation owner is not required to maintain the unit in service, but if the owner does agree to do so, then the owner is eligible for compensation of its costs through Part V of the PJM Tariff. Such arrangements can also be accompanied by operating agreements filed with and approved by FERC.

Requesting resources to operate beyond their desired deactivation date is limited only to transmission reliability issues that can be resolved with transmission upgrades. PJM does not currently have the ability under its Tariff to request that resources remain in service beyond desired deactivation dates for overall resource adequacy needs. Should retirements continue to outpace resource additions, this ability may be needed in the future to maintain reliability.

- a. **Do you consider issues other than reliability violations on the transmission system when assessing the impacts of proposed generator retirements?**
 - i. **For example, should violations of other reliability criteria, shortfalls of FERC-approved resource adequacy requirements, or need for essential reliability services be considered when a generator proposes to retire?**

PJM RESPONSE: PJM does not currently have the ability under its Tariff to request that resources remain in service beyond desired deactivation dates for reasons other than transmission reliability. It is possible that at some point in the future these other reliability needs could become an issue at which point PJM would need this ability, or some other mechanism, to maintain grid reliability.

- b. **Should RTOs/ISOs be able to retain generators until the capacity, energy, and essential reliability services they provide are replaced?**

PJM RESPONSE: Yes, and PJM makes every effort to ensure that the competitive markets result in the investment in resources required to ensure that this continues to be the case. However, other backstop mechanisms may be necessary in the future if investment in the required resources does not occur despite the ability for markets to signal when that investment is needed. Legislation may be needed in this area if the Commission determines that it is unable to legally consider such proposals.



- 6] Electrification of the heating and transportation sectors has the potential to greatly increase electric demand and capacity needs. The nation's top reliability organization, the North American Electric Reliability Corporation (NERC), and leaders from the Federal Energy Regulatory Commission (FERC), have testified that the bulk power system is confronting a potential reliability crisis caused by the potential loss of dispatchable thermal generation.

This issue grows greater with the proposed EPA rules that will discourage coal and natural gas-fired generation. When do you anticipate reliability concerns materializing, or have they already materialized? What are you doing to solve this resource adequacy crisis and potential reliability crisis?

- a. How do you plan to retain existing dispatchable generation and incent new entry of dispatchable generation if your markets currently do not?
- b. If your system is already facing resource adequacy issues without electrification and demand increase, how will the system be able to sustain large growth amidst significant thermal resource retirements?
- c. It appears that capacity obligations and performance requirements fail to reduce the impacts of winter storms. Does your market structure provide incentives for winterization of natural gas infrastructure or firm fuel supplies? What steps is NYISO taking to incentivize weatherization of natural gas infrastructure or firm fuel supplies?

PJM RESPONSE: As noted above, we addressed the timelines associated with various EPA and state rules and their impact on generator retirements in our [Resource Retirements, Replacements & Risks](#) report highlighted above. We also continue to provide information to policymakers on emerging reliability issues resulting from the transition of the existing fleet through a special [Ensuring a Reliable Energy Transition](#) webpage.

Also as noted above, we have worked to address this concern through:

- Intensive reach out and discussion with state commissions, legislatures and governors offices
- The submission of specific proposals to the U.S. EPA in the context of its Greenhouse Gas-proposed rule to address these resource adequacy and related reliability concerns
- The submission of comprehensive capacity market reform filings to FERC, which, among other things, will address the issues associated with artificially capping offers in the capacity market as well as the need for proper accreditation of all resources



a. How do you plan to retain existing dispatchable generation and incent new entry of dispatchable generation if your markets currently do not?

PJM RESPONSE: As noted above, we have worked to address these issues through targeted market reforms as well as specific proposals to the U.S. EPA. Beyond those measures, additional areas for development include:

- 1) Developing new markets to attract and properly compensate for reliability attributes that would be needed in real time to meet system needs in light of the variability of renewable resources
- 2) Potentially adjusting market parameters in order to incent new entry of generation that will meet the new environmental requirements
- 3) Promoting additional demand response opportunities that still ensure comparability with generation resources
- 4) Developing markets that allow for the dispatch and appropriate pricing of cost effective behind the meter resources
- 5) Promoting and incenting allowance trading as a method of complying with new environmental regulations

b. If your system is already facing resource adequacy issues without electrification and demand increase, how will the system be able to sustain large growth amidst significant thermal resource retirements? There is little doubt that maintaining resource adequacy will become an even larger challenge in light of the pace of retirements exceeding the pace of new additions.

PJM RESPONSE: See our response to question c above for some of the additional initiatives and tools that we could utilize to ensure resource adequacy in light of these developments.

c. It appears that capacity obligations and performance requirements fail to reduce the impacts of winter storms. Does your market structure provide incentives for winterization of natural gas infrastructure or firm fuel supplies? What steps is PJM taking to incentivize weatherization of natural gas infrastructure or firm fuel supplies?

PJM RESPONSE: Within the PJM market, our penalty structure for non-performance during winter emergencies works to incent winterization of generation facilities as well as fuel procurement. In addition, our pending filing with FERC proposes increased testing of generators prior to the beginning of the winter season to better assess their readiness to meet their capacity obligations through the winter season.



Outside of the PJM markets specifically, PJM has worked jointly with the other RTOs to oppose certain provisions of the NERC-proposed winterization standard pointing out where the proposal is inadequate to ensure adequate winterization of facilities to meet reliability needs. PJM also has been extremely active in the NAESB process and in proposals to FERC to address gas/electric issues and is working with our RTO counterparts to present a host of reforms that we believe FERC and the states could take within their existing authority to improve gas/electric coordination.

7| While the interconnection queue is large, not all resources in the queue get built. What percentage of the generation queue has historically come onto the system? How much from the existing queue do you expect to be built?

PJM RESPONSE: Historically, 12% of new projects (not counting updates in capacity of existing projects) that enter the queue achieve commercial operation. For projects that have entered requests starting in 2014 until now, that number is roughly 7%. These statistics represent the percentage of projects that have gone into commercial operation to date. As a result of the reforms that we have instituted, including our fast track process for certain projects in the queue, this number may increase as the year continues.

Because the factors that go into whether a project actually gets completed and moves into commercial operation are varied and rest with the project developer, we are not in a position to speculate as to the degree to which these low commercial operation percentages persist into the future.

a. Can you provide an estimate of the gross cost of all the additional renewable capacity you expect to get built?

PJM RESPONSE: As noted above, we do not forecast which resources in the queue will actually achieve commercial operation and therefore simply do not have an ability to derive this requested information.

b. Can you elaborate on the projects that are delayed or canceled due to cost increases?

i. What is the reliability impact of these delays and cancelations if they force retirement of existing dispatchable thermal resources but no new capacity is added?

PJM RESPONSE: This issue is addressed at length in the [Resource Retirements, Replacements & Risks](#) report cited above.

ii. Are these projects subject to financial penalty if they are unable to meet their obligations? Should project financiers and sponsors be required to pay for any out of market actions to retain dispatchable thermal resources?



PJM RESPONSE: Projects in the queue are required to meet milestones or else forfeit their deposits and queue positions. We do not have the ability to assess project financiers and sponsors the costs of RMR contracts. Doing so might provide further disincentive to the development of new generation with the attributes we need to maintain reliability to replace the retiring generation.

- c. **Can you describe how much additional dispatchable thermal generation capacity you will need to balance the system if renewables are added to meet state goals? Is it financially sensible to add significant amounts of generation to meet state goals only to need to add more dispatchable thermal generation to maintain balance on the system?**

PJM RESPONSE: We have run analyses based on the findings in our analysis of system needs going forward as set forth in this PJM whitepaper issued in May of 2022: [Energy Transition in PJM: Emerging Characteristics of a Decarbonizing Grid](#).

If the goal was to achieve 70% carbon-free generation and assuming there were no further retirements of the existing nuclear fleet in PJM, we would need to add approximately 150 GW of nameplate capacity of renewable generation to meet that goal. In addition, to ensure grid stability and system reliability and maintain resource adequacy given the variable nature of renewable generation, we would need approximately 95 GW of thermal generation. Today, PJM has 130 GW of nameplate thermal generation. However, we are forecasting additional retirements of up to 40 GW thermal generation as noted in our [Resource Retirements, Replacements & Risks](#) report noted above as a result of various state and federal policies. If the pace of retirements continues, and we were not able to maintain at least this 9 GW of thermal generation, we would face significant reliability issues in the 13-state plus DC PJM region as reserve margins shrink below acceptable levels.

- d. **Can additional natural gas-fired generation capacity be served by the current pipeline infrastructure or is additional pipeline infrastructure needed?**

PJM RESPONSE: We believe that additional pipeline infrastructure and particularly the development of new gas storage fields will be needed given the load growth we are seeing as a result of electrification and data center development.

- e. **Have you been consulted by EPA or FERC on the proposed power sector regulations? If so, please describe those communications, consultations, meetings, etc.**

PJM RESPONSE: We have had extensive discussions with the EPA on our proposed Reliability Safety Valve proposal submitted by PJM, ERCOT, MISO and SPP. We testified at FERC's Technical Conference that addressed through one panel the EPA rules but have had less ongoing discussion with FERC on this matter to date.



f. If the EPA rules are enacted, will you be able to reliably operate your system?

PJM RESPONSE: In our [comments to the EPA](#) as well as our most recent [supplemental comments](#), we have underscored our concerns with certain of the key proposals in the EPA GHG Rule and in particular the time period and reliance on CCS technology or co-firing with hydrogen as commercially viable technologies under the EPA's BSER standard. We proposed specific Reliability Safety Valve options, which will mitigate but not eliminate those concerns.

g. Should nuclear play a larger role in reliably operating the system and meeting state emission targets?

PJM RESPONSE: PJM is resource neutral. If the parameters around resources that can actually be developed are included in the market structures, then competitive approaches are best to ensure the most economic mix of resource is developed to meet reliability needs within those parameters.

8| What is the expected cumulative cost of the transmission needed to integrate renewables?

PJM RESPONSE: There is not a single cumulative cost to integrate all renewables. The location and operating characteristics of those renewables have a significant impact on the costs of system upgrades needed to support such renewables as well as the costs of attachment facilities. It should be noted that under today's interconnection rules, those costs are assessed to the developers and not to load.

a. Can you describe your coordination efforts with neighboring RTOs/ISOs?

PJM RESPONSE: PJM has agreements with all of its neighbors that include coordination of transmission needs and the identification of potential inter-regional projects. In addition, PJM participates in the Eastern Interconnection Planning Collaborative that reviews transmission needs and provides a State of the Grid report produced by all of the transmission planners in the Eastern Interconnection. That report can be found at www.eipconline.org.

b. What is your position on a minimum transfer requirement between planning regions?

PJM RESPONSE: Such a transfer requirement, if one is put in place, should be based on an analysis of what is necessary to maintain a reliable grid. The coordination described above ensures that transmission capability is developed when reliability needs are determined. Building transmission on the basis of an arbitrary quantity of transfer capability is not likely to result in upgrades that are cost beneficial to consumers. The EIPC recently put out a [whitepaper](#) addressing this and related issues.



- c. **Would a minimum transfer capability requirement undermine the autonomy of the various RTOs/ISOs and their planning processes?**

PJM RESPONSE: It would be detrimental to consumers because it would remove the ability for ISOs/RTOs to determine through robust analytics the transmission upgrades that are necessary for reliability.



The Honorable Robert E. Latta

1| On February 24 of this year, PJM issued a report⁵ that said 40 Gigawatts of generation capacity would be retiring by 2030. Of these 40 Gigawatts of power plant retirements, 60 percent are coal, 30 percent are natural gas, and 10 percent are from other sources like oil-fired power plants. Yet, most of the new generation proposed to enter PJM are intermittent solar and wind. In fact, and let me quote from the report:

- *“The growth rate of electricity demand is likely to continue to increase from electrification coupled with the proliferation of high-demand data centers in the region.”*
- *“Thermal generators are retiring at a rapid pace due to government and private sector policies as well as economics.”*
- *“Retirements are at risk of outpacing the construction of new resources, due to a combination of industry forces, including siting and supply chain, whose long-term impacts are not fully known.”*
- *“PJM’s interconnection queue is composed primarily of intermittent and limited-duration resources. Given the operating characteristics of these resources, we need multiple megawatts of these resources to replace 1 megawatt of thermal generation.”*

So, as we look forward:

2| These findings that I just quoted can be summed up by saying that we need more power generation in this country, not less, correct?

PJM RESPONSE: Yes, and we need sufficient quantities of resources that provide the reliability attributes necessary to operate the grid reliably.

3| You are confronting massive amounts of new, weather-dependent energy, which brings on a host of problems for reliable generation. Are you concerned about the pace and scale of change being driven by environmental policies and subsidies?

PJM RESPONSE: Yes, as we explained in our Resource Retirements, Replacements & Risks report cited above report. There are two distinct issues. If the pace of resource additions does not accelerate to meet the anticipated rate of resource retirements, PJM will experience resource adequacy issues. Even in the case where new resources are constructed in a timely manner to allow anticipated retirements to occur, we will need to ensure that the overall resource mix provides the needed quantities of reliability services required.

⁵ <https://www.pjm.com/-/media/library/reports-notices/special-reports/2023/energy-transition-in-pjm-resource-retirements-replacements-and-risks.ashx>



- 4| Earlier this summer in our environment subcommittee, our Members heard testimony from Ohio’s Buckeye Power on the EPA’s greenhouse gas standards for fossil generation – coal and gas. It was clear that this important power provider in Ohio had no options to keep this reliable generation on line for as long as it had planned.

- a. What authority does PJM or the other ISOs have to assure necessary power stays on line?

PJM RESPONSE: As noted in our response to question 5 above, following receipt of a deactivation notice for a given generating unit, PJM performs a transmission reliability analysis. If transmission upgrades are required to maintain reliability given the retirement of the indicated generating unit, and such upgrades cannot be completed by the unit’s desired deactivation date, then PJM will request that the unit remain in service until such transmission upgrades are completed. The generation owner is not required to maintain the unit in service or accept a contract to do so, but if the owner does agree to do so, then the owner is eligible for compensation of its costs through Part V of the PJM Tariff. Such agreements are typically accompanied by operating protocols known as Reliability Must Run (RMR) agreements filed with and approved by FERC.

Requesting resources to operate beyond their desired deactivation date is limited only to transmission reliability issues that can be resolved with transmission upgrades. PJM does not currently have the ability under its Tariff to request that resources remain in service beyond desired deactivation dates for overall resource adequacy needs. Should retirements continue to outpace resource additions, this ability may be needed in the future to maintain reliability.

- 5| Emergency must run agreements and Federal Power Act orders seem like stop-gap measures that do not address the underlying problem that reliable, dispatchable generation is being forced to close early in the current system.

- a. What can you do to adjust your rules to address this issue?

PJM RESPONSE: As noted above, we have two filings in front of FERC that will help to properly accredit all resources for their true reliability value and ensure adequate compensation for the risks that such units incur. Further potential changes are under consideration as I note in response to question 6 above.

- 6| Finally, I am concerned regarding the physical and cyber security of our power substations given the recent high-profile attacks that have occurred around the country, including in North Carolina where this Subcommittee held a field hearing to focus on these issues.

- a. What is PJM doing to specifically address direct threats to distribution substations within its region?



PJM RESPONSE: I will address this question as it relates to transmission substations as those are within our scope of authority. We have adopted a policy of seeking to “de-criticalize” transmission substations that are otherwise deemed critical transmission facilities by developing targeted transmission projects that will provide a redundant path to other substations should one of the designated substations experience an interruption. The Commission supported this proposal, which has worked to address this critical issue. We also have collaborated with EEI and the North American Transmission Forum on the cataloging of spare transformers and other key facilities in the event of a loss of a critical transmission substation’s components.



The Honorable Kelly Armstrong

1| Markets often have difficulty sending the appropriate price signals that account for reliability to support the development of new or improvement of existing dispatchable resources. Capacity markets appear to set prices below efficient levels, and some lack a demand curve that accurately represents needed capacity, leading to questions about resource adequacy.

a. Has your organization evaluated the role capacity markets play in sending price signals?

PJM RESPONSE: Overall, the PJM capacity market has helped to attract 48,106 MW of new generation, including 14,740 MW of demand response and energy efficiency resources. The capacity market has to date allowed for the attraction of the most efficient and cost effective mix of resources needed to meet reliability. Overall, the PJM markets are estimated to have provided customers with over \$ 3.2 billion to \$4 billion in annual savings.

b. Does the current demand curve establish clearing prices that are alienated from the worth of capacity and reliability?

PJM RESPONSE: No, The current demand curve is anchored in the Cost of New Entry for a Natural Gas Combined Cycle unit, which is what has been developed almost exclusively in the PJM region for the last decade. To the extent that development of new NGCC resources has become either impossible or impractical either due to state and local environmental regulations or an investment environment that does not support development of such resources, then PJM may need to adjust the reference resource such that price signals are based on a resource that is more investible in our region based on current and future trends.

c. If your organization is in the process of restructuring a demand curve, will it be implemented in a timeline aggressive enough to send appropriate price signals to dispatchable resources?

PJM RESPONSE: PJM just completed and presented to FERC changes to the slope of the demand curve to ensure appropriate price signals are being sent. Our next scheduled quadrennial review will begin in 2025 and is scheduled to be filed with FERC in October of 2026. Overall, our demand curve has been supported by stakeholders as an effective means to appropriately procure and price capacity and has not been subject to some of the larger debates occurring in other RTOs. Nevertheless, if necessary, PJM can propose changes to the demand curve outside of the quadrennial review process timeline if necessary subject to stakeholder discussion and review.

2| Weather-dependent generation is penetrating the generation mix at an increasing rate.

a. Has your organization evaluated accreditation processes for these resources?



PJM RESPONSE: Yes. Improved accreditation for all resources is one of the key components of our recent filings pending at FERC as noted above.

- i. **If so, does this accreditation consider the weather risks associated with weather-dependent generation?**

PJM_RESPONSE: Yes, ELCC accredits resources on the basis of their ability to perform during the hours of the highest system risk, which are oftentimes associated with outlier weather events.

- b. **Is your organization evaluating seasonal accreditation and/or effective load carrying capability for weather-dependent generation?**

PJM RESPONSE: Yes. The outcome of our present CIFP filings at FERC will help us to prioritize this effort with other necessary reforms.

- c. **Does your organization have the same reliability standards for weather-dependent generation as it does for dispatchable resources?**

PJM RESPONSE: The reliability standards governing different types of generation are set, in the first instance by NERC. However, we have through our most recent FERC filing, worked to ensure comparable accreditation of all resources based on their performance during stressed system conditions.

- d. **Should changes to capacity accreditation go into effect before other changes to the capacity market?**

PJM RESPONSE: In the case of PJM, the answer is yes as our pending filings will move this issue (and related market seller offer cap issues) ahead of other reforms that are still under consideration in the stakeholder process.

3| Traditional load forecasting tools rely on customer history and interactions to approximate demand needs, including peak consumption.

- a. **To what extent does your organization consider external studies or critiques of load forecasting models when acquiring capacity?**

PJM RESPONSE: At PJM, we base our load forecast on input from other sources as well as our own models. We also have refined the load forecast considerably in recent years in response to external studies, actual results and stakeholder critiques. We continue to evolve and improve our load forecasting given its importance in determining the appropriate level of resource adequacy needed to meet customer demands.



Attachment B: Explanation of Columns in Attachment B Spreadsheet

Neighboring Interface: The Balancing Authority to which the export is being delivered

Path Type: We limited this report to “exports” per the instructions

Tag Name: A unique identifier for each transaction

Transmission Priority: Firm or Non-Firm service designation

Interval Start: What time the transaction started (provided for each 15-minute interval)

Interval Stop: See definition above

MW Scheduled: The amount of energy that was scheduled on the Tag

MW Flowed: The amount of energy that actually flowed

MW Curtailed: The amount of energy that was curtailed

MWh Curtailed: The integrated amount of energy curtailed during the time interval

Curtailement Issuer: The BA that initiated the curtailment



Neighboring Interface	Path Type	Tag Name	Transmission Priority	Interval Start (EPT)	Interval Stop (EPT)	MW Scheduled	MW Flowed	MW Curtailed	MWh Curtailed	Curtailed Issuer
ALTE - Alliant Energy Corporate Services, Inc. East (MISO)	EXPORT	PJM_001CLTCL37028_MISO	NON-FIRM	12/23/2022 17:15	12/23/2022 18:15	-100	0	100	100	PJM - PJM Interconnection LLC
ALTE - Alliant Energy Corporate Services, Inc. East (MISO)	EXPORT	PJM_BRTM01BP15994_MISO	NON-FIRM	12/23/2022 17:15	12/23/2022 18:15	-100	0	100	100	PJM - PJM Interconnection LLC
AMIL - Ameren Transmission Illinois (MISO)	EXPORT	PJM_AMUE010001602_MISO	NON-FIRM	12/23/2022 17:15	12/23/2022 18:00	-175	0	175	131	PJM - PJM Interconnection LLC
AMIL - Ameren Transmission Illinois (MISO)	EXPORT	PJM_AMUE010001602_MISO	NON-FIRM	12/23/2022 18:00	12/23/2022 19:00	-175	0	175	175	PJM - PJM Interconnection LLC
AMIL - Ameren Transmission Illinois (MISO)	EXPORT	PJM_AMUE010001602_MISO	NON-FIRM	12/23/2022 19:00	12/23/2022 20:00	-175	0	175	175	PJM - PJM Interconnection LLC
AMIL - Ameren Transmission Illinois (MISO)	EXPORT	PJM_AMUE010001605_MISO	NON-FIRM	12/24/2022 17:00	12/24/2022 18:00	-200	0	200	200	PJM - PJM Interconnection LLC
AMIL - Ameren Transmission Illinois (MISO)	EXPORT	PJM_TNSKDLJNE1232_MISO	NON-FIRM	12/23/2022 17:15	12/23/2022 17:30	-100	0	100	25	PJM - PJM Interconnection LLC
CIN - Duke Energy Indiana, LLC (MISO)	EXPORT	PJM_MEAI010030650_MISO	NON-FIRM	12/23/2022 17:15	12/23/2022 17:30	-10	0	10	2	PJM - PJM Interconnection LLC
CIN - Duke Energy Indiana, LLC (MISO)	EXPORT	PJM_MEAI010030650_MISO	NON-FIRM	12/23/2022 17:45	12/23/2022 18:00	-200	0	200	50	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024OL_CPLE	FIRM	12/24/2022 5:30	12/24/2022 6:00	-200	-178	22	11	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024OL_CPLE	FIRM	12/24/2022 6:00	12/24/2022 6:15	-200	-85	115	29	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024OL_CPLE	FIRM	12/24/2022 6:15	12/24/2022 6:30	-200	-71	129	32	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024OL_CPLE	FIRM	12/24/2022 6:30	12/24/2022 6:45	-200	-66	134	34	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024OL_CPLE	FIRM	12/24/2022 6:45	12/24/2022 7:00	-200	-16	184	46	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024OL_CPLE	FIRM	12/24/2022 7:00	12/24/2022 7:30	-200	0	200	100	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024OL_CPLE	FIRM	12/24/2022 7:30	12/24/2022 7:45	-200	-34	166	41	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024OL_CPLE	FIRM	12/24/2022 7:45	12/24/2022 8:00	-200	-14	186	46	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024OL_CPLE	FIRM	12/24/2022 8:00	12/24/2022 8:15	-200	-3	197	49	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024OL_CPLE	FIRM	12/24/2022 8:15	12/24/2022 8:30	-200	-12	188	47	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024OL_CPLE	FIRM	12/24/2022 8:30	12/24/2022 9:30	-200	-80	120	120	PJM - PJM Interconnection LLC



Neighboring Interface	Path Type	Tag Name	Transmission Priority	Interval Start (EPT)	Interval Stop (EPT)	MW Scheduled	MW Flowed	MW Curtailed	MWh Curtailed	Curtailment Issuer
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024OL_CPLE	FIRM	12/24/2022 9:30	12/24/2022 9:45	-200	-80	120	30	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024OL_CPLE	FIRM	12/24/2022 9:45	12/24/2022 10:00	-200	-138	62	15	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024OL_CPLE	FIRM	12/24/2022 10:00	12/24/2022 10:30	-200	-125	75	38	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024OL_CPLE	FIRM	12/24/2022 10:30	12/24/2022 10:45	-200	-104	96	24	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024OL_CPLE	FIRM	12/24/2022 10:45	12/24/2022 11:45	-200	-130	70	70	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024OM_CPLE	FIRM	12/24/2022 5:30	12/24/2022 6:00	-200	-178	22	11	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024OM_CPLE	FIRM	12/24/2022 6:00	12/24/2022 6:15	-200	-85	115	29	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024OM_CPLE	FIRM	12/24/2022 6:15	12/24/2022 6:30	-200	-71	129	32	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024OM_CPLE	FIRM	12/24/2022 6:30	12/24/2022 6:45	-200	-66	134	34	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024OM_CPLE	FIRM	12/24/2022 6:45	12/24/2022 7:00	-200	-16	184	46	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024OM_CPLE	FIRM	12/24/2022 7:00	12/24/2022 7:30	-200	0	200	100	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024OM_CPLE	FIRM	12/24/2022 7:30	12/24/2022 7:45	-200	-34	166	41	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024OM_CPLE	FIRM	12/24/2022 7:45	12/24/2022 8:00	-200	-11	189	47	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024OM_CPLE	FIRM	12/24/2022 8:00	12/24/2022 8:15	-200	-2	198	50	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024OM_CPLE	FIRM	12/24/2022 8:15	12/24/2022 8:30	-200	-10	190	47	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024OM_CPLE	FIRM	12/24/2022 8:30	12/24/2022 9:30	-200	-80	120	120	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024OM_CPLE	FIRM	12/24/2022 9:30	12/24/2022 9:45	-200	-80	120	30	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024OM_CPLE	FIRM	12/24/2022 9:45	12/24/2022 10:00	-200	-138	62	15	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024OM_CPLE	FIRM	12/24/2022 10:00	12/24/2022 10:30	-200	-125	75	38	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024OM_CPLE	FIRM	12/24/2022 10:30	12/24/2022 10:45	-200	-104	96	24	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024OM_CPLE	FIRM	12/24/2022 10:45	12/24/2022 11:45	-200	-130	70	70	PJM - PJM Interconnection LLC



Neighboring Interface	Path Type	Tag Name	Transmission Priority	Interval Start (EPT)	Interval Stop (EPT)	MW Scheduled	MW Flowed	MW Curtailed	MWh Curtailed	Curtailment Issuer
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024ON_CPLE	FIRM	12/24/2022 5:30	12/24/2022 6:00	-100	-89	11	6	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024ON_CPLE	FIRM	12/24/2022 6:00	12/24/2022 6:15	-100	-42	58	14	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024ON_CPLE	FIRM	12/24/2022 6:15	12/24/2022 6:30	-100	-35	65	16	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024ON_CPLE	FIRM	12/24/2022 6:30	12/24/2022 6:45	-100	-33	67	17	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024ON_CPLE	FIRM	12/24/2022 6:45	12/24/2022 7:00	-100	-8	92	23	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024ON_CPLE	FIRM	12/24/2022 7:00	12/24/2022 7:30	-100	0	100	50	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024ON_CPLE	FIRM	12/24/2022 7:30	12/24/2022 7:45	-100	-17	83	21	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024ON_CPLE	FIRM	12/24/2022 7:45	12/24/2022 8:00	-100	-6	94	23	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024ON_CPLE	FIRM	12/24/2022 8:00	12/24/2022 8:15	-100	-1	99	25	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024ON_CPLE	FIRM	12/24/2022 8:15	12/24/2022 8:30	-100	-5	95	24	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024ON_CPLE	FIRM	12/24/2022 8:30	12/24/2022 9:30	-100	-40	60	60	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024ON_CPLE	FIRM	12/24/2022 9:30	12/24/2022 9:45	-100	-40	60	15	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024ON_CPLE	FIRM	12/24/2022 9:45	12/24/2022 10:00	-100	-69	31	8	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024ON_CPLE	FIRM	12/24/2022 10:00	12/24/2022 10:30	-100	-63	37	19	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024ON_CPLE	FIRM	12/24/2022 10:30	12/24/2022 10:45	-100	-52	48	12	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_MCPI01SE024ON_CPLE	FIRM	12/24/2022 10:45	12/24/2022 11:45	-100	-65	35	35	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NC1D1223ND_CPLE	NON-FIRM	12/23/2022 17:15	12/23/2022 18:15	-3	0	3	3	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NC1D1223ND_CPLE	NON-FIRM	12/23/2022 18:30	12/23/2022 19:30	-3	0	3	3	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NC1D1223NF_CPLE	NON-FIRM	12/23/2022 17:15	12/23/2022 18:00	-36	0	36	27	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NC1D1223NF_CPLE	NON-FIRM	12/23/2022 18:00	12/23/2022 19:00	-39	0	39	39	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NC1D1223NF_CPLE	NON-FIRM	12/23/2022 19:00	12/23/2022 20:00	-41	0	41	41	PJM - PJM Interconnection LLC



Neighboring Interface	Path Type	Tag Name	Transmission Priority	Interval Start (EPT)	Interval Stop (EPT)	MW Scheduled	MW Flowed	MW Curtailed	MWh Curtailed	Curtailment Issuer
CPLE - Duke Energy Progress East	EXPORT	PJM_NC1D1226AQ_CPLE	NON-FIRM	12/24/2022 10:00	12/24/2022 12:00	-3	0	3	6	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NC1D1226AQ_CPLE	NON-FIRM	12/24/2022 17:00	12/24/2022 19:00	-3	0	3	6	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NC1D1226BU_CPLE	NON-FIRM	12/24/2022 10:00	12/24/2022 12:15	-30	0	30	68	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NC1D1226BU_CPLE	NON-FIRM	12/24/2022 18:00	12/24/2022 19:00	-30	0	30	30	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NC1D1226BV_CPLE	NON-FIRM	12/24/2022 10:00	12/24/2022 12:00	-5	0	5	10	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NC1D1226BV_CPLE	NON-FIRM	12/24/2022 12:00	12/24/2022 12:45	-4	0	4	3	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NC1D1226BV_CPLE	NON-FIRM	12/24/2022 17:00	12/24/2022 19:00	-5	0	5	10	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NC1D1226BX_CPLE	NON-FIRM	12/24/2022 5:45	12/24/2022 6:45	-4	0	4	4	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NC1D1226BX_CPLE	NON-FIRM	12/24/2022 6:45	12/24/2022 7:45	-4	0	4	4	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NC1D1226BX_CPLE	NON-FIRM	12/24/2022 7:45	12/24/2022 8:00	-4	0	4	1	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NC1D1226BX_CPLE	NON-FIRM	12/24/2022 10:00	12/24/2022 12:30	-4	0	4	10	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NC1D1226BX_CPLE	NON-FIRM	12/24/2022 17:00	12/24/2022 19:00	-4	0	4	8	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NC1D1226BY_CPLE	NON-FIRM	12/24/2022 5:45	12/24/2022 6:45	-5	0	5	5	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NC1D1226BY_CPLE	NON-FIRM	12/24/2022 6:45	12/24/2022 7:45	-5	0	5	5	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NC1D1226BY_CPLE	NON-FIRM	12/24/2022 7:45	12/24/2022 8:00	-5	0	5	1	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NC1D1226BY_CPLE	NON-FIRM	12/24/2022 10:00	12/24/2022 12:45	-5	0	5	14	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NC1D1226BY_CPLE	NON-FIRM	12/24/2022 17:00	12/24/2022 19:00	-5	0	5	10	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NC1D1226CA_CPLE	NON-FIRM	12/24/2022 10:00	12/24/2022 11:00	-1	0	1	1	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NC1D1226CB_CPLE	NON-FIRM	12/24/2022 6:00	12/24/2022 7:15	-13	0	13	16	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NC1D1226CB_CPLE	NON-FIRM	12/24/2022 7:15	12/24/2022 8:00	-13	0	13	10	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NC1D1226CB_CPLE	NON-FIRM	12/24/2022 10:00	12/24/2022 11:00	-13	0	13	13	PJM - PJM Interconnection LLC



Neighboring Interface	Path Type	Tag Name	Transmission Priority	Interval Start (EPT)	Interval Stop (EPT)	MW Scheduled	MW Flowed	MW Curtailed	MWh Curtailed	Curtailment Issuer
CPLE - Duke Energy Progress East	EXPORT	PJM_NC1D1226CB_CPLE	NON-FIRM	12/24/2022 11:00	12/24/2022 12:00	-12	0	12	12	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NC1D1226CB_CPLE	NON-FIRM	12/24/2022 12:00	12/24/2022 12:30	-11	0	11	5	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NC1D1226CB_CPLE	NON-FIRM	12/24/2022 17:00	12/24/2022 18:00	-11	0	11	11	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NC1D1226CB_CPLE	NON-FIRM	12/24/2022 18:00	12/24/2022 19:00	-12	0	12	12	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NC1D1226CG_CPLE	NON-FIRM	12/24/2022 10:00	12/24/2022 11:00	-13	0	13	13	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NC1D1226CG_CPLE	NON-FIRM	12/24/2022 11:00	12/24/2022 12:30	-9	0	9	14	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NC1D1226CG_CPLE	NON-FIRM	12/24/2022 17:00	12/24/2022 18:00	-8	0	8	8	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NC1D1226CG_CPLE	NON-FIRM	12/24/2022 18:00	12/24/2022 19:00	-10	0	10	10	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NC1K1223N1_CPLE	NON-FIRM	12/24/2022 6:00	12/24/2022 7:15	-4	0	4	5	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NC1K1223N1_CPLE	NON-FIRM	12/24/2022 7:15	12/24/2022 8:00	-4	0	4	3	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NC1K1225P3_CPLE	NON-FIRM	12/23/2022 17:15	12/23/2022 18:15	-5	0	5	5	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NC1K1225P3_CPLE	NON-FIRM	12/23/2022 18:30	12/23/2022 19:30	-5	0	5	5	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NC1K1226P3_CPLE	NON-FIRM	12/23/2022 17:15	12/23/2022 18:00	-3	0	3	2	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NC1K1226P3_CPLE	NON-FIRM	12/23/2022 18:00	12/23/2022 19:00	-5	0	5	5	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NC1K1226P3_CPLE	NON-FIRM	12/23/2022 19:00	12/23/2022 20:00	-4	0	4	4	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NC1K1226P4_CPLE	NON-FIRM	12/23/2022 17:15	12/23/2022 18:15	-5	0	5	5	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NC1K1226P4_CPLE	NON-FIRM	12/23/2022 18:30	12/23/2022 19:30	-5	0	5	5	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NC1K1226P9_CPLE	NON-FIRM	12/23/2022 17:15	12/23/2022 18:15	-11	0	11	11	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NC1K1226P9_CPLE	NON-FIRM	12/23/2022 18:30	12/23/2022 19:30	-11	0	11	11	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224BP_CPLE	FIRM	12/24/2022 5:30	12/24/2022 6:00	-20	-18	2	1	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224BP_CPLE	FIRM	12/24/2022 6:00	12/24/2022 6:15	-25	-12	13	3	PJM - PJM Interconnection LLC



Neighboring Interface	Path Type	Tag Name	Transmission Priority	Interval Start (EPT)	Interval Stop (EPT)	MW Scheduled	MW Flowed	MW Curtailed	MWh Curtailed	Curtailment Issuer
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224BP_CPLE	FIRM	12/24/2022 6:15	12/24/2022 6:30	-25	-10	15	4	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224BP_CPLE	FIRM	12/24/2022 6:30	12/24/2022 6:45	-25	-5	20	5	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224BP_CPLE	FIRM	12/24/2022 6:45	12/24/2022 7:00	-25	-1	24	6	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224BP_CPLE	FIRM	12/24/2022 7:00	12/24/2022 8:00	-25	0	25	25	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224BP_CPLE	FIRM	12/24/2022 8:00	12/24/2022 8:15	-25	-5	20	5	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224BP_CPLE	FIRM	12/24/2022 8:15	12/24/2022 8:30	-25	-22	3	1	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224BP_CPLE	FIRM	12/24/2022 8:30	12/24/2022 8:45	-25	-1	24	6	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224BP_CPLE	FIRM	12/24/2022 8:45	12/24/2022 9:00	-25	-12	13	3	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224BP_CPLE	FIRM	12/24/2022 9:45	12/24/2022 10:00	-15	-10	5	1	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224BP_CPLE	FIRM	12/24/2022 10:00	12/24/2022 10:30	-25	-23	2	1	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224BP_CPLE	FIRM	12/24/2022 10:30	12/24/2022 10:45	-25	-19	6	1	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224BP_CPLE	FIRM	12/24/2022 10:45	12/24/2022 11:00	-25	-15	10	2	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224BQ_CPLE	FIRM	12/24/2022 6:00	12/24/2022 6:15	-6	-2	4	1	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224BQ_CPLE	FIRM	12/24/2022 6:15	12/24/2022 6:30	-6	-1	5	1	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224BQ_CPLE	FIRM	12/24/2022 6:30	12/24/2022 7:00	-6	0	6	3	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224BQ_CPLE	FIRM	12/24/2022 7:00	12/24/2022 8:00	-20	0	20	20	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224BQ_CPLE	FIRM	12/24/2022 8:00	12/24/2022 8:15	-19	-4	15	4	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224BQ_CPLE	FIRM	12/24/2022 8:15	12/24/2022 8:30	-19	-17	2	0	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224BQ_CPLE	FIRM	12/24/2022 8:30	12/24/2022 8:45	-19	0	19	5	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224BQ_CPLE	FIRM	12/24/2022 8:45	12/24/2022 9:00	-19	-9	10	3	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224BQ_CPLE	FIRM	12/24/2022 10:00	12/24/2022 10:30	-25	-23	2	1	PJM - PJM Interconnection LLC



Neighboring Interface	Path Type	Tag Name	Transmission Priority	Interval Start (EPT)	Interval Stop (EPT)	MW Scheduled	MW Flowed	MW Curtailed	MWh Curtailed	Curtailed Issuer
CPLD - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224BQ_CPLE	FIRM	12/24/2022 10:30	12/24/2022 10:45	-25	-19	6	1	PJM - PJM Interconnection LLC
CPLD - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224BQ_CPLE	FIRM	12/24/2022 10:45	12/24/2022 11:00	-25	-15	10	2	PJM - PJM Interconnection LLC
CPLD - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224M1_CPLE	FIRM	12/24/2022 5:30	12/24/2022 6:00	-25	-22	3	2	PJM - PJM Interconnection LLC
CPLD - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224M1_CPLE	FIRM	12/24/2022 6:00	12/24/2022 6:15	-25	-10	15	4	PJM - PJM Interconnection LLC
CPLD - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224M1_CPLE	FIRM	12/24/2022 6:15	12/24/2022 6:30	-25	-8	17	4	PJM - PJM Interconnection LLC
CPLD - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224M1_CPLE	FIRM	12/24/2022 6:30	12/24/2022 6:45	-25	-9	16	4	PJM - PJM Interconnection LLC
CPLD - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224M1_CPLE	FIRM	12/24/2022 6:45	12/24/2022 7:00	-25	-2	23	6	PJM - PJM Interconnection LLC
CPLD - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224M1_CPLE	FIRM	12/24/2022 7:00	12/24/2022 7:30	-25	0	25	13	PJM - PJM Interconnection LLC
CPLD - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224M1_CPLE	FIRM	12/24/2022 7:30	12/24/2022 7:45	-25	-4	21	5	PJM - PJM Interconnection LLC
CPLD - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224M1_CPLE	FIRM	12/24/2022 7:45	12/24/2022 8:00	-25	-2	23	6	PJM - PJM Interconnection LLC
CPLD - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224M1_CPLE	FIRM	12/24/2022 8:00	12/24/2022 8:15	-25	0	25	6	PJM - PJM Interconnection LLC
CPLD - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224M1_CPLE	FIRM	12/24/2022 8:15	12/24/2022 8:30	-25	-1	24	6	PJM - PJM Interconnection LLC
CPLD - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224M1_CPLE	FIRM	12/24/2022 8:30	12/24/2022 8:45	-25	0	25	6	PJM - PJM Interconnection LLC
CPLD - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224M1_CPLE	FIRM	12/24/2022 8:45	12/24/2022 9:30	-25	-13	12	9	PJM - PJM Interconnection LLC
CPLD - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224M1_CPLE	FIRM	12/24/2022 9:30	12/24/2022 9:45	-25	-13	12	3	PJM - PJM Interconnection LLC
CPLD - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224M1_CPLE	FIRM	12/24/2022 9:45	12/24/2022 10:00	-25	-17	8	2	PJM - PJM Interconnection LLC
CPLD - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224M1_CPLE	FIRM	12/24/2022 10:00	12/24/2022 10:30	-25	-15	10	5	PJM - PJM Interconnection LLC
CPLD - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224M1_CPLE	FIRM	12/24/2022 10:30	12/24/2022 10:45	-25	-12	13	3	PJM - PJM Interconnection LLC
CPLD - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224M1_CPLE	FIRM	12/24/2022 10:45	12/24/2022 11:45	-25	-16	9	9	PJM - PJM Interconnection LLC
CPLD - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224M2_CPLE	FIRM	12/24/2022 5:30	12/24/2022 6:00	-25	-22	3	2	PJM - PJM Interconnection LLC
CPLD - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224M2_CPLE	FIRM	12/24/2022 6:00	12/24/2022 6:15	-25	-10	15	4	PJM - PJM Interconnection LLC



Neighboring Interface	Path Type	Tag Name	Transmission Priority	Interval Start (EPT)	Interval Stop (EPT)	MW Scheduled	MW Flowed	MW Curtailed	MWh Curtailed	Curtailment Issuer
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224M2_CPLE	FIRM	12/24/2022 6:15	12/24/2022 6:30	-25	-8	17	4	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224M2_CPLE	FIRM	12/24/2022 6:30	12/24/2022 6:45	-25	-9	16	4	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224M2_CPLE	FIRM	12/24/2022 6:45	12/24/2022 7:00	-25	-2	23	6	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224M2_CPLE	FIRM	12/24/2022 7:00	12/24/2022 7:30	-25	0	25	13	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224M2_CPLE	FIRM	12/24/2022 7:30	12/24/2022 7:45	-25	-4	21	5	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224M2_CPLE	FIRM	12/24/2022 7:45	12/24/2022 8:00	-25	-2	23	6	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224M2_CPLE	FIRM	12/24/2022 8:00	12/24/2022 8:15	-25	0	25	6	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224M2_CPLE	FIRM	12/24/2022 8:15	12/24/2022 8:30	-25	-1	24	6	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224M2_CPLE	FIRM	12/24/2022 8:30	12/24/2022 8:45	-25	0	25	6	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224M2_CPLE	FIRM	12/24/2022 8:45	12/24/2022 9:30	-25	-13	12	9	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224M2_CPLE	FIRM	12/24/2022 9:30	12/24/2022 9:45	-25	-13	12	3	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224M2_CPLE	FIRM	12/24/2022 9:45	12/24/2022 10:00	-25	-17	8	2	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224M2_CPLE	FIRM	12/24/2022 10:00	12/24/2022 10:30	-25	-15	10	5	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224M2_CPLE	FIRM	12/24/2022 10:30	12/24/2022 10:45	-25	-12	13	3	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224M2_CPLE	FIRM	12/24/2022 10:45	12/24/2022 11:45	-25	-16	9	9	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224SH_CPLE	FIRM	12/24/2022 5:30	12/24/2022 6:00	-25	-22	3	2	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224SH_CPLE	FIRM	12/24/2022 6:00	12/24/2022 6:15	-25	-10	15	4	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224SH_CPLE	FIRM	12/24/2022 6:15	12/24/2022 6:30	-25	-8	17	4	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224SH_CPLE	FIRM	12/24/2022 6:30	12/24/2022 6:45	-25	-9	16	4	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224SH_CPLE	FIRM	12/24/2022 6:45	12/24/2022 7:00	-25	-2	23	6	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224SH_CPLE	FIRM	12/24/2022 7:00	12/24/2022 7:30	-25	0	25	13	PJM - PJM Interconnection LLC



Neighboring Interface	Path Type	Tag Name	Transmission Priority	Interval Start (EPT)	Interval Stop (EPT)	MW Scheduled	MW Flowed	MW Curtailed	MWh Curtailed	Curtailment Issuer
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224SH_CPLE	FIRM	12/24/2022 7:30	12/24/2022 7:45	-25	-4	21	5	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224SH_CPLE	FIRM	12/24/2022 7:45	12/24/2022 8:00	-25	-1	24	6	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224SH_CPLE	FIRM	12/24/2022 8:00	12/24/2022 8:30	-25	0	25	13	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224SH_CPLE	FIRM	12/24/2022 8:30	12/24/2022 8:45	-25	0	25	6	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224SH_CPLE	FIRM	12/24/2022 8:45	12/24/2022 9:30	-25	-13	12	9	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224SH_CPLE	FIRM	12/24/2022 9:30	12/24/2022 9:45	-25	-13	12	3	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224SH_CPLE	FIRM	12/24/2022 9:45	12/24/2022 10:00	-25	-17	8	2	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224SH_CPLE	FIRM	12/24/2022 10:00	12/24/2022 10:30	-10	-9	1	1	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224SH_CPLE	FIRM	12/24/2022 10:30	12/24/2022 10:45	-10	-7	3	1	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1D1224SH_CPLE	FIRM	12/24/2022 10:45	12/24/2022 11:00	-10	-6	4	1	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1K1223M4_CPLE	FIRM	12/24/2022 6:00	12/24/2022 6:15	-10	-5	5	1	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1K1223M4_CPLE	FIRM	12/24/2022 6:15	12/24/2022 6:30	-10	-4	6	1	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1K1223M4_CPLE	FIRM	12/24/2022 6:30	12/24/2022 6:45	-10	-1	9	2	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1K1223M4_CPLE	FIRM	12/24/2022 6:45	12/24/2022 7:00	-10	0	10	2	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1K1223N6_CPLE	FIRM	12/24/2022 8:00	12/24/2022 8:15	-50	-10	40	10	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1K1223N6_CPLE	FIRM	12/24/2022 8:15	12/24/2022 8:30	-50	-45	5	1	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1K1223N6_CPLE	FIRM	12/24/2022 8:30	12/24/2022 8:45	-50	0	50	12	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1K1224K1_CPLE	FIRM	12/24/2022 10:00	12/24/2022 10:30	-50	-45	5	3	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1K1224K1_CPLE	FIRM	12/24/2022 10:30	12/24/2022 10:45	-50	-37	13	3	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_NCEMC1K1224K1_CPLE	FIRM	12/24/2022 10:45	12/24/2022 11:00	-50	-29	21	5	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_SCEGPM2022092_SCEG	NON-FIRM	12/24/2022 10:00	12/24/2022 11:00	-200	0	200	200	PJM - PJM Interconnection LLC



Neighboring Interface	Path Type	Tag Name	Transmission Priority	Interval Start (EPT)	Interval Stop (EPT)	MW Scheduled	MW Flowed	MW Curtailed	MWh Curtailed	Curtailment Issuer
CPLE - Duke Energy Progress East	EXPORT	PJM_SCEGPM2022092_SCEG	NON-FIRM	12/24/2022 11:00	12/24/2022 12:00	-155	0	155	155	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_SCEGPM2022094_SCEG	NON-FIRM	12/24/2022 10:00	12/24/2022 11:00	-19	0	19	19	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_SCEGPM2022094_SCEG	NON-FIRM	12/24/2022 11:00	12/24/2022 12:00	-200	0	200	200	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_SCEGPM2022094_SCEG	NON-FIRM	12/24/2022 12:00	12/24/2022 14:00	-200	0	200	400	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_SCEGPM2022094_SCEG	NON-FIRM	12/24/2022 14:00	12/24/2022 15:00	-200	0	200	200	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_SCEGPM2022094_SCEG	NON-FIRM	12/24/2022 17:00	12/24/2022 18:00	-200	0	200	200	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_SEPBS10155893_CPLE	FIRM	12/24/2022 5:30	12/24/2022 6:00	-89	-79	10	5	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_SEPBS10155893_CPLE	FIRM	12/24/2022 6:00	12/24/2022 6:15	-89	-37	52	13	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_SEPBS10155893_CPLE	FIRM	12/24/2022 6:15	12/24/2022 6:30	-89	-31	58	14	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_SEPBS10155893_CPLE	FIRM	12/24/2022 6:30	12/24/2022 6:45	-89	-29	60	15	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_SEPBS10155893_CPLE	FIRM	12/24/2022 6:45	12/24/2022 7:00	-89	-7	82	20	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_SEPBS10155893_CPLE	FIRM	12/24/2022 7:00	12/24/2022 7:30	-89	0	89	45	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_SEPBS10155893_CPLE	FIRM	12/24/2022 7:30	12/24/2022 7:45	-89	-15	74	18	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_SEPBS10155893_CPLE	FIRM	12/24/2022 7:45	12/24/2022 8:00	-89	-6	83	21	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_SEPBS10155893_CPLE	FIRM	12/24/2022 8:00	12/24/2022 8:15	-89	-1	88	22	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_SEPBS10155893_CPLE	FIRM	12/24/2022 8:15	12/24/2022 8:30	-89	-5	84	21	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_SEPBS10155893_CPLE	FIRM	12/24/2022 8:30	12/24/2022 9:30	-89	-36	53	53	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_SEPBS10155893_CPLE	FIRM	12/24/2022 9:45	12/24/2022 10:00	-89	-62	27	7	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_SEPBS10155893_CPLE	FIRM	12/24/2022 10:00	12/24/2022 10:30	-89	-56	33	17	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_SEPBS10155893_CPLE	FIRM	12/24/2022 10:30	12/24/2022 10:45	-89	-47	42	10	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_SEPBS10155893_CPLE	FIRM	12/24/2022 10:45	12/24/2022 11:00	-89	-58	31	8	PJM - PJM Interconnection LLC



Neighboring Interface	Path Type	Tag Name	Transmission Priority	Interval Start (EPT)	Interval Stop (EPT)	MW Scheduled	MW Flowed	MW Curtailed	MWh Curtailed	Curtailment Issuer
CPLE - Duke Energy Progress East	EXPORT	PJM_SEPBS10155894_CPLE	FIRM	12/24/2022 5:30	12/24/2022 6:00	-6	-5	1	1	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_SEPBS10155894_CPLE	FIRM	12/24/2022 6:00	12/24/2022 6:15	-6	-2	4	1	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_SEPBS10155894_CPLE	FIRM	12/24/2022 6:15	12/24/2022 6:30	-6	-1	5	1	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_SEPBS10155894_CPLE	FIRM	12/24/2022 6:30	12/24/2022 6:45	-6	-2	4	1	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_SEPBS10155894_CPLE	FIRM	12/24/2022 6:45	12/24/2022 7:30	-6	0	6	5	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_SEPBS10155894_CPLE	FIRM	12/24/2022 7:30	12/24/2022 8:30	-6	0	6	6	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_SEPBS10155894_CPLE	FIRM	12/24/2022 8:30	12/24/2022 9:30	-6	-2	4	4	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_SEPBS10155894_CPLE	FIRM	12/24/2022 9:45	12/24/2022 10:00	-6	-4	2	0	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_SEPBS10155894_CPLE	FIRM	12/24/2022 10:00	12/24/2022 10:30	-6	-3	3	2	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_SEPBS10155894_CPLE	FIRM	12/24/2022 10:30	12/24/2022 10:45	-6	-2	4	1	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_SEPBS10155894_CPLE	FIRM	12/24/2022 10:45	12/24/2022 11:00	-6	-4	2	0	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_TEA01TJM7875_SC	NON-FIRM	12/24/2022 7:15	12/24/2022 8:00	-202	0	202	152	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_TEA01TJM7899_SC	NON-FIRM	12/24/2022 9:15	12/24/2022 9:45	-150	0	150	75	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_TEA01TJM7899_SC	NON-FIRM	12/24/2022 9:45	12/24/2022 10:00	-150	0	150	37	PJM - PJM Interconnection LLC
CPLE - Duke Energy Progress East	EXPORT	PJM_TEA01TJM7912_SC	NON-FIRM	12/24/2022 10:00	12/24/2022 11:00	-153	0	153	153	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000240SLB5_SOCO	NON-FIRM	12/24/2022 10:45	12/24/2022 11:00	-53	0	53	13	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000357PJM_SOCO	NON-FIRM	12/23/2022 17:30	12/23/2022 19:00	-15	0	15	23	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000357PJM_SOCO	NON-FIRM	12/23/2022 19:00	12/23/2022 20:00	-13	0	13	13	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000357PJM_SOCO	NON-FIRM	12/23/2022 17:30	12/23/2022 18:00	-100	0	100	50	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000357PJM_SOCO	NON-FIRM	12/23/2022 18:00	12/23/2022 19:00	-89	0	89	89	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000357PJM_SOCO	NON-FIRM	12/23/2022 19:00	12/23/2022 20:00	-71	0	71	71	PJM - PJM Interconnection LLC



Neighboring Interface	Path Type	Tag Name	Transmission Priority	Interval Start (EPT)	Interval Stop (EPT)	MW Scheduled	MW Flowed	MW Curtailed	MWh Curtailed	Curtailment Issuer
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJMA_SOCO	FIRM	12/24/2022 5:30	12/24/2022 6:00	-123	-110	13	7	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJMA_SOCO	FIRM	12/24/2022 6:00	12/24/2022 6:15	-122	-58	64	16	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJMA_SOCO	FIRM	12/24/2022 6:15	12/24/2022 6:30	-122	-48	74	18	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJMA_SOCO	FIRM	12/24/2022 6:30	12/24/2022 6:45	-122	-19	103	26	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJMA_SOCO	FIRM	12/24/2022 6:45	12/24/2022 7:00	-122	-10	112	28	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJMA_SOCO	FIRM	12/24/2022 7:00	12/24/2022 8:00	-123	0	123	123	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJMA_SOCO	FIRM	12/24/2022 8:00	12/24/2022 8:15	-122	-24	98	25	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJMA_SOCO	FIRM	12/24/2022 8:15	12/24/2022 8:30	-122	-109	13	3	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJMA_SOCO	FIRM	12/24/2022 8:30	12/24/2022 9:15	-122	-43	79	59	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJMA_SOCO	FIRM	12/24/2022 9:45	12/24/2022 10:00	-122	-84	38	9	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJMA_SOCO	FIRM	12/24/2022 10:00	12/24/2022 10:30	-123	-111	12	6	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJMA_SOCO	FIRM	12/24/2022 10:30	12/24/2022 10:45	-123	-92	31	8	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJMA_SOCO	FIRM	12/24/2022 10:45	12/24/2022 11:00	-123	-72	51	13	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJMD_SOCO	FIRM	12/24/2022 5:30	12/24/2022 6:00	-13	-12	1	1	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJMD_SOCO	FIRM	12/24/2022 6:00	12/24/2022 6:15	-14	-7	7	2	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJMD_SOCO	FIRM	12/24/2022 6:15	12/24/2022 6:30	-14	-6	8	2	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJMD_SOCO	FIRM	12/24/2022 6:30	12/24/2022 6:45	-14	-2	12	3	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJMD_SOCO	FIRM	12/24/2022 6:45	12/24/2022 7:00	-14	-1	13	3	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJMD_SOCO	FIRM	12/24/2022 7:00	12/24/2022 8:00	-13	0	13	13	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJMD_SOCO	FIRM	12/24/2022 8:00	12/24/2022 8:15	-13	-3	10	3	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJMD_SOCO	FIRM	12/24/2022 8:15	12/24/2022 8:30	-13	-12	1	0	PJM - PJM Interconnection LLC



Neighboring Interface	Path Type	Tag Name	Transmission Priority	Interval Start (EPT)	Interval Stop (EPT)	MW Scheduled	MW Flowed	MW Curtailed	MWh Curtailed	Curtailment Issuer
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJMD_SOCO	FIRM	12/24/2022 8:30	12/24/2022 8:45	-13	0	13	3	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJMD_SOCO	FIRM	12/24/2022 8:45	12/24/2022 9:15	-13	-6	7	4	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJMD_SOCO	FIRM	12/24/2022 9:45	12/24/2022 10:00	-13	-9	4	1	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJMD_SOCO	FIRM	12/24/2022 10:00	12/24/2022 10:30	-14	-13	1	1	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJMD_SOCO	FIRM	12/24/2022 10:30	12/24/2022 10:45	-14	-11	3	1	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJMD_SOCO	FIRM	12/24/2022 10:45	12/24/2022 11:00	-14	-8	6	1	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJME_SOCO	FIRM	12/24/2022 6:00	12/24/2022 6:15	-6	-2	4	1	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJME_SOCO	FIRM	12/24/2022 6:15	12/24/2022 7:00	-6	-1	5	4	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJME_SOCO	FIRM	12/24/2022 7:00	12/24/2022 8:00	-6	0	6	6	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJME_SOCO	FIRM	12/24/2022 8:00	12/24/2022 8:15	-6	-1	5	1	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJME_SOCO	FIRM	12/24/2022 8:15	12/24/2022 8:30	-6	-5	1	0	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJME_SOCO	FIRM	12/24/2022 8:30	12/24/2022 8:45	-6	0	6	1	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJME_SOCO	FIRM	12/24/2022 8:45	12/24/2022 9:15	-6	-3	3	2	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJME_SOCO	FIRM	12/24/2022 9:45	12/24/2022 10:00	-6	-4	2	0	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJME_SOCO	FIRM	12/24/2022 10:00	12/24/2022 10:30	-6	-3	3	2	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJME_SOCO	FIRM	12/24/2022 10:30	12/24/2022 10:45	-6	-2	4	1	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJME_SOCO	FIRM	12/24/2022 10:45	12/24/2022 11:45	-6	-4	2	2	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJMG_SOCO	FIRM	12/24/2022 5:30	12/24/2022 6:00	-29	-26	3	2	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJMG_SOCO	FIRM	12/24/2022 6:00	12/24/2022 6:15	-64	-30	34	8	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJMG_SOCO	FIRM	12/24/2022 6:15	12/24/2022 6:30	-64	-25	39	10	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJMG_SOCO	FIRM	12/24/2022 6:30	12/24/2022 6:45	-64	-10	54	14	PJM - PJM Interconnection LLC



Neighboring Interface	Path Type	Tag Name	Transmission Priority	Interval Start (EPT)	Interval Stop (EPT)	MW Scheduled	MW Flowed	MW Curtailed	MWh Curtailed	Curtailment Issuer
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJM_SOCO	FIRM	12/24/2022 6:45	12/24/2022 7:00	-64	-5	59	15	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJM_SOCO	FIRM	12/24/2022 7:00	12/24/2022 8:00	-64	0	64	64	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJM_SOCO	FIRM	12/24/2022 8:00	12/24/2022 8:15	-65	-13	52	13	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJM_SOCO	FIRM	12/24/2022 8:15	12/24/2022 8:30	-65	-58	7	2	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJM_SOCO	FIRM	12/24/2022 8:30	12/24/2022 8:45	-65	0	65	16	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJM_SOCO	FIRM	12/24/2022 8:45	12/24/2022 9:15	-65	-30	35	18	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJM_SOCO	FIRM	12/24/2022 9:45	12/24/2022 10:00	-65	-45	20	5	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJM_SOCO	FIRM	12/24/2022 10:00	12/24/2022 10:30	-63	-57	6	3	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJM_SOCO	FIRM	12/24/2022 10:30	12/24/2022 10:45	-63	-47	16	4	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000358PJM_SOCO	FIRM	12/24/2022 10:45	12/24/2022 11:00	-63	-37	26	6	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_CCG000360MITA_SOCO	NON-FIRM	12/23/2022 17:15	12/23/2022 17:45	-105	0	105	52	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_DUKEBPD131074_DUK	NON-FIRM	12/24/2022 5:30	12/24/2022 7:30	-250	0	250	500	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_DUKEBPD131074_DUK	NON-FIRM	12/24/2022 7:30	12/24/2022 9:30	-250	0	250	500	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_DUKEBPD131074_DUK	NON-FIRM	12/24/2022 9:30	12/24/2022 9:45	-250	0	250	63	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_DUKEBPD131074_DUK	NON-FIRM	12/24/2022 9:45	12/24/2022 10:00	-250	0	250	62	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_EAGLEPEAHJ648_SOCO	NON-FIRM	12/24/2022 10:00	12/24/2022 11:00	-30	0	30	30	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_EAGLEPEAHJ649_SOCO	NON-FIRM	12/24/2022 11:00	12/24/2022 12:00	-30	0	30	30	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_EAGLEPEAHJ652_SOCO	NON-FIRM	12/24/2022 12:00	12/24/2022 13:00	-30	0	30	30	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_EAGLEPEAHJ655_SOCO	NON-FIRM	12/24/2022 13:00	12/24/2022 14:00	-30	0	30	30	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_EAGLEPEAHJ660_SOCO	NON-FIRM	12/24/2022 17:00	12/24/2022 18:00	-25	0	25	25	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01LB1223B_DUK	NON-FIRM	12/23/2022 17:15	12/23/2022 18:15	-300	0	300	300	PJM - PJM Interconnection LLC



Neighboring Interface	Path Type	Tag Name	Transmission Priority	Interval Start (EPT)	Interval Stop (EPT)	MW Scheduled	MW Flowed	MW Curtailed	MWh Curtailed	Curtailment Issuer
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01LB1223B_DUK	NON-FIRM	12/23/2022 18:30	12/23/2022 19:30	-300	0	300	300	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OI_DUK	FIRM	12/24/2022 5:30	12/24/2022 6:00	-200	-178	22	11	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OI_DUK	FIRM	12/24/2022 6:00	12/24/2022 6:15	-200	-85	115	29	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OI_DUK	FIRM	12/24/2022 6:15	12/24/2022 6:30	-200	-71	129	32	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OI_DUK	FIRM	12/24/2022 6:30	12/24/2022 6:45	-200	-66	134	34	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OI_DUK	FIRM	12/24/2022 6:45	12/24/2022 7:00	-200	-16	184	46	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OI_DUK	FIRM	12/24/2022 7:00	12/24/2022 7:30	-200	0	200	100	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OI_DUK	FIRM	12/24/2022 7:30	12/24/2022 7:45	-200	-34	166	41	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OI_DUK	FIRM	12/24/2022 7:45	12/24/2022 8:00	-200	-11	189	47	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OI_DUK	FIRM	12/24/2022 8:00	12/24/2022 8:15	-200	-2	198	50	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OI_DUK	FIRM	12/24/2022 8:15	12/24/2022 8:30	-200	-10	190	47	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OI_DUK	FIRM	12/24/2022 8:30	12/24/2022 9:30	-200	-80	120	120	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OI_DUK	FIRM	12/24/2022 9:30	12/24/2022 9:45	-200	-140	60	15	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OI_DUK	FIRM	12/24/2022 9:45	12/24/2022 10:00	-200	-138	62	15	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OI_DUK	FIRM	12/24/2022 10:00	12/24/2022 10:30	-200	-125	75	38	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OI_DUK	FIRM	12/24/2022 10:30	12/24/2022 10:45	-200	-104	96	24	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OI_DUK	FIRM	12/24/2022 10:45	12/24/2022 11:45	-200	-130	70	70	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OJ_DUK	FIRM	12/24/2022 5:30	12/24/2022 6:00	-200	-178	22	11	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OJ_DUK	FIRM	12/24/2022 6:00	12/24/2022 6:15	-200	-85	115	29	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OJ_DUK	FIRM	12/24/2022 6:15	12/24/2022 6:30	-200	-71	129	32	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OJ_DUK	FIRM	12/24/2022 6:30	12/24/2022 6:45	-200	-66	134	34	PJM - PJM Interconnection LLC



Neighboring Interface	Path Type	Tag Name	Transmission Priority	Interval Start (EPT)	Interval Stop (EPT)	MW Scheduled	MW Flowed	MW Curtailed	MWh Curtailed	Curtailment Issuer
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OJ_DUK	FIRM	12/24/2022 6:45	12/24/2022 7:00	-200	-16	184	46	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OJ_DUK	FIRM	12/24/2022 7:00	12/24/2022 7:30	-200	0	200	100	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OJ_DUK	FIRM	12/24/2022 7:30	12/24/2022 7:45	-200	-34	166	41	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OJ_DUK	FIRM	12/24/2022 7:45	12/24/2022 8:00	-200	-11	189	47	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OJ_DUK	FIRM	12/24/2022 8:00	12/24/2022 8:15	-200	-2	198	50	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OJ_DUK	FIRM	12/24/2022 8:15	12/24/2022 8:30	-200	-10	190	47	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OJ_DUK	FIRM	12/24/2022 8:30	12/24/2022 9:30	-200	-80	120	120	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OJ_DUK	FIRM	12/24/2022 9:45	12/24/2022 10:00	-200	-138	62	15	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OJ_DUK	FIRM	12/24/2022 10:00	12/24/2022 10:30	-200	-125	75	38	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OJ_DUK	FIRM	12/24/2022 10:30	12/24/2022 10:45	-200	-104	96	24	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OJ_DUK	FIRM	12/24/2022 10:45	12/24/2022 11:45	-200	-130	70	70	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OT_TVA	FIRM	12/24/2022 5:30	12/24/2022 6:00	-102	-91	11	6	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OT_TVA	FIRM	12/24/2022 6:00	12/24/2022 6:15	-102	-44	58	14	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OT_TVA	FIRM	12/24/2022 6:15	12/24/2022 6:30	-102	-37	65	16	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OT_TVA	FIRM	12/24/2022 6:30	12/24/2022 6:45	-102	-33	69	17	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OT_TVA	FIRM	12/24/2022 6:45	12/24/2022 7:00	-102	-18	84	21	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OT_TVA	FIRM	12/24/2022 7:00	12/24/2022 7:30	-102	0	102	51	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OT_TVA	FIRM	12/24/2022 7:30	12/24/2022 7:45	-102	-18	84	21	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OT_TVA	FIRM	12/24/2022 7:45	12/24/2022 8:00	-102	-6	96	24	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OT_TVA	FIRM	12/24/2022 8:00	12/24/2022 8:15	-102	-1	101	25	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OT_TVA	FIRM	12/24/2022 8:15	12/24/2022 8:30	-102	-5	97	24	PJM - PJM Interconnection LLC



Neighboring Interface	Path Type	Tag Name	Transmission Priority	Interval Start (EPT)	Interval Stop (EPT)	MW Scheduled	MW Flowed	MW Curtailed	MWh Curtailed	Curtailment Issuer
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OT_TVA	FIRM	12/24/2022 8:30	12/24/2022 8:45	-102	-4	98	24	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OT_TVA	FIRM	12/24/2022 8:45	12/24/2022 9:30	-102	-54	48	36	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OT_TVA	FIRM	12/24/2022 9:30	12/24/2022 9:45	-102	-54	48	12	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OT_TVA	FIRM	12/24/2022 9:45	12/24/2022 10:00	-102	-37	65	16	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OT_TVA	FIRM	12/24/2022 10:00	12/24/2022 10:30	-102	-92	10	5	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OT_TVA	FIRM	12/24/2022 10:30	12/24/2022 10:45	-102	-76	26	6	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OT_TVA	FIRM	12/24/2022 10:45	12/24/2022 11:00	-102	-60	42	10	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OX_TVA	FIRM	12/24/2022 5:30	12/24/2022 6:00	-102	-91	11	6	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OX_TVA	FIRM	12/24/2022 6:00	12/24/2022 6:15	-102	-44	58	14	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OX_TVA	FIRM	12/24/2022 6:15	12/24/2022 6:30	-102	-37	65	16	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OX_TVA	FIRM	12/24/2022 6:30	12/24/2022 6:45	-102	-33	69	17	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OX_TVA	FIRM	12/24/2022 6:45	12/24/2022 7:00	-102	-18	84	21	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OX_TVA	FIRM	12/24/2022 7:00	12/24/2022 7:30	-102	0	102	51	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OX_TVA	FIRM	12/24/2022 7:30	12/24/2022 7:45	-102	-18	84	21	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OX_TVA	FIRM	12/24/2022 7:45	12/24/2022 8:00	-102	-6	96	24	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OX_TVA	FIRM	12/24/2022 8:00	12/24/2022 8:15	-102	-1	101	25	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OX_TVA	FIRM	12/24/2022 8:15	12/24/2022 8:30	-102	-5	97	24	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OX_TVA	FIRM	12/24/2022 8:30	12/24/2022 8:45	-102	-4	98	24	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OX_TVA	FIRM	12/24/2022 8:45	12/24/2022 9:30	-102	-54	48	36	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OX_TVA	FIRM	12/24/2022 9:30	12/24/2022 9:45	-102	-54	48	12	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OX_TVA	FIRM	12/24/2022 9:45	12/24/2022 10:00	-102	-37	65	16	PJM - PJM Interconnection LLC



Neighboring Interface	Path Type	Tag Name	Transmission Priority	Interval Start (EPT)	Interval Stop (EPT)	MW Scheduled	MW Flowed	MW Curtailed	MWh Curtailed	Curtailment Issuer
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OX_TVA	FIRM	12/24/2022 10:00	12/24/2022 10:30	-102	-92	10	5	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OX_TVA	FIRM	12/24/2022 10:30	12/24/2022 10:45	-102	-76	26	6	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MCPI01SE024OX_TVA	FIRM	12/24/2022 10:45	12/24/2022 11:00	-102	-60	42	10	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MSCG01MSTD138_SOCO	NON-FIRM	12/23/2022 17:15	12/23/2022 18:15	-204	0	204	204	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MSCG01MSTD138_SOCO	NON-FIRM	12/23/2022 18:30	12/23/2022 19:30	-204	0	204	204	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MSCG01MSTD171_SOCO	NON-FIRM	12/24/2022 5:30	12/24/2022 7:30	-204	0	204	408	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MSCG01MSTD171_SOCO	NON-FIRM	12/24/2022 7:30	12/24/2022 9:00	-204	0	204	306	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MSCG01MSTD171_SOCO	NON-FIRM	12/24/2022 9:00	12/24/2022 10:00	-198	0	198	198	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MSCG01MSTD171_SOCO	NON-FIRM	12/24/2022 10:00	12/24/2022 11:00	-174	0	174	174	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MSCG01MSTD476_SOCO	NON-FIRM	12/24/2022 5:30	12/24/2022 7:30	-104	0	104	208	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MSCG01MSTD476_SOCO	NON-FIRM	12/24/2022 7:30	12/24/2022 9:30	-104	0	104	208	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MSCG01MSTD476_SOCO	NON-FIRM	12/24/2022 9:30	12/24/2022 9:45	-104	0	104	26	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MSCG01MSTD476_SOCO	NON-FIRM	12/24/2022 9:45	12/24/2022 11:00	-104	0	104	130	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MSCG01MSTD476_SOCO	NON-FIRM	12/24/2022 11:00	12/24/2022 11:15	-105	-52	53	13	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MSCG01MSTD476_SOCO	NON-FIRM	12/24/2022 11:15	12/24/2022 12:15	-105	0	105	105	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MSCG01MSTD507_SOCO	NON-FIRM	12/24/2022 5:30	12/24/2022 7:30	-51	0	51	102	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MSCG01MSTD507_SOCO	NON-FIRM	12/24/2022 7:30	12/24/2022 9:00	-51	0	51	77	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MSCG01MSTD507_SOCO	NON-FIRM	12/24/2022 9:00	12/24/2022 9:15	-25	0	25	6	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MSCG01MSTD507_SOCO	NON-FIRM	12/24/2022 9:30	12/24/2022 10:00	-25	0	25	13	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MSCG01MSTD507_SOCO	NON-FIRM	12/24/2022 10:00	12/24/2022 11:00	-51	0	51	51	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MSCG01MSTD518_SOCO	NON-FIRM	12/23/2022 17:00	12/23/2022 17:45	-157	0	157	118	PJM - PJM Interconnection LLC



Neighboring Interface	Path Type	Tag Name	Transmission Priority	Interval Start (EPT)	Interval Stop (EPT)	MW Scheduled	MW Flowed	MW Curtailed	MWh Curtailed	Curtailment Issuer
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MSCG01MSTD523_SOCO	NON-FIRM	12/24/2022 6:00	12/24/2022 7:00	-26	0	26	26	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MSCG01MSTD523_SOCO	NON-FIRM	12/24/2022 7:00	12/24/2022 8:00	-27	0	27	27	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MSCG01MSTD523_SOCO	NON-FIRM	12/24/2022 8:00	12/24/2022 9:00	-52	0	52	52	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MSCG01MSTD523_SOCO	NON-FIRM	12/24/2022 10:00	12/24/2022 11:00	-26	0	26	26	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MSCG01MSTD553_SOCO	NON-FIRM	12/23/2022 18:00	12/23/2022 18:45	-235	0	235	176	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MSCG01MSTD558_SOCO	NON-FIRM	12/23/2022 19:00	12/23/2022 20:00	-235	0	235	235	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MSCG01MSTD622_SOCO	NON-FIRM	12/24/2022 5:00	12/24/2022 5:15	-53	0	53	13	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MSCG01MSTD622_SOCO	NON-FIRM	12/24/2022 5:30	12/24/2022 6:00	-53	0	53	27	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MSCG01MSTD623_SOCO	NON-FIRM	12/24/2022 5:00	12/24/2022 5:15	-302	0	302	76	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MSCG01MSTD623_SOCO	NON-FIRM	12/24/2022 5:30	12/24/2022 6:00	-302	0	302	151	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MSCG01MSTD625_SOCO	NON-FIRM	12/24/2022 5:00	12/24/2022 5:15	-53	0	53	13	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MSCG01MSTD625_SOCO	NON-FIRM	12/24/2022 5:30	12/24/2022 6:00	-53	0	53	27	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MSCG01MSTD636_SOCO	NON-FIRM	12/24/2022 6:00	12/24/2022 7:00	-27	0	27	27	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MSCG01MSTD637_SOCO	NON-FIRM	12/24/2022 6:00	12/24/2022 7:00	-53	0	53	53	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MSCG01MSTD638_SOCO	NON-FIRM	12/24/2022 6:00	12/24/2022 7:00	-70	0	70	70	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MSCG01MSTD649_SOCO	NON-FIRM	12/24/2022 7:15	12/24/2022 8:00	-70	0	70	53	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MSCG01MSTD650_SOCO	NON-FIRM	12/24/2022 7:15	12/24/2022 8:00	-53	0	53	40	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_MSCG01MSTD651_SOCO	NON-FIRM	12/24/2022 7:15	12/24/2022 8:00	-27	0	27	20	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_NC1D1223MT_SCEG	NON-FIRM	12/23/2022 17:15	12/23/2022 18:15	-5	0	5	5	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_NC1D1223MT_SCEG	NON-FIRM	12/23/2022 18:30	12/23/2022 19:30	-5	0	5	5	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_NC1D1223MU_DUK	NON-FIRM	12/23/2022 17:15	12/23/2022 18:00	-11	0	11	8	PJM - PJM Interconnection LLC



Neighboring Interface	Path Type	Tag Name	Transmission Priority	Interval Start (EPT)	Interval Stop (EPT)	MW Scheduled	MW Flowed	MW Curtailed	MWh Curtailed	Curtailment Issuer
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_NC1D1223MU_DUK	NON-FIRM	12/23/2022 18:00	12/23/2022 20:00	-15	0	15	30	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_NC1D1223MV_DUK	NON-FIRM	12/23/2022 17:15	12/23/2022 18:15	-24	0	24	24	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_NC1D1223MV_DUK	NON-FIRM	12/23/2022 18:30	12/23/2022 19:00	-24	0	24	12	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_NC1D1223MV_DUK	NON-FIRM	12/23/2022 19:00	12/23/2022 20:00	-25	0	25	25	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_NC1D1223MW_DUK	NON-FIRM	12/23/2022 17:15	12/23/2022 18:00	-19	0	19	14	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_NC1D1223MW_DUK	NON-FIRM	12/23/2022 18:00	12/23/2022 20:00	-20	0	20	40	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_NC1D1223MX_DUK	NON-FIRM	12/23/2022 17:15	12/23/2022 18:00	-13	0	13	10	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_NC1D1223MX_DUK	NON-FIRM	12/23/2022 18:00	12/23/2022 19:00	-14	0	14	14	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_NC1D1223MX_DUK	NON-FIRM	12/23/2022 19:00	12/23/2022 20:00	-15	0	15	15	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_NC1D1223MY_DUK	NON-FIRM	12/23/2022 17:15	12/23/2022 18:15	-45	0	45	45	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_NC1D1223MY_DUK	NON-FIRM	12/23/2022 18:30	12/23/2022 19:30	-45	0	45	45	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_NC1D1225AF_SCEG	NON-FIRM	12/24/2022 10:00	12/24/2022 12:00	-5	0	5	10	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_NC1D1225AN_DUK	NON-FIRM	12/24/2022 6:00	12/24/2022 8:00	-15	0	15	30	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_NC1D1225AN_DUK	NON-FIRM	12/24/2022 10:00	12/24/2022 12:00	-15	0	15	30	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_NC1D1225AQ_DUK	NON-FIRM	12/24/2022 6:00	12/24/2022 7:00	-140	0	140	140	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_NC1D1225AQ_DUK	NON-FIRM	12/24/2022 7:00	12/24/2022 8:00	-140	0	140	140	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_NC1D1225AQ_DUK	NON-FIRM	12/24/2022 10:00	12/24/2022 11:00	-135	0	135	135	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_NC1D1225AQ_DUK	NON-FIRM	12/24/2022 11:00	12/24/2022 12:00	-137	0	137	137	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_NC1D1225AQ_DUK	NON-FIRM	12/24/2022 18:00	12/24/2022 19:00	-132	-118	14	14	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_NC1K1224L5_SCEG	NON-FIRM	12/24/2022 18:00	12/24/2022 19:00	-5	0	5	5	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_NC1K1227D4_DUK	NON-FIRM	12/24/2022 6:00	12/24/2022 7:00	-40	0	40	40	PJM - PJM Interconnection LLC



Neighboring Interface	Path Type	Tag Name	Transmission Priority	Interval Start (EPT)	Interval Stop (EPT)	MW Scheduled	MW Flowed	MW Curtailed	MWh Curtailed	Curtailment Issuer
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_NC1K1227D4_DUK	NON-FIRM	12/24/2022 7:00	12/24/2022 8:00	-40	0	40	40	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_NC1K1227D4_DUK	NON-FIRM	12/24/2022 10:00	12/24/2022 11:00	-37	0	37	37	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_NC1K1227D4_DUK	NON-FIRM	12/24/2022 11:00	12/24/2022 12:00	-35	0	35	35	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_NC1K1227D4_DUK	NON-FIRM	12/24/2022 18:00	12/24/2022 19:00	-33	0	33	33	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_NC1K1227D6_DUK	NON-FIRM	12/24/2022 6:00	12/24/2022 7:00	-15	0	15	15	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_NC1K1227D6_DUK	NON-FIRM	12/24/2022 7:00	12/24/2022 8:00	-15	0	15	15	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_NC1K1227D6_DUK	NON-FIRM	12/24/2022 10:00	12/24/2022 11:00	-15	0	15	15	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_NC1K1227D6_DUK	NON-FIRM	12/24/2022 11:00	12/24/2022 12:15	-13	0	13	16	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_NC1K1227D6_DUK	NON-FIRM	12/24/2022 18:00	12/24/2022 19:00	-13	0	13	13	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_NC1K1227D7_DUK	NON-FIRM	12/24/2022 6:00	12/24/2022 8:00	-17	0	17	34	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_NC1K1227D7_DUK	NON-FIRM	12/24/2022 10:00	12/24/2022 11:00	-15	0	15	15	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_NC1K1227D7_DUK	NON-FIRM	12/24/2022 11:00	12/24/2022 12:00	-16	0	16	16	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_NC1K1227D7_DUK	NON-FIRM	12/24/2022 18:00	12/24/2022 19:00	-15	0	15	15	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_NC1K1227D8_DUK	NON-FIRM	12/24/2022 10:00	12/24/2022 11:00	-44	0	44	44	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_NC1K1227D8_DUK	NON-FIRM	12/24/2022 11:00	12/24/2022 12:00	-42	0	42	42	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_NC1K1227D8_DUK	NON-FIRM	12/24/2022 18:00	12/24/2022 19:00	-42	0	42	42	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_TEA01TJM6784_SC	NON-FIRM	12/23/2022 17:30	12/23/2022 19:30	-102	0	102	204	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_TEA01TJM7366_SC	NON-FIRM	12/24/2022 5:30	12/24/2022 5:45	-204	-17	187	47	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_TEA01TJM7366_SC	NON-FIRM	12/24/2022 5:45	12/24/2022 6:30	-204	0	204	153	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_TEA01TJM7366_SC	NON-FIRM	12/24/2022 6:30	12/24/2022 7:30	-204	0	204	204	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_TEA01TJM7366_SC	NON-FIRM	12/24/2022 7:30	12/24/2022 8:00	-204	0	204	102	PJM - PJM Interconnection LLC



Neighboring Interface	Path Type	Tag Name	Transmission Priority	Interval Start (EPT)	Interval Stop (EPT)	MW Scheduled	MW Flowed	MW Curtailed	MWh Curtailed	Curtailment Issuer
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_TEA01TJM7366_SC	NON-FIRM	12/24/2022 8:00	12/24/2022 9:00	-203	0	203	203	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_TEA01TJM7366_SC	NON-FIRM	12/24/2022 9:45	12/24/2022 11:45	-204	0	204	408	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_TEA01TJM7366_SC	NON-FIRM	12/24/2022 11:45	12/24/2022 12:45	-204	-7	197	197	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_TEA01TJM7417_SC	NON-FIRM	12/24/2022 5:00	12/24/2022 6:00	-102	0	102	102	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_TEA01TJM7417_SC	NON-FIRM	12/24/2022 6:00	12/24/2022 7:00	-102	0	102	102	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_TEA01TJM7417_SC	NON-FIRM	12/24/2022 7:00	12/24/2022 12:15	-102	0	102	536	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_TEA01TJM7417_SC	NON-FIRM	12/24/2022 12:15	12/24/2022 13:00	-102	-15	87	65	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_TEA01TJM7417_SC	NON-FIRM	12/24/2022 13:00	12/24/2022 13:15	-102	0	102	25	PJM - PJM Interconnection LLC
DUK - Duke Energy Carolinas, LLC	EXPORT	PJM_TEA01TJM7417_SC	NON-FIRM	12/24/2022 17:00	12/24/2022 19:00	-101	0	101	202	PJM - PJM Interconnection LLC
HUDS - Hudson Line (NYISO)	EXPORT	PJM_CEEHTPHTP2Z24_NYIS	NON-FIRM	12/24/2022 7:15	12/24/2022 7:30	-439	0	439	110	PJM - PJM Interconnection LLC
HUDS - Hudson Line (NYISO)	EXPORT	PJM_CEEHTPHTP2Z24_NYIS	NON-FIRM	12/24/2022 8:45	12/24/2022 9:00	-439	0	439	110	PJM - PJM Interconnection LLC
HUDS - Hudson Line (NYISO)	EXPORT	PJM_CEEHTPHTP2Z24_NYIS	NON-FIRM	12/24/2022 11:00	12/24/2022 12:00	-439	0	439	439	PJM - PJM Interconnection LLC
HUDS - Hudson Line (NYISO)	EXPORT	PJM_SPWR01122422H_NYIS	NON-FIRM	12/24/2022 6:45	12/24/2022 7:00	-100	0	100	25	PJM - PJM Interconnection LLC
HUDS - Hudson Line (NYISO)	EXPORT	PJM_SPWR01122422H_NYIS	NON-FIRM	12/24/2022 7:00	12/24/2022 9:00	-100	0	100	200	PJM - PJM Interconnection LLC
HUDS - Hudson Line (NYISO)	EXPORT	PJM_SPWR01122422H_NYIS	NON-FIRM	12/24/2022 9:00	12/24/2022 9:45	-100	0	100	75	PJM - PJM Interconnection LLC
HUDS - Hudson Line (NYISO)	EXPORT	PJM_SPWR01122422H_NYIS	NON-FIRM	12/24/2022 9:45	12/24/2022 10:45	-100	0	100	100	PJM - PJM Interconnection LLC
HUDS - Hudson Line (NYISO)	EXPORT	PJM_SPWR01122422H_NYIS	NON-FIRM	12/24/2022 10:45	12/24/2022 11:00	-100	0	100	25	PJM - PJM Interconnection LLC
HUDS - Hudson Line (NYISO)	EXPORT	PJM_SPWR01122422H_NYIS	NON-FIRM	12/24/2022 20:00	12/24/2022 21:00	-100	0	100	100	PJM - PJM Interconnection LLC
HUDS - Hudson Line (NYISO)	EXPORT	PJM_SPWR01122422H_NYIS	NON-FIRM	12/24/2022 23:15	12/25/2022 0:00	-100	0	100	75	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_KYMEAK1224J3_LGEE	NON-FIRM	12/24/2022 10:00	12/24/2022 12:00	-13	0	13	26	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_LGEUP1223MAP_LGEE	NON-FIRM	12/23/2022 17:00	12/23/2022 18:00	-329	0	329	329	PJM - PJM Interconnection LLC



Neighboring Interface	Path Type	Tag Name	Transmission Priority	Interval Start (EPT)	Interval Stop (EPT)	MW Scheduled	MW Flowed	MW Curtailed	MWh Curtailed	Curtailment Issuer
LGEE - LGE and KU Energy LLC	EXPORT	PJM_LGEUP1223MAQ_LGEE	NON-FIRM	12/23/2022 17:00	12/23/2022 18:00	-71	0	71	71	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_LGEUP1223MAR_LGEE	NON-FIRM	12/23/2022 19:00	12/23/2022 21:00	-400	0	400	800	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_LGEUP1223MAR_LGEE	NON-FIRM	12/23/2022 21:00	12/23/2022 22:00	-400	-100	300	300	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_LGEUP1223MAV_LGEE	NON-FIRM	12/23/2022 16:30	12/23/2022 17:00	-250	0	250	125	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_LGEUP1223MBA_LGEE	NON-FIRM	12/23/2022 18:00	12/23/2022 19:00	-400	0	400	400	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_LGEUP1223MBB_LGEE	NON-FIRM	12/23/2022 19:00	12/23/2022 20:00	-200	0	200	200	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_LGEUP1223MBC_LGEE	NON-FIRM	12/23/2022 20:00	12/23/2022 22:00	-200	0	200	400	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_LGEUP1223MBJ_LGEE	NON-FIRM	12/23/2022 16:30	12/23/2022 17:00	-246	0	246	123	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_LGEUP1223MBL_LGEE	NON-FIRM	12/23/2022 17:00	12/23/2022 20:00	-300	0	300	900	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_LGEUP1223MBM_LGEE	NON-FIRM	12/23/2022 17:00	12/23/2022 17:45	-100	0	100	75	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_LGEUP1223MCT_LGEE	NON-FIRM	12/24/2022 2:00	12/24/2022 2:15	-250	0	250	63	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_LGEUP1223MCX_LGEE	NON-FIRM	12/24/2022 7:00	12/24/2022 9:00	-250	0	250	500	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_LGEUP1223MCX_LGEE	NON-FIRM	12/24/2022 9:00	12/24/2022 9:45	-250	0	250	188	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_LGEUP1223MCX_LGEE	NON-FIRM	12/24/2022 9:45	12/24/2022 12:00	-250	0	250	563	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_LGEUP1223MCZ_LGEE	NON-FIRM	12/24/2022 5:00	12/24/2022 5:15	-200	0	200	50	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_LGEUP1223MCZ_LGEE	NON-FIRM	12/24/2022 5:30	12/24/2022 6:00	-200	0	200	100	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_LGEUP1224MAA_LGEE	NON-FIRM	12/24/2022 6:15	12/24/2022 7:00	-154	0	154	116	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_LGEUP1224MAD_LGEE	NON-FIRM	12/24/2022 6:15	12/24/2022 7:00	-46	0	46	35	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC2L0004_LGEE	FIRM	12/24/2022 5:30	12/24/2022 6:00	-15	-13	2	1	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC2L0004_LGEE	FIRM	12/24/2022 6:00	12/24/2022 6:15	-15	-6	9	2	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC2L0004_LGEE	FIRM	12/24/2022 6:15	12/24/2022 6:45	-15	-5	10	5	PJM - PJM Interconnection LLC



Neighboring Interface	Path Type	Tag Name	Transmission Priority	Interval Start (EPT)	Interval Stop (EPT)	MW Scheduled	MW Flowed	MW Curtailed	MWh Curtailed	Curtailment Issuer
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC2L0004_LGEE	FIRM	12/24/2022 6:45	12/24/2022 7:00	-15	-1	14	3	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC2L0004_LGEE	FIRM	12/24/2022 7:00	12/24/2022 7:30	-15	0	15	8	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC2L0004_LGEE	FIRM	12/24/2022 7:30	12/24/2022 7:45	-15	-2	13	3	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC2L0004_LGEE	FIRM	12/24/2022 7:45	12/24/2022 8:00	-15	-1	14	3	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC2L0004_LGEE	FIRM	12/24/2022 8:00	12/24/2022 8:30	-15	0	15	8	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC2L0004_LGEE	FIRM	12/24/2022 8:30	12/24/2022 8:45	-15	0	15	4	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC2L0004_LGEE	FIRM	12/24/2022 8:45	12/24/2022 9:30	-15	-8	7	5	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC2L0004_LGEE	FIRM	12/24/2022 9:30	12/24/2022 9:45	-15	-8	7	2	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC2L0004_LGEE	FIRM	12/24/2022 9:45	12/24/2022 10:00	-15	-10	5	1	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC2L0004_LGEE	FIRM	12/24/2022 10:00	12/24/2022 10:30	-15	-9	6	3	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC2L0004_LGEE	FIRM	12/24/2022 10:30	12/24/2022 10:45	-15	-7	8	2	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC2L0004_LGEE	FIRM	12/24/2022 10:45	12/24/2022 11:45	-15	-10	5	5	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC2S0002_MISO	FIRM	12/24/2022 5:30	12/24/2022 6:00	-3	-2	1	1	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC2S0002_MISO	FIRM	12/24/2022 6:00	12/24/2022 7:30	-3	0	3	5	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC2S0002_MISO	FIRM	12/24/2022 7:30	12/24/2022 8:30	-3	0	3	3	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC2S0002_MISO	FIRM	12/24/2022 8:30	12/24/2022 9:30	-3	-1	2	2	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC2S0002_MISO	FIRM	12/24/2022 9:45	12/24/2022 10:00	-3	-2	1	0	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC2S0002_MISO	FIRM	12/24/2022 10:00	12/24/2022 10:30	-3	-1	2	1	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC2S0002_MISO	FIRM	12/24/2022 10:30	12/24/2022 10:45	-3	0	3	1	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC2S0002_MISO	FIRM	12/24/2022 10:45	12/24/2022 11:45	-3	-2	1	1	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC4L0002_LGEE	FIRM	12/24/2022 5:30	12/24/2022 6:00	-15	-13	2	1	PJM - PJM Interconnection LLC



Neighboring Interface	Path Type	Tag Name	Transmission Priority	Interval Start (EPT)	Interval Stop (EPT)	MW Scheduled	MW Flowed	MW Curtailed	MWh Curtailed	Curtailment Issuer
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC4L0002_LGEE	FIRM	12/24/2022 6:00	12/24/2022 6:15	-15	-6	9	2	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC4L0002_LGEE	FIRM	12/24/2022 6:15	12/24/2022 6:45	-15	-5	10	5	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC4L0002_LGEE	FIRM	12/24/2022 6:45	12/24/2022 7:00	-15	-1	14	3	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC4L0002_LGEE	FIRM	12/24/2022 7:00	12/24/2022 7:30	-15	0	15	8	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC4L0002_LGEE	FIRM	12/24/2022 7:30	12/24/2022 7:45	-15	-2	13	3	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC4L0002_LGEE	FIRM	12/24/2022 7:45	12/24/2022 8:00	-15	-1	14	3	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC4L0002_LGEE	FIRM	12/24/2022 8:00	12/24/2022 8:30	-15	0	15	8	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC4L0002_LGEE	FIRM	12/24/2022 8:30	12/24/2022 8:45	-15	0	15	4	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC4L0002_LGEE	FIRM	12/24/2022 8:45	12/24/2022 9:30	-15	-8	7	5	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC4L0002_LGEE	FIRM	12/24/2022 9:30	12/24/2022 9:45	-15	-8	7	2	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC4L0002_LGEE	FIRM	12/24/2022 10:00	12/24/2022 10:30	-15	-14	1	1	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC4L0002_LGEE	FIRM	12/24/2022 10:30	12/24/2022 10:45	-15	-12	3	1	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC4L0002_LGEE	FIRM	12/24/2022 10:45	12/24/2022 11:00	-15	-9	6	1	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC4S0002_MISO	FIRM	12/24/2022 5:30	12/24/2022 6:00	-3	-2	1	1	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC4S0002_MISO	FIRM	12/24/2022 6:00	12/24/2022 6:30	-3	0	3	1	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC4S0002_MISO	FIRM	12/24/2022 6:30	12/24/2022 7:30	-3	0	3	3	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC4S0002_MISO	FIRM	12/24/2022 7:30	12/24/2022 8:30	-3	0	3	3	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC4S0002_MISO	FIRM	12/24/2022 8:30	12/24/2022 8:45	-3	0	3	1	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC4S0002_MISO	FIRM	12/24/2022 8:45	12/24/2022 9:30	-3	-2	1	1	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC4S0002_MISO	FIRM	12/24/2022 9:30	12/24/2022 9:45	-3	-2	1	0	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC4S0002_MISO	FIRM	12/24/2022 9:45	12/24/2022 10:00	-3	-2	1	0	PJM - PJM Interconnection LLC



Neighboring Interface	Path Type	Tag Name	Transmission Priority	Interval Start (EPT)	Interval Stop (EPT)	MW Scheduled	MW Flowed	MW Curtailed	MWh Curtailed	Curtailed Issuer
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC4S0002_MISO	FIRM	12/24/2022 10:00	12/24/2022 10:30	-3	-1	2	1	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC4S0002_MISO	FIRM	12/24/2022 10:30	12/24/2022 10:45	-3	0	3	1	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC4S0002_MISO	FIRM	12/24/2022 10:45	12/24/2022 11:45	-3	-2	1	1	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC5L0001_LGEE	FIRM	12/24/2022 5:30	12/24/2022 6:00	-16	-14	2	1	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC5L0001_LGEE	FIRM	12/24/2022 6:00	12/24/2022 6:15	-16	-7	9	2	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC5L0001_LGEE	FIRM	12/24/2022 6:15	12/24/2022 6:30	-16	-6	10	2	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC5L0001_LGEE	FIRM	12/24/2022 6:30	12/24/2022 6:45	-16	-5	11	3	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC5L0001_LGEE	FIRM	12/24/2022 6:45	12/24/2022 7:00	-16	-1	15	4	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC5L0001_LGEE	FIRM	12/24/2022 7:00	12/24/2022 7:30	-16	0	16	8	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC5L0001_LGEE	FIRM	12/24/2022 7:30	12/24/2022 7:45	-16	-2	14	3	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC5L0001_LGEE	FIRM	12/24/2022 7:45	12/24/2022 8:00	-16	-1	15	4	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC5L0001_LGEE	FIRM	12/24/2022 8:00	12/24/2022 8:30	-16	0	16	8	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC5L0001_LGEE	FIRM	12/24/2022 8:30	12/24/2022 9:30	-16	-6	10	10	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC5L0001_LGEE	FIRM	12/24/2022 9:45	12/24/2022 10:00	-16	-11	5	1	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC5L0001_LGEE	FIRM	12/24/2022 10:00	12/24/2022 10:30	-16	-10	6	3	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC5L0001_LGEE	FIRM	12/24/2022 10:30	12/24/2022 10:45	-16	-8	8	2	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC5L0001_LGEE	FIRM	12/24/2022 10:45	12/24/2022 11:45	-16	-10	6	6	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC5S0002_MISO	FIRM	12/24/2022 5:30	12/24/2022 6:00	-3	-2	1	1	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC5S0002_MISO	FIRM	12/24/2022 6:00	12/24/2022 7:30	-3	0	3	5	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC5S0002_MISO	FIRM	12/24/2022 7:30	12/24/2022 8:30	-3	0	3	3	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC5S0002_MISO	FIRM	12/24/2022 8:30	12/24/2022 9:30	-3	-1	2	2	PJM - PJM Interconnection LLC



Neighboring Interface	Path Type	Tag Name	Transmission Priority	Interval Start (EPT)	Interval Stop (EPT)	MW Scheduled	MW Flowed	MW Curtailed	MWh Curtailed	Curtailed Issuer
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC5S0002_MISO	FIRM	12/24/2022 9:45	12/24/2022 10:00	-3	-2	1	0	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC5S0002_MISO	FIRM	12/24/2022 10:00	12/24/2022 10:30	-3	-1	2	1	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC5S0002_MISO	FIRM	12/24/2022 10:30	12/24/2022 10:45	-3	0	3	1	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSC5S0002_MISO	FIRM	12/24/2022 10:45	12/24/2022 11:45	-3	-2	1	1	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK1L0001_LGEE	FIRM	12/24/2022 5:30	12/24/2022 6:00	-15	-13	2	1	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK1L0001_LGEE	FIRM	12/24/2022 6:00	12/24/2022 6:15	-15	-6	9	2	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK1L0001_LGEE	FIRM	12/24/2022 6:15	12/24/2022 6:45	-15	-5	10	5	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK1L0001_LGEE	FIRM	12/24/2022 6:45	12/24/2022 7:00	-15	-1	14	3	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK1L0001_LGEE	FIRM	12/24/2022 7:00	12/24/2022 7:30	-15	0	15	8	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK1L0001_LGEE	FIRM	12/24/2022 7:30	12/24/2022 7:45	-15	-2	13	3	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK1L0001_LGEE	FIRM	12/24/2022 7:45	12/24/2022 8:00	-15	-1	14	3	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK1L0001_LGEE	FIRM	12/24/2022 8:00	12/24/2022 8:30	-15	0	15	8	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK1L0001_LGEE	FIRM	12/24/2022 8:30	12/24/2022 8:45	-15	0	15	4	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK1L0001_LGEE	FIRM	12/24/2022 8:45	12/24/2022 9:30	-15	-8	7	5	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK1L0001_LGEE	FIRM	12/24/2022 9:30	12/24/2022 9:45	-15	-8	7	2	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK1L0001_LGEE	FIRM	12/24/2022 9:45	12/24/2022 10:00	-15	-10	5	1	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK1L0001_LGEE	FIRM	12/24/2022 10:00	12/24/2022 10:30	-15	-9	6	3	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK1L0001_LGEE	FIRM	12/24/2022 10:30	12/24/2022 10:45	-15	-7	8	2	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK1L0001_LGEE	FIRM	12/24/2022 10:45	12/24/2022 11:45	-15	-10	5	5	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK1S0002_MISO	FIRM	12/24/2022 5:30	12/24/2022 6:00	-3	-2	1	1	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK1S0002_MISO	FIRM	12/24/2022 6:00	12/24/2022 6:30	-3	0	3	1	PJM - PJM Interconnection LLC



Neighboring Interface	Path Type	Tag Name	Transmission Priority	Interval Start (EPT)	Interval Stop (EPT)	MW Scheduled	MW Flowed	MW Curtailed	MWh Curtailed	Curtailment Issuer
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK1S0002_MISO	FIRM	12/24/2022 6:30	12/24/2022 7:30	-3	0	3	3	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK1S0002_MISO	FIRM	12/24/2022 7:30	12/24/2022 8:30	-3	0	3	3	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK1S0002_MISO	FIRM	12/24/2022 8:30	12/24/2022 9:30	-3	-1	2	2	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK1S0002_MISO	FIRM	12/24/2022 9:30	12/24/2022 9:45	-3	-1	2	1	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK1S0002_MISO	FIRM	12/24/2022 9:45	12/24/2022 10:00	-3	-2	1	0	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK1S0002_MISO	FIRM	12/24/2022 10:00	12/24/2022 10:30	-3	-1	2	1	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK1S0002_MISO	FIRM	12/24/2022 10:30	12/24/2022 10:45	-3	0	3	1	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK1S0002_MISO	FIRM	12/24/2022 10:45	12/24/2022 11:45	-3	-2	1	1	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK2L0001_LGEE	FIRM	12/24/2022 5:30	12/24/2022 6:00	-14	-12	2	1	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK2L0001_LGEE	FIRM	12/24/2022 6:00	12/24/2022 6:15	-14	-5	9	2	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK2L0001_LGEE	FIRM	12/24/2022 6:15	12/24/2022 6:30	-14	-4	10	2	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK2L0001_LGEE	FIRM	12/24/2022 6:30	12/24/2022 6:45	-14	-5	9	2	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK2L0001_LGEE	FIRM	12/24/2022 6:45	12/24/2022 7:00	-14	-1	13	3	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK2L0001_LGEE	FIRM	12/24/2022 7:00	12/24/2022 7:30	-14	0	14	7	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK2L0001_LGEE	FIRM	12/24/2022 7:30	12/24/2022 7:45	-14	-2	12	3	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK2L0001_LGEE	FIRM	12/24/2022 7:45	12/24/2022 8:00	-14	-1	13	3	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK2L0001_LGEE	FIRM	12/24/2022 8:00	12/24/2022 8:30	-14	0	14	7	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK2L0001_LGEE	FIRM	12/24/2022 8:30	12/24/2022 8:45	-14	0	14	3	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK2L0001_LGEE	FIRM	12/24/2022 8:45	12/24/2022 9:30	-14	-7	7	5	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK2L0001_LGEE	FIRM	12/24/2022 9:30	12/24/2022 9:45	-14	-7	7	2	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK2L0001_LGEE	FIRM	12/24/2022 10:00	12/24/2022 10:30	-14	-13	1	1	PJM - PJM Interconnection LLC



Neighboring Interface	Path Type	Tag Name	Transmission Priority	Interval Start (EPT)	Interval Stop (EPT)	MW Scheduled	MW Flowed	MW Curtailed	MWh Curtailed	Curtailed Issuer
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK2L0001_LGEE	FIRM	12/24/2022 10:30	12/24/2022 10:45	-14	-11	3	1	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK2L0001_LGEE	FIRM	12/24/2022 10:45	12/24/2022 11:00	-14	-8	6	1	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK2S0002_MISO	FIRM	12/24/2022 5:30	12/24/2022 6:00	-3	-2	1	1	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK2S0002_MISO	FIRM	12/24/2022 6:00	12/24/2022 6:30	-3	0	3	1	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK2S0002_MISO	FIRM	12/24/2022 6:30	12/24/2022 7:30	-3	0	3	3	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK2S0002_MISO	FIRM	12/24/2022 7:30	12/24/2022 8:30	-3	0	3	3	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK2S0002_MISO	FIRM	12/24/2022 8:30	12/24/2022 9:30	-3	-1	2	2	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK2S0002_MISO	FIRM	12/24/2022 9:45	12/24/2022 10:00	-3	-2	1	0	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK2S0002_MISO	FIRM	12/24/2022 10:00	12/24/2022 10:30	-3	-1	2	1	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK2S0002_MISO	FIRM	12/24/2022 10:30	12/24/2022 10:45	-3	0	3	1	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK2S0002_MISO	FIRM	12/24/2022 10:45	12/24/2022 11:45	-3	-2	1	1	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK5L0001_LGEE	FIRM	12/24/2022 5:30	12/24/2022 6:00	-16	-14	2	1	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK5L0001_LGEE	FIRM	12/24/2022 6:00	12/24/2022 6:15	-16	-7	9	2	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK5L0001_LGEE	FIRM	12/24/2022 6:15	12/24/2022 6:30	-16	-6	10	2	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK5L0001_LGEE	FIRM	12/24/2022 6:30	12/24/2022 6:45	-16	-5	11	3	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK5L0001_LGEE	FIRM	12/24/2022 6:45	12/24/2022 7:00	-16	-1	15	4	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK5L0001_LGEE	FIRM	12/24/2022 7:00	12/24/2022 7:30	-16	0	16	8	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK5L0001_LGEE	FIRM	12/24/2022 7:30	12/24/2022 7:45	-16	-2	14	3	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK5L0001_LGEE	FIRM	12/24/2022 7:45	12/24/2022 8:00	-16	-1	15	4	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK5L0001_LGEE	FIRM	12/24/2022 8:00	12/24/2022 8:30	-16	0	16	8	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK5L0001_LGEE	FIRM	12/24/2022 8:30	12/24/2022 9:30	-16	-6	10	10	PJM - PJM Interconnection LLC



Neighboring Interface	Path Type	Tag Name	Transmission Priority	Interval Start (EPT)	Interval Stop (EPT)	MW Scheduled	MW Flowed	MW Curtailed	MWh Curtailed	Curtailment Issuer
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK5L0001_LGEE	FIRM	12/24/2022 9:30	12/24/2022 9:45	-16	-6	10	3	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK5L0001_LGEE	FIRM	12/24/2022 9:45	12/24/2022 10:00	-16	-11	5	1	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK5L0001_LGEE	FIRM	12/24/2022 10:00	12/24/2022 10:30	-16	-10	6	3	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK5L0001_LGEE	FIRM	12/24/2022 10:30	12/24/2022 10:45	-16	-8	8	2	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK5L0001_LGEE	FIRM	12/24/2022 10:45	12/24/2022 11:45	-16	-10	6	6	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK5S0003_MISO	FIRM	12/24/2022 5:30	12/24/2022 6:00	-3	-2	1	1	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK5S0003_MISO	FIRM	12/24/2022 6:00	12/24/2022 6:30	-3	0	3	1	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK5S0003_MISO	FIRM	12/24/2022 6:30	12/24/2022 7:30	-3	0	3	3	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK5S0003_MISO	FIRM	12/24/2022 7:30	12/24/2022 8:30	-3	0	3	3	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK5S0003_MISO	FIRM	12/24/2022 8:30	12/24/2022 9:30	-3	-1	2	2	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK5S0003_MISO	FIRM	12/24/2022 9:30	12/24/2022 9:45	-3	-1	2	1	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK5S0003_MISO	FIRM	12/24/2022 9:45	12/24/2022 10:00	-3	-2	1	0	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK5S0003_MISO	FIRM	12/24/2022 10:00	12/24/2022 10:30	-3	-1	2	1	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK5S0003_MISO	FIRM	12/24/2022 10:30	12/24/2022 10:45	-3	0	3	1	PJM - PJM Interconnection LLC
LGEE - LGE and KU Energy LLC	EXPORT	PJM_OVPSCSK5S0003_MISO	FIRM	12/24/2022 10:45	12/24/2022 11:45	-3	-2	1	1	PJM - PJM Interconnection LLC
LIND - Linden VFT (NYISO)	EXPORT	PJM_PSETVFTZ75P_NYIS	FIRM	12/24/2022 7:30	12/24/2022 8:30	-315	-263	52	52	PJM - PJM Interconnection LLC
LIND - Linden VFT (NYISO)	EXPORT	PJM_PSETVFTZ75P_NYIS	FIRM	12/24/2022 8:30	12/24/2022 8:45	-315	-200	115	29	PJM - PJM Interconnection LLC
MEC - MidAmerican Energy Company (MISO)	EXPORT	PJM_MECBULEE11941_MISO	FIRM	12/24/2022 5:30	12/24/2022 6:00	-100	-89	11	6	PJM - PJM Interconnection LLC
MEC - MidAmerican Energy Company (MISO)	EXPORT	PJM_MECBULEE11941_MISO	FIRM	12/24/2022 6:00	12/24/2022 6:15	-100	-49	51	13	PJM - PJM Interconnection LLC
MEC - MidAmerican Energy Company (MISO)	EXPORT	PJM_MECBULEE11941_MISO	FIRM	12/24/2022 6:15	12/24/2022 6:30	-100	-41	59	15	PJM - PJM Interconnection LLC
MEC - MidAmerican Energy Company (MISO)	EXPORT	PJM_MECBULEE11941_MISO	FIRM	12/24/2022 6:30	12/24/2022 6:45	-100	-33	67	17	PJM - PJM Interconnection LLC



Neighboring Interface	Path Type	Tag Name	Transmission Priority	Interval Start (EPT)	Interval Stop (EPT)	MW Scheduled	MW Flowed	MW Curtailed	MWh Curtailed	Curtailment Issuer
MEC - MidAmerican Energy Company (MISO)	EXPORT	PJM_MECBULEE11941_MISO	FIRM	12/24/2022 6:45	12/24/2022 7:30	-100	0	100	75	PJM - PJM Interconnection LLC
MEC - MidAmerican Energy Company (MISO)	EXPORT	PJM_MECBULEE11941_MISO	FIRM	12/24/2022 7:30	12/24/2022 7:45	-100	-17	83	21	PJM - PJM Interconnection LLC
MEC - MidAmerican Energy Company (MISO)	EXPORT	PJM_MECBULEE11941_MISO	FIRM	12/24/2022 7:45	12/24/2022 8:00	-100	-7	93	23	PJM - PJM Interconnection LLC
MEC - MidAmerican Energy Company (MISO)	EXPORT	PJM_MECBULEE11941_MISO	FIRM	12/24/2022 8:00	12/24/2022 8:15	-100	-1	99	25	PJM - PJM Interconnection LLC
MEC - MidAmerican Energy Company (MISO)	EXPORT	PJM_MECBULEE11941_MISO	FIRM	12/24/2022 8:15	12/24/2022 8:30	-100	-6	94	23	PJM - PJM Interconnection LLC
MEC - MidAmerican Energy Company (MISO)	EXPORT	PJM_MECBULEE11941_MISO	FIRM	12/24/2022 8:30	12/24/2022 9:30	-100	-40	60	60	PJM - PJM Interconnection LLC
MEC - MidAmerican Energy Company (MISO)	EXPORT	PJM_MECBULEE11941_MISO	FIRM	12/24/2022 9:45	12/24/2022 10:00	-100	-69	31	8	PJM - PJM Interconnection LLC
MEC - MidAmerican Energy Company (MISO)	EXPORT	PJM_MECBULEE11941_MISO	FIRM	12/24/2022 10:00	12/24/2022 10:30	-100	-63	37	19	PJM - PJM Interconnection LLC
MEC - MidAmerican Energy Company (MISO)	EXPORT	PJM_MECBULEE11941_MISO	FIRM	12/24/2022 10:30	12/24/2022 10:45	-100	-52	48	12	PJM - PJM Interconnection LLC
MEC - MidAmerican Energy Company (MISO)	EXPORT	PJM_MECBULEE11941_MISO	FIRM	12/24/2022 10:45	12/24/2022 11:45	-100	-65	35	35	PJM - PJM Interconnection LLC
MEC - MidAmerican Energy Company (MISO)	EXPORT	PJM_MECBULEE11942_MISO	FIRM	12/24/2022 5:30	12/24/2022 6:00	-100	-89	11	6	PJM - PJM Interconnection LLC
MEC - MidAmerican Energy Company (MISO)	EXPORT	PJM_MECBULEE11942_MISO	FIRM	12/24/2022 6:00	12/24/2022 6:15	-100	-49	51	13	PJM - PJM Interconnection LLC
MEC - MidAmerican Energy Company (MISO)	EXPORT	PJM_MECBULEE11942_MISO	FIRM	12/24/2022 6:15	12/24/2022 6:30	-100	-41	59	15	PJM - PJM Interconnection LLC
MEC - MidAmerican Energy Company (MISO)	EXPORT	PJM_MECBULEE11942_MISO	FIRM	12/24/2022 6:30	12/24/2022 6:45	-100	-33	67	17	PJM - PJM Interconnection LLC
MEC - MidAmerican Energy Company (MISO)	EXPORT	PJM_MECBULEE11942_MISO	FIRM	12/24/2022 6:45	12/24/2022 7:30	-100	0	100	75	PJM - PJM Interconnection LLC
MEC - MidAmerican Energy Company (MISO)	EXPORT	PJM_MECBULEE11942_MISO	FIRM	12/24/2022 7:30	12/24/2022 7:45	-100	-17	83	21	PJM - PJM Interconnection LLC
MEC - MidAmerican Energy Company (MISO)	EXPORT	PJM_MECBULEE11942_MISO	FIRM	12/24/2022 7:45	12/24/2022 8:00	-100	-7	93	23	PJM - PJM Interconnection LLC
MEC - MidAmerican Energy Company (MISO)	EXPORT	PJM_MECBULEE11942_MISO	FIRM	12/24/2022 8:00	12/24/2022 8:15	-100	-1	99	25	PJM - PJM Interconnection LLC
MEC - MidAmerican Energy Company (MISO)	EXPORT	PJM_MECBULEE11942_MISO	FIRM	12/24/2022 8:15	12/24/2022 8:30	-100	-6	94	23	PJM - PJM Interconnection LLC
MEC - MidAmerican Energy Company (MISO)	EXPORT	PJM_MECBULEE11942_MISO	FIRM	12/24/2022 8:30	12/24/2022 9:30	-100	-40	60	60	PJM - PJM Interconnection LLC
MEC - MidAmerican Energy Company (MISO)	EXPORT	PJM_MECBULEE11942_MISO	FIRM	12/24/2022 9:45	12/24/2022 10:00	-100	-69	31	8	PJM - PJM Interconnection LLC



Neighboring Interface	Path Type	Tag Name	Transmission Priority	Interval Start (EPT)	Interval Stop (EPT)	MW Scheduled	MW Flowed	MW Curtailed	MWh Curtailed	Curtailment Issuer
MEC - MidAmerican Energy Company (MISO)	EXPORT	PJM_MECBULEE11942_MISO	FIRM	12/24/2022 10:00	12/24/2022 10:30	-100	-63	37	19	PJM - PJM Interconnection LLC
MEC - MidAmerican Energy Company (MISO)	EXPORT	PJM_MECBULEE11942_MISO	FIRM	12/24/2022 10:30	12/24/2022 10:45	-100	-52	48	12	PJM - PJM Interconnection LLC
MEC - MidAmerican Energy Company (MISO)	EXPORT	PJM_MECBULEE11942_MISO	FIRM	12/24/2022 10:45	12/24/2022 11:45	-100	-65	35	35	PJM - PJM Interconnection LLC
MEC - MidAmerican Energy Company (MISO)	EXPORT	PJM_MECBULEE12094_MISO	FIRM	12/24/2022 7:30	12/24/2022 8:30	-233	-195	38	38	PJM - PJM Interconnection LLC
MEC - MidAmerican Energy Company (MISO)	EXPORT	PJM_MECBULEE12094_MISO	FIRM	12/24/2022 8:30	12/24/2022 9:30	-233	-177	56	56	PJM - PJM Interconnection LLC
MEC - MidAmerican Energy Company (MISO)	EXPORT	PJM_MECBULEE12095_MISO	FIRM	12/24/2022 7:30	12/24/2022 8:30	-233	-195	38	38	PJM - PJM Interconnection LLC
MEC - MidAmerican Energy Company (MISO)	EXPORT	PJM_MECBULEE12095_MISO	FIRM	12/24/2022 8:30	12/24/2022 9:30	-233	-177	56	56	PJM - PJM Interconnection LLC
MECS - Michigan Electric Coordinated System (MISO)	EXPORT	PJM_MAG0013358184_MISO	NON-FIRM	12/23/2022 17:15	12/23/2022 18:00	-250	0	250	188	PJM - PJM Interconnection LLC
MECS - Michigan Electric Coordinated System (MISO)	EXPORT	PJM_NEXUS4357PME_MISO	NON-FIRM	12/23/2022 17:15	12/23/2022 18:15	-100	0	100	100	PJM - PJM Interconnection LLC
NEPT - Neptune Line (NYISO)	EXPORT	PJM_LIPANEPT299_NYIS	NON-FIRM	12/24/2022 7:00	12/24/2022 7:30	-660	-494	166	83	PJM - PJM Interconnection LLC
NEPT - Neptune Line (NYISO)	EXPORT	PJM_LIPANEPT299_NYIS	NON-FIRM	12/24/2022 7:30	12/24/2022 8:00	-660	0	660	330	PJM - PJM Interconnection LLC
NEPT - Neptune Line (NYISO)	EXPORT	PJM_LIPANEPT299_NYIS	NON-FIRM	12/24/2022 8:30	12/24/2022 8:45	-660	0	660	165	PJM - PJM Interconnection LLC
NEPT - Neptune Line (NYISO)	EXPORT	PJM_LIPANEPT299_NYIS	NON-FIRM	12/24/2022 8:45	12/24/2022 10:00	-660	0	660	825	PJM - PJM Interconnection LLC
NIPS - Northern Indiana Public Service Company LLC (MISO)	EXPORT	PJM_MEAI010030257_MISO	FIRM	12/24/2022 6:45	12/24/2022 7:45	-105	0	105	105	PJM - PJM Interconnection LLC
NIPS - Northern Indiana Public Service Company LLC (MISO)	EXPORT	PJM_MEAI010030551_MISO	FIRM	12/24/2022 6:45	12/24/2022 7:45	-100	0	100	100	PJM - PJM Interconnection LLC
NYIS - New York Independent System Operator	EXPORT	PJM_001CLTCL36973_NYIS	NON-FIRM	12/23/2022 17:15	12/23/2022 17:45	-100	0	100	50	PJM - PJM Interconnection LLC
NYIS - New York Independent System Operator	EXPORT	PJM_001CLTCL36973_NYIS	NON-FIRM	12/23/2022 18:45	12/23/2022 20:45	-100	0	100	200	PJM - PJM Interconnection LLC
NYIS - New York Independent System Operator	EXPORT	PJM_001CLTCL36999_NYIS	NON-FIRM	12/24/2022 17:00	12/24/2022 18:00	-100	0	100	100	PJM - PJM Interconnection LLC
NYIS - New York Independent System Operator	EXPORT	PJM_001CLTCL37027_ONT	NON-FIRM	12/23/2022 17:00	12/23/2022 18:00	-150	0	150	150	PJM - PJM Interconnection LLC
NYIS - New York Independent System Operator	EXPORT	PJM_BRTM01BP16025_NYIS	NON-FIRM	12/24/2022 17:00	12/24/2022 18:00	-100	0	100	100	PJM - PJM Interconnection LLC



Neighboring Interface	Path Type	Tag Name	Transmission Priority	Interval Start (EPT)	Interval Stop (EPT)	MW Scheduled	MW Flowed	MW Curtailed	MWh Curtailed	Curtailment Issuer
NYIS - New York Independent System Operator	EXPORT	PJM_CEDETDNYSDC22_NYIS	FIRM	12/24/2022 1:15	12/24/2022 1:30	-400	0	400	100	PJM - PJM Interconnection LLC
NYIS - New York Independent System Operator	EXPORT	PJM_CEDETDNYSDC22_NYIS	FIRM	12/24/2022 5:30	12/24/2022 6:00	-400	-357	43	22	PJM - PJM Interconnection LLC
NYIS - New York Independent System Operator	EXPORT	PJM_CEDETDNYSDC22_NYIS	FIRM	12/24/2022 6:00	12/24/2022 6:15	-400	-170	230	57	PJM - PJM Interconnection LLC
NYIS - New York Independent System Operator	EXPORT	PJM_CEDETDNYSDC22_NYIS	FIRM	12/24/2022 6:15	12/24/2022 6:30	-400	-141	259	65	PJM - PJM Interconnection LLC
NYIS - New York Independent System Operator	EXPORT	PJM_CEDETDNYSDC22_NYIS	FIRM	12/24/2022 6:30	12/24/2022 6:45	-400	-132	268	67	PJM - PJM Interconnection LLC
NYIS - New York Independent System Operator	EXPORT	PJM_CEDETDNYSDC22_NYIS	FIRM	12/24/2022 6:45	12/24/2022 7:00	-400	-32	368	92	PJM - PJM Interconnection LLC
NYIS - New York Independent System Operator	EXPORT	PJM_CEDETDNYSDC22_NYIS	FIRM	12/24/2022 7:00	12/24/2022 7:30	-400	0	400	200	PJM - PJM Interconnection LLC
NYIS - New York Independent System Operator	EXPORT	PJM_CEDETDNYSDC22_NYIS	FIRM	12/24/2022 7:30	12/24/2022 7:45	-400	-68	332	83	PJM - PJM Interconnection LLC
NYIS - New York Independent System Operator	EXPORT	PJM_CEDETDNYSDC22_NYIS	FIRM	12/24/2022 7:45	12/24/2022 8:00	-400	-23	377	94	PJM - PJM Interconnection LLC
NYIS - New York Independent System Operator	EXPORT	PJM_CEDETDNYSDC22_NYIS	FIRM	12/24/2022 8:00	12/24/2022 8:15	-400	-4	396	99	PJM - PJM Interconnection LLC
NYIS - New York Independent System Operator	EXPORT	PJM_CEDETDNYSDC22_NYIS	FIRM	12/24/2022 8:15	12/24/2022 8:30	-400	-20	380	95	PJM - PJM Interconnection LLC
NYIS - New York Independent System Operator	EXPORT	PJM_CEDETDNYSDC22_NYIS	FIRM	12/24/2022 8:30	12/24/2022 8:45	-400	-15	385	96	PJM - PJM Interconnection LLC
NYIS - New York Independent System Operator	EXPORT	PJM_CEDETDNYSDC22_NYIS	FIRM	12/24/2022 8:45	12/24/2022 9:00	-400	-36	364	91	PJM - PJM Interconnection LLC
NYIS - New York Independent System Operator	EXPORT	PJM_CEDETDNYSDC22_NYIS	FIRM	12/24/2022 9:00	12/24/2022 9:30	-400	0	400	200	PJM - PJM Interconnection LLC
NYIS - New York Independent System Operator	EXPORT	PJM_CITI01CIT0841_NYIS	NON-FIRM	12/23/2022 17:30	12/23/2022 18:00	-479	0	479	240	PJM - PJM Interconnection LLC
NYIS - New York Independent System Operator	EXPORT	PJM_CITI01CIT0841_NYIS	NON-FIRM	12/23/2022 18:45	12/23/2022 19:00	-479	-279	200	50	PJM - PJM Interconnection LLC
NYIS - New York Independent System Operator	EXPORT	PJM_CITI01CIT0841_NYIS	NON-FIRM	12/23/2022 20:00	12/23/2022 21:00	-479	-249	230	230	PJM - PJM Interconnection LLC
NYIS - New York Independent System Operator	EXPORT	PJM_CITI01CIT0842_NYIS	NON-FIRM	12/24/2022 17:00	12/24/2022 18:00	-296	-158	138	138	PJM - PJM Interconnection LLC
NYIS - New York Independent System Operator	EXPORT	PJM_NEXUS4358PN1_NYIS	NON-FIRM	12/24/2022 17:00	12/24/2022 18:00	-100	0	100	100	PJM - PJM Interconnection LLC
NYIS - New York Independent System Operator	EXPORT	PJM_SPWR011223222_NYIS	NON-FIRM	12/23/2022 16:45	12/23/2022 17:45	-450	0	450	450	PJM - PJM Interconnection LLC
NYIS - New York Independent System Operator	EXPORT	PJM_SPWR011223222_NYIS	NON-FIRM	12/23/2022 17:45	12/23/2022 19:00	-450	0	450	563	PJM - PJM Interconnection LLC



Neighboring Interface	Path Type	Tag Name	Transmission Priority	Interval Start (EPT)	Interval Stop (EPT)	MW Scheduled	MW Flowed	MW Curtailed	MWh Curtailed	Curtailment Issuer
NYIS - New York Independent System Operator	EXPORT	PJM_SPWR011223222_NYIS	NON-FIRM	12/23/2022 19:00	12/23/2022 20:00	-442	0	442	442	PJM - PJM Interconnection LLC
NYIS - New York Independent System Operator	EXPORT	PJM_SPWR011223222_NYIS	NON-FIRM	12/23/2022 20:00	12/23/2022 21:00	-364	0	364	364	PJM - PJM Interconnection LLC
NYIS - New York Independent System Operator	EXPORT	PJM_SPWR011224222_NYIS	NON-FIRM	12/24/2022 1:15	12/24/2022 1:30	-450	0	450	113	PJM - PJM Interconnection LLC
NYIS - New York Independent System Operator	EXPORT	PJM_SPWR011224222_NYIS	NON-FIRM	12/24/2022 5:00	12/24/2022 5:15	-350	0	350	88	PJM - PJM Interconnection LLC
NYIS - New York Independent System Operator	EXPORT	PJM_SPWR011224222_NYIS	NON-FIRM	12/24/2022 5:30	12/24/2022 7:00	-350	0	350	525	PJM - PJM Interconnection LLC
NYIS - New York Independent System Operator	EXPORT	PJM_SPWR011224222_NYIS	NON-FIRM	12/24/2022 7:00	12/24/2022 8:00	-350	0	350	350	PJM - PJM Interconnection LLC
NYIS - New York Independent System Operator	EXPORT	PJM_SPWR011224222_NYIS	NON-FIRM	12/24/2022 8:00	12/24/2022 8:45	-450	0	450	338	PJM - PJM Interconnection LLC
NYIS - New York Independent System Operator	EXPORT	PJM_SPWR011224222_NYIS	NON-FIRM	12/24/2022 8:45	12/24/2022 9:00	-450	0	450	113	PJM - PJM Interconnection LLC
NYIS - New York Independent System Operator	EXPORT	PJM_SPWR011224222_NYIS	NON-FIRM	12/24/2022 11:00	12/24/2022 12:00	-350	0	350	350	PJM - PJM Interconnection LLC
NYIS - New York Independent System Operator	EXPORT	PJM_SPWR011224222_NYIS	NON-FIRM	12/24/2022 12:00	12/24/2022 13:00	-450	0	450	450	PJM - PJM Interconnection LLC
NYIS - New York Independent System Operator	EXPORT	PJM_TEMUES1223PND_NYIS	NON-FIRM	12/23/2022 17:30	12/23/2022 18:00	-100	0	100	50	PJM - PJM Interconnection LLC
NYIS - New York Independent System Operator	EXPORT	PJM_TEMUES1223PND_NYIS	NON-FIRM	12/23/2022 18:45	12/23/2022 19:00	-50	0	50	12	PJM - PJM Interconnection LLC
NYIS - New York Independent System Operator	EXPORT	PJM_TEMUES1225PNE_ISNE	NON-FIRM	12/25/2022 8:00	12/25/2022 10:00	-10	-5	5	10	PJM - PJM Interconnection LLC
NYIS - New York Independent System Operator	EXPORT	PJM_TEMUES1225PNE_ISNE	NON-FIRM	12/25/2022 10:00	12/25/2022 11:00	-25	-5	20	20	PJM - PJM Interconnection LLC
NYIS - New York Independent System Operator	EXPORT	PJM_TEMUES1225PNE_ISNE	NON-FIRM	12/25/2022 11:00	12/25/2022 20:00	-10	-5	5	45	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_APMM10162883_AECI	NON-FIRM	12/23/2022 18:30	12/23/2022 19:00	-100	0	100	50	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_APMM10162883_AECI	NON-FIRM	12/23/2022 19:00	12/23/2022 21:00	-206	0	206	412	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_APMM10162915_AECI	NON-FIRM	12/24/2022 6:00	12/24/2022 7:00	-66	0	66	66	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_APMM10162923_AECI	NON-FIRM	12/24/2022 6:00	12/24/2022 7:00	-60	0	60	60	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_BRTM01BH00118_TVA	FIRM	12/24/2022 5:30	12/24/2022 6:00	-50	-45	5	3	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_BRTM01BH00118_TVA	FIRM	12/24/2022 6:00	12/24/2022 6:15	-50	-17	33	8	PJM - PJM Interconnection LLC



Neighboring Interface	Path Type	Tag Name	Transmission Priority	Interval Start (EPT)	Interval Stop (EPT)	MW Scheduled	MW Flowed	MW Curtailed	MWh Curtailed	Curtailment Issuer
TVA - Tennessee Valley Authority	EXPORT	PJM_BRTM01BH00118_TVA	FIRM	12/24/2022 6:15	12/24/2022 7:30	-50	0	50	63	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_BRTM01BH00118_TVA	FIRM	12/24/2022 7:30	12/24/2022 7:45	-50	-8	42	10	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_BRTM01BH00118_TVA	FIRM	12/24/2022 7:45	12/24/2022 8:00	-50	-3	47	12	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_BRTM01BH00118_TVA	FIRM	12/24/2022 8:00	12/24/2022 8:15	-50	-1	49	12	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_BRTM01BH00118_TVA	FIRM	12/24/2022 8:15	12/24/2022 8:30	-50	-2	48	12	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_BRTM01BH00118_TVA	FIRM	12/24/2022 8:30	12/24/2022 9:30	-50	-20	30	30	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_BRTM01BH00118_TVA	FIRM	12/24/2022 9:45	12/24/2022 10:00	-50	-35	15	4	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_BRTM01BH00118_TVA	FIRM	12/24/2022 10:00	12/24/2022 10:30	-50	-32	18	9	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_BRTM01BH00118_TVA	FIRM	12/24/2022 10:30	12/24/2022 10:45	-50	-27	23	6	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_BRTM01BH00118_TVA	FIRM	12/24/2022 10:45	12/24/2022 11:45	-50	-32	18	18	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_BRTM01BH00119_TVA	NON-FIRM	12/23/2022 17:45	12/23/2022 20:00	-50	0	50	113	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_BRTM01BH00119_TVA	NON-FIRM	12/24/2022 5:30	12/24/2022 9:30	-50	0	50	200	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_BRTM01BH00119_TVA	NON-FIRM	12/24/2022 9:30	12/24/2022 10:00	-50	0	50	25	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_BRTM01BH00119_TVA	NON-FIRM	12/24/2022 10:00	12/24/2022 11:00	-50	0	50	50	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_FPLPSECM1223A_TVA	NON-FIRM	12/23/2022 17:45	12/23/2022 20:00	-13	0	13	29	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_FPLPSECM1224A_TVA	NON-FIRM	12/24/2022 5:30	12/24/2022 7:00	-15	0	15	23	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_FPLPSECM1224A_TVA	NON-FIRM	12/24/2022 7:00	12/24/2022 7:30	-14	0	14	7	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_FPLPSECM1224A_TVA	NON-FIRM	12/24/2022 7:30	12/24/2022 9:30	-14	0	14	28	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_FPLPSECM1224A_TVA	NON-FIRM	12/24/2022 9:30	12/24/2022 9:45	-14	0	14	4	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_FPLPSECM1224A_TVA	NON-FIRM	12/24/2022 9:45	12/24/2022 11:45	-14	0	14	28	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205665_TVA	NON-FIRM	12/23/2022 17:45	12/23/2022 19:45	-500	0	500	1000	PJM - PJM Interconnection LLC



Neighboring Interface	Path Type	Tag Name	Transmission Priority	Interval Start (EPT)	Interval Stop (EPT)	MW Scheduled	MW Flowed	MW Curtailed	MWh Curtailed	Curtailment Issuer
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205665_TVA	NON-FIRM	12/23/2022 19:45	12/23/2022 20:45	-500	-414	86	86	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205672_TVA	FIRM	12/23/2022 9:45	12/23/2022 11:00	-500	-250	250	312	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205679_TVA	NON-FIRM	12/23/2022 17:45	12/23/2022 20:45	-500	0	500	1500	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205688_TVA	NON-FIRM	12/23/2022 17:45	12/23/2022 20:45	-135	0	135	405	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205726_TVA	FIRM	12/24/2022 5:30	12/24/2022 6:00	-500	-446	54	27	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205726_TVA	FIRM	12/24/2022 6:00	12/24/2022 6:15	-500	-248	252	63	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205726_TVA	FIRM	12/24/2022 6:15	12/24/2022 6:30	-500	0	500	125	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205726_TVA	FIRM	12/24/2022 6:30	12/24/2022 7:30	-500	0	500	500	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205726_TVA	FIRM	12/24/2022 7:30	12/24/2022 7:45	-500	-85	415	104	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205726_TVA	FIRM	12/24/2022 7:45	12/24/2022 8:00	-500	-34	466	116	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205726_TVA	FIRM	12/24/2022 8:00	12/24/2022 8:15	-500	-7	493	123	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205726_TVA	FIRM	12/24/2022 8:15	12/24/2022 8:30	-500	-30	470	117	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205726_TVA	FIRM	12/24/2022 8:30	12/24/2022 8:45	-500	-132	368	92	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205726_TVA	FIRM	12/24/2022 8:45	12/24/2022 9:30	-500	-262	238	179	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205726_TVA	FIRM	12/24/2022 9:30	12/24/2022 9:45	-500	-262	238	60	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205726_TVA	FIRM	12/24/2022 9:45	12/24/2022 10:00	-500	-346	154	38	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205726_TVA	FIRM	12/24/2022 10:00	12/24/2022 10:30	-500	-314	186	93	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205726_TVA	FIRM	12/24/2022 10:30	12/24/2022 10:45	-500	-261	239	60	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205726_TVA	FIRM	12/24/2022 10:45	12/24/2022 11:15	-500	-324	176	88	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205730_TVA	FIRM	12/24/2022 5:30	12/24/2022 6:00	-250	-223	27	14	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205730_TVA	FIRM	12/24/2022 6:00	12/24/2022 6:15	-250	-112	138	34	PJM - PJM Interconnection LLC



Neighboring Interface	Path Type	Tag Name	Transmission Priority	Interval Start (EPT)	Interval Stop (EPT)	MW Scheduled	MW Flowed	MW Curtailed	MWh Curtailed	Curtailment Issuer
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205730_TVA	FIRM	12/24/2022 6:15	12/24/2022 6:30	-250	0	250	62	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205730_TVA	FIRM	12/24/2022 6:30	12/24/2022 7:30	-250	0	250	250	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205730_TVA	FIRM	12/24/2022 7:30	12/24/2022 7:45	-250	-43	207	52	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205730_TVA	FIRM	12/24/2022 7:45	12/24/2022 8:00	-250	-14	236	59	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205730_TVA	FIRM	12/24/2022 8:00	12/24/2022 8:15	-250	-3	247	62	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205730_TVA	FIRM	12/24/2022 8:15	12/24/2022 8:30	-250	-12	238	59	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205730_TVA	FIRM	12/24/2022 8:30	12/24/2022 9:30	-250	-100	150	150	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205730_TVA	FIRM	12/24/2022 9:30	12/24/2022 9:45	-250	-100	150	38	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205730_TVA	FIRM	12/24/2022 9:45	12/24/2022 10:00	-250	-173	77	19	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205730_TVA	FIRM	12/24/2022 10:00	12/24/2022 10:30	-250	-157	93	47	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205730_TVA	FIRM	12/24/2022 10:30	12/24/2022 10:45	-250	-130	120	30	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205730_TVA	FIRM	12/24/2022 10:45	12/24/2022 11:45	-250	-162	88	88	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205734_TVA	FIRM	12/24/2022 5:30	12/24/2022 6:00	-250	-223	27	14	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205734_TVA	FIRM	12/24/2022 6:00	12/24/2022 6:15	-250	-112	138	34	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205734_TVA	FIRM	12/24/2022 6:15	12/24/2022 6:30	-250	0	250	62	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205734_TVA	FIRM	12/24/2022 6:30	12/24/2022 7:30	-250	0	250	250	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205734_TVA	FIRM	12/24/2022 7:30	12/24/2022 7:45	-250	-43	207	52	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205734_TVA	FIRM	12/24/2022 7:45	12/24/2022 8:00	-250	-14	236	59	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205734_TVA	FIRM	12/24/2022 8:00	12/24/2022 8:15	-250	-3	247	62	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205734_TVA	FIRM	12/24/2022 8:15	12/24/2022 8:30	-250	-12	238	59	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205734_TVA	FIRM	12/24/2022 8:30	12/24/2022 9:30	-250	-100	150	150	PJM - PJM Interconnection LLC



Neighboring Interface	Path Type	Tag Name	Transmission Priority	Interval Start (EPT)	Interval Stop (EPT)	MW Scheduled	MW Flowed	MW Curtailed	MWh Curtailed	Curtailment Issuer
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205734_TVA	FIRM	12/24/2022 9:30	12/24/2022 9:45	-250	-100	150	38	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205734_TVA	FIRM	12/24/2022 9:45	12/24/2022 10:00	-250	-173	77	19	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205734_TVA	FIRM	12/24/2022 10:00	12/24/2022 10:30	-250	-157	93	47	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205734_TVA	FIRM	12/24/2022 10:30	12/24/2022 10:45	-250	-130	120	30	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205734_TVA	FIRM	12/24/2022 10:45	12/24/2022 11:15	-250	-162	88	44	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205751_TVA	FIRM	12/24/2022 5:30	12/24/2022 6:00	-400	-357	43	22	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205751_TVA	FIRM	12/24/2022 6:00	12/24/2022 6:15	-400	-179	221	55	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205751_TVA	FIRM	12/24/2022 6:15	12/24/2022 6:30	-400	0	400	100	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205751_TVA	FIRM	12/24/2022 6:30	12/24/2022 7:30	-400	0	400	400	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205751_TVA	FIRM	12/24/2022 7:30	12/24/2022 7:45	-400	-68	332	83	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205751_TVA	FIRM	12/24/2022 7:45	12/24/2022 8:00	-400	-23	377	94	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205751_TVA	FIRM	12/24/2022 8:00	12/24/2022 8:15	-400	-4	396	99	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205751_TVA	FIRM	12/24/2022 8:15	12/24/2022 8:30	-400	-20	380	95	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205751_TVA	FIRM	12/24/2022 8:30	12/24/2022 8:45	-400	-15	385	96	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205751_TVA	FIRM	12/24/2022 8:45	12/24/2022 9:30	-400	-210	190	143	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205751_TVA	FIRM	12/24/2022 9:30	12/24/2022 9:45	-400	-210	190	48	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205751_TVA	FIRM	12/24/2022 9:45	12/24/2022 10:00	-400	-277	123	31	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205751_TVA	FIRM	12/24/2022 10:00	12/24/2022 10:30	-400	-251	149	75	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205751_TVA	FIRM	12/24/2022 10:30	12/24/2022 10:45	-400	-208	192	48	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205751_TVA	FIRM	12/24/2022 10:45	12/24/2022 11:00	-400	-259	141	35	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205771_TVA	FIRM	12/24/2022 5:30	12/24/2022 6:00	-250	-223	27	14	PJM - PJM Interconnection LLC



Neighboring Interface	Path Type	Tag Name	Transmission Priority	Interval Start (EPT)	Interval Stop (EPT)	MW Scheduled	MW Flowed	MW Curtailed	MWh Curtailed	Curtailment Issuer
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205771_TVA	FIRM	12/24/2022 6:00	12/24/2022 6:15	-250	-112	138	34	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205771_TVA	FIRM	12/24/2022 6:15	12/24/2022 6:30	-250	0	250	62	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205771_TVA	FIRM	12/24/2022 6:30	12/24/2022 7:30	-250	0	250	250	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205771_TVA	FIRM	12/24/2022 7:30	12/24/2022 7:45	-250	-43	207	52	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205771_TVA	FIRM	12/24/2022 7:45	12/24/2022 8:00	-250	-14	236	59	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205771_TVA	FIRM	12/24/2022 8:00	12/24/2022 8:15	-250	-3	247	62	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205771_TVA	FIRM	12/24/2022 8:15	12/24/2022 8:30	-250	-12	238	59	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205771_TVA	FIRM	12/24/2022 8:30	12/24/2022 8:45	-250	-9	241	60	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205771_TVA	FIRM	12/24/2022 8:45	12/24/2022 9:30	-250	-131	119	89	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205771_TVA	FIRM	12/24/2022 9:30	12/24/2022 9:45	-250	-131	119	30	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205771_TVA	FIRM	12/24/2022 9:45	12/24/2022 10:00	-250	-173	77	19	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205771_TVA	FIRM	12/24/2022 10:00	12/24/2022 10:30	-250	-157	93	47	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205771_TVA	FIRM	12/24/2022 10:30	12/24/2022 10:45	-250	-130	120	30	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205771_TVA	FIRM	12/24/2022 10:45	12/24/2022 11:45	-250	-162	88	88	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205774_TVA	FIRM	12/24/2022 5:30	12/24/2022 6:00	-89	-79	10	5	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205774_TVA	FIRM	12/24/2022 6:00	12/24/2022 6:15	-89	-30	59	15	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205774_TVA	FIRM	12/24/2022 6:15	12/24/2022 7:30	-89	0	89	111	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205774_TVA	FIRM	12/24/2022 7:30	12/24/2022 7:45	-89	-15	74	18	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205774_TVA	FIRM	12/24/2022 7:45	12/24/2022 8:00	-89	-5	84	21	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205774_TVA	FIRM	12/24/2022 8:00	12/24/2022 8:15	-89	-1	88	22	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205774_TVA	FIRM	12/24/2022 8:15	12/24/2022 8:30	-89	-4	85	21	PJM - PJM Interconnection LLC



Neighboring Interface	Path Type	Tag Name	Transmission Priority	Interval Start (EPT)	Interval Stop (EPT)	MW Scheduled	MW Flowed	MW Curtailed	MWh Curtailed	Curtailment Issuer
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205774_TVA	FIRM	12/24/2022 8:30	12/24/2022 8:45	-89	-3	86	21	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205774_TVA	FIRM	12/24/2022 8:45	12/24/2022 9:30	-89	-47	42	32	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205774_TVA	FIRM	12/24/2022 9:30	12/24/2022 9:45	-89	-47	42	11	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205774_TVA	FIRM	12/24/2022 9:45	12/24/2022 10:00	-89	-42	47	12	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205774_TVA	FIRM	12/24/2022 10:00	12/24/2022 10:30	-89	-81	8	4	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205774_TVA	FIRM	12/24/2022 10:30	12/24/2022 10:45	-89	-67	22	5	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205774_TVA	FIRM	12/24/2022 10:45	12/24/2022 11:00	-89	-53	36	9	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205776_TVA	NON-FIRM	12/24/2022 5:15	12/24/2022 5:30	-500	-152	348	87	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205776_TVA	NON-FIRM	12/24/2022 5:30	12/24/2022 7:00	-500	0	500	750	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205776_TVA	NON-FIRM	12/24/2022 7:00	12/24/2022 8:00	-787	0	787	787	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205776_TVA	NON-FIRM	12/24/2022 8:00	12/24/2022 9:00	-775	0	775	775	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205776_TVA	NON-FIRM	12/24/2022 9:00	12/24/2022 9:15	-591	-339	252	63	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205776_TVA	NON-FIRM	12/24/2022 9:15	12/24/2022 9:30	-591	-573	18	4	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205776_TVA	NON-FIRM	12/24/2022 9:30	12/24/2022 9:45	-591	-182	409	102	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205776_TVA	NON-FIRM	12/24/2022 9:45	12/24/2022 10:00	-591	0	591	148	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205776_TVA	NON-FIRM	12/24/2022 10:00	12/24/2022 11:00	-500	0	500	500	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205776_TVA	NON-FIRM	12/24/2022 11:15	12/24/2022 11:30	-500	-310	190	47	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205776_TVA	NON-FIRM	12/24/2022 11:30	12/24/2022 11:45	-500	-273	227	57	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205776_TVA	NON-FIRM	12/24/2022 11:45	12/24/2022 12:00	-500	0	500	125	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205777_TVA	NON-FIRM	12/24/2022 7:00	12/24/2022 8:00	-24	0	24	24	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205811_TVA	NON-FIRM	12/23/2022 18:00	12/23/2022 19:00	-165	0	165	165	PJM - PJM Interconnection LLC



Neighboring Interface	Path Type	Tag Name	Transmission Priority	Interval Start (EPT)	Interval Stop (EPT)	MW Scheduled	MW Flowed	MW Curtailed	MWh Curtailed	Curtailment Issuer
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205861_TVA	NON-FIRM	12/24/2022 4:45	12/24/2022 5:00	-476	0	476	119	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205861_TVA	NON-FIRM	12/24/2022 5:00	12/24/2022 5:15	-476	-101	375	94	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205861_TVA	NON-FIRM	12/24/2022 5:15	12/24/2022 7:15	-476	0	476	952	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205861_TVA	NON-FIRM	12/24/2022 7:15	12/24/2022 7:30	-476	-5	471	118	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205861_TVA	NON-FIRM	12/24/2022 7:30	12/24/2022 9:15	-476	0	476	833	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205861_TVA	NON-FIRM	12/24/2022 9:15	12/24/2022 9:30	-476	-84	392	98	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205861_TVA	NON-FIRM	12/24/2022 9:30	12/24/2022 10:15	-476	0	476	357	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205861_TVA	NON-FIRM	12/24/2022 10:15	12/24/2022 10:30	-476	-72	404	101	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205861_TVA	NON-FIRM	12/24/2022 10:30	12/24/2022 11:00	-476	0	476	238	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205863_TVA	NON-FIRM	12/24/2022 4:45	12/24/2022 11:00	-24	0	24	150	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205866_TVA	NON-FIRM	12/24/2022 4:45	12/24/2022 12:30	-100	0	100	775	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205866_TVA	NON-FIRM	12/24/2022 12:30	12/24/2022 13:00	-100	-4	96	48	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205866_TVA	NON-FIRM	12/24/2022 13:00	12/24/2022 13:15	-100	0	100	25	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205869_TVA	NON-FIRM	12/24/2022 4:45	12/24/2022 7:00	-226	0	226	509	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205873_TVA	NON-FIRM	12/24/2022 4:45	12/24/2022 7:00	-123	0	123	277	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205874_TVA	NON-FIRM	12/24/2022 7:00	12/24/2022 8:00	-38	0	38	38	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205874_TVA	NON-FIRM	12/24/2022 8:00	12/24/2022 9:00	-74	0	74	74	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205874_TVA	NON-FIRM	12/24/2022 9:00	12/24/2022 9:15	-226	0	226	56	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205874_TVA	NON-FIRM	12/24/2022 9:15	12/24/2022 11:00	-226	0	226	395	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205874_TVA	NON-FIRM	12/24/2022 11:00	12/24/2022 12:00	-250	0	250	250	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205874_TVA	NON-FIRM	12/24/2022 12:00	12/24/2022 12:15	-250	-104	146	36	PJM - PJM Interconnection LLC



Neighboring Interface	Path Type	Tag Name	Transmission Priority	Interval Start (EPT)	Interval Stop (EPT)	MW Scheduled	MW Flowed	MW Curtailed	MWh Curtailed	Curtailment Issuer
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205877_TVA	NON-FIRM	12/24/2022 4:45	12/24/2022 7:00	-551	0	551	1240	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205877_TVA	NON-FIRM	12/24/2022 7:00	12/24/2022 8:00	-862	0	862	862	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205877_TVA	NON-FIRM	12/24/2022 8:00	12/24/2022 9:00	-826	0	826	826	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205877_TVA	NON-FIRM	12/24/2022 9:00	12/24/2022 9:15	-674	0	674	168	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205877_TVA	NON-FIRM	12/24/2022 9:15	12/24/2022 11:00	-674	0	674	1179	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205877_TVA	NON-FIRM	12/24/2022 11:00	12/24/2022 13:00	-650	0	650	1300	PJM - PJM Interconnection LLC
TVA - Tennessee Valley Authority	EXPORT	PJM_TVAMPT0205926_TVA	NON-FIRM	12/24/2022 13:00	12/24/2022 14:00	-476	-175	301	301	PJM - PJM Interconnection LLC
WEC - Wisconsin Energy Corporation (MISO)	EXPORT	PJM_WPPI010084180_MISO	FIRM	12/24/2022 7:00	12/24/2022 8:00	-94	0	94	94	PJM - PJM Interconnection LLC
WEC - Wisconsin Energy Corporation (MISO)	EXPORT	PJM_WPPI010084180_MISO	FIRM	12/24/2022 8:00	12/24/2022 8:15	-94	-18	76	19	PJM - PJM Interconnection LLC
WEC - Wisconsin Energy Corporation (MISO)	EXPORT	PJM_WPPI010084180_MISO	FIRM	12/24/2022 8:15	12/24/2022 8:30	-94	-84	10	2	PJM - PJM Interconnection LLC
WEC - Wisconsin Energy Corporation (MISO)	EXPORT	PJM_WPPI010084180_MISO	FIRM	12/24/2022 8:30	12/24/2022 8:45	-94	-3	91	23	PJM - PJM Interconnection LLC
WEC - Wisconsin Energy Corporation (MISO)	EXPORT	PJM_WPPI010084180_MISO	FIRM	12/24/2022 8:45	12/24/2022 9:15	-94	-44	50	25	PJM - PJM Interconnection LLC
WEC - Wisconsin Energy Corporation (MISO)	EXPORT	PJM_WPPI010084180_MISO	FIRM	12/24/2022 9:45	12/24/2022 10:00	-94	-65	29	7	PJM - PJM Interconnection LLC
WEC - Wisconsin Energy Corporation (MISO)	EXPORT	PJM_WPPI010084180_MISO	FIRM	12/24/2022 10:00	12/24/2022 10:30	-94	-59	35	18	PJM - PJM Interconnection LLC
WEC - Wisconsin Energy Corporation (MISO)	EXPORT	PJM_WPPI010084180_MISO	FIRM	12/24/2022 10:30	12/24/2022 10:45	-94	-49	45	11	PJM - PJM Interconnection LLC
WEC - Wisconsin Energy Corporation (MISO)	EXPORT	PJM_WPPI010084180_MISO	FIRM	12/24/2022 10:45	12/24/2022 11:45	-94	-61	33	33	PJM - PJM Interconnection LLC



Attachment C



Winter Storm Elliott

Event Analysis and Recommendation Report

Real-Time Interchange

Interchange transactions take the form of an import, meaning market participants purchase power from a neighboring area and sell into PJM, an export, where power is purchased from PJM and sold to an external area, or a wheel, where power is simultaneously purchased from a neighboring area, scheduled across PJM, and then sold to an external area. PJM is typically a net exporter of energy to neighboring systems, and that remained true in the days preceding Winter Storm Elliott. With this information in mind, PJM operators took a conservative stance in preparing for the Dec. 23 and Dec. 24 operating day and planned for sufficient reserves to meet both forecast internal load and the needs of neighboring systems who rely on support from PJM in the form of interchange transactions and emergency purchases.

As PJM made the decision to issue Cold Weather Advisories and Alerts for these operating days, the bitter cold temperatures traveled across the country from the north and west to the south and east. Early in the day on Dec. 23, areas to PJM's west and south were already experiencing bitter cold temperatures. PJM was exporting energy throughout the morning and early afternoon on that day. Throughout the Dec. 23 to 24 period, PJM was balancing the extremely tight capacity situation due to the unprecedented amount of generator trippings and forced outages, controlling flows on the AEP-Dominion IROL⁶ interface, as well as the extreme system conditions faced by our neighbors to the south.

Dec. 23

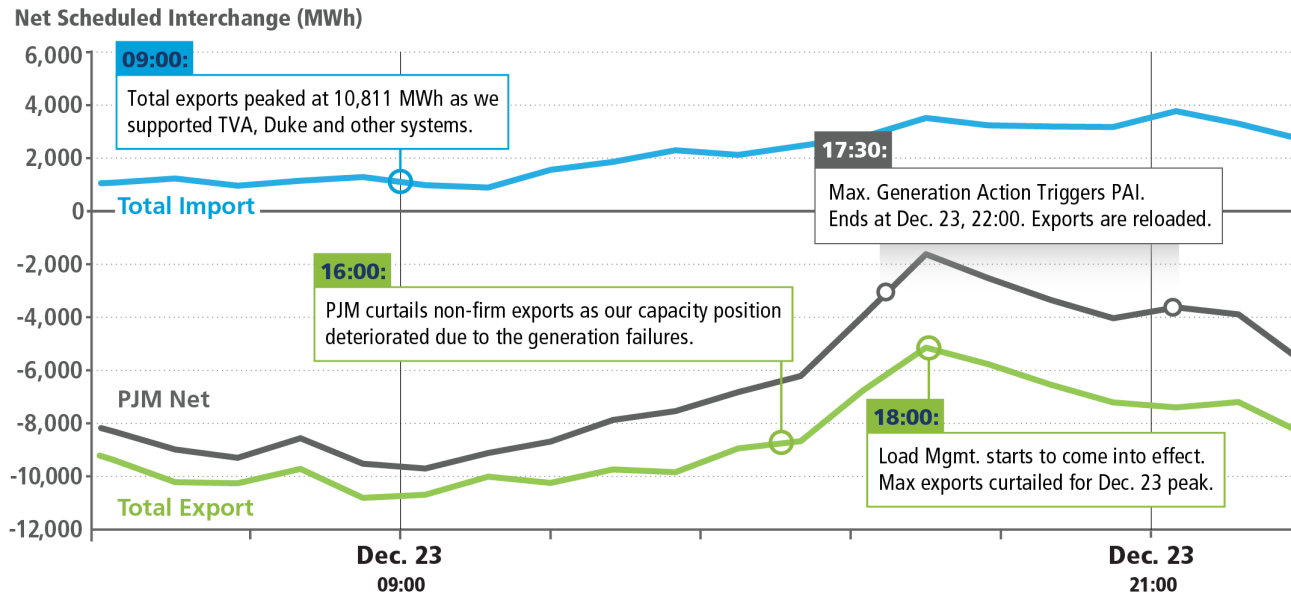
At the start of Dec. 23, PJM exported over 8,000 MWh for the hour ending 01:00 and increased that amount over the morning hours to reach almost 11,000 MWh for the hour ending 10:00 (Figure 1). These exports included the supply of emergency energy to TVA during the hours ending 07:00 through 11:00. During hour-ending 13:00, exports started a slight downward trend, and as PJM's capacity position continued to deteriorate, non-firm exports to adjacent areas were ultimately curtailed via a Maximum Generation Emergency Action. PJM system operators initiated the curtailment of non-firm export transactions at hour ending 17:00 by limiting roughly 400 MWh of exports, and quickly jumped to limiting well over 3,000 MWh of transactions each hour from hours ending 18:00 through 20:00. At that point, PJM system operators began a transition out from the heaviest Maximum Generation curtailments, with most transactions resuming full flow by hour-ending 22:00. In anticipation of, and in response to the Minimum Generation Action on Dec. 23, PJM curtailed in total almost 14,000 MWh of exports.

Figure 1 presents the Net Scheduled Interchange on Dec. 23.

⁶ Interconnection Reliability Operating Limit (IROL) is a system operating limit that, if exceeded, could lead to system instability, uncontrolled separation, or cascading that adversely impact the reliability of the bulk electric system.



Figure 1. Dec. 23 Net Scheduled Interchange



Dec. 24

When current and forecast system conditions indicated reduced availability to support exports on Dec. 24, the Transmission Load Relief (TLR) mechanism was considered as an option to provide relief for the AEP-Dominion IROL interface; however, the resulting analysis showed the need for an excessive volume of tag⁷ curtailments on neighboring systems that were already experiencing significant issues of their own. PJM system operators concluded that issuing a TLR would create far-reaching impacts across the Eastern Interconnection and likely make system conditions and emergencies worse for our neighbors. PJM also elected to limit curtailment of exports over the midnight period knowing the severe system conditions of our neighbors to the south. This limited PJM’s ability to pump hydro stations.

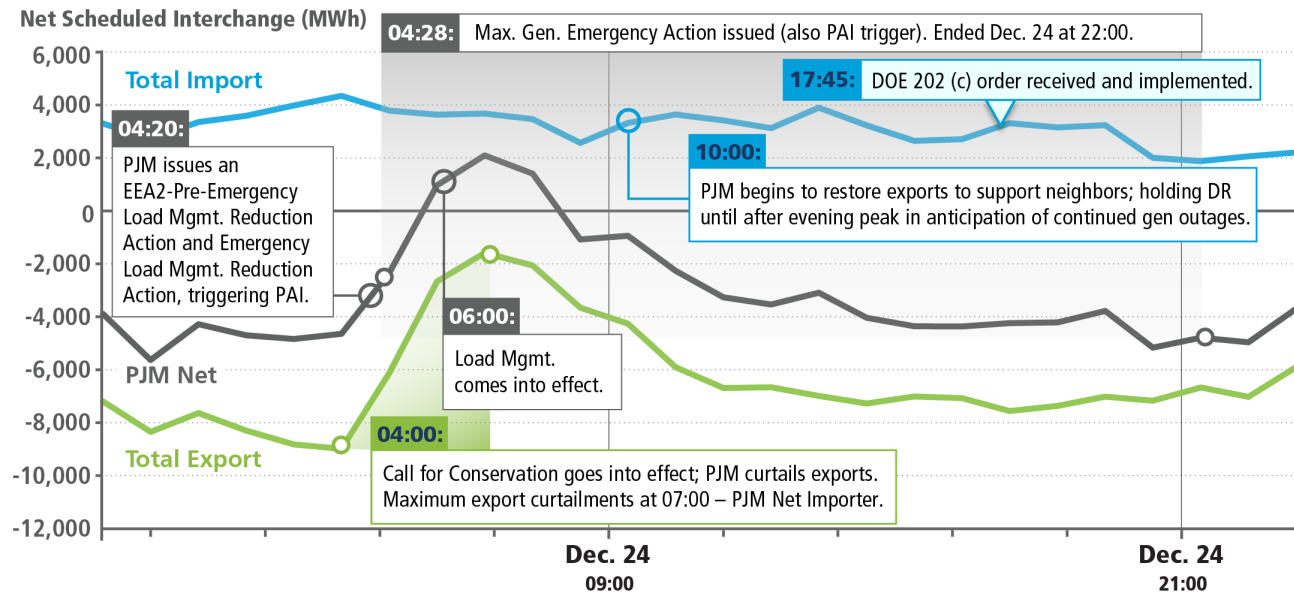
Facing both a capacity emergency and lack of controlling options for AEP-DOM, PJM made the decision to take a more surgical approach and initiated curtailments in anticipation of a Maximum Generation Emergency Action, which was ultimately declared at 04:25. PJM system operators began limiting non-firm exports in hour ending 05:00 and increased the magnitude of curtailments by hour ending 06:00 when they had also begun limit firm exports. The most significant curtailments occurred in hour ending 08:00 with over 4,000 MWh of firm transactions limited and over 5,000 MWh of non-firm exports limited. Both PJM and its capacity deficient neighbors were experiencing peak loads at the same time, and PJM did not have excess capacity to support export requests regardless of the supporting transmission service priority. After the morning peak load, PJM slowly started to lift the limits on exports; however, the duration of this event was much longer than that seen on Dec. 23, with firm curtailments persisting until 12:00 and non-firm curtailments persisting until 15:00. For the event on Dec. 24, PJM curtailed over 45,000 MWh of export transactions. Conversely, PJM observed over 40,000 MWh of import transaction curtailments on Dec. 24, primarily resulting from TLRs issued by neighboring Reliability Coordinators (RCs). At the peak of the curtailments, PJM briefly transitioned to an overall net-importer of energy for several hours on the Dec. 24, with a net schedule of approximately 2,800 MWh into the footprint for hour ending 08:00.

⁷ A tag is information describing a physical Interchange Transaction or Intra-BA Transaction and its participant.



Figure 2 presents the Net Scheduled Interchange on Dec. 24.

Figure 2. Dec. 24 Net Scheduled Interchange



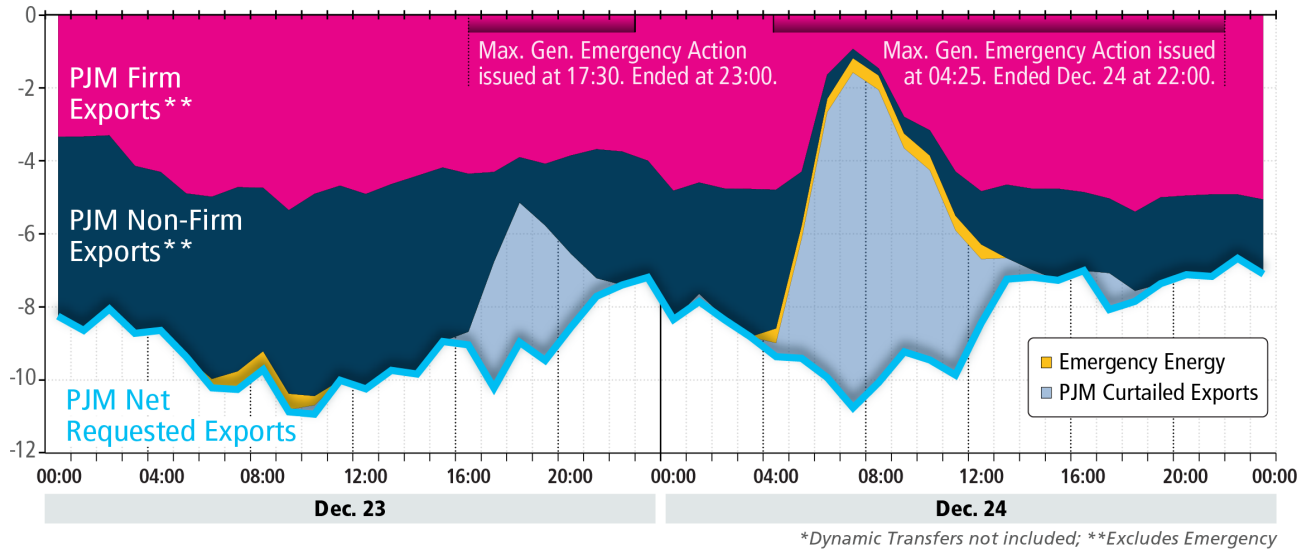
Coordination With Neighbors

As the extreme cold temperatures moved through areas to the southwest of the PJM footprint, neighboring systems began to experience strains. On both Dec. 23 and Dec. 24, PJM coordinated closely with its neighbors to maximize transfers. PJM provided emergency energy to adjacent systems as system conditions allowed on both Dec. 23 and Dec. 24 (Figure 3) before eventually having to reduce exports in order to serve consumers within the PJM footprint. Transmission constraints also limited PJM’s ability to support export transactions across the southern interfaces. These constraints included the pre-contingency emergency thermal limit of the Broadford 765/138 kV transformer and post-contingency transfer limit of the AEP-Dominion IROL interface Figure 3 presents the Net Scheduled Exports for Dec. 23 through Dec. 24.



Figure 3. Dec. 23 and Dec. 24 Net Scheduled Exports

Net Scheduled Export Interchange*
(MWh, Thousands)



Comparing the values in Figure 3 to the supply/demand conditions that PJM actually experienced confirms that PJM could not have met system demand only by cutting non-firm exports. On Dec. 23, 2022, at 17:30, PJM issued a Pre-Emergency Load Management Reduction Action for the 30-minute and 60-minute Demand Resources that resulted in load reductions of about 1,100 MW. At the same time, PJM system operators also issued a Maximum Generation Emergency Action that resulted in an average of 2,372 MW of additional generation. In total, these actions had about 3,472 MW of impact. In comparison, non-firm exports were 1,241 MW for hour 18:00 and were 1,683 MWs for hour 19:00. Accordingly, even if the operators had cut all non-firm exports, there would have been a deficit of at least 1,789 MW needed to satisfy PJM load and firm exports. Pre-Emergency and Emergency Actions thus would have been necessary to satisfy capacity needs even if all non-firm exports had been cut.

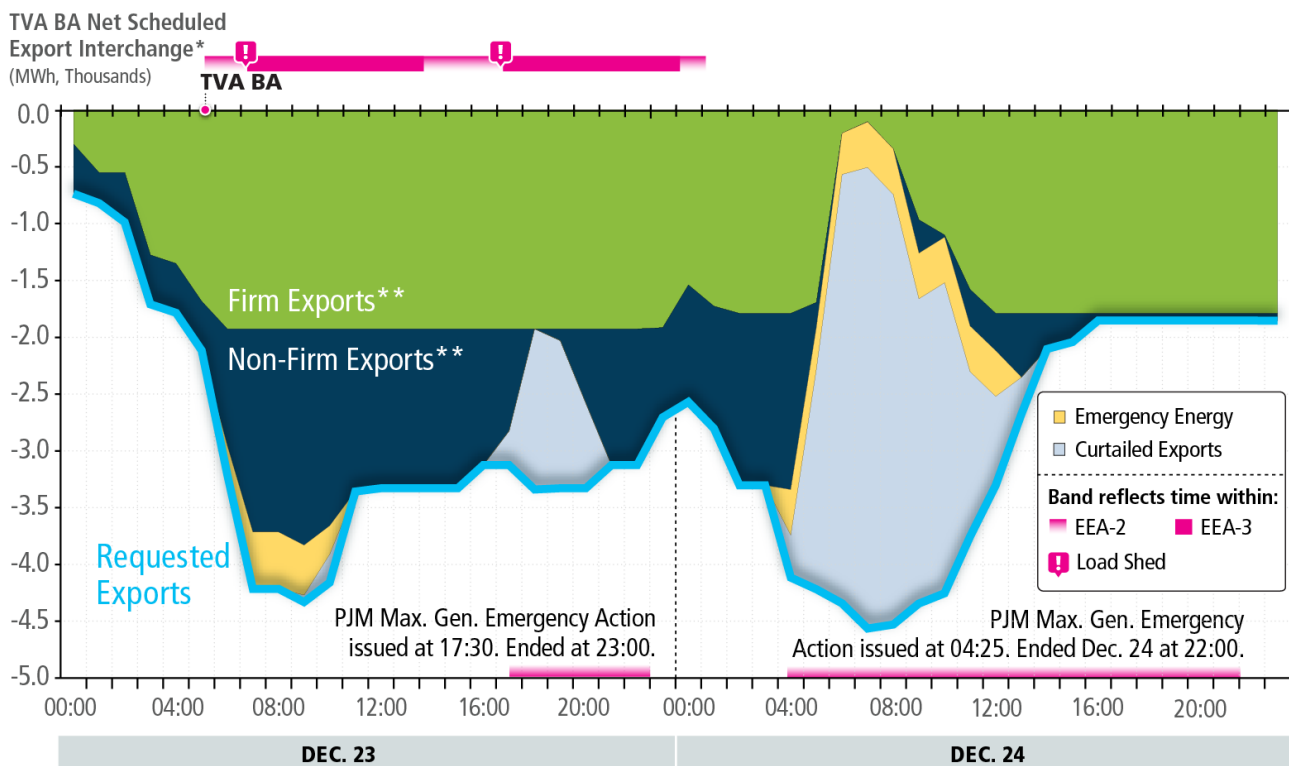
The situation for Dec. 24 is similar. At 04:20, PJM issued a Pre-Emergency Load Management Reduction Action and an Emergency Load Management Reduction Action that covered all Demand Resources and resulted in about 2,400 MW of load reduction. And at 04:28, PJM issued a Maximum Generation Emergency Action that it resulted in an average of about 2,879 MW in additional generation. In total, these actions had 5,279 MW of impact. In comparison, for hour 05:00, non-firm exports were 1,820 MW, falling to a low of 591 MW in hour 8:00 and increasing to a maximum level of 2,359 MW in hour 19:00 before the PAIs ended at 22:00. Accordingly, even if the PJM system operators had cut all non-firm exports there would have been a deficit between about 4,688 MW and 2,920 MW during this period needed to satisfy PJM load and firm exports. Pre-Emergency and Emergency Actions thus would have been necessary even if all non-firm exports had been cut.

Figure 3 also shows that PJM prioritized meeting its own load by cutting exports – both firm and non-firm – when necessary. The graph shows a significant number of hours in which the assistance requested by other regions was not supplied. This correlates to the periods when PJM needed most of its generation for internal loads notwithstanding that, during some of these times, other regions were seeking emergency supplies.

As presented in Figure 4, PJM was able to assist TVA by providing non-firm exports during times that the TVA system was shedding load, which is represented by the fuchsia bars indicating when TVA was in an EEA-2 or EEA-3. Had PJM not done so, it is likely that TVA would have been required to engage in additional load shedding beyond what actually

occurred.

Figure 4. TVA BA Net Scheduled Export Exchange



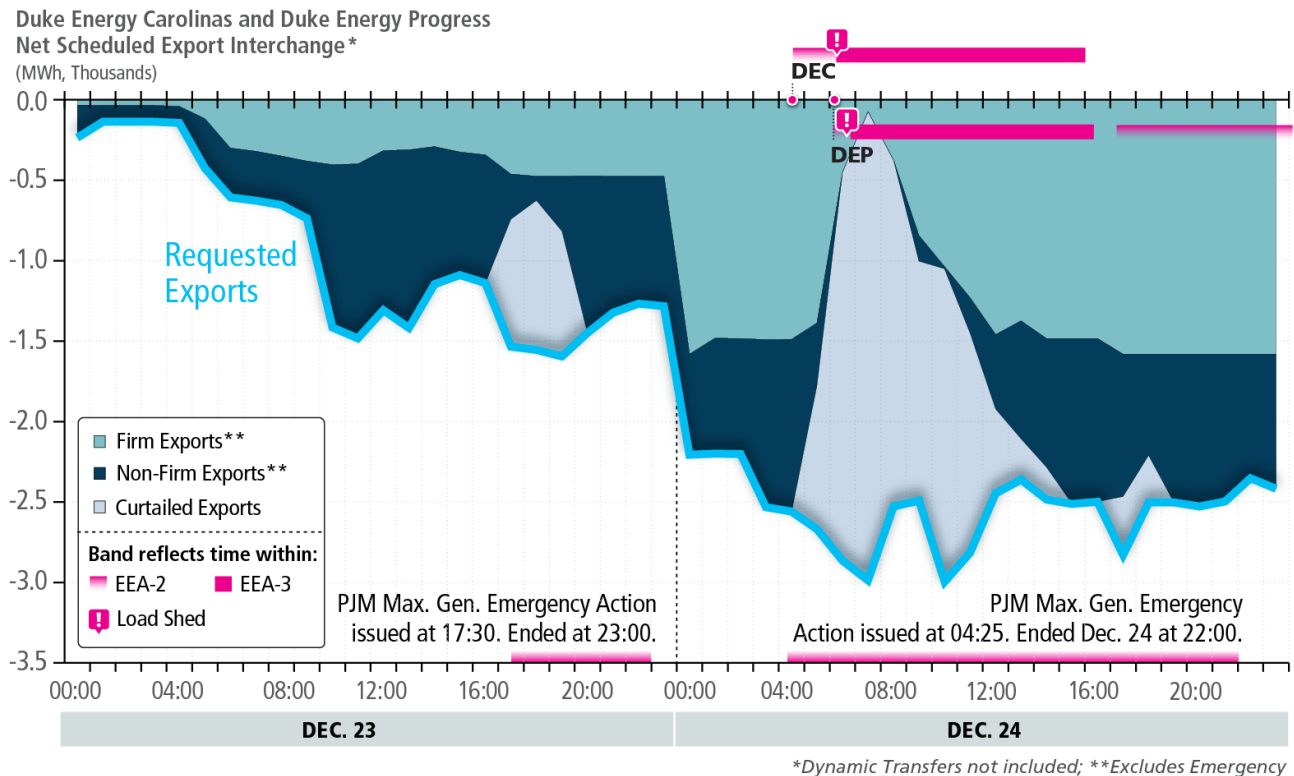
*Dynamic Transfers not included; **Excludes Emergency

The non-firm exports supplied to TVA provided assistance during periods when TVA was in a capacity deficient condition.

Similarly, the non-firm exports supplied to Duke Carolinas and Duke Energy Progress provided assistance to those systems when they were experiencing capacity deficient conditions as shown in Figure 5 – Duke Energy Carolinas & Duke Energy Progress Net Scheduled Export Interchange.



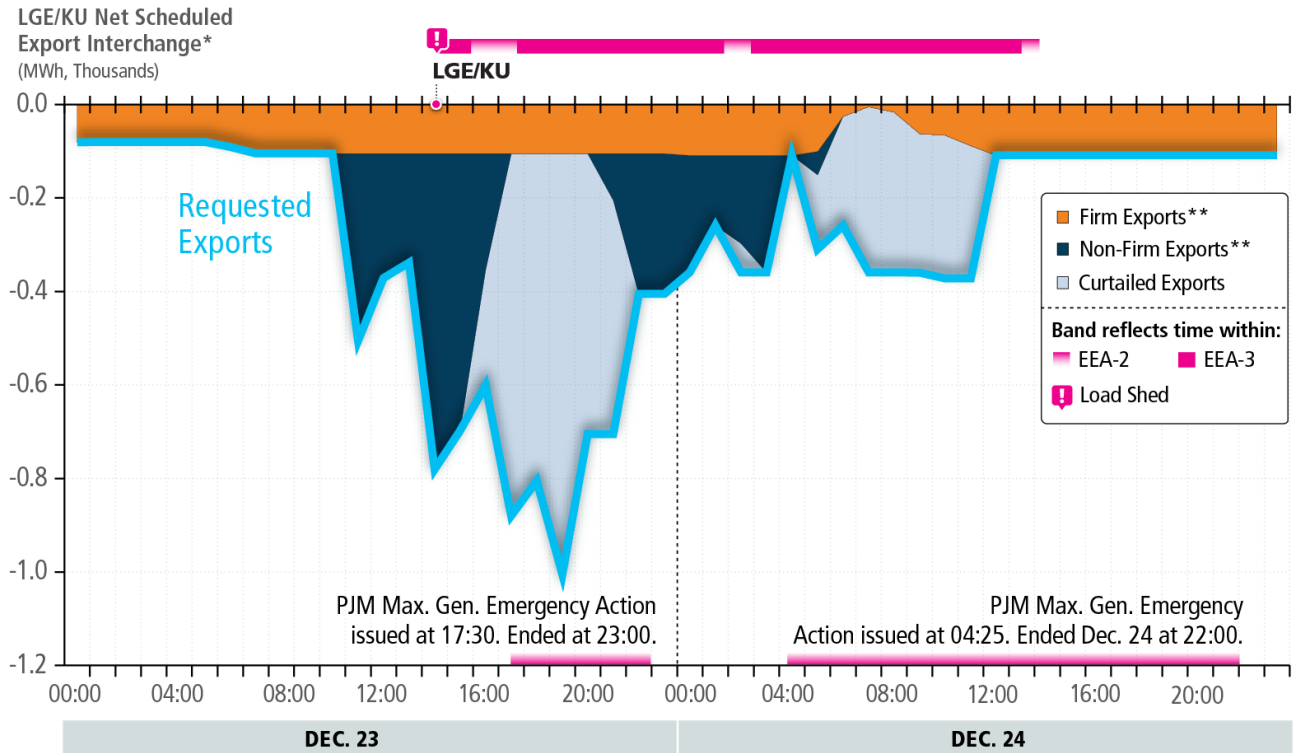
Figure 5. Duke Energy Carolinas & Duke Energy Progress Net Scheduled Export Interchange.



As presented in Figure 5, PJM was also able to provide assistance by supplying non-firm exports to Duke Carolinas and Duke Energy Progress when they were shedding load. Again, if PJM had not provided this assistance, it is likely that Duke Carolinas and Duke Energy Progress would also have had to engage in more load shedding.

Lastly, Louisville Gas and Electric Company and Kentucky Utilities Company (LGE/KU) also received non-firm exports when they were experiencing capacity deficit conditions as shown in Figure 6.

Figure 6. LGE/KU Net Scheduled Export Interchange



*Dynamic Transfers not included; **Excludes Emergency

PJM made non-firm deliveries to LGE/KU when the region was shedding load. Had PJM not made these exports, additional load shedding would likely have been needed.