

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

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ISO New England Inc. and)
NEPOOL Participants Committee)
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Docket No. ER24-275-000

**COMMENTS OF THE INTERNAL MARKET MONITOR OF ISO NEW ENGLAND
INC. IN SUPPORT OF THE DAY-AHEAD ANCILLARY SERVICES INITIATIVE**

The Internal Market Monitor (“IMM”) of ISO New England Inc. (“ISO”) submits these comments in support of the proposed revisions (“Proposal” or “DASI design”) to the ISO New England Inc. Transmission, Markets and Services Tariff (“Tariff”),¹ known as the Day-Ahead Ancillary Services Initiative (“DASI”).

The Proposal is designed to procure and price sufficient capability in a jointly-optimized Day-Ahead Energy Market and Day-Ahead Ancillary Services Market (together, “Day-Ahead Market”) to meet the region’s operating reserve and load forecast requirements, which to date have been unpriced but relied upon in developing the daily Operating Plan. The DASI design addresses concerns that were raised in the IMM’s prior comments on the earlier Energy Security Improvements (“ESI”) proposal, including guidelines for formulating a competitive offer and benchmarks for evaluating such offers in an *ex ante* mitigation framework to thwart the exercise

¹ Capitalized terms used but not defined in these comments are intended to have the meaning given to such terms in the Tariff, including in the proposed Redlines to the Tariff set forth in the joint filing by the ISO and NEPOOL dated October 31, 2023, re: Revisions to [Tariff] to Establish a Jointly Optimized Day-Ahead Market for Energy and Ancillary Services, in the above-captioned docket (“Filing Letter”).

of market power.² With these improvements, the ability for resources to sell voluntarily Day-Ahead Ancillary Services (“Day-Ahead A/S”) that settle like options against Real-Time energy prices and jointly clear with Day-Ahead energy offers may lead to the effective procurement and pricing of Day-Ahead A/S to meet the next-day Operating Plan.

At the request of stakeholders, the IMM has committed to issue *ad hoc* reports on the competitiveness of any major market design change, which would include the DASI design, within one year of the effective date of operation, and on its performance within three years, subject to adequate available data.³ In practice, the effectiveness of DASI likely will depend on the level of participation in the market; the competitiveness of price formation and related risk premiums; the effectiveness of mitigation; the quality of participation or the absence of “naked” selling (e.g., speculation without the ability to perform), including of course the absence of manipulation; and whether other out-of-market activities will dampen the effects of the design.

We therefore discuss in more detail below how: (i) the Proposal addresses missing incentives in the Day-Ahead Market to ensure a reliable next-day Operating Plan; (ii) adequate participation and robust competition in the new Day-Ahead A/S Market is necessary for competitive price formation; (iii) rules must ensure that resources are physically able to perform and not engaging in speculation or “virtual supply”; (iv) the proposed mitigation framework should be sufficient to protect the market from the exercise of market power or deter such behavior but also should be monitored for any necessary adjustments; (v) the IMM therefore will

² See Comments of the [IMM] on [ESI] (“IMM Comments on ESI”), Docket Nos. EL18-182-000; ER20-1567-000, available at https://www.iso-ne.com/static-assets/documents/2020/05/imm_esi_comments.pdf.

³ See Filing Letter at 63; *id.* at 385, attaching Tariff Redlines, Section III.A.17.2.5 (Additional *Ad Hoc* Reporting on Performance and Competitiveness of Markets).

need to develop tools and metrics for assessing the competitiveness and effectiveness of DASI; and (vi) the current Forward Reserve Market should be retired upon the adoption of the Day-Ahead A/S Market.

I. OVERVIEW OF PROPOSAL

DASI is designed to procure and price in the Day-Ahead Market through a novel “call-option settlement” design sufficient capability to meet the region’s operating reserve and load forecast requirements, which have been unpriced to date but relied upon in developing a daily Operating Plan.⁴ The Proposal provides for Market Participants to voluntarily offer to sell Day-Ahead A/S, which will be jointly cleared with energy offers and co- optimized in the Day-Ahead determination of Locational Marginal Prices (“LMPs”), and to be “on-call” to produce energy in the Real-Time Energy Market (“Real-Time”).

For every MWh of Day-Ahead A/S awarded, the seller receives a “credit” in the amount of the Day Ahead A/S clearing price and faces a possible “close-out” charge in the amount that the Real-Time Hub Price is higher than the ISO-determined “strike price” for the relevant hour.⁵ “[T]o avoid a loss due to the close-out charge, the resource must be able to respond to higher-than-expected Real-Time energy prices by producing energy in Real-Time and earning Real-Time energy market revenues that offset the close-out charge.”⁶

⁴ *Id.* at 14 (“Broadly, procuring ancillary services Day-Ahead ensures there will be sufficient resources that the region can call on short notice, if needed, to balance energy supply and demand the next day.”).

⁵ *Id.* at 14.

⁶ *Id.* at 17.

The premise underlying the DASI design is that resources that offer to sell and clear a Day-Ahead A/S product thus will be incentivized to cover their ancillary service awards (*i.e.*, “to be prepared to produce energy in Real-Time if system conditions tighten and the supplier’s resource become in-merit to supply energy”) so as “to avoid a loss due to the close-out charge.”⁷ As the ISO has stated: “The close-out charge creates this incentive by forcing the resource to internalize the replacement cost of energy if the resource fails to produce energy when Real-Time energy prices ‘call’ on the resource (*i.e.*, Real-Time prices are high enough such that the Real-Time market clearing engine would clear the resource’s energy offer).”⁸

The Proposal includes four new Day-Ahead Ancillary Services products. Three products are designed to satisfy the next-day ten- and thirty-minute operating reserve requirements: Day-Ahead Ten-Minute Spinning Reserves (“DA TMSR”); Day-Ahead Ten Minute Non-Spinning Reserves (“DA TMNSR”); Day-Ahead Thirty-Minute Operating Reserves (“DA TMOR”) (together, Day-Ahead Flexible Response Services). Resource that clear A/S awards for these products will be credited based on the Day-Ahead clearing price of each product. A fourth product, the Day-Ahead Energy Imbalance Reserve (“DA EIR”), will contribute to satisfying the

⁷ *Id.* at 17. See Testimony of Benjamin Ewing (“Ewing Testimony”), accompanying the Filing Letter, at 67.

⁸ *Id.* at 17-18. By comparison, the Day-Ahead A/S “call option” financial settlement differs from a standardized call option on equities in the securities markets, which are physically settled upon expiration, and result in the “assignment” of a long stock or short stock position upon the automatic exercise of an in-the-money option. *Why Option Settlement Style Matters*, Cboe Insights (Sept. 30, 22), available at <https://www.cboe.com/insights/posts/why-option-settlement-style-matters/>. Similarly, bond options and futures are typically settled physically, requiring physical delivery of the underlying bonds upon expiration. See *Learn about the Treasuries Delivery Process*, CME Group, available at <https://www.cmegroup.com/education/courses/introduction-to-treasuries/learn-about-the-treasuries-delivery-process.html>.

load forecast and will receive a Forecast Energy Requirement (“FER”) price.⁹ All resources that clear for Day-Ahead EIR and Day-Ahead energy that is cleared by physical supply resources (*i.e.*, generators, DRRs and imports that clear Day-Ahead and submitted in Real-Time) will receive a FER credit, based on the FER clearing price multiplied by their MWh, for their contribution to meeting the load forecast requirement.¹⁰

Given the novelty of applying a unique “call-option settlement” design to wholesale ancillary services markets, how the Day-Ahead A/S products are priced is important. The DASI design provides guidance on the formulation of competitive offers and a framework for offer mitigation in the event an offer appears to be uncompetitive.¹¹ The ISO identifies three incremental costs that should inform a supplier’s offer prices: (i) potential close-out charges (common to all resources clearing a Day-Ahead A/S award), (ii) avoidable fuel costs and energy-charging (applicable to gas-fired and storage resources), and (iii) a risk premium (varying with resources).¹²

First, the ISO’s Gaussian Mixture Model (“GMM”) calculates expected close-out charges for each award-hour, by taking into account a distribution of potential Real-Time Hub Prices.¹³

⁹ Application of the FER constraint in the Day-Ahead Market will result in the procurement of additional Day-Ahead energy (beyond what would have cleared under existing market rules today), the procurement of DA EIR, or some combination of both.

¹⁰ See Filing Letter at 12; Ewing Testimony at 52-53.

¹¹ Filing Letter 32-39. As the IMM noted in its prior comments on ESI, which also apply generally here, “[t]he valuation of a supply offer for the option poses a unique challenge in that it is not only more complex than variable costs estimates, but it also does not lend itself neatly to the application of standard financial option valuation approaches.” IMM Comments on ESI at 8.

¹² *Id.* at 32.

¹³ *Id.* at 33.

Second, only those fuel costs that would be avoided but for taking on a Day-Ahead A/S obligation — *i.e.*, costs of charging a resource or procuring fuel in advance of the Operating Day to be prepared to produce energy in the award-hour — should be accounted for in the Day-Ahead A/S offer price. Third, some resources (but presumably not all) will incorporate risk premiums in their offers, which primarily reflect the uncertainty of close-out charges and avoidable fuel or charging costs.¹⁴

The DASI design also includes a mitigation framework that is designed to thwart the exercise of market power, through economic and physical withholding. Briefly stated, the DASI design includes the mitigation of offers to a competitive “Benchmark Level” if the offers exceed both: (i) a conduct test threshold price, which is two times (200% of) the expected close-out costs (or at least \$2/MWh) plus 1.5 times (150 % of) avoidable fuel costs, as determined by the ISO or, to the extent appropriate, an IMM-accepted threshold price upon consultation; and (ii) an impact test, indicating the ability to adversely impact Day-Ahead Market prices.

With these additional design elements (compared to ESI) and adequate participation and robust price-formation, the DASI design could cost-effectively price and procure ancillary services in the Day-Ahead Market. The ability to effectively mitigate the exercise of market power and monitor for compliance should buttress the design, while out-of-market actions could dampen the effects of the design.¹⁵

¹⁴ *Id.* at 35.

¹⁵ Out-of-market actions by System Operators, while focused on maintaining or improving reliability, have the potential to have adverse consequences for market efficiency and the principle of the replacement-cost based incentives of the Proposal. Such action could include, for example, manual commitments or dispatch instructions. *See generally An Overview of New England’s Wholesale Electricity Markets: A Market Primer* (June 5, 2023) at Section 3.3. In short, out-of-market actions are unpriced and have the potential to distort prices and the short- to long-term incentives that price signals create.

Yet as with any new recipe, “the proof of the pudding is in the eating”: whether DASI proves to be a viable market-based solution ultimately will be answered in time by the actual results of any FERC-approved program, as tested under various stressed and un-stressed seasonal market conditions.

II. DISCUSSION

1. The Proposal Addresses Missing Incentives in Establishing a Reliable Next-Day Operating Plan

In establishing a next-day Operating Plan that satisfies the FER and expected operating reserve requirements, the ISO relies on resource commitments in the Day-Ahead Energy Market as well as the commitment advisories from the post Day-Ahead Reserve Adequacy Analysis (“RAA”). Importantly, this reliance on a resource’s unutilized capacity (either uncommitted fast-start resources or committed resources with capacity above the cleared amount in the Day-Ahead Energy Market) to meet the “energy gap” and the operating reserve requirements is not currently priced; and therefore, resources are not compensated commensurate with their reliability value to the system.¹⁶ There are no explicit performance incentives or financial obligations to deliver on this unutilized capacity that forms such a crucial input into the Operating Plan.

Addressing these market and associated incentive gaps is even more important at this point, particularly in light of evolving reliability challenges and risks in a system that in the future will comprise a significant amount of intermittent and weather-dependent resources. The DASI design does this by modelling and pricing the associated reliability service requirements in a co-optimized Day-Ahead Market. The Proposal is designed to produce cost-effective A/S

¹⁶ See Testimony of Dr. Matthew White (“White Testimony”), accompanying Filing Letter, at 10-16.

awards and prices that reflect sellers' willingness to take on the A/S obligations, while delivering strong incentives under the "call-option settlement" approach to perform while facing the close-out risk (i.e., the positive difference between the Real-Time price of energy and the A/S strike price).

Under the Proposal, the strike price is set to the forecast of the expected Real-Time Hub LMP for a given hour plus \$10/MWh. While a higher strike price should result in lower prices for A/S offers, and therefore lower prices and overall costs to consumers, it also should lower the participants' expected amount of a close-out charges, which could dampen the incentives for participation and performance.¹⁷ In this regard, the static \$10/MWh "base strike adder" to the strike price for the call-option settlement could impact the effectiveness of the proposed design. We do consider the adder to be a practical and reasonable feature, particularly in light of the novelty of the proposed new market and settlement rules. But, as with many administrative (but empirically-supported) rates it is important to periodically review such rates for consistency with prevailing conditions and effectiveness in terms of market performance.

While the "ISO found that the \$10/MWh static adder retained almost all of the incentives when system conditions were the tightest and performance in Real-Time was of the greatest importance," the ISO further acknowledges, "a dynamic adder (i.e., one that rises or falls with changes in response to market conditions) . . . may have better retained incentives during low-stress conditions," but would be harder to administer and not necessarily improve consumer savings.¹⁸ The ISO further states that "if the region's resource mix or other market conditions

¹⁷ See White Testimony at 89-91.

¹⁸ Filing Letter 21-22. See also Testimony of Parviz Alivand, PhD ("Alivand Testimony") at 25-26, attached to Filing Letter.

change in such a way that the base strike adder needs revision, the ISO will investigate the possibility of revision and bring forward a proposal to stakeholders and the Commission.”¹⁹ Therefore, it will be important to monitor the impact of the base strike adder on incentives in both “tight” market conditions and in “low-stress” market conditions that prevail for most of the time, especially in light of evolving market conditions and changes to the mix of participants.²⁰

2. Broad Participation and Competition Resulting in Competitive Offers Will Be Key to the Effectiveness of the Proposal

A fundamental purpose of the Day-Ahead Market is to efficiently coordinate the scheduling of units for the next-day Operating Day to meet the forecasted energy and reliability needs of the system in Real-Time in a cost-effective manner. Broad participation will be key to the Proposal’s success at setting the system up with a reliable, next-day Operating Plan for an evolving grid. If participation (and related competition) in the Day-Ahead A/S Market were to be “too low,” Day-Ahead A/S prices could be elevated above long-term competitive levels. While this could then encourage more participants to enter the Day-Ahead A/S Market and help bring prices down to competitive levels, it underscores the need for participation and robust competition in the market.

Under the DASI design, competition among resources (*i.e.*, sellers) is expected to discipline offer prices while the mitigation framework (discussed below) should strike a balance between protecting against the exercise of market power and preventing mitigation of offers that

¹⁹ Filing Letter 73-74.

²⁰ Using historical data and the base strike price set to its GMM’s expected Real-Time Hub Price, “the average realized close-out charges were \$2.48 per MWh and \$5.52 per MWh with and without a base strike adder, respectively, [while] the average *expected* close-out charges from the ISO’s GMM are \$3.19 per MWh and \$5.56 per MWh,” respectively. Alivand Testimony at 28. The balance between lower close-out charges, which should result in lower offer prices and overall costs, and the level of participation and performance, should be monitored.

are indeed competitive. Participation in this market can be further stimulated by the ISO developing comprehensive trainings on the Day-Ahead A/S Market that cover participation rules, settlements, and the offer formulation framework to be used for mitigation purposes.

While participation in the Day-Ahead A/S Market is voluntary, there will be protections in place to thwart the exercise of market power through physical (as well as economic) withholding of supply that impacts the market clearing price. There is no inherent conflict between voluntary participation and the general prohibition on physical withholding. For a competitive market to produce just and reasonable rates it must be free from the exercise of market power, both physical and economic. A Market Participant with market power could potentially physically withhold supply — the equivalent of offered supply at a price of infinity— and impact market prices. The fact that participation may be voluntary does not mean that market power may be exercised and produce uncompetitive outcomes without any consequence.

As discussed in more detail below, the proposed physical withholding rules address such undesirable behavior and outcomes. Briefly stated, the IMM will consult with participants who do not offer as to the reasons for their not offering, especially when it appears that it would be economic for them to do so; if such failure to offer has a discernable impact on market price, the participant could be referred to the Commission’s Office of Enforcement for potential investigation.²¹

²¹ Larger providers that choose not to make offers in the Day-Ahead A/S Market (and consequently exceed the physical withholding thresholds) should be prepared to explain why not offering was a legitimate commercial decision. *See* White Testimony at 113 (“This burden is a practical necessity to ensure that, in the infrequent, limited times when strategic (physical) withholding could become profitable in the Day-Ahead Ancillary Services Market, the markets – and, ultimately consumers – are protected against the potential exercise of market power.”)

Because the Proposal is intended to set the system up in the Day-Ahead with ancillary services that can be called upon and converted into energy if needed in Real-Time, the design appropriately limits eligibility to only physical resources with energy supply offers or demand bids in the case of DARDs. The DASI design relies on the financial consequences of a close-out charge to incentivize performance by sellers who obtain a Day-Ahead A/S award. However, Day-Ahead energy supply offers and Day-Ahead A/S offers also are subject to the same participant obligation to only offer if the seller has the intent and capability to deliver. In this regard, Section 4.2 of the Market Participant Service Agreement provides: “The Market Participant hereby warrants to the ISO that, . . . , whenever it submits a Supply Offer for Energy or supply offer for Ancillary Services or a demand response service, it has the capability and the intention to provide that service. . . .”

Notwithstanding the financial incentives in terms of close-out charges, there is the inherent risk that some participants will elect to clear Day-Ahead A/S awards with no intent and/or ability to cover their position in Real-Time by providing energy and, instead, take the financial risk of an unfavorable close-out.²² As is generally true, cases where the participant exhibits a pattern of offering inconsistent with the incentives to provide, falsely represents its ability to perform, and/or exhibits a pattern of non-performance, will be evaluated for potential referrals.

In practice, the effectiveness of the DASI design likely will depend on whether Market Participants voluntarily choose to make competitive offers both when market conditions are tight and reserves might be called upon and when conditions are not stressed and reserves are not

²² This also could include creative ways to hedge out the close-out risk, *e.g.*, through offsetting financial transactions in other markets.

likely to be called upon. Ultimately, if resources actually use the revenue streams (credits for cleared Day-Ahead A/S awards and FER payments) to bolster their ability to perform in preparation for providing reserves at a reasonable cost, in both low-stress and tight market conditions, the design should be effective. Conversely, if resources offer to sell Day-Ahead A/S “naked” without having or acquiring the ability to cover their obligation and just assume the Real-Time close-out price risk, or find ways to hedge the close-out risk other than through physically providing reserves, this could impede the effectiveness of the design.

3. The Framework for Market Power Mitigation Is Sound But Should Be Monitored In Practice For Necessary Adjustments

Market power is a crucial consideration in wholesale electricity market design. Rules should be in place to thwart any exercise of market power on market outcomes, while allowing competitive forces to determine these outcomes.²³

In developing the mitigation design, the ISO relied on the results of a comprehensive Market Power Assessment (“MPA”) that studied the potential for the exercise of market power in the Day-Ahead A/S Market. The IMM actively collaborated with the ISO on this assessment by providing input on the study scenarios, reviewing the solution data, and requesting additional scenarios, among other activities. While the MPA found the likelihood of the successful exercise of market power in this new market to be small, the ISO has proposed a mitigation design to

²³ See Section III.A.2.4.1 of the ISO-NE Tariff. (“[Mitigation] measures are intended to minimize interference with open and competitive markets, and thus to permit to the maximum extent practicable, prices levels to be determined by competitive forces under the prevailing market conditions. To that end, the mitigation measures authorize the mitigation of only specific conduct that exceeds well-defined thresholds specified below.”).

protect the market from its harmful effects when it could occur, which utilizes a conduct-and-impact analysis similar to that used in New England’s energy markets.²⁴

The Proposal contains a “conduct and impact” mitigation framework for addressing the potential for both (1) economic withholding and (2) physical withholding in the Day-Ahead Ancillary Services Market.

To address economic withholding, the conduct test identifies offers that appear inconsistent with competitive behavior — *i.e.*, offers that exceed a conduct test threshold price set at twice (200% of) the ISO-determined Expected Close-Out Component (or at least \$2/MWh), plus one and one-half times (150% of) any avoidable fuel or charging costs.²⁵ Upon consultation with the IMM, participants also are able to use their own models to determine expected Real-Time Hub Prices and close-out costs, and rely on those models (subject to IMM approval) to make offers when the prices exceed the Day-Ahead A/S conduct test threshold.²⁶

For offers that exceed the conduct test threshold price (or IMM approved offer level), the impact test compares prices resulting from the unmitigated offers to the prices that result after replacing all offers that fail the conduct test with their Benchmark Levels. The proposed impact

²⁴ See Filing Letter at 47 (“Overall, the ISO determined that the risk of harm from exercises of market power in the Day-Ahead Ancillary Services Market is small, though cannot be ignored.”). See also *id* at 48. (“The ISO ultimately concluded, based on the MPA results, that (1) it was necessary to design a mitigation framework to address the rare hours during which market power is a concern....”).

²⁵ The ISO set the conduct test threshold price element related to the Expected Close-out Component in order to allow flexibility for three elements in an offer: risk premium, model error, and reasonable differences in expectations. And the ISO set the conduct test threshold element related to the Avoidable Input Cost in order to accommodate variations in fuel costs that couldn’t be incorporated into their formulations. See Filing Letter at 50 and 52, respectively.

²⁶ Alivand Testimony at 36.

test threshold for each offer-hour will be 150 percent of the median difference between: 1) the conduct test threshold prices for all Day-Ahead A/S Offers submitted for the offer-hour; and 2) the ISO-estimated cost-based offer prices (“Benchmark Levels”) for all Day-Ahead A/S Offers submitted for the offer-hour.²⁷

Ancillary Services offers that fail both the conduct and impact tests are mitigated down to the ISO-estimated, cost-based offer prices (*i.e.*, the “Benchmark Levels”) during the market clearing process, which limits the effect of the high offers on the market clearing prices (*i.e.*, this mitigation measure occurs on an *ex ante* basis).

The ISO designed these threshold price formulations to accommodate a reasonable range of competitive offers, while providing protection against the potential exercise of market power. Through simulations, the ISO found that the mitigation of competitive offers (“false positives”) occurred very rarely²⁸ and that the conduct-and-impact approach would perform reasonably well at mitigating attempts by suppliers to inflate prices by withholding.²⁹

Nonetheless, during early operation and over time, these threshold formulations should be evaluated to ensure they appropriately balance the risks of over-mitigation and under-mitigation in practice, as there is no certainty that participants will behave as simulated in the MPA (*e.g.*,

²⁷ Filing Letter at 53; Alivand Testimony at 105-06. *See also* Section III.A.8.1.2 of Redlines, attached to Filing Letter at 700.

²⁸ *See id.* at 55 (“In its simulations, the ISO found that the conduct test had a false positive rate (*i.e.*, flagged simulated competitive offers as violating the test) of only 0.1 percent.”). One reason for this is because the conduct test threshold prices are dynamic; they change on an hourly basis depending on the values of numerous market-related variables (*e.g.*, the load forecast and price of natural gas).

²⁹ *See Alivand Testimony* at 115 (“The ISO’s analysis shows that the proposed conduct and impact tests substantially reduce the overall price impacts of strategic withholding on Day-Ahead Market prices, compared to the price impacts seen in the MPA withholding simulations.”).

voluntary participation levels may not be as high as expected). Also, market conditions may materially change as the composition of the resource mix and structural competitiveness of the Day-Ahead A/S Market evolves.

It will be equally important to evaluate the accuracy of the ISO's proposed methods for calculating Benchmark Levels given their importance in the mitigation design. In this regard, participants' use of the IMM consultation process to adjust Benchmark Levels should provide a useful barometer of the accuracy of ISO-calculated Benchmark Levels.

These Benchmark Levels consists of two components: 1) the Expected Close-Out Component and 2) the Avoidable Input Cost. The Expected Close-Out Component will be an output of the same model that generates the A/S strike price based on the expected Real-Time Hub Price. The ISO plans to periodically re-train its statistical model and update the model's parameter values, which are in turn used in the daily calculations of the Expected Close-Out Component. To ensure accurate Benchmark Levels, it is critical that the ISO's model yields accurate estimates of the expected close-out (and related strike price). We therefore strongly recommend the ISO devote sufficient resources and expertise to the process of re-training this model and maintaining its accuracy.

On the Avoidable Input Cost, the ISO has proposed formulas for calculating these costs for gas resources and storage resources, which are the only resource types for which this component is applicable. These formulas seem relatively straightforward for calculating these values each day. However, there is no guarantee that these formulas will accurately represent a unit's avoidable fuel-related costs, especially as the composition of the resource mix in New

England evolves.³⁰ Thus, following implementation, it will be important to re-assess the Avoidable Input Cost formulas and make changes as necessary.

A risk premium is a third input into a competitive offer for ancillary services. While not expressly included as a component of the Benchmark Level, risk premiums are reflected in the conduct test thresholds (*i.e.*, the 200%/150% bandwidths). How Market Participants will formulate and reflect risk on offer prices is perhaps the biggest unknown in the absence of data. Moreover, as the ISO points out, “[n]ot all suppliers will incorporate risk premiums” into their offer prices, “as some may balance the cost of uncertainty against the fact” of a new revenue stream.³¹ For example, we would expect that risk premiums in a competitive market will be zero (or relatively low) for resources that have marginal costs for producing energy at a price that is below the strike price of the Day-Ahead A/S product (which includes a \$10 base strike adder). On the other hand, risk premiums might trend higher for resources with marginal costs of production that are far above the Day-Ahead A/S strike price. Yet risk premiums, if any, should be reasonably priced to reflect the costs of preparing for offering ancillary services and the risk of market prices and resource performance differing from expectations and potentially being called to produce energy.³²

³⁰ For example, with an evolving resource mix, natural gas-fired resources may not be the marginal resource for the system at the same frequency as now. *See* Filing Letter at 52 (“As Dr. Alivand explains, because natural gas is the marginal resource on the system during most hours, the ISO devised a simplified formula . . .”). *See also* Alivand Testimony at 97 (“As a second step, we make the next simplifying assumption that the expected cost of intraday gas can be expressed using the expected Real-Time Hub Price. Gas-fired generation is marginal for energy (*i.e.*, sets the Real-Time Hub Price) the vast majority of hours annually (83% in 2021 and 79% in 2022).”).

³¹ Filing Letter at 35.

³² Generators with adequate fuel arrangements may be considered naturally “long a call option” at their marginal cost; while resources that also clear a Day-Ahead A/S product face a close-out

The ISO proposes to use the conduct-and-impact framework to also address physical withholding in the Day-Ahead A/S Market, but on an *ex post* basis.³³ Similar to its use for economic withholding, this approach can identify conduct that appears uncompetitive (*i.e.*, physically withholding some capability) and then indicate instances where such conduct has a material impact on clearing prices. However, there are certain practical issues that make it challenging to implement *ex ante* physical withholding mitigation rules.³⁴ Consequently, the ISO proposes that this form of withholding be assessed and enforced *ex post* (via a referral to FERC) as is already done for physical withholding in the energy market.³⁵

The *ex-post* process for evaluating physical withholding of Day-Ahead A/S is similar to the existing process in the energy market.³⁶ The IMM evaluates unoffered capability using a conduct and impact approach, which will be informed by advisory thresholds and consultation

settlement if prices in Real-Time exceed the A/S strike price. The risk of close-out for a resource with a marginal cost to produce energy that is lower than the strike price could therefore be covered by operating the resource at its lower marginal cost. By comparison, when a seller's marginal cost of production is higher than the strike price on which close-out is based, the seller takes on the risk of close-out and not being fully covered by its potential production of energy in Real-Time (if in-merit). *See also* White Testimony at 71-72, 74.

³³As the IMM has previously noted, physical withholding is simply a substitute for exercising market power through economic withholding. Thus, to the extent possible, it is desirable to have similar frameworks for addressing physical and economic withholding. *See* ISO New England Internal Market Monitor, *Comments of the Internal Market Monitor of ISO New England Inc. On Energy Security Improvements*, at 18-19, available at https://www.iso-ne.com/static-assets/documents/2020/05/imm_esi_comments.pdf.

³⁴ These include, without limitation: assessing the legitimacy within tight timeframes (e.g. between the offer deadline and market clearing) of outages that reduce physical capability, and knowing at what price the withheld capability would have been priced.

³⁵ *See* Filing Letter at 58.

³⁶ *See* IMM Memorandum to NEPOOL Markets Committee (Nov. 30, 2022), available at https://www.iso-ne.com/static-assets/documents/2022/11/a06_mc_2022_12_06_08_imm_memo.pdf.

with Market Participants. Suspected violations of the physical withholding rules are to be referred by the IMM to the FERC Office of Enforcement. Leveraging the existing *ex post* approach is practical and sensible, and at this time preferable to potential alternatives that could include *ex ante* features or the assessment of penalties by the ISO.

The consultation process between the IMM and participants has been a critical part of the energy market power mitigation rules, and has worked well in helping to ensure that the cost inputs into Reference Levels are more accurate and consistent with resource operating costs. Put simply, the process helps avoid mitigation of otherwise economic supply offers. The consultation process also extends to the physical withholding provisions, which as discussed above are applied on an *ex post* basis. Importantly, resources offering Day-Ahead A/S may use the consultation process when they expect to incur costs associated with Day-Ahead A/S awards that significantly exceed the default Benchmark Levels.³⁷ This is particularly important as participants may have different expectations of Real-Time LMPs, different fuel components, and risk preferences that are not captured in the default Benchmark Level components and could otherwise result in a competitive supply offer exceeding the conduct test threshold values.

4. The Forward Reserve Market Should Be Retired Upon the Adoption of the Proposed New Design

The current Forward Reserve Market (“FRM”) is not compatible with the Day-Ahead A/S Market for a number of reasons as covered in the ISO’s Proposal, including issues relating to “double compensation” and “divided participation.”³⁸ The IMM believes that the DASI design

³⁷ See IMM presentation to NEPOOL Markets Committee, available @ https://www.iso-ne.com/static-assets/documents/2023/05/a03c_mc_2023_05_09_dasi_imm_presentation.pdf.

³⁸ Ewing Testimony at 77.

presents a far more targeted and sophisticated approach to procuring A/S through a forward construct and is better aligned with the requirements of a next-day Operating Plan. In short, it renders the FRM in its current form obsolete. While the IMM believes there is merit in exploring a longer-term forward market (*i.e.*, longer than one day ahead) in the future, particularly as a means of providing price signals and compensation that could underpin investments to improve resource performance, such an undertaking would likely be a resource-intensive and a time-consuming design and implementation endeavor that should be considered with the benefit of experience with DASI.³⁹

The FRM relies on administrative rules requiring participants to satisfy their Forward Reserve Obligation by offering capacity in Real-Time at or above an administrative Forward Reserve Threshold Price (“FRTP”). The FRTP, by design, often exceeds a resource’s true marginal cost of production and its Reference Level that is used for energy market power mitigation. This distorts efficient dispatch and pricing as it can hold back FRM resources for reserves that otherwise might be in-merit for energy (and reduces their opportunity cost for providing reserves rather than energy). The offer and designation rules have created concerns about creating the ability to exercise market power in the energy market, and challenges regarding the administration of the related mitigation rules. The IMM has, through administrative process, addressed the concerns to some extent by providing a list of conditions that must be met in order to not apply energy market mitigation to FRM resources.⁴⁰

³⁹ See IMM Comments on ESI at 4, 6-8.

⁴⁰ See IMM Memorandum to NEPOOL stakeholders (Aug. 27, 2015), available at https://www.iso-ne.com/static-assets/documents/2015/08/mitigation_frm_resources_08_27_2015.pdf.

Further, in its assessment of the seasonal FRM auctions, the IMM has raised concerns about the market's structural competitiveness and absence of effective market power mitigation measures. For instance, four of the six most recent FRM auctions have not been structurally competitive (*i.e.*, there was at least one pivotal supplier) for the ten-minute non-spinning reserve product. In addition, and more importantly, the IMM has observed a significant escalation in offer prices and auction clearing prices that appear inconsistent with market conditions and fundamental cost drivers, which raise concerns that market power is being exercised.⁴¹

For the reasons above, the IMM strongly supports the sun setting of the FRM with the implementation of DASI.

5. The IMM Will Assess the Competitiveness and Performance of the Proposed Jointly-Optimized Day-Ahead Market

Among the IMM's core functions is to review the competitiveness and the performance of the wholesale electricity markets and report its findings to stakeholders.⁴² Specifically with respect to major market design changes, such as the proposed Day-Ahead A/S Market, the IMM supports adding more explicit language to the Tariff as per the Proposal, which will require coverage of issues regarding market competitiveness within one year of the effective date of the proposal (by March 2026) and on its performance within three years (by March 2029), both subject to adequate available data.

⁴¹ See, e.g., the IMM's Spring 2023 Quarterly Markets Report, available at <https://www.iso-ne.com/static-assets/documents/2023/08/2023-spring-quarterly-markets-report.pdf>, and Summer 2023 Quarterly Markets Report, available at <https://www.iso-ne.com/static-assets/documents/100004/2023-summer-quarterly-markets-report.pdf>.

⁴² See generally Tariff Section II.A.2.1

In this regard, the IMM will develop analytical tools, screens and metrics for assessing market competitiveness and performance. At a high level, the competitiveness assessment will involve reviewing levels of participation across products, offer behavior and the effectiveness of the mitigation rules in addressing the impacts of any uncompetitive behavior. The IMM will also assess how the market performs in practice, particularly in respect to how it is meeting its core design objective of establishing a reliable next-day Operating Plan in an efficient and cost effective manner. In this regard, the IMM will consider resource performance and impacts on overall costs.⁴³

The IMM also is responsible for performing the day-to-day monitoring of conduct by Market Participants, which is accomplished through both our surveillance activities and the administration of the market power mitigation rules. This will involve assessing supply offers against the estimate of competitive Benchmark Levels, reviewing trends in offer prices and consulting with participants to inform our analysis of behavior and in effectively administering the market power mitigation rules.

Given the novel nature of the DASI design, there is naturally some uncertainty about how supply offers will compare in practice to the default Benchmark Levels. The IMM recognizes that Market Participants will utilize their own various methods for formulating their bids, which will depend on their individual expectations of market prices, incremental costs of taking on an obligation and their risk preferences. This may yield different offer values than default

⁴³ The ISO estimates an annual increase in Day-Ahead costs of over \$273 million, primarily as a result of FER payments (over \$125 million) to bridge the energy gap, which will be offset by an estimated decrease in Real-Time LMPs/credits (almost \$65 million) and close-out charges/credits (almost \$69 million), for a \$139.9 million average annual increase. Ewing Testimony, at Table 4 and 85-87.

Benchmark Levels. Indeed, insofar as it is a voluntary market, some Market Participants may choose not to offer their capability into the Day-Ahead A/S Market. Some may, for instance, be unwilling to assume the close-out risk of the call-option settlement construct, or may prefer not to forego the potential of high Real-Time prices. In order to administer the market power mitigation rules effectively, but also to inform our assessment of participation and conduct, the IMM encourages Market Participants to utilize the consultation provisions in the Market Rules.

CONCLUSION

For the foregoing reasons, the Internal Market Monitor submits these comments in support of the proposed Day-Ahead Ancillary Services Initiative revisions to the ISO New England Tariff.

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Respectfully submitted,

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CERTIFICATE OF SERVICE

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

Dated at Holyoke, Massachusetts this 21st day of November, 2023.

/s/ Julie Horgan

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