

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

Grid Resilience in Regional Transmission)
Organizations and Independent System) Docket No. AD18-7-000
Operators)

**REPLY COMMENTS OF
THE INTERSTATE NATURAL GAS ASSOCIATION OF AMERICA**

Pursuant to the Federal Energy Regulatory Commission’s (“Commission” or “FERC”) January 8, 2018 Order Terminating Rulemaking Proceeding, Initiating New Proceeding, and Establishing Additional Procedures,¹ the Interstate Natural Gas Association of America (“INGAA”) respectfully submits these reply comments in response to the March 9 comments filed by PJM Interconnection (“PJM Comments”) in this docket.

INGAA is a trade association that advocates regulatory and legislative positions of importance to the interstate natural gas pipeline industry in the United States. INGAA’s 27 members represent the vast majority of interstate natural gas transmission pipeline companies in the U.S. INGAA’s members, which operate approximately 200,000 miles of interstate natural gas pipelines, serve as an indispensable link between natural gas producers and consumers. Its U.S. members are regulated by the Commission pursuant to the Natural Gas Act (“NGA”).²

I. Introduction

INGAA supports the Commission’s continued examination of grid reliability and resilience in regional transmission organizations (“RTOs”) and independent system operators (“ISOs”). Every RTO and ISO, including PJM, plays a crucial role in ensuring a reliable and

¹ *Grid Resilience in Regional Transmission Organizations and Independent System Operators*, 162 FERC ¶ 61,012 (2018). (“Grid Resilience Order”).\

² 15 U.S.C. §§ 717-717w.

resilient electric grid within its footprint. INGAA members appreciate this role and share the goal of ensuring reliability and resilience with regard to the interstate pipeline grid. INGAA members have worked collaboratively with the RTOs/ISOs towards the shared goal of electric and gas reliability and resilience, and we believe this relationship has worked well. There is no need for additional, formalized processes or pipeline-specific proceedings, as PJM suggests in its comments. Even the other RTOs/ISOs have requested the Commission reject PJM’s proposals, because “the record in this proceeding does not support any universal resilience standard or tariff change requirements”.³

INGAA members value their natural gas-fired generation customers and are committed to meeting their contracting needs. As discussed further below, the interstate pipeline industry provides service based upon contractual rights. While natural gas pipeline transportation is extremely reliable, pipeline customers are free to select the type of transportation service that matches their desired level of certainty and reliability. On peak days, when weather-sensitive firm transportation customers are using their full contractual entitlements, there may be little or no capacity remaining for non-primary firm customers. The pipeline industry has a vibrant capacity release market, where releasing shippers can resell their capacity to other shippers, including generators. While generators often procure gas fuel supply on a delivered basis at the plant utilizing released pipeline capacity that is firm, it does not always have the same “firmness” as would primary firm service contracted directly to the power plant location and thus is subject to a lower secondary firm service priority that carries a greater risk of interruption during peak periods or constrained pipeline operations. Additionally, released capacity may be recallable

³ Reply Comments of California Independent System Operator Corp.; ISO New England, Inc.; Midcontinent Independent System Operator, Inc.; New York Independent System Operator, Inc.; and Southwest Power Pool, Inc.; Docket No. AD18-7-000 (May 8, 2018) (“Joint RTO/ISO Reply Comments”).

depending upon the releasing shipper's conditions. Consequently, the first step in analyzing the reliability and resilience of natural gas-fired generators must involve an examination of generator contracting practices.

Instead of analyzing the contracting practices of generators within its footprint or requiring the generators to demonstrate whether and how they can meet their dispatch obligations, PJM is suggesting numerous unnecessary reforms to various well-established FERC natural gas policies. PJM's suggestions would not result in increased reliability or resilience. Some of these suggested reforms pertain to policies that have increased reliability and achieved FERC's stated goals, such as FERC Order 787.⁴ Others involve requests for mandatory modeling of pipeline operations, without any showing that the current cooperation between pipelines and PJM has been lacking or that the modeling will result in informative results.

II. PJM Has Failed to Analyze Whether Wholesale Electric Market Rules Are Incentivizing Generators to Contract for Sufficient Fuel Assurance.

The reliability of firm transportation service on interstate natural gas pipelines is indisputable. According to an April 2017 INGAA survey of 51 interstate pipelines from 2006-2016, pipelines delivered 99.79 percent of firm contractual commitments to firm transportation customers at primary delivery points (i.e., the points specified in their contracts).⁵ However, this record of reliability is beneficial only to customers that choose to contract for firm capacity.

Furthermore, due to the operational characteristics inherent to natural gas transportation, the interstate pipeline industry does not have cascading outages or service disruptions. INGAA recognizes that modeling is valuable in managing the electric grid. However, the significant

⁴ *Communication of Operational Information Between Natural Gas Pipelines and Electric Transmission Operators*, 145 FERC ¶ 61,234 (2013) ("Order 787").

⁵ Natural Gas Council, "Natural Gas Systems: Reliable & Resilient," p. 8, available at <http://www.ingaa.org/File.aspx?id=32776&v=cd804c1f> (last visited May 9, 2018).

differences between the electric and natural gas pipeline regulatory models and systems cannot be ignored. The electric grid requires instantaneous balancing, due to the risk of cascading failures. Conversely, the natural gas pipeline system does not have, nor does it require, instantaneous modeling because a pipeline failure has never led to a widespread, cascading loss of service. For example, the 2011 cascading blackout in the Southwest U.S. was initiated by the loss of a single 500 KV transmission line.⁶ The impact of interstate pipeline force majeure events is typically localized and short-term. In the unlikely event of a disruption, shippers typically can reroute around the affected area and source gas from different supply sources, if necessary.

While PJM suggests various reforms to enhance gas-electric coordination throughout its initial comments, it fails to analyze generator contracting practices within its footprint. The reliability of natural gas-fired generators is linked inextricably to the contractual rights held by each generator. Until PJM and other RTOs/ISOs analyze the extent to which generators within their individual footprints rely upon less than primary firm transportation service, it is impossible to determine what steps, if any, should be taken to address the increasing reliance on natural gas for electric generation. The ISOs/RTOs have failed to provide any examples of times when primary firm gas-fired generation customers have not been able to schedule for a day except for a rare force majeure event. If reliability is valued highly enough, it can be acquired by contracting for primary firm pipeline transportation.

⁶ FERC and NERC Staff Report, Arizona-Southern California Outages on September 8, 2011, p. 30, available at: https://www.nerc.com/pa/rrm/ea/September%202011%20Southwest%20Blackout%20Event%20Document%20L/AZOutage_Report_01MAY12.pdf (last visited May 9, 2018).

III. Order 787 Should Not be Revised to Mandate Non-Public Communication Based on Uniform Data Sets.

The Commission issued Order 787 in response to events, such as the Southwest Cold Weather Event, and the increased reliance on natural gas for electric generation that demonstrated the necessity of robust communications between natural gas pipelines and electric transmission system operators.⁷ The Commission purposefully created a voluntary framework allowing interstate natural gas pipelines and public utilities that own, operate, or control electric transmission facilities to share non-public operational information to promote reliability and operational planning.⁸ The Commission purposefully provided flexibility to allow individual operators, “who have the most insight and knowledge of their systems, to share that information which they deem necessary to promote reliable service on their system.”⁹ The Commission explicitly emphasized “that communications for both electric transmission operators and interstate natural gas pipelines are voluntary, and encourage[d] regions to develop the communications processes or protocols appropriately tailored to the needs of transmission operators in each individual region.”¹⁰

Order 787 has worked effectively to achieve the goals FERC intended. Interstate pipelines and RTOs/ISOs today share a tremendous amount of non-public operational information, in addition to what is publicly-posted on pipelines’ websites, both during peak and non-peak periods, to promote reliable service and operational planning. Pipelines provide information on pipeline operating conditions, generator burn profiles, planned maintenance activities, and certain unplanned outage information that may impact certain deliveries within the

⁷ Order 787 at P 2.

⁸ *Id.* at P 41.

⁹ *Id.*

¹⁰ *Id.* at P 45.

RTOs'/ISOs' footprints by reaching out to the RTO/ISO as a situation develops. For example, Natural Gas Pipeline Company of America ("NGPL") did so with PJM on December 5-9, 2017 regarding the force majeure on NGPL's System. This same sharing of information is just as valuable for gas reliability as it is for gas resilience. Mandating the sharing of a uniform set of data between interstate pipelines and RTOs/ISOs is unnecessary, because each situation that may impact gas flows is unique to the circumstances on that pipeline where a set of shared data would neither increase reliability nor assist any party in operational planning. As the Commission noted, operators are in the best position to determine which information should be shared.¹¹ Removing this discretion would cause both interstate natural gas pipelines and electric transmission operators to share information that the other party would not find helpful or useful. Both parties would be burdened unnecessarily by compiling and providing irrelevant sets of data. The Commission should continue its policy established in Order 787 by allowing interstate gas pipelines and RTOs/ISOs to work collaboratively to determine which information should be shared based on the needs of operators in each individual region.

While PJM requested the Commission to initiate a new docket to review Order 787 to determine if additional clarifications or directives are necessary,¹² it failed to identify any specific information that interstate pipelines are refusing to provide or what information it believes would enhance resilience. PJM further failed to demonstrate that this lack of sharing is causing any reliability or resilience concerns. Thus, the Commission should reject PJM's unsupported request to review Order 787, which, as discussed above, has worked exactly as the Commission intended. The Commission should allow PJM and the pipeline industry to work

¹¹ Order 787 at P 41.

¹² PJM Initial Comments at p. 27.

collaboratively to determine, operator-to-operator, what additional information, if any, it believes is necessary to enhance electric resilience.

It also is crucial to note the inherent limitations to the types of information that interstate gas pipelines can provide. In certain cases, PJM mistakes the fact that a pipeline does not have certain information and cannot speculate for an unwillingness to share information. For example, it is impossible for an interstate pipeline to determine in advance whether a particular gas-fired generator dispatched out of cycle by an ISO/RTO will be able to meet its dispatch obligations since the pipeline will not know whether the generator will be able to purchase gas in the off-peak hours and whether there will be sufficient pipeline capacity at some future time period since the availability of pipeline capacity is determined by the nominations of the pipeline's other shippers. Similarly, an interstate pipeline cannot predict whether a gas-fired generator relying upon interruptible service will be able to schedule and nominate the gas quantities it requires, or whether an interstate pipeline will be able to provide non-ratable service at any particular time in the future, since the pipeline's other shippers determine what capacity and flexibility the pipeline has left to offer. Any such speculative predictions would not be valuable to RTOs/ISOs and could cause the RTOs/ISOs to plan incorrectly. Instead, INGAA believes that each RTO/ISO should communicate with its generators directly should it have questions about the generator's ability to procure gas supply and whether the generator has contracted sufficiently (either directly with the pipeline or through a marketer or asset manager) to perform. The Commission should continue to have confidence that pipeline operators will continue to provide the RTOs/ISOs with valuable non-public operational information to meet the shared goal of system reliability and resilience without requiring, as PJM seems to imply, pipelines to speculate on information.

Moreover, INGAA members continue to be concerned about the potential consequences of providing speculative information that subsequently proves itself to be incorrect. For example, if an RTO/ISO decides to re-dispatch or to take other actions in response to an interstate pipeline's best efforts, good faith, statement of whether it believes it will be able to allow a generator to receive non-ratable service at some specific time in the future, the interstate pipeline could subject itself to civil liability from the gas-fired generator that was taken out of the queue and suffered resultant economic harm. At a minimum, the Commission should clarify its safe harbor provision for any good faith statements made by interstate pipelines to RTOs/ISOs under Order 787. The Commission should also re-confirm its finding that any non-public statements under Order 787 are not unduly discriminatory under NGA section 4(b).¹³

IV. Interstate Pipelines Have Demonstrated a Willingness to Develop Services Tailored to the Needs of All Customers, Including Gas-Fired Generators, that Choose to Purchase the Service.

INGAA members stand ready to work with all customers, including gas-fired generators, to develop new services tailored to their individual needs. As mentioned above, the interstate pipeline industry values its gas-fired generator customers, and it views the increasing use of natural gas for electric generation as a tremendous opportunity to grow its business. INGAA and its members have long advocated that the most assured means of addressing concerns with the grid reliability of gas-fired generation is by RTOs/ISOs establishing market mechanisms to encourage or require generators to contract for the requisite firm pipeline transportation services. Nonetheless, PJM's efforts to link generator tailored pipeline service offerings, or lack thereof, to grid resilience issues, which are the primary focus of PJM's comments in this proceeding, are

¹³ 15 U.S.C. § 717c(b).

both ill-conceived and unsupported. Furthermore, such willingness to develop new services does little good if customers are not willing to pay for them.

While PJM suggests the need to develop additional gas pipeline services tailored to gas-fired generator needs, it fails to discuss the history of such efforts completely.¹⁴ For example, PJM acknowledges that Texas Eastern Transmission L.P. (“Texas Eastern”) held an open season in July 2017 for its Enhanced Electric Reliability Project to provide non-ratable firm natural gas deliveries that could be tailored to the needs of gas-fired generators.¹⁵ However, PJM fails to acknowledge that no generators expressed a willingness to discuss or contract for the options Texas Eastern presented in its non-binding open season notice.¹⁶ Other INGAA members similarly have experienced a lack of interest from gas-fired generators within RTOs/ISOs when attempting to develop flexible services. Tennessee Gas Pipeline Company, L.L.C., for example, in conjunction with its Northeast Energy Direct Project and Open Season for PowerServe™ Firm Service offered a generator-tailored service but no generators were willing to sign up.

Flexible pipeline services, however, are not free nor can they be developed in a vacuum. While gas-fired generators are becoming an increasingly significant customer base, the majority of interstate natural gas pipeline capacity is held by other types of entities, such as local distribution companies. Moreover, most pipelines already offer no-notice service, which allows customers the flexibility to use their firm capacity on a primary basis throughout the 24-hour gas day. No-notice service requires pipelines to stand ready to serve with little to no advance notice of nominations. Consequently, no-notice service is the most expensive option for pipeline shippers. Furthermore, non-ratable flow services and shorter consumption period rate schedules

¹⁴ PJM Initial Comments at p. 56.

¹⁵ *Id.* at pp. 56-57.

¹⁶ See Algonquin Gas Transmission, LLC Initial Comments at p. 13, Docket No. RM18-1 (Oct. 23, 2017).

are more expensive than traditional firm service because interstate pipelines must ensure that they always have enough capacity to meet firm customers' peak hourly usage.

PJM notes that its gas-fired generators state that they can purchase released firm pipeline transportation capacity or transportation capacity from marketers and others much cheaper than the pipeline can offer. This may or may not be the case. If this is true, it only confirms the robustness of the secondary capacity release market that the Commission intended. Yet, the Commission and PJM must recognize that purchasing such capacity may come with conditions—the releasing shipper may have the right to recall the capacity or if the generator transports gas on a secondary basis, the generator likely will not have the same priority of service or firmness as the original releasing shipper. While the secondary market can be an economical way for generators to purchase pipeline capacity, it may not be the answer to all of a generator's capacity needs and may not be available during times when pipeline capacity is constrained due to market demand exceeding available capacity.

In addition, PJM also inappropriately suggests that more flexible service offerings would provide effective remedies to address constrained pipeline conditions instead of the traditional remedies that interstate pipelines employ, such as ratable take orders and operational flow orders (“OFOs”) that are not well matched to variable generator demands.¹⁷ PJM ignores that ratable take orders and OFOs are tools to maintain pipeline system integrity and balancing in compliance with an interstate pipeline operator's FERC-approved tariff. Such remedies are utilized during constrained pipeline conditions to prevent bad actors from utilizing pipeline service to which they have no contractual right. Without such remedies, interstate pipeline operators would be unable to ensure that their firm shippers are able to receive service in

¹⁷ PJM Initial Comments at pp. 56-57.

accordance with their contractual rights under individual service agreements and the operator's FERC-approved tariff.

V. PJM's Suggestion That FERC Review Pipeline's Real-Time Modeling Capabilities is Unnecessary, Burdensome, and Will Not Lead to Improvements in Resilience.

PJM suggests the need to review interstate pipelines' capabilities to model the impacts of incidents on downstream generators in real time.¹⁸ However, modeling the impacts of a hypothetical outage is infeasible. Too many variables would be unknown to model such circumstances with any degree of certainty.

For example, the volume of available pipeline capacity and its flexibility are key factors in determining impacts in the event of an outage. This capacity and flexibility is finite, and a pipeline's ability to provide either on a non-firm basis is determined by shipper behavior, which pipelines do not control. A shipper determines on any particular day whether it will nominate for its entire contractual demand or less than its contractual demand and at which delivery point. A shipper has the right to nominate at least twice the day before gas flows and three times intraday, which impacts the amount of gas flowing to a particular delivery point or segment of the pipeline, which determines the amount of remaining capacity, if any, at particular delivery points or segments of the pipeline. This is even more complicated on pipelines which offer no notice service, which on some pipelines does not require the shipper to nominate. The combination of all shippers' nominations and expected no-notice usage, and whether they adhere to ratable flows, determine the amount of remaining flexibility the pipeline has to provide other shippers. Pipelines cannot force shippers to buy supply or take off gas at specific locations or areas. Pipelines can only communicate capacity restrictions and/or availabilities and look to the shippers to react and adjust as needed. Understanding how pipeline shippers are using their

¹⁸ PJM Initial Comments at pp. 60-61.

contractual commitments and understanding how much additional capacity, if any, is left in the system, are necessary to model accurately pipeline outage impacts. However, these circumstances cannot be known in advance. The same is true with regard to other variables, including the weather, and in the case of an unplanned outage, the cause of the outage, topography, etc. Accordingly, accurately modeling hypothetical impacts is not practical and will not produce valuable results.

This is in stark contrast to the abilities of RTOs/ISOs to control the dispatching of electricity within their respective footprints and to call on additional generation resources in reserve in response to changes in load variations or load conditions. This control of the electric grid allows PJM and the other RTOs/ISOs to perform modeling of various contingency scenarios that pipelines cannot. Individual interstate natural gas pipelines, on the other hand, do not have nearly the same level of control and operate without capacity reserves or redundancy in pipeline assets. Therefore, pipelines do not model contingencies daily since the inputs and outputs, based on customer nominations and no notice usage, create enough uncertainty to make modeling of contingencies a questionable exercise.

The Commission should therefore deny PJM's request to review interstate pipelines' capabilities to model hypothetical impacts of incidents on downstream generators. Not only is such modeling impossible, but it is also unnecessary, and such a review would waste the Commission's resources and would not increase electric reliability or resilience.

VI. Coordination During a Force Majeure Event

PJM has requested that INGAA members model the impact of a force majeure event shortly following the event to determine the impact on generators, including which generators on the pipeline system will be impacted and for how long the generator(s) can run before the

pipeline's pressure fails. PJM believes that a pipeline can run a model immediately and such a model can predict the impacts immediately. This is not the case nor would such a model produce helpful information. As INGAA members have discussed with PJM, immediately following an unplanned event, the pipeline would contact the relevant field personnel to investigate the cause of the outage, ascertain the extent of the damage, and determine to the best of its abilities based on available information how long it would take to remedy the damage, and with such information model the impacts of the outage and subsequently determine all cuts based on priorities of service. The pipeline would post on its website a notice for customers to notify them of the outage and the duration of the impact. The pipeline would also make calls to its customers and the RTOs/ISOs. This process can take less than one hour to more than a few hours depending upon the nature of the outage. Regardless, until the pipeline has sufficient information to input into its models, it cannot reliably know and subsequently inform its customers or any RTO/ISO of the extent of service disruptions. Therefore, PJM's request that pipelines real-time model the impact of unplanned outages would not produce valuable data.

In the rare instance that a pipeline incurs an unplanned outage event, the pipeline reacts very quickly to assess the cause of the event and to determine whether it has an impact on the pipeline's ability to meet scheduled demand. The pipeline uses the posting system to inform its shippers (and the RTOs/ISOs) of the extent of any outage. As soon as the pipeline knows when it will restore service, it posts the relevant information on its website. Shippers and the RTO/ISO receive such notices through a "push" system. Therefore, the pipeline is not withholding information from the RTOs/ISOs, or anyone else, prior to posting. The pipeline typically will call its shippers, point operators and the relevant RTOs/ISOs to notify them that an unplanned outage has occurred and the impact of the outage.

Moreover, in such an event, pipelines are often able to mitigate some or all customer impacts. Unlike electricity that travels at the speed of light and flows along a path of least resistance, natural gas moves by pressure at an average speed of 15-20 miles per hour.¹⁹ This gives pipeline operators flexibility to address issues quickly and efficiently, using available capacity and flexibility as it exists to minimize impacts to customers.

VII. INGAA Members Are Willing to Participate in Tabletop Exercises and to Harmonize Restoration Plans Following an Event to the Extent Allowable by the Law.

INGAA members continue believing that gas-electric coordination efforts are necessary and worthwhile as long as the focus remains on issues that will increase coordination, communication, reliability and resilience. To that end, INGAA members have offered, and have engaged in, tabletop exercises with the RTOs/ISOs to increase gas-electric coordination, reliability and resilience. Such tabletop exercises involve hypothetical outage scenarios on specific portions of the pipeline system where specific generators are sited. INGAA members are in the best position to work with PJM on the assumptions underlying such tabletop scenarios.

With regard to PJM's suggestion that additional work must be done to harmonize the restoration priorities of electric transmission operators relative to interstate pipeline operators, INGAA members agree to work with PJM and all of its shippers to communicate during restoration work. Yet, PJM misunderstands the pipeline restoration process. When a pipeline restores service, it does so for all pipeline shippers. A pipeline is focused on restoring the pipeline to its full capacity. Once the throughput capacity is restored, all customers can nominate their transportation contracts, and through the confirmation and scheduling process those transactions will be scheduled according to the NAESB/FERC gas tariff priorities. A

¹⁹ Natural Gas Council, "Natural Gas Systems: Reliable & Resilient," p. 6, available at <http://ingaa.org/File.aspx?id=32776&v=cd804clf> (last visited May 9, 2018).

pipeline does not restore one delivery location over another based upon type of gas use or the type of shipper, be it an LDC, marketer or electric generator. In fact, pipelines work to restore all pipeline capacity that has been impacted. Once the capacity is available, all pipeline shippers that desire to transport gas through the previous restriction are allowed to nominate. At that point, pipelines will schedule the capacity based on the FERC gas tariff priorities of service. The total available capacity will determine what nominations will be scheduled which may include only primary firm service or, in some cases, may include lower secondary services as well.

INGAA understands that PJM has identified certain generators as critical to its system. Yet the Natural Gas Act would not permit pipelines to prioritize its restoration work for generation shippers over LDCs, for example. Any change to FERC policy would be a major step back in the Commission's successful gas restructuring program, which has relied upon contracts to determine the allocation of pipeline capacity. We agree to work with PJM with the caveat that any harmonization efforts comport with the NGA and FERC policies against undue discrimination. Accordingly, INGAA members are willing to work collaboratively with gas-fired generators to coordinate among generators based upon priority of contractual service.

VIII. INGAA Agrees to Discuss Generator Interconnections with the RTOs/ISOs but Sees Little Value in PJM's Suggestion.

PJM also requests FERC to "direct each pipeline to work with the RTOs to better synchronize their interconnection processes and sharing of analyses and results and report their efforts to the Commission within a one-year period."²⁰ INGAA members are willing to discuss with the ISO which areas on the pipeline system are more constrained than others but the decision where to interconnect lies with the generator shipper. Under FERC requirements, if the generator requests an interconnection at a particular point and is willing to pay for

²⁰ See PJM Initial Comments at pp. 59-60.

interconnection fees, the pipeline cannot reject the request or unnecessarily delay the request pending an agreement by the ISO that it is the best site for the generator to interconnect.

Moreover, INGAA members have been working collaboratively with PJM; there is no need that such process be formalized with the parties reporting back to FERC within one year.

IX. Interstate Gas Pipeline Commitments and Activities Have Improved Industry's Security Posture.

INGAA's board of directors recently approved the *INGAA Commitments to Pipeline Security*,²¹ detailing specific actions that member companies will take to ensure their pipeline infrastructure remains resilient and secure. INGAA members have committed to implement the Transportation Security Administration's ("TSA") *2018 Pipeline Security Guidelines*,²² the National Institute of Standards and Technology's ("NIST") *Framework for Improving Critical Infrastructure Cybersecurity*,²³ and participate actively in information-sharing platforms, including the Downstream Natural Gas Information Sharing and Analysis Center ("DNG ISAC") and the INGAA Automated Threat Information Sharing Network Pilot Program.

Interstate pipeline operators have developed comprehensive security programs to mitigate the impacts of the specific security risks they face and have developed their programs to implement security controls and procedures that are tailored to their particular individual risk environment. Pipeline operators evaluate the criticality of their facilities and assets and employ the baseline and enhanced security measures needed to mitigate identified risks based on their criticality evaluations. Operators designate roles

²¹ Interstate Natural Gas Association of America, *INGAA Commitments to Pipeline Security* (April 2018) Available at <http://www.ingaa.org/File.aspx?id=34310&v=a083257a>.

²² Transportation Security Administration, *Pipeline Security Guidelines* (March 2018) Available at https://www.tsa.gov/sites/default/files/pipeline_security_guidelines.pdf.

²³ National Institute of Standards and Technology, *Framework for Improving Critical Infrastructure Cybersecurity* (April 2018) Available at <https://www.nist.gov/cyberframework/framework>.

and responsibilities within their organizations for carrying out their corporate security plans. This includes the establishment of security policies that are regularly reviewed and updated. Operators also conduct background checks and provide for appropriate training of personnel tailored to their security role.

At the network level, interstate natural gas pipeline operators segment operational control networks from the commercial networks using firewalls and other protections. This segmentation applies to both wired and wireless networks. Operators also enforce access control policies for local and remote users and closely document their configurations and any changes, including patches and upgrades to their systems and applications. Operators also physically secure the perimeter surrounding their facilities.

To prepare for potential events, operators develop incident reporting and response plans as well as recovery plans. These plans are tested regularly and updated through internal exercises and industry events, including INGAA-sponsored exercises. Operators also employ documentation and record-keeping policies, as well as specific procedures for receiving, handling, disseminating, and storing information. Information is classified based on its sensitivity to ensure the appropriate protective measures are in place.

TSA's Corporate Security Reviews ("CSR") and Critical Facility Security Reviews ("CFSR") provide tangible evidence that interstate pipeline operators follow the *TSA Pipeline Security Guidelines*. TSA has conducted 172 CSRs since 2003 and 621 CFSRs since 2009. Through these reviews, TSA collects site-specific information on security policies, procedures, and physical security measures from each operator and then provides operators with recommendations for improving their security posture.

TSA’s latest Pipeline Security Guidelines, released March 2018, include robust cybersecurity measures that align with the NIST Cybersecurity Framework. These cybersecurity measures list specific practices to identify, protect, detect, respond to and recover from security threats. The guidelines include baseline and enhanced practices (for more critical systems) to address asset management, governance, risk management, restrict access, protect data, monitor and detect anomalous behavior on systems and networks, respond to and mitigate the impacts of security events, and return to normal operations after an event has occurred. This update was developed in conjunction with the U.S. Department of Homeland Security’s (“DHS”) Industrial Control Systems Cyber Emergency Response Team (“ICS-CERT”). INGAA member companies are reviewing and revising, as appropriate, their security programs to align with the *2018 TSA Guidelines* to ensure reliable and resilient pipeline transportation.

X. Conclusion

WHEREFORE, INGAA respectfully submits these comments and requests that the Commission reject PJM's proposals as discussed herein.

Respectfully Submitted,



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