



## **I. MOTION FOR LEAVE TO ANSWER**

The Commission has discretion<sup>2</sup> to accept answers not otherwise permitted by right, and has done so when they help to clarify complex issues, provide additional information, or are otherwise helpful in the Commission’s decision-making process.<sup>3</sup> Potomac Economics respectfully submits that its answer in this proceeding will aid the Commission’s decision-making process by addressing points raised by the Brattle Witnesses in the MISO Answer, and thereby providing additional information for consideration regarding the viability of the MISO forward market proposal. Potomac Economics also respectfully submits that its answer will aid the Commission’s decision-making process by clarifying the purpose of the alternative proposal offered in our initial comments in this proceeding filed on December 14, 2016. For these reasons, we submit that this answer satisfies the Commission’s standards for discretionary answers, and respectfully request that the Commission allow this answer to be considered as part of the record in this proceeding.

## **II. NOTICE AND COMMUNICATIONS**

All correspondence and communications in this matter should be addressed to:

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<sup>2</sup> See 18 C.F.R. § 385.213(a)(2).

<sup>3</sup> See *Black Oak Energy, L.L.C. v. PJM Interconnection, L.L.C.*, 125 FERC ¶ 61,042 at P 14 (2008) (accepting answer to rehearing request because the Commission determined that it has “assisted us in our decision-making process.”); *FPL Energy Marcus Hook, L.P. v. PJM Interconnection, L.L.C.*, 123 FERC ¶ 61,289 at P 12 (2008) (accepting “PJM’s and FPL’s answers [to rehearing requests], because they have provided information that assisted us in our decision-making process”); *New York Independent System Operator, Inc.*, 123 FERC ¶ 61,044 at P 39 (2008) (accepting answers to answers because they provided information that aided the Commission’s decision-making process); *Morgan Stanley Capital Group, Inc. v. New York Independent System Operator, Inc.*, 93 FERC ¶ 61,017 at 61,036 (2000) (accepting an answer that was “helpful in the development of the record. . .”).

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### III. ANSWER

MISO's Answer replied to a broad range of topics raised in the initial comments by many intervenors, including Potomac Economics. MISO's Answer included an Attachment A that contained additional sworn testimony by the Brattle Witnesses.<sup>4</sup> Practically all substantive issues raised by MISO in terms of our initial comments were raised by the Brattle Witnesses.<sup>5</sup>

#### A. Representation of Demand in the Forward Resource Auction

In our initial comments, we explained that the FRA uses a demand curve that does not reflect the planning requirements associated with CRAs.<sup>6</sup> The demand construct used by MISO in the FRA is simply a scaled-down version of the demand that would represent planning requirements MISO-wide. As we explained, this is incorrect because it ignores the fact that capacity in CRAs will contribute to reliability in the broader footprint, and vice versa. The Brattle Witnesses obscure this point by claiming MISO's FRA does indeed recognize the need to

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<sup>4</sup> The Brattle Witnesses are the same experts from the Brattle Group that filed sworn testimony in support of MISO's initial Filing on November 1, 2016. They are Drs. Samuel Newell, Kathleen Speed, and David Luke Oats.

<sup>5</sup> One substantive issue that pertains to our Comments is raised by MISO in the body of its Answer at pages 13 and 23 (footnotes 42 and 64). At these passages, MISO refers to page 33 of our Comments and appears to misunderstand our position. In particular, MISO claims we hold the position that bilateral contract markets are sufficient for meeting Competitive Retail Area capacity requirements and thereby render the CRS unnecessary. While we believe the forward auction construct under the CRS is flawed for a variety of reasons, it is not because the bilateral contracts market is sufficient to attract adequate capacity in those areas. In the quoted passage, we are criticizing the forward procurement mechanism. We explain that in our experience a forward construct is not necessary for efficient procurement. As we explain in the passages at page 33 of our comments "...well-designed prompt capacity markets will produce prices that facilitate long-term contracting and allow participants to form reasonable long-term expectations." Unfortunately, MISO does not currently have an efficient prompt market, which is why an efficient competitive retail proposal is warranted.

<sup>6</sup> See discussion starting at page 21 of our Comments.

reflect this nested nature of capacity resources by (1) recognizing zonal transmission constraints in the FRA and (2) allowing all MISO resources to offer into the FRA:

We agree with the importance of locational demand and transmission modeling, and we confirm that MISO's proposal does recognize this locational structure, as does our modeling. MISO's proposal and our modeling recognize that transmission limits require a certain amount of competitive retail load to be met by local resources, and that the rest can be met by resources outside the zone.

The IMM argues that MISO's proposal "ignore[s] all other planning reserve needs in the broader areas of the MISO footprint." He correctly observes that MISO is an interconnected system, so supply in these outside areas affects reliability in the competitive retail areas and vice versa. However, the IMM's claim that the CRS ignores other planning reserve needs fails to account for a key component of the CRS that links the competitive and non-competitive areas together: the CRS allows utilities, both inside and outside the competitive retail areas, to offer supply into the FRA based on their own assessment of their supplies and their needs.<sup>7</sup>

However, neither of these two facts address our critique that the FRA demand curve fails to represent the local reliability conditions in the CRAs. As we explain in our initial comments, the slope of the demand curve in the FRA should indicate the rate at which reliability changes as additional resources are procured. This should represent the marginal reliability value of additional capacity procured in relation to CRA demand. Such a relationship is determined by a planning study that jointly considers the demand and supply not only in the CRA, but also in MISO more broadly. Simply put, a capacity resource's marginal contribution to the system's reliability in the CRA necessarily depends on the supply and demand outside of the CRA.

Instead, the Brattle Witnesses simply propose a demand curve based on the MISO-wide planning requirements, which is effectively just a scaled-down version of a MISO-wide demand curve. While this has the virtue of simplicity, even the Brattle Witnesses admit it does not necessarily correspond to the reliability situation in CRAs. In explaining the basis for selecting

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<sup>7</sup> See Attachment A at p. 3, ("Brattle Response").

the demand curve for the FRA, Brattle Witnesses state that “MISO has to pick something as a basis for its standards, and stakeholders have accepted them.”<sup>8</sup>

The Brattle Witnesses’ response to our analysis of MISO’s demand curve for the FRA does not address our fundamental concern that the demand curve fails to reflect the marginal reliability value of capacity in the CRA. As a result, our analysis remains unrebutted.

**B. Bifurcation of MISO Capacity Construct and Utility Participation**

In our initial comments, we explained that bifurcating the capacity procurement will make it virtually impossible to achieve efficient market outcomes and procurements of capacity. Efficient market outcomes require a market that can optimize capacity procurements given all supply and all demands, both market-wide and locational demands. Such an optimization is not possible under the MISO proposal.

The forward auction will procure resources for the CRA without regard to procurement decisions in the rest of MISO. The Brattle Witnesses make two arguments in an attempt to address these concerns regarding the proposed bifurcation of the market. First, the Brattle Witnesses argue that the CRA procurement will be reflected in the PRA procurements. While this addresses potential concerns about the PRA outcomes, it does not address our concerns. Our concerns relate entirely to the FRA outcomes and arise because the forward auction would be operating independent of the auction for MISO as a whole.

Second, the Brattle Witnesses argue that MISO-wide supply is effectively reflected in the FRA because regulated suppliers can participate and sell supplies they have in excess of their requirements:

[T]he IMM’s claim that the CRS ignores other planning reserve needs fails to account for a key component of the CRS that links the competitive and non-competitive areas together: the CRS allows utilities, both inside and outside the competitive retail areas, to

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<sup>8</sup> Brattle Witnesses Testimony, Tab C, p. 54, of MISO’s initial Filing in this docket, November 1, 2016.

offer supply into the FRA based on their own assessment of their supplies and their needs. Because utilities will only offer net supply excess into the FRA, they must implicitly account for their own customers' capacity requirements before determining how much to offer and at what price.<sup>9</sup>

This response does not address the concerns regarding the bifurcation of the market because the utilities are not likely to offer their excess into the FRA. The Brattle Witnesses have agreed that this is highly uncertain:

The IMM also states that...we have no empirical basis for predicting how [utilities] will participate. Since there are no historical data upon which to estimate the rate of utility participation, we agree that this is an unresolvable uncertainty at this time.<sup>10</sup>

In fact, the Brattle Witnesses' analysis confirms that they do not expect utilities' excess capacity to be offered into the FRA. The Brattle Witnesses assume in their base analysis of the CRS proposal that regulated utilities will not participate in the FRA unless they have a sizable surplus of capacity (three percent in excess of the roughly 15 percent requirement). This assumed withholding of supply from the FRA by the regulated utilities amounts to 3 to 4 GW of capacity, but could be larger if regulated entities are more conservative than assumed by the Brattle Witnesses. In reality, this is highly uncertain and we agree with the Brattle Witnesses that there is very little basis upon which to forecast their participation. Unfortunately, modest changes in utilities' participation will produce very different prices under MISO's proposed FRA as we show in the next section.

Finally, the Brattle Witnesses' argument regarding utilities having the ability to offer their excess capacity in the FRA is also inadequate because it does not address the effects of bifurcating the demand. If, in fact, utilities offer most of their projected excess capacity into the

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<sup>9</sup> Brattle Response at 4.

<sup>10</sup> *Id.* at 4.

FRA (which no one expects), prices will be unreasonably low because all of this supply will be chasing a very small portion of MISO's overall demand (less than 10 percent).

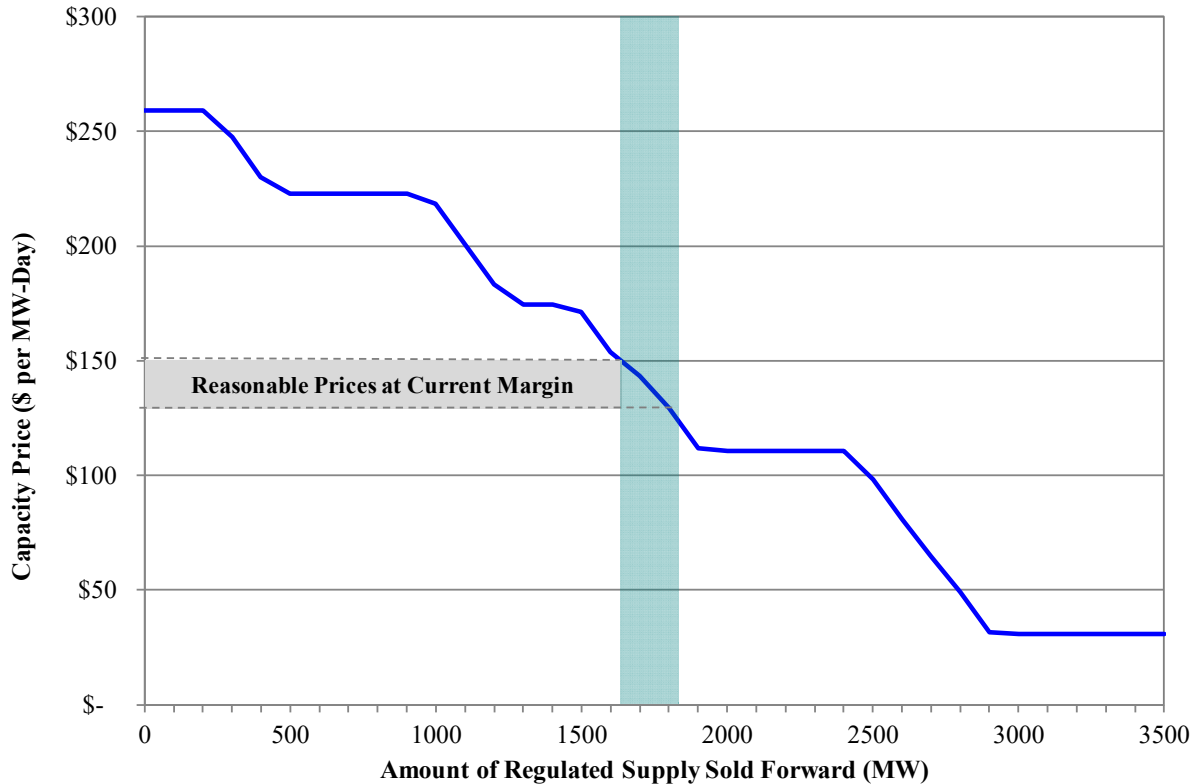
Hence, none of the responses by the Brattle Witnesses or MISO actually address our concerns that bifurcating the MISO capacity market will prevent the market from optimizing the capacity procurements given the overall supply and demand for capacity in MISO. Ultimately, this will result in highly uncertain and inefficient market outcomes, which is discussed in the next section.

### **C. Reasonableness of Likely Price Outcomes**

The Brattle Witnesses attempted to address our concerns that the FRA could produce a wide range of prices, and is unlikely to clear in a range that is reasonable and efficient. We discuss in this section why these responses do not resolve the concerns.

In our initial comments, we presented a figure that demonstrated a range of FRA price outcomes that depends on the level of excess capacity utilities are willing to offer into the forward auction. If high levels of excess supply were to be offered, say 3,000 MW, the price in the FRA could be as low as \$40/MW-day. On the other hand, if utilities were to offer none of their excess capacity, we showed prices would be as high as \$260/MW-day. We also estimated an efficient clearing price given the prevailing supply and demand conditions in the broad MISO footprint. The efficient price was in the range of \$130/MW-day to and \$150/MW-day. We reproduce the figure here for the Commission's convenience.

**Reproduction of Figure 3 from Potomac Economics' Initial Comments**



Based on the prevailing excess supply in MISO, we explained in our initial comments that the FRA is likely to clear on the high side of the curve shown in the figure, approximately \$225/MWh. Although the price could clear much higher than this, even this price would result in over \$300 million in excess, inefficient costs being borne by the competitive retail loads.

The Brattle Witnesses disagree with our analysis for several reason. First, they question ... whether the IMM's [price relationship in the figure] reflects "current" conditions with varying utility offer behavior, as claimed. Instead, this wide range seems to reflect varying utility supply/demand conditions in addition to uncertainty in utility offer behavior.<sup>11</sup>

They offered no explanation for why they believe the results shown in this figure do not represent the simulated clearing price as we describe in our filing. In fact, we first presented this analysis to MISO and its participants months before MISO's filing, providing ample time for the

<sup>11</sup> Brattle Response at p. 5.



Brattle Witnesses or MISO to verify the results. We recognize that the results are disturbing and may be difficult to accept for those that support the CRS proposal, but they cannot simply be dismissed.

Second, the Brattle Witnesses also disagree with our conclusion that the price is likely to be higher than the efficient price (i. e. , the left of the vertical bar in the figure). They claim the price is likely to be lower because they assert that our analysis excludes capacity in MISO South and Zone 1 that would be available up to the transfer limits. However, this assertion is baseless because our analysis does include excess utility capacity from MISO South up to the 984 MW transfer limit and capacity in Zone 1 up to the export limit.

Finally, the Brattle Witnesses indicate that they disagree with our efficient price benchmark:

...we disagree with the IMM's "efficient price" benchmark, as discussed in our November 1st testimony. The IMM's benchmark relies on an imprecise definition of economically efficient prices. A capacity demand curve that reflects marginal economic value would likely produce reliability outcomes far below the 1-in-10 reliability standard.<sup>12</sup>

This comment demonstrates that they do not understand our analysis. We are in full agreement that efficient capacity prices will lead to investment that satisfies the 1-in-10 reliability standard. We recognize that this standard exceeds the value that most customers would place on reliability, but the objective of the market is to satisfy the reliability requirement. Therefore, it is the reliability requirement that governs the reliability value of resources. If we were to have performed our simulation shown in the figure above based on demand that reflects estimated "Value of Lost Load", the efficient price would have been much lower than \$130 to \$150. Hence, had the Brattle Witnesses understood that the demand curve in our simulation was

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<sup>12</sup> Id at 6.

in fact based on the 1-in-10 reliability requirement, it appears that they would agree with our efficiency benchmark.

However, the Brattle Witnesses argue that “the estimated range of ‘efficient’ prices would be much broader than the \$130-\$150/MW-day band that the IMM presents”<sup>13</sup>. There is little basis for this assertion. We agree that one can justify shifting the demand curve by a few percentage points as the Brattle Witnesses assert, but this range accounts for such factors. Of course, arguing that the efficient range is wider (or not knowable), will increase the likelihood that the FRA will produce results that one could defend as reasonable. In reality, however, if capacity prices are intended to efficiently facilitate investment to meet reliability needs, without resulting in substantial over-investment, the range of efficient prices cannot be overly broad.

In addition to the effects of on investment of varying prices, prices also substantially affect the costs borne by loads. For example, if this efficient range of \$20 per MW-day would result in costs borne by the competitive loads in MISO that would vary by \$75 million from the low end of the efficient range to the high end of the range. Ultimately, we strongly believe the reasonableness of MISO’s proposed CRS must be based on the expectation that it would produce efficient prices. In other words, it is critical to determine whether the proposed market will likely produce market outcomes that are consistent with an economically-efficient benchmark. Hence, the results of the analysis presented in the figure above are fundamental to determining whether the CRS is reasonable and cannot simply be dismissed.

Finally, regardless of the arguments made by the Brattle Witnesses about our analysis of the efficiency of the likely CRS outcomes, neither the Brattle Witnesses nor MISO has put forth a positive economic efficiency case for adopting the CRS.

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<sup>13</sup> Id. at p. 7

#### **D. Efficiency Concern Raised about the Prompt Hybrid**

In the Brattle Witnesses' initial comments in November, they claimed the Prompt Alternative that we have proposed would result in higher-cost units being selected ahead of available lower-cost units owned by utilities. We had rebutted this point by explaining that the utility-owned units are clearing at a low price because of the inefficiency of the PRA's vertical demand curve, an inefficiency that the Brattle Witnesses and most industry observers recognize. The Brattle Witnesses use our rebuttal to repeat their claim that our Prompt Alternative will result in inefficiencies because higher cost units may clear while lower-cost ones do not.

Without repeating the explanation in our initial comments where we explain why this potential outcome is attributable to the flawed design of the PRA and not the Prompt Alternative, it is important to recognize that all proposals that do not address the design of the PRA will be subject to the same concern.

For example, the Brattle Witnesses also expect the same outcomes from the MISO's proposal: "The consequence [of MISO's proposed design] is that FRA prices should exceed PRA prices."<sup>14</sup> We agree with this expectation because it is attributable to the shortcomings of the PRA, which is the entire motivation for developing a competitive retail market proposal.

This expectation implies that the marginal unit in the FRA will have higher costs than units that subsequently do not clear in the PRA. The Brattle Witnesses hypothesized such an outcome with the Prompt Alternative proposal that we put forth and they claimed it demonstrated a deadweight loss and indicated a significant loss of economic inefficiency:

Our primary concern [about the IMM's Prompt Alternative] is that the resource discrimination contemplated under the two-stage auction would introduce a large deadweight loss by procuring expensive merchant capacity when cheaper utility capacity is available.... In contrast, the Competitive Retail Solution is structured to achieve

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<sup>14</sup> Brattle Response at p. 4.

reliability objectives at least cost by always procuring the lowest cost resources available.<sup>15</sup>

The only way the FRA can clear at a higher price than the PRA is if the marginal unit in the PRA did not clear in the FRA. As we explain above, this could be because the lower-cost marginal unit in the PRA was not offered in the FRA, which could be the result of a utility business decision to avoid the increased risk of participating in a three-forward auction using rate-payer financed capacity. But this is not solely a consequence of a utility's business plan. The three-year FRA construct increases risk and can be expected to remove the lower cost unit from the auction.

#### **IV. The Prompt Alternative Proposal Demonstrates That the MISO Proposal is Unjust and Unreasonable, and Should be Rejected**

MISO makes the claim that its "CRS Proposal is just and reasonable" and that "the Commission must accept it without considering the IMM's alternative proposal."<sup>16</sup> MISO reveals a misunderstanding of our purpose in offering the Prompt Alternative. By urging the Commission not to consider it, MISO would have the Commission ignore relevant evidence and undermine reasoned decision making.

Our primary purpose of raising the Prompt Alternative was to show that reasonable alternatives to MISO's CRS proposal exist and that MISO's urgency of adopting its own proposal is exaggerated. As we explained in our initial comments, the key fault in the MISO proposal is that the CRS outcomes will not reflect accurately the marginal reliability value of the capacity procured for CRA loads. As we explained, MISO's proposed demand curve for the CRA forward auction ignores the fact that capacity in the broader MISO footprint will contribute

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<sup>15</sup> Brattle Witnesses Testimony, Tab C, p. 7, attached to MISO's November 2016 initial filing in this docket.

<sup>16</sup> MISO Answer at 123.

to reliability in the CRA locations. MISO simply proposes using effectively a scaled-down version of a MISO-wide downward sloping demand curve. Without an accurate reflection of the demand for capacity and an auction that can jointly optimize all capacity procurements (for CRAs and non-CRAs), the MISO market construct will not produce just and reasonable prices.

The Prompt Alternative illustrates a type of market structure that does have the required elements – i. e. , a demand curve that accurately reflects all of MISO’s planning reserve requirements and a jointly optimized clearing of all demand and all supply. It would result in a clearing price that reflects the marginal value of capacity procured for the CRAs, considering all of MISO planning requirements and supply. Such a clearing price will be efficient and, therefore, just and reasonable. Because this alternative proposal would produce an efficient price, it is relevant to the very question that MISO seeks to highlight – whether its proposal is just and reasonable.

The Prompt Alternative also is relevant to consideration of MISO’s assertion that time is of the essence, and that there is no alternative to adopting the MISO proposal. Much of MISO’s case for its forward capacity auction rests on the premise that its proposal is the only one available, and that it is not realistic to develop an alternative proposal before the Spring. The Prompt Alternative shows that there is a readily-attainable alternative to the unreasonable CRS proposal. Specific tariff language to implement the Prompt Alternative is achievable in a relatively short period of time. Therefore, there is no reason for the Commission to feel compelled to adopt MISO’s proposal because there are readily achievable alternatives that can be developed quickly, and that contain the elements necessary to ensure just and reasonable outcomes. The Prompt Alternative, therefore, is relevant to judging MISO’s arguments regarding the need for quick adoption of its proposal.

Under these circumstances, for the Commission to not consider the Prompt Alternative proposal in its deliberations, as MISO urges, would be to contravene the basic requirements of reasoned decision making. The Commission must consider all relevant evidence presented by parties to a proceeding, and must address all key arguments raised. The Prompt Alternative is evidence that the MISO proposal itself is unjust and unreasonable, and it also undercuts MISO's argument regarding the need for a quick adoption of its proposal.<sup>17</sup> For these reasons, it is essential that the Commission consider and address the Prompt Alternative in its deliberations.

#### **IV. CONCLUSION**

For the reasons set forth above, Potomac Economics respectfully requests that the Commission accept this answer, reject, as unjust and unreasonable, the MISO proposal, and direct MISO to develop an alternative capacity market approach that will produce efficient outcomes.

Respectfully submitted,

*/s/ David B. Patton*

David Patton  
President  
Potomac Economics, Ltd.

February 1, 2017

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<sup>17</sup> *See Motor Vehicles Manufacturers Association v. State Farm Mutual Automobile Insurance Co.*, 463 U.S. 29 (1983) (“Normally, an agency rule would be arbitrary and capricious if the agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.”).

## CERTIFICATE OF SERVICE

I hereby certify that I have this day e-served a copy of this document upon all parties listed on the official service list compiled by the Secretary in the above-captioned proceeding, in accordance with the requirements of Rule 2010 of the Commission's Rules of Practice and Procedure (18 C. F. R. § 385. 2010).

Dated this 1<sup>st</sup> day of February, 2017 in Fairfax, VA.

*/s/ David B. Patton*

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