ISO new england

memo

To: NEPOOL Markets Committee

From: Internal Market Monitor, ISO New England

Date: August 30, 2019

Subject: Internal Market Monitor's Comments on ISO New England's Energy Security Proposal

The purpose of this memo to stakeholders is to provide the Internal Market Monitor's (IMM) perspective and comments on ISO New England's (ISO-NE) proposed Energy Security Improvements (ESI) design (referred to as the "ESI proposal" in this memo). The memo restates the market power mitigation issues raised by the IMM in an earlier memo to the Markets Committee[1], and provides broader comments on the ESI proposal.

Designing market-based solutions to address New England's unique energy security problem is a challenging and complex undertaking. The short timeframe in which the ISO and its stakeholders have had to do this only adds to the challenge. IMM staff (and many stakeholders) continue to develop their understanding of the proposed rules, in particular the technical details of the new day-ahead ancillary service products, and work through the structure and incentives to better understand the potential effectiveness of the proposal. Further, the design impact assessment will only be completed in September and, due to the condensed timeframe, will be limited in scope to winter scenarios, while the products will be procured year round.

There are also important elements of the overall design package to be developed after the October 2019 filing. These include two of the three core design components envisaged by ISO-NE, namely the forward market for ancillary services and the multi-day-ahead market. Crucially, the overall design also needs to be evaluated for market power, and appropriate mitigation mechanisms need to be designed.

It is in this context that the IMM provides these comments, and we will continue to closely follow the ESI design process as it evolves, and update the Committee as appropriate.

[1] See July 3, 2019 memo to the Markets Committee, *Market Power Mitigation and ISO-NE's Proposed Energy Security Improvements*, at https://www.iso-ne.com/static-assets/documents/2019/07/a4b_imm_memo_market_power_mitigation_and_iso_ne_proposed_energy_security_improvements.pdf

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ESI is consistent with valuing the "missing product"

The overarching design intent of the ESI proposal is consistent with valuing the "missing product" of energy security through a market-based solution. The IMM supports the objective of valuing secure energy differently when it is needed and relatively more scarce, and in doing so, providing price signals to incent resources to make arrangements to secure energy supplies. Importantly, this should obviate the need for out-of-market intervention to address limited energy supply, which has happened in past years through capacity market retentions and the posturing of oil-fired generators during the operating day for fuel security. Such interventions can be harmful to price formation and market confidence, as they are not uniformly and transparently priced in the market.

Recovery of "fixed costs" in the marginal cost energy market; more specificity and guidance recommended

Importantly, the design relies on providing a mechanism for physical supply to recover the "fixed costs" of providing secure energy that would otherwise not be recovered through the Forward Capacity Market (FCM) and the current energy market construct. ISO-NE refers to this component of the supply offer as the "unrecovered fixed costs".[2] While such fixed cost expenditures can enhance fuel security and benefit consumers, suppliers can face a significant risk of not recovering these fixed costs and may therefore lack the incentives to do so under the current market design. This is the "misaligned incentive" problem described in detail in the ISO-NE's white paper that the ESI proposal addresses.[3]

The "unrecovered fixed cost" is a practical reality of making fuel arrangements in advance of the operating day, and the ESI design essentially seeks to compensate resources for the energy-security service such efficiently-incurred expenses provide. For example, the costs associated with entering into a call option contract for liquefied natural gas, or for the delivery of large quantities of heavy fuel oil, require some level of fixed costs, which, by the time the operating day comes around, are often sunk. In other words, they do not affect the economic decision to operate the next day. In contrast, the cost of buying an LNG option today (for delivery the following day) when making an offer into the day-ahead market (DAM) may comprise both a fixed and a variable component, but the cost is not sunk.

The IMM believes that this shift towards the inclusion of fixed costs needs to be well understood by stakeholders. In particular, the IMM recommends that more specificity be added to the rules or manuals, providing clear guidance to market participants on the types of fixed and/or sunk costs intended to be included in the "unrecovered fixed cost" component of the option offer.

[2] See, for example, slide 41 of the ISO's Market Committee presentation in June 10-12th, 2019 meeting , at https://www.iso-ne.com/static-assets/documents/2019/06/a2a_iso_presentation_energy_security_improvements_market_based_approaches.pptx

[3] See ISO Discussion Paper, *Energy Security Improvements*, April 2019 – version 1 at https://moss.iso-ne.com/sites/mm/Documents/Market%20Design%20Projects/Wholesale%20Energy%20Security%20Initiative%20(Chapter%203)/a00_iso_discussion_paper_energy_security_improvements.pdf

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Intent to physically provide energy to cover ancillary service obligations should be expressly included in the market rules

The IMM agrees that the ESI design should provide strong incentives to physical suppliers to cover ancillary services obligations in real-time when dispatched by ISO-NE. We understand the potential efficiency benefits over time of allowing speculative participation. However, we believe that the design is more likely to provide the secure energy when needed if participation is predicated on physical capability to provide secure energy, a clear expectation of meeting dispatch instructions in real time, and a financial consequence for non-delivery that will deter speculative participation.

With an underlying expectation of "real" energy capability from the day-ahead clearing, the ISO-NE operators are less likely to intervene through posturing and supplemental commitments to the day-ahead clearing. Therefore, we recommend that a review of current tariff provisions be undertaken, and changes proposed as needed, in order to ensure that the "physical intent" requirement is clear.

The seasonal forward market will be a significant element of a workable design

While the seasonal forward component will not be part of the initial October proposal, we believe that it will be a significant element of a workable design package, and may well be the primary market for clearing ancillary service obligations. In practice, many of the actions to secure fuel are taken – and costs incurred – well in advance of the operating day. Relying on spot market revenue from the ESI products alone may entail significant cost-recovery uncertainty for participants who incur costs well in advance of the operating day.

As with the day-ahead ESI design, there needs to be strong incentives for participants contracting in the forward market to make fuel arrangements to cover their obligations. The interaction between the forward and spot market is important; one would expect forward prices to reflect the market's expectations of future spot prices. However, any differences between the fixed costs included in the forward market and in the day-ahead ESI market may result in pricing differences and incentive issues.

As discussed above, we recommend that more specificity and guidance be provided on the fixed costs to be recovered in each market. Such guidance should account for costs best reflected in capacity market offers, or in seasonal forward and day-ahead ancillary services offers.

Market power mitigation requires thorough evaluation; ex ante mitigation measures to address any economic and physical withholding concerns preferred

There has been a wide recognition that an evaluation of appropriate market power mitigation measures will be an essential component of the overall ESI package in order to ensure that the design produces competitive outcomes that are just and reasonable.[4] The evaluation should consider a broad range of future scenarios and assess both the presence of market power and the ability to exercise it in a co-

[4] This was not least evident in discussions during the FERC staff-led public meeting regarding ISO New England's Long-Term Fuel Security Proposal. See https://www.ferc.gov/EventCalendar/EventDetails.aspx?ID=13418&CalType=%20&CalendarID=116&Date=07/15/2019&View=Listview

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optimized energy and ancillary service market. Mitigation mechanisms should be commensurate to any market power concerns.

As discussed earlier in this memo, this evaluation has not been possible in the time afforded to ISO-NE and stakeholders to develop a long-term market-based solution and instead is planned for after the October filing date. The IMM's views on market power mitigation under ESI have not changed from those expressed in its July 3 memo, but it is nonetheless worth summarizing those views and elaborating where appropriate at this time.

The ESI proposal is being developed to address an expected shortage of secure energy during certain periods of the year, which indicates there may be relative shortage of supply and potentially some degree of market power in the periods when secure energy is most needed. This can be compounded by the significant increase in (explicit) capacity reservation in the DAM clearing, as a result of the new ancillary service requirements, and the level of ownership concentration of physical assets available to meet the reservation requirements.

The increase in capacity reservation from the DAM clearing reduces the extent of residual supply and increases the likelihood that one or more participants will have market power, especially in the ancillary service products with a vertical demand curve. The interplay between energy and ancillary services, and physical and virtual supply and demand will be an important consideration in the evaluation of market power and the extent to which it could be effectively exercised.

However, there are two factors that could increase the impact should market power be exercised in the new ancillary services products or in the existing energy product. First, to the extent market power can be exercised in one of these products to increase the price, it is likely that the price of the other products (including energy) being co-optimized will also increase. In other words, increasing the price of one product through exercising market power makes selling that product more valuable. This increases the opportunity cost of providing other products, which manifests itself in a higher price for the other products as well. Second, the volume transacted in the DAM represents all capacity required to meet the load forecast (or forecasted energy requirement). Price increases in the DAM resulting from the exercise of market power have the potential to result in a significant and unjust increase in overall market and consumer costs.

Should the evaluation of the ESI design raise concerns about the potential exercise of market power, then the IMM's preferred approach is to address those concerns through *ex ante* measures that identify and mitigate uncompetitive offers as part of the market clearing process. The *ex ante* approach protects price formation from the exercise of market power and does not introduce uncertainty about final prices via ex post correction, redistribution of rents through resettlement, and/or lengthy regulatory enforcement activities. The ESI market design should not rely on *ex post* measures, such as claw-back, enforcement action, and/or 206 filing for unjust and unreasonable rates.

The existing *ex ante* mitigation rules applying three tests (structure, conduct and impact) is one that could be applied to the new day-ahead energy and ancillary services market. However, the application of structure and conduct tests under ESI is not straightforward. This is because both physical and virtual demand and supply participate in the DAM, there is a degree of substitutability between the products,

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and there is an underlying limitation in available energy infrastructure.[5] Also, establishing competitive benchmarks (or reference levels) for option offers in ESI poses a very different, and more complex, valuation problem than the current mitigation rules.[6] ESI option offers will comprise components unique to participants and assets, including costs to secure fuel, expected closeout costs and risk premiums impacted by participants' risk tolerances. It is likely that participants would need to play a bigger role in frequently providing the inputs to option reference level calculations, with an *ex post* assessment undertaken by the IMM.

Other mechanisms discussed during the design process, such as offer/price caps and sloped demand curves, can limit the impact of exercising market power. The IMM believes that such measures can be helpful, but are generally less direct, dynamic and effective than the *ex ante* mitigation approach discussed above. In other words, such mechanisms do not rely on a temporal evaluation of competitive offers of resources with market power. Instead, they inherently allow for a certain amount of market harm, when market power is present, and for that harm to directly impact consumer costs. That being said, the IMM believes these tools should be part of the evaluation of the overall market power mitigation package.

The general approach to asset-level market power mitigation addresses economic withholding. Under the ESI proposal, participation in the DAM for ESI products will be voluntary. A voluntary market will allow physical withholding, which is a substitute for exercising market power through economic withholding. In other words, removing an otherwise economic resource physically from the supply stack can have the same inflationary effect on price as offering that resource at prices above competitive levels. To the extent that market power is a concern in ESI, physical withholding may need to be addressed through *ex ante* market rules along with economic withholding. Addressing physical withholding concerns *ex ante* through market design and rules is preferable to relying on *ex post* enforcement.[7]

Therefore, the IMM recommends that the need for a must-offer requirement be evaluated for resources, in particular for capacity resources, with the physical ability to provide the ancillary services products. Such a must-offer requirement for capacity resources currently exists for energy in the day-ahead market and for both energy and reserves in the real-time energy market.

[5] Currently, the day-ahead energy market mitigation rules only apply to local market power and reliability commitments. There is no pivotal supplier test in the day-ahead market, but there is in the real-time market.
[6] The current rules rely on a relatively straightforward measurements based on marginal costs, and fuel-adjusted accepted-offer and LMP-based methodologies.
[7] Physical withholding is covered at both a general and a specific level in Market Rule 1, Appendix A (Section III.A.4). This provision will also apply to participation in the new energy and ancillary services market in the ESI proposal. That section of the tariff provides for the ability of the IMM to refer resources for "not offering to sell or schedule the output of or services provided by a resource capable of serving the New England Markets when it is economic to do so".

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