

ATTACHMENT I

**Joint Responses of New York Independent System Operator, Inc. and
Potomac Economics, Ltd.**

Question 1.a.

1. NYISO proposes revisions to section 23.3.1.1.2 of NYISO's Services Tariff which revise the energy market physical withholding rules to allow generators to not bid in the real-time market when generating would require consumption of unauthorized natural gas, or natural gas that is subject to a penalty, under the relevant interstate natural gas pipeline or Local Distribution Company tariff.
 - a. Please explain how NYISO, its internal Market Mitigation and Analysis Department, and the external Market Monitoring Unit will review such events. Please detail the evaluation that would occur in each instance a generator is permitted to physically withhold because it would be required to use unauthorized gas. Please also outline the process that would occur in determining or allowing a generator to not generate because of unauthorized gas.

Response

A. Tariff-Specified Process of Reviewing Energy Market Physical Withholding

Not all instances of when a Generator does not offer real-time Energy constitute physical withholding under the NYISO's Tariffs. Section 23.2.4.1.1 of the NYISO's Market Administration and Control Area Services Tariff ("Services Tariff") describes "physical withholding" of an Electric Facility¹ as not offering to sell or schedule the output of or services that can be provided by an Electric Facility that is capable of serving a NYISO Administered Market. Physical withholding may include, but is not limited to, (i) falsely declaring that an Electric Facility has been forced out of service or otherwise become unavailable, (ii) refusing to offer Bids or schedules for an Electric Facility when such conduct would not be in the economic interest of the Market Party or its Affiliates in the absence of market power, (iii) making an unjustifiable change² to one or more operating parameters of a Generator that reduces its ability to provide Energy, or (iv) operating a Generator in real-time at a lower output level than the Generator would have been expected to produce had the Generator followed the NYISO's dispatch instructions, in a manner that is not attributable to the Generator's verifiable physical operating capabilities and that would not be in the economic interest of the Market Party or its Affiliates in the absence of market power.³

The NYISO performs both conduct and market impact tests to identify physical withholding behavior that is subject to an after-the-fact financial sanction. The first test the NYISO performs is referred to as the "conduct test." To perform the conduct test the NYISO

¹ Capitalized terms that are not otherwise defined herein have the meaning specified in the NYISO's Services Tariff.

² Services Tariff Section 23.2.4.1.1 defines an "unjustifiable change" as a change in an Electric Facility's operating parameters that is: (a) not attributable to the Electric Facility's verifiable physical operating capabilities, and (b) is not a rational competitive response to economic factors other than market power.

³ See Services Tariff Section 23.2.4.1.1.

employs Tariff-specified thresholds to identify conduct that may constitute the physical withholding of one or more Generators by a Market Party.⁴ The thresholds vary based on where the Generator is located, and whether transmission constraints are active in the New York City Constrained Area.⁵

If a Market Party's behavior fails the conduct test, the NYISO next tests the physical withholding behavior to see if it had a significant market clearing price impact or guarantee payment impact.⁶ The NYISO performs the market impact test by re-running the market and making the withheld Generator(s) available for commitment at their appropriately calculated reference levels.⁷ The impact test ensures that only resources that would have been economic to utilize (to produce Energy or schedule for reserves) are subject to financial sanctions for physical withholding.

When physical withholding conduct causes a market impact or guarantee payment impact that exceeds the impact thresholds specified in Section 23.3.2.1 of the Services Tariff, the NYISO can assess a financial sanction against the offending Market Party.⁸ However, the NYISO must first provide a Market Party the opportunity to justify its behavior before imposing a financial sanction for physical withholding.⁹

The NYISO provides a Market Party the opportunity to justify its behavior through a NYISO initiated consultation. During the consultation process, the Market Party may demonstrate to the NYISO and the MMU that additional incremental real-time generation would have required the consumption of unauthorized natural gas, including penalty gas. The Market Party would have the opportunity to submit Operation Flow Order ("OFO") notices, gas pipeline or Local Distribution Company ("LDC") tariffs, emails and other communications with natural gas pipelines and/or natural gas LDCs, or any other information or documentation demonstrating that it was unable to procure additional gas. If the Market Party is able to demonstrate that additional incremental real-time generation would have required the Generator to consume unauthorized natural gas, including penalty gas, then the failure to offer the affected MWs would not constitute physical withholding conduct and the NYISO would not assess a financial sanction for physical withholding.

During the consultation, if the Market Party is unable to substantiate a reasonable expectation that authorized gas or an alternate fuel was not available, then the NYISO will re-run

⁴ See Services Tariff Section 23.3.1.1.

⁵ See Services Tariff Sections 23.3.1.1, 23.3.1.1.1 and 23.3.1.1.2.

⁶ See Services Tariff Section 23.3.2.1.

⁷ Reference levels are developed to approximate the competitive Bid a Market Party would submit for a Generator if that Generator faced workable competition. See Services Tariff Sections 23.4.2.1 and 23.4.2.2.1. Reference levels are determined in accordance with Services Tariff Section 23.3.1.4.

⁸ The NYISO's imposition of financial penalties is addressed in Services Tariff Section 23.4.3.

⁹ See Services Tariff Section 23.3.3.1.1 ("the ISO shall ... contact the Market Party engaging in the identified conduct to request an explanation of the conduct.").

the conduct and impact tests using recalculated reference levels that incorporate the expected cost of procuring natural gas or an economic alternate fuel. If the withholding exceeds the conduct and market impact thresholds, then financial sanctions will be applied.

The physical withholding conduct and impact tests described above are existing NYISO processes that have been in place since the earliest days of the NYISO's operation.¹⁰ The NYISO's proposed revisions to Services Tariff Section 23.3.1.1.2 are intended to clarify that the NYISO will not consider the failure to submit a Bid to be physical withholding if the only way the Generator could produce additional output would be to consume unauthorized natural gas, including penalty gas.

B. NYISO Implementation of Tariff Requirements

The NYISO Market Mitigation and Analysis ("MMA") Department employs 'screens' that analyze every generator-hour of the Day-Ahead Market ("DAM") and Real-Time Market ("RTM") to identify potential physical withholding conduct with potential market impact. The screens compare offered MWs to each Generator's Dependable Maximum Net Capability ("DMNC") for that Capability Period. Generators may not offer MWs on any given day for a variety of reasons. The expectation to consume unauthorized natural gas, including penalty gas, is just one possible reason that a Generator might not offer all of its MWs into the NYISO's Energy market. For example, Generators may not offer certain MWs when the ambient temperature impacts the operation of the facility or when maintenance issues limit operation. Therefore, one of the NYISO's screens compares Generators' heat curves to the actual temperature and the MWs offered. If the Generator could not offer certain MWs because of the actual temperature, the instance is not reviewed by the MMA Department for physical withholding.

The MMA Department investigates each generator-hour that the screens identify as potentially having physical withholding conduct with a potential market impact (at both full Tariff thresholds and at lower thresholds). MMA's investigation includes researching why the Generator was not offered, the likelihood of a market impact, and whether a consultation with the Market Party should be initiated. The review process allows MMA staff to determine when the failure to offer a Generator is consistent with competitive behavior; avoiding the need to perform impact tests and engage in unnecessary consultations with the Market Party. When MMA staff cannot determine that a Market Party's behavior was consistent with competitive conduct based on information in the NYISO's possession, the MMA Department analyzes potential market impacts and engages the Market Party in the consultation process described in the NYISO's prior responses. Each Generator claim or justification for not offering, including those related to burning unauthorized natural gas, are reviewed by MMA staff.

¹⁰ See *New York Independent System Operator, Inc., et. al.*, 90 FERC ¶ 61,317 (2000); *New York Independent System Operator, Inc.*, Letter Order dated July 11, 2001 issued in Docket Nos. ER97-1523-040, ER97-4234-036, and OA97-470-038.

C. MMU Screening for the Potential Exercise of Market Power

The MMU regularly reviews market outcomes to identify potential physical withholding, other anticompetitive conduct, and issues that could undermine market efficiency. Physical withholding is refusing to offer Bids or schedules for an Electric Facility when such conduct would not be in the economic interest of the Market Party or its Affiliates in the absence of market power. As a part of this process, the MMU identifies unutilized generation that apparently would have been economic based on wholesale market clearing prices and the estimated costs of the resource(s). Further screening is used to identify instances where the resource, if scheduled, would likely have had a significant impact on clearing prices, since conduct only constitutes an exercise of market power if it substantially raises clearing prices or increases uplift payments.

The MMU has always performed its review assuming that a competitive gas-fired Generator would not choose to violate applicable tariffs and/or other agreements with a gas pipeline (or distribution) company by consuming unauthorized gas. Hence, the MMU excludes gas-only generators that likely did not have fuel available after the day-ahead market from the list of potential instances of physical withholding. The MMU initially does this by reviewing publicly available information on gas pipeline nominations, operational flow orders, and other gas system notices. The MMU process is being revised to incorporate non-public information that the NYISO has begun to collect from generators on fuel availability in the Winter of 2015/16.¹¹

If the MMU's screening process identifies a Generator whose operation raises potential anticompetitive concerns, the MMU (alone or in collaboration with the NYISO's MMA Department) will contact the Market Party for an explanation. At this stage, the Market Party will have the opportunity to provide a competitive justification for not offering, which may include issues related to inability to obtain fuel.

Question 1.b.

- b. Does NYISO have the ability to implement real-time screening of generators to review claims that a generator was unable to bid because its operation (or further operation) would have required it to consume unauthorized or penalty natural gas?

Response

The NYISO's MMA Department screens every generator-hour of the DAM and RTM for physical withholding. Analysis of the RTM is typically conducted one day after the relevant real-time market day. Analysis of the DAM is typically conducted one day prior to the relevant

¹¹ See NYISO Transmission and Dispatching Operations Manual Section 3.3, http://www.nyiso.com/public/webdocs/markets_operations/documents/Manuals_and_Guides/Manuals/Operations/trans_disp.pdf.

day-ahead market day. Physical withholding reviews generally occur after the relevant market closes and schedules are issued to Generators. Weekends and holidays are reviewed on the next business day. The MMA Department does not have the ability to screen Generator Bids (or failure to submit Bids) in real-time to review and process claims that a Generator was partly or completely unavailable in real-time because its operation, or further operation, would have required it to consume unauthorized natural gas, including penalty gas. The MMA Department may not be aware of the reasons for non-offers at the time of market close, unless the Generator has contacted the NYISO and provided a reason in advance.

If a Generator's reason for not offering is related to its inability to obtain gas, the NYISO would ordinarily expect to receive this information after it initiates a consultation to determine if the application of a financial sanction is appropriate. The NYISO may become aware of expected natural gas unavailability if an Installed Capacity Supplier notifies the MMA Department that it will not be offering into the DAM due to an expectation that it cannot obtain gas and would need to consume unauthorized natural gas to operate. An Installed Capacity Supplier could declare an outage in the DAM due to fuel restrictions during a prolonged hourly OFO, or in anticipation of an hourly OFO.¹² If gas system conditions that prevented the submission of Day-Ahead Bids persisted into the RTM, then the NYISO would be generally aware of the reason for RTM non-offers. The MMA Department also monitors and is aware of OFOs that are issued by New York LDCs and gas pipelines. The MMA Department uses this information as part of its screening for physical withholding and, in some instances, would still initiate a consultation to investigate potential physical withholding should a Generator fail the physical withholding conduct and market impact tests.

Question 1.c.

- c. Will NYISO re-post or revise market clearing prices if it later determines that a generator has failed to support its assertion that an offer would have required it to consume unauthorized or penalty natural gas? What actions, such as imposing penalties, will NYISO take in this instance?

Response

The NYISO is not authorized by its Tariffs to re-post or revise market clearing prices when it determines that a Generator has physically withheld itself from offering Energy or Ancillary Services.¹³ In response to a FERC Order,¹⁴ the Services Tariff specifically prohibits

¹² Installed Capacity Suppliers are required to notify the NYISO of outages if they do not Bid to supply Energy in each hour of the Day-Ahead Market or schedule a Bilateral Transaction to supply Energy. *See* Services Tariff Section 5.12.7. Outages can affect the amount of Unforced Capacity that can be offered by a Generator in the future. *See* Services Tariff Section 5.12.6.

¹³ The NYISO's authority to apply mitigation to revise market clearing prices is limited to the automated application of prospective mitigation in the designated Constrained Area (New York City). *See* Services Tariff Sections 23.3.2.2.3 and 23.4.2.2.4.1.

¹⁴ *New York Independent System Operator, Inc., et. al.*, 90 FERC ¶ 61,317 (2000) ("We require that the ISO file a

the retroactive recalculation of market-clearing prices based on after-the-fact mitigation.¹⁵ The NYISO will not re-post or revise market clearing prices in the event that a Generator does not offer and is unable to support its assertion that submitting an offer would have required the Generator to consume unauthorized natural gas.

If the NYISO determines that a Generator was physically withheld from offering Energy or Ancillary Services, the Tariff allows the NYISO to impose a financial sanction in order to deter the exercise of market power. Services Tariff Sections 23.4.1 and 23.4.3.2(i) allow the NYISO to impose after-the-fact financial sanctions for a physical withholding conduct violation that causes a market impact that exceeds the impact thresholds specified in Services Tariff Section 23.3.2.1.

Question 2.a.

2. On page 5 of your transmittal letter, you state that NYISO does not expect a generator to offer incremental generating capability in the real-time market when it is unable to procure natural gas and would be required to consume unauthorized natural gas to operate.
 - a. Please explain how the new energy market physical withholding rules would apply to Capacity Resources' day-ahead and real-time energy market must-offer obligations specified in section 5.12 of NYISO's Services Tariff.

Response

The NYISO's October 29, 2015 filing ("October 2015 Filing") proposed revisions to Energy market physical withholding rules that have existed since shortly after the NYISO began operation in late 1999.¹⁶ The market power mitigation rules for the physical withholding of an Electric Facility are detailed in Services Tariff Section 23 and apply to all Generators in New York, whether or not they are Installed Capacity Suppliers. The NYISO imposes financial sanctions when specific physical withholding conduct exceeds the well-defined thresholds

further revised mitigation plan to clarify that mitigation for market power is prospective only. We do not intend for mitigation to entail any retroactive recalculation of market-clearing prices."); *see also New York Independent System Operator, Inc.*, Letter Order dated July 11, 2001 issued in Docket Nos. ER97-1523-040, ER97-4234-036, and OA97-470-038.

¹⁵ *See* Services Tariff Section 23.4.2.2.4.1 ("The ISO shall not use a default bid to determine revised market clearing prices for periods prior to the imposition of the default bid."); for Generators located in the New York City "Constrained Area" the NYISO employs an Automated Mitigation Process ("AMP") within its Day-Ahead Security Constrained Unit Commitment and Real-Time Commitment ("RTC") to mitigate conduct-failing Start-Up cost, Minimum Generation and Incremental Energy Bids. In the Day-Ahead Market, AMP tests for and applies both LBMP and BPCG payment mitigation. In the Real-Time Market, AMP tests for and applies LBMP mitigation. AMP is different from other types of mitigation the NYISO performs because the mitigation it applies changes market clearing prices before they are posted. AMP does not recalculate market clearing prices after they are posted.

¹⁶ *See New York Independent System Operator, Inc., et. al.*, 90 FERC ¶ 61,317 (2000); *New York Independent System Operator, Inc.*, Letter Order dated July 11, 2001 issued in Docket Nos. ER97-1523-040, ER97-4234-036, and OA97-470-038.

specified in the Services Tariff Section 23.1.1 and exceeds the market impact thresholds specified in Services Tariff Section 23.3.2.1. Financial sanctions are only applied when the physical withholding behavior fails both the conduct and market impact tests and the Generator is not able to provide a competitive explanation for its behavior.

The NYISO's October 2015 Filing proposes to more clearly articulate an exception to the existing Services Tariff Section 23 Energy market physical withholding rules. The NYISO does not impose mitigation or financial penalties when a Generator's actions are consistent with behavior expected from entities participating in a competitive market.¹⁷ The NYISO considers Generators to be acting consistent with competitive behavior when they choose not to offer in the event that offering would result in the need to consume unauthorized (including penalty) natural gas. The Tariff revisions proposed in the October 2015 Filing would describe this expectation more explicitly in Services Tariff Section 23.3.1.1.2. The NYISO's stakeholders supported clearly articulating this specific expectation in the Services Tariff.

Completely separate from the Energy market physical withholding rules that are set forth in Section 23 of the Services Tariff, Services Tariff Section 5.12 enumerates a number of requirements that apply to Installed Capacity Suppliers. The NYISO's October 2015 Filing did not propose any changes to the existing Services Tariff Section 5.12 requirements. Installed Capacity Suppliers will continue to be subject to all of the existing Installed Capacity Supplier requirements, including the availability requirements specified in Services Tariff Section 5.12.7. These availability requirements require each Installed Capacity Supplier, on a daily basis, to: (i) schedule a Bilateral Transaction; or (ii) Bid Energy in each hour of the Day-Ahead Market; or (iii) notify the ISO of any outages. When an Installed Capacity Supplier notifies the NYISO of an outage in the DAM due to fuel restrictions (for example), the event could impact the unit's Equivalent Demand Forced Outage Rate and reduce the amount of Unforced Capacity (or UCAP) that the Installed Capacity Supplier is qualified to supply.¹⁸

Question 2.b.

- b. Please explain how the new energy market physical withholding rules would apply to resources needed for reliability, including but not limited to resources committed via the Reliability Unit Commitment process.

Response

The NYISO relies on three processes to commit generating resources needed for reliability. The first is the Local Reliability Rule requirements commitment process, the second is the Day-Ahead Reliability Unit ("DARU") commitment process and the third is the Supplemental Resource Evaluation ("SRE") commitment process. The NYISO's Day-Ahead Security Constrained Unit Commitment ("SCUC") process can commit Generators to address Local Reliability Rule requirements or as Day-Ahead Reliability Units. One stage in the SCUC

¹⁷ See generally, Services Tariff Section 23.2.3.

¹⁸ See Services Tariff Section 5.12.6.

process ensures commitment of sufficient resources to meet certain Local Reliability Rule¹⁹ requirements. SCUC secures for certain contingencies and monitored facilities that are identified with Local Reliability Rule requirements. SCUC also secures DARU commitments based on: (i) a request by a Transmission Owner that the unit be committed in the DAM in order to meet the reliability needs of the Transmission Owner's local system; or (ii) as the result of the NYISO's analysis indicating the unit was needed in order to meet the reliability requirements of the NYCA.

Generators that are eligible to be selected for Local Reliability Rule or DARU commitments are subject to the same requirements as those imposed on all other Generators in the Day-Ahead Market. Installed Capacity Suppliers must Bid into the Day-Ahead Market, schedule a bilateral Energy transaction, or notify the NYISO of an outage in accordance with Services Tariff Section 5.12.7. If a Generator is not Bid into the Day-Ahead Market, then SCUC will not commit it to satisfy a Local Reliability Rules or as a DARU. However, all Generators, whether or not they are qualified Installed Capacity Suppliers, are reviewed for potential Energy market physical withholding in accordance with Services Tariff Sections 23.2 and 23.3.

In the event additional Generators are necessary beyond those committed in the DAM, the NYISO may commit Generators using a real-time SRE commitment. SREs are ordinarily issued on the day prior to the dispatch day. The NYISO can commit resources using the SRE process to satisfy NYISO reliability criteria or at the request of Transmission Owners to meet local reliability requirements. When the NYISO requests that Generators submit Bids in response to an SRE, Installed Capacity Suppliers must offer their available capacity unless an offer is pending in the Real-Time market at the time the SRE request is made, or if the Generator is unable to run due to an outage or operational issue.²⁰ If an Installed Capacity Supplier informs the NYISO that it cannot submit a Bid in response to an SRE request, the NYISO will SRE a different Generator that can address the reliability need. The NYISO will review an Installed Capacity Supplier that did not respond to an SRE to determine if it satisfied its availability requirements in accordance with Services Tariff Sections 5.12.1.10 and 5.12.7. As stated on page 4 of the October 2015 filing, the NYISO expects Generators that are requested to operate for electric system reliability via an SRE to obtain permission from the relevant natural gas pipeline or LDC before they consume natural gas that they are not otherwise authorized to consume, or that would result in the assessment of a penalty by the pipeline or LDC. If the NYISO determines that the Generator was capable of operating, then the NYISO may impose financial sanctions under the Energy market physical withholding rules set forth in Section 23.4.3.2(i) of the Services Tariff and the event could impact the Generator's Equivalent Demand Forced Outage Rate and reduce the amount of UCAP that the Installed Capacity Supplier is qualified to supply.²¹

¹⁹ Local Reliability Rule is defined in Services Tariff Section 2.12 as "A Reliability Rule established by a Transmission Owner, and adopted by the NYSRC, to meet specific reliability concerns in limited areas of the NYCA, including without limitation, special conditions and requirements applicable to nuclear plants and special requirements applicable to the New York City metropolitan area."

²⁰ See Services Tariff Section 5.12.1.10.

²¹ See Services Tariff Section 5.12.6.