UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

ISO New England, Inc.	)	Docket Nos. EL18-182-000
	)	ER20-1567-000

MOTION FOR LEAVE TO ANSWER AND ANSWER OF MASSACHUSETTS ATTORNEY GENERAL MAURA HEALEY

Pursuant to Rules 212 and 213 of the Rules of Practice and Procedure of the Federal Energy Regulatory Commission ("Commission")[1] intervenor Maura Healey, the Attorney General of the Commonwealth of Massachusetts ("Massachusetts Attorney General") moves for leave to answer the answer of the Independent System Operator for New England ("ISO-NE") filed on June 16, 2020 and asks that the Commission consider the Massachusetts Attorney General's answer ("Answer") in reaching a decision.

On April 15, 2020, ISO-NE made its original filing seeking Commission approval of revisions to its Transmission, Markets and Services Tariff ("Tariff") to implement Its Energy Security Improvements ("ESI") program with a requested effective date of November 1, 2020. On May 15, 2020, the Massachusetts Attorney General filed her comments in support of the New England Power Pool ("NEPOOL") Alternative and in opposition to the ISO-NE favored ESI proposal.[2] On April 24, 2020, Massachusetts Attorney General witness Benjamin Griffiths also submitted testimony as part of the NEPOOL Comments in support of the NEPOOL Alternative.

[1] 18 C.F.R. §§ 385.212, 385.213 (2017).
[2] The Massachusetts Attorney General filed joint comments with the Connecticut Office of Consumer Counsel and the New Hampshire Office of the Consumer Advocate (collectively "Consumer Advocates of New England").

On June 16, 2020, ISO-NE filed a 150 page answer ("ISO-NE Answer") that, *inter alia*, challenged certain elements of Mr. Griffiths's testimony.

I. MOTION FOR LEAVE TO ANSWER

The Massachusetts Attorney General respectfully seeks leave to answer the untimely and unauthorized answer of ISO-NE and requests that the Commission exercise its authority to waive the general prohibition on answers and permit this limited response.[3] The Commission's Rule 213(a)(2) prohibits an answer to an answer or protest unless otherwise ordered by the decisional authority. However, the Commission will exercise its discretion for good cause to accept answers such as this one where the answer clarifies or leads to a more accurate and complete record, helps the Commission to better understand the issues, clarifies certain errors and misstatements, responds to new issues raised, or provides useful and relevant information that will assist the Commission in its decision-making process.[4]

The Massachusetts Attorney General's Answer meets this standard because it corrects mischaracterizations of the testimony of Massachusetts Attorney General's Office witness Benjamin Griffiths and provides the Commission with a full record upon which to base its decision. Thus, this Answer will assure a more complete record and will otherwise assist the Commission in reviewing the issues raised in this proceeding. Accordingly, good cause exists for the Commission to grant this motion for leave to file this Answer.

[3] *See* 18 C.F.R. § 385.101(e) (2009) (permitting the Commission, for good cause, to waive any provision of its rules); *see also* 18 C.F.R. § 385.213(a)(2) (2009) (prohibiting answers "unless otherwise ordered by the decisional authority").

[4] *See* NSTAR Elec. Co. v. ISO New England, Inc., 120 FERC ¶ 61261 at P 32 (2007) (accepting the answer to an answer because the answers assisted the Commission in its decision-making process).

II. ANSWER

In testimony supporting the NEPOOL Alternative, Massachusetts Attorney General witness Benjamin Griffiths voiced skepticism about ISO-NE's claim that ESI, as ISO-NE proposes it, will improve market efficiency. The issue of market efficiency is important because at its core, ESI seeks to improve energy security by addressing alleged inefficiencies in today's market design.[5] Because ISO-NE claims that remedying this problem should yield efficiency benefits, if ESI does not actually improve efficiency, then this would imply that the importance of the "misaligned incentive" problem is overstated and in turn, that ISO-NE may be proposing a remedy to a problem that exists in theory but not in practice. It would also imply that the more modestly sized NEPOOL proposal is more just and reasonable because it corrects for some of the distortionary excesses of the ISO-NE alternative.

In its answer, ISO-NE disputed Mr. Griffiths's conclusion that the Impact Assessment plainly demonstrates that the efficiency benefits of ESI are winter only by mischaracterizing certain analyses conducted as part of the Impact Assessment and by challenging Mr. Griffiths's straight-forward interpretation of the Impact Assessment findings.[6] Separately, the ISO-NE Answer also misconstrues Mr. Griffiths's critique of Analysis Group's measurement of market efficiency and fails to address his actual concerns that important cost categories are omitted from

[5] For example, "the misaligned incentives problem can present adverse efficiency and reliability consequences, if left unaddressed" (Filing Letter at 15); "These results are consistent with the Energy Security Improvements introducing new ancillary services that help to address the 'misaligned incentives' problem identified in the ESI White Paper, thereby improving market efficiency" (ISO-NE Filing Letter at 33, fn. 120); "The first of these problems is one of misaligned incentives. Investing in more robust energy supply (e.g., fuel) arrangements may not be financially viable for individual generators in today's market construct, yet can be beneficial and cost-effective for the system" (ISO-NE White Paper at 12)

[6] ISO-NE Answer at 53-55.

the metric used by Analysis Group. Were these costs to be included, results may indicate that far from improving efficiency ESI may actually *reduce* efficiency and may do so year-round.[7]

A. The quantitative portions of the Impact Assessment plainly demonstrate that market efficiency is not improved by ESI in non-winter months.

ISO-NE mischaracterizes or misunderstands Mr. Griffiths's straight-forward testimony that the Impact Assessment's "identified efficiency benefits are winter only."[8] ISO-NE appears to take advantage of the myriad findings and byzantine format of the Impact Analysis to flatly deny what can be deduced by anybody who knows where to look: the results show that ESI does not improve market efficiency in non-winter months. While it is difficult to see how ISO-NE can come to any other interpretation than Mr. Griffiths did, ISO-NE nevertheless argues that Mr. Griffiths "ignores…the actual analysis of expected effects"[9], reasons beyond the "Impact Assessment's actual scope of analysis"[10], and ignores "key parts" of the Assessment.[11] Each of these critiques is meritless. The qualitative portions of the report suggesting that ESI could improve efficiency[12] are totally unsupported in the record and the quantitative portion of the report establishes the very thing Mr. Griffiths claims: there are no demonstrated non-winter reliability or efficiency benefits of RER (or the entire ESI design).[13]

ISO-NE contorts itself – and the actual analysis done on its behalf – to attempt to argue that the quantitative portion of the Impact Assessment does not demonstrate that reliability and efficiency benefits of ESI are winter-only. In its answer, ISO-NE states:

> "Mr. Griffiths … ignores (and thus does not refute) the Impact Assessment's actual analysis of the expected effects of the Energy

[7] ISO-NE Answer at 55-56.
[8] NEPOOL Comments, Attachment 3, Affidavit of Benjamin W. Griffiths at 19 (Griffiths Affidavit).
[9] ISO-NE Answer at 54.
[10] ISO-NE Answer at 55.
[11] ISO-NE Answer at 53.
[12] Impact Assessment at 79.
[13] Impact Assessment at 78-79; *see also*, discussion at pp. 5-8, *infra*.

> Security Improvements during non-winter months. The Impact Assessment explains that production cost impacts were not modeled for non-winter months because the Analysis Group's modeling assumes that "shifts in fuel consumption between [Current Market Rules] and ESI cases do not occur in the non-winter month analyses."[14]

ISO-NE goes on to explain that, "while the model does not attempt to quantify production cost impacts in the non-winter months, one cannot conclude that the Energy Security Improvements would have no effect."[15] After excerpting the Impact Analysis's discussion about why Analysis Group chose not to quantify changes in product cost between ESI and CMR and how there *could* be unquantified efficiency benefits, ISO-NE concludes by saying: "Mr. Griffiths simply chooses to ignore the Impact Assessment's actual scope of analysis in asserting that 'eliminating RER in the non-winter months will do nothing to reduce possible efficiency gains.' He provides no independent support for this assertion, and for the reasons explained here, the Impact Assessment does not fill that void."[16]

ISO-NE is wrong for several reasons. First, ISO-NE asserts that the Impact Assessment does not provide support for Mr. Griffiths' conclusion that "eliminating RER in the non-winter months will do nothing to reduce possible efficiency gains."[17] ISO-NE seems to claim that efforts to quantify and interpret estimates of production costs somehow fall outside of the scope of the "economic model.", i.e. the *production cost model.* This metric is literally in the name of the analytical tool relied on by Analysis Group to conduct the Impact Assessment.[18] Calculated production costs are at the heart of Analysis Group's production cost model; production costs are the metric which the Impact Assessment optimization model seeks to minimize. If the

[14] ISO-NE Answer at 54 (internal citations omitted).
[15] *Id.*
[16] *Id.* at 55 (internal citations omitted).
[17] Griffiths Affidavit at 19.
[18] Impact Assessment at 15.

production cost model cannot be used to assess production costs, or changes in production costs, what good is it? At a minimum, if the Impact Assessment is not the proper tool to assess market efficiency, it would suggest that the Impact Assessment is fundamentally defective and the ESI proposal is deficient.

Second, the Impact Assessment does not state that production cost impacts were not "modeled" in non-winter months[19], it merely says that they were not "assessed."[20] There is a very real difference: not "assessing" the difference between ESI and CMR means Analysis Group chose not to compare the results of their ESI and CMR model runs, not that the models were not run in the first place. Indeed, in the same section which ISO-NE selectively quotes, Analysis Group informs the reader that the production cost models *were run* in the non-winter months, but that the "quantitative analysis of real-time market outcomes produces the same outcomes in the CMR [Current Market Rules] and ESI cases."[21] The Impact Assessment did not "assess" production costs in non-winter months because it concluded the modeling outcomes were the same under ESI and CMR. Thus ISO-NE is plainly incorrect when it states that "production cost impacts were not modeled for non-winter months."[22]

Third, as quoted above, the Impact Assessment's analysis of the expected effects of ESI during non-winter months clearly states that the market produces the "same outcomes" with and without ESI.[23] Because Analysis Group makes it clear that its quantitative modeling demonstrates no change in system dispatch (i.e., "same outcomes") between ESI and CMR in non-winter months, it is not difficult to calculate the quantitative reliability and efficiency

[19] ISO-NE Answer at 54.
[20] Impact Assessment at 78.
[21] *Id.* The Impact Assessment also provides hourly modeling outputs for non-winter months which have some pricing differences between the CMR and ESI cases. See Impact Assessment at 129; cf. https://www.iso-ne.com/static-assets/documents/2020/02/a4_e_preliminary_esi_impact_analysis_hourly_model_outputs.xlsx
[22] ISO-NE Answer at 54.
[23] Impact Assessment at 78. .

benefits of ESI in non-winter periods: **none**.[24] These findings are underpinned by vetted modeling methodology and modeling assumptions adopted during the Impact Assessment process.[25] ISO-NE presumably had initial input into these assumptions and made no effort to change them during the many NEPOOL meetings on this issue before the April ESI filing.[26]

While ISO-NE appears to imply that Mr. Griffiths is relying on the absence of evidence to further his point; this is not the case. Mr. Griffiths relies on the actual quantitative results from the Impact Assessment which demonstrate evidence of no benefit when he asserts the Impact Assessment shows that the NEPOOL alternative would not adversely affect market efficiency because reliability and efficiency benefits of ESI are winter-only.

Thus, while it is true that Analysis Group elected not to quantify the change in market efficiency in the non-winter months, and it is apparent why, the answer is clear. Far from displaying "unsound" reasoning as ISO-NE alleges,[27] Mr. Griffiths merely fills in a glaring omission in the record with simple subtraction. Using these quantitative results, Mr. Griffiths concludes that ESI would have no effect on market efficiency in non-winter months. Just because Analysis Group chose for obvious strategic reasons not to create table-after-table

[24] If system dispatch is unaltered between CMR and ESI, then there must be no change in efficiency or reliability between these two cases – because everything is operated in the "same" way. With power plants operating identically, the real-time cost of generating electricity is the same, so production costs are also the same. A number minus itself equals zero. Hence, because the production costs are the same under ESI and CMR in non-winter months, it must follow that the quantified efficiency benefits of ESI are nil in this context.
[25] Impact Assessment at 78.
[26] Concerning the "approach to modeling non-winter months" Analysis Group noted that "Fuel system limits and constraints will remain in place, including limits on NG supply and on-site fuel oil storage, although we expect these not to be binding during non-winter months" Todd Schatzki, Energy Security Improvements Impact Analysis, 13-November-2019 Markets Committee Presentation, p5.
[27] ISO-NE Answer at 53.

showing that its quantitative analysis indicates that ESI will not improve efficiency or reliability in the non-winter months does not make it any less true.

Fifth, ISO-NE claims that Mr. Griffiths ignored "key parts" of the Impact Assessment's analysis on market efficiency improvements.[28] ISO-NE never specified what those key parts were. Perhaps ISO-NE is alluding to the qualitative claims by the Analysis Group that "while we do not quantify these effects, we expect that ESI would create … reductions in production costs during non-winter months, as well as during winter months. Production costs would be expected to fall through the more orderly procurement of reserves in the day-ahead market."[29] Analysis Group provides no support for this assertion, either within their report or outside of it. This "key" part of the Impact Assessment's analysis is nothing more than speculation.

As demonstrated above, Mr. Griffiths fairly characterizes the Impact Assessment process as well as the its quantitative findings on the market efficiency value of ESI in non-winter months. ISO-NE's distortions do nothing to effectively counter Mr. Griffiths's original assertion that: "[b]ecause the identified efficiency benefits are winter only, eliminating RER in the non-winter months will do nothing to reduce possible efficiency gains."[30]

B. ISO-NE's reliance on total production costs to assess the efficiency of ESI is inadequate because it excludes essential cost categories unique to ESI.

ISO-NE's Answer also misconstrues Mr. Griffiths's critique of Analysis Group's measurement of market efficiency and fails to respond to his concerns that important cost categories are omitted from ISO-NE's assessment of efficiency and were they to be included, that results may well indicate that ESI *reduces* market efficiency *year-round*.[31]

[28] ISO-NE Answer at 53.
[29] *Id*. at 54-55 (quoting Impact Assessment at 79).
[30] Griffiths Affidavit at 19.
[31] ISO-NE Answer at 55-56.

In his affidavit, Mr. Griffiths questioned whether real-time production costs suitably capture the range of costs that ESI imposes on society – including hedging and transaction costs associated with the purchase of mandatory ESI "insurance."[32] He pointed out the problem of using a production cost metric when assessing the efficiency of the ESI design by offering a thought experiment demonstrating the absurd outcome that market efficiency would allegedly never decrease in non-winter months, even if ISO-NE were to purchase many terawatt-hours of ESI options in every hour.[33] Mr. Griffiths testified that the cost of producing electricity in real-time may not accurately reflect changes in social welfare,[34] because society could be compelled to purchase ESI "insurance" over and above an efficient level.[35]

Neither ISO-NE nor Analysis Group "show that the region is buying the right amount of insurance."[36] While ESI functions as "insurance" and insurance obviously affects welfare, Analysis Group sweeps these insurance-related costs under the rug, noting:

> "ESI may cause a range of effects to financial cost and underlying utility of consumers. The procurement of DA energy options, for example, may impose financial costs if it causes changes to market participant's financial structures to account for changes in financial risk. However, accounting for these costs would be extremely complex, particularly given the potential for ESI to have spillover effects on other market operations."[37]

Due to complexities, ISO-NE and Analysis Group decided not to fully account for financial and other costs that flow through to consumers. However, just because the costs are difficult to

[32] Griffiths Affidavit at 20.
[33] ISO-NE's protest that Mr. Griffiths did not account for carrying costs of fuel in the non-winter months (Answer at 56) is irrelevant because fuel is plentiful in non-winter months and because carrying costs are fundamentally bounded by tankage while the ISO's ability to buy more options is limited by nothing but its imagination in this thought experiment.
[34] Griffiths Affidavit at 20.
[35] If society is compelled to "over-insure", then this introduces a new dead-weight loss on society. See fn. 44, *infra*.
[36] Griffiths Affidavit at 20.
[37] Impact Assessment at 67, fn. 52.

account for, does not mean they should simply be ignored and omitted. Unlike conventional designs for operating reserves where costs are transparent and can be captured within normal production cost environments, the energy option construct is a hedging tool with important costs that exist outside the underlying commodity market, such as option risk premia. These costs may be significant and would not exist but for ISO-NE's preference for the energy option design.[38]

The metric Analysis Group relies on to determine changes in market efficiency is summed real-time production costs or Total Cost of Production (TCP). This metric only measures the cost of *producing electricity* in the real-time market.[39] It does not include all the costs that ESI imposes on society to get the system postured in a manner that allows it to generate power for that real-time production cost.[40] Thus, the ESI options affect system dispatch and the TCP metric captures the *benefits* that these options confer on society. But the metric does not capture how any transaction *costs* of trading risk between consumers and producers or the welfare losses of over-procuring compulsory risk instruments (i.e., the five new energy option products) may adversely affect welfare. The societal cost of these products must be accounted for in any accurate accounting of ESI's efficiency. As discussed below, the demonstrated efficiency gains of ESI – excluding these transaction costs – are already razor thin in the winter and non-existent in the non-winter, so the accounting for these costs may shift ESI from efficiency enhancing to efficiency reducing.

[38] For example, while Analysis Group never reports the cost of risk premia in cleared offers, an eyeballing of Impact Assessment Figure 8 "Energy Option Risk Premiums, Cleared Offers, Winter Frequent Case" suggests that the average risk premium of a cleared option is about $4/MWh.
[39] Depending on how the model is set up, it may also include variable O&M for spinning reserves.
[40] Analysis Group only captures the seasonal carrying costs of incremental fuel. *See* Impact Assessment at 67-68.

In its answer, ISO-NE claims that a "solution that minimizes total production costs also maximizes social surplus" because consumer surplus is invariant.[41] Were energy-options not at the core of the ESI design, the Massachusetts Attorney General would agree.[42] In this case, however, the energy option framework imposes new non-energy costs because of the risk premia embedded in option offers. ISO-NE's claim that consumer surplus is invariant implicitly and simplistically assumes that society is buying the "right amount" of ESI insurance and that ESI options will not affect the aggregate welfare because it represents pure risk-trading between producers and consumers.[43] This is an extreme, and extremely unlikely, position.

Economic theory tells us that buyers and sellers participate in a market because they each benefit from doing so, and that welfare is maximized when all gains from trade are achieved. That is, buyers and sellers freely trade products and risk between themselves until all parties are as satisfied as they can be. Voluntary forward sales of electricity can improve efficiency because some buyers or sellers can benefit from "locking in" prices, even if commodity prices adversely change after the fact. With ESI, however, trade is most certainly not *free* because load does not have discretion about how much of these products to procure.[44] It is likely that a portion of ESI options may reflect or approximate trades that would occur in a voluntary market. NEPOOL and the Massachusetts Attorney General agree that some of the ESI "insurance" is fair and valuable, hence their inclusion of most ESI options within the NEPOOL proposal.

But economic theory also demonstrates that rational actors can procure too much insurance, i.e., a level of insurance where the value of the avoided risk is less than the cost

[41] ISO-NE Answer at 55.
[42] Indeed, in other contexts, Mr. Griffiths has employed this same economic logic when developing his own production cost and capacity expansion models. See, for example, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3560193
[43] ISO-NE Answer at 55.
[44] *See* White Paper Section 7.2 for a discussion of procurement quantities.

(premium) required to avoid it.[45] The Massachusetts Attorney General submits that consumers will be over-insured if they are forced to purchase an allowance for load forecast error (LFE) or RER year-round because the cost of these products (per MWh of deficiency avoided) is far in excess of their value.[46] Table 2 of Mr. Griffiths's affidavit shows that the cost of avoiding reserve deficiencies using the ISO-NE proposal is 3.6 to 327 times larger than the value of avoiding them.[47] Because expected costs far exceed expected value, it is unlikely that consumers would voluntarily procure the quantity of ESI options ISO-NE seeks to compel them to pay for. Far from a gainful trade, it appears that some fraction of the ESI option procurement represents an unreasonable transfer of money to producers from consumers to hedge risks that consumers would most likely not be willing to hedge on the open market. The excess risk premia associated with RER (over and above what would occur in a purely voluntary market), caused by ISO-NE's mandating compulsory over-insurance, adversely affects consumer welfare and, in turn, social welfare.

Indeed, even using Analysis Group's myopic efficiency metric of total real-time production costs, the identified efficiency gains are razor thin.[48] Analysis Group's modeling showed small gains in the winter months and no efficiency gains in the non-winter months.[49] Based on the Impact Assessment's quantitative finding that there are no efficiency gains from ESI in non-winter months, it also follows that to the extent that there are *any non-voluntary* transaction costs in the non-winter months (e.g., unnecessary risk premia), ESI would *decrease*

[45] *See* Andreu Mas-Colell et al., Microeconomic Theory 187-88 (2012) for textbook examples concerning the optimal quantity of insurance which should be procured to hedge risk.
[46] Griffiths Affidavit at 27-28.
[47] *Id.* at 27.
[48] Impact Assessment Table 22; Impact Assessment at 78-79.
[49] *Id.; see also,* discussion in Section II.A, above.

social welfare in this period.[50] Removing LFE and RER in non-winter months could therefore improve welfare by reducing the magnitude of the dead-weight loss imposed by the ESI design.

In the winter, ESI may improve market efficiency according to the Impact Assessment, but even here the benefits are modest at best. The values that Analysis Group's model actually returns suggest that ESI will only yield $1.63 million in efficiency gains each year.[51] This is little more than a rounding error for the region's energy market and suggests that the "misaligned incentives" problem is overblown.

All told, there is significant reason to doubt that ESI will enhance market efficiency. Analysis Group's narrow production cost methodology omits significant cost categories new to ESI that may adversely affect welfare. Claims by Analysis Group and by ISO-NE on the efficiency-enhancing nature of ESI should be viewed with circumspection. A fuller accounting of efficiency suggests that while ESI may correct the "misaligned incentive" problem, in part, it seems plausible that it introduces new market *inefficiencies* though over-procurement of ESI options which could more than offset any gains made. In this way, ISO-NE's proposal is the market equivalent of cutting off your nose to spite your face: a solution which appears to reduce efficiency via its overzealous attempt to improve it. The NEPOOL alternative helps to mitigate this inefficiency by procuring somewhat fewer ESI options, particularly during the non-winter period.

[50] Analysis Group offers an unsubstantiated qualitative claim that in non-winter months, ESI options could induce a decline in production costs "through the more orderly procurement of reserves in the day-ahead market." This claim is speculative at best, especially because the ESI options are not explicitly "carried forward" into the operating day.
[51] The ISO-NE Internal Market Monitor assumes that the Frequent winter would occur with 15% likelihood, the extended winter with 10% likelihood, and the infrequent with 75% likelihood in its FCM bidding documents [*see* https://iso-ne.com/static-assets/documents/2020/05/fca15-energy-security-estimate-for-fcm-offers.zip]. Multiplying these weights by the production cost changes in Impact Assessment Table 22 (column "Change in Total Production Costs ($ Million)") yields production cost reductions of $1.63 million for the winter season.

III. CONCLUSION

ISO-NE has baselessly attacked and mischaracterized Mr. Griffiths's testimony to obscure the deficits of its ESI design and the weakness of ESI's theoretical underpinning of improving market efficiency. Mr. Griffiths's criticisms are valid reasons to scale back the ISO-NE-favored proposal in the particulars set forth in the NEPOOL Alternative.

For the foregoing reasons, the Massachusetts Attorney General respectfully requests that the Commission accept this answer, consider the evidence and arguments presented by NEPOOL and by the Attorney General in their respective Comments in Support of the NEPOOL Alternative and adopt the NEPOOL Alternative as the just and reasonable design to address winter energy security and fuel security in New England.

Respectfully submitted,

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Dated: June 30, 2020

CERTIFICATE OF SERVICE

In accordance with 18 C.F.R. § 385.2010, 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 this proceeding.

Dated at Boston, Massachusetts this 30th day of June, 2020.

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