Incremental Incentives to Invest in Flexibility and Reliability in time for FCA17

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LS Power Group Overview

LS Power is a development, investment and operating company focused on the North American power and energy infrastructure sector

- **Founded in 1990, LS Power has over 250 employees** in NY, NJ, MO, TX and CA, beyond which its projects and businesses have **provided thousands of construction and operations jobs**
- **LS Power has raised over $47 billion in debt and equity** (including over $10 billion through its investment partnerships) **to finance and support energy infrastructure investments in the U.S.**
- LS Power actively invests in competitive power markets and
  - **Manages over** 14,000 MW of generation capacity and over 4,000 MW of demand response and energy efficiency, for a total of over **18,000 MW throughout the US**
  - **Makes fuel neutral investments,** including solar, wind, battery energy storage, natural gas, hydro (both run-of-river and pumped storage), demand response and energy efficiency
  - **Leaders in distributed energy through EVgo** (the nation's largest fast charging platform for electric vehicles), **Endurant Energy** (provider of on-site energy and microgrid solutions in North America), **CPower Energy Management** (leading demand-side energy management company that helps commercial, industrial and government organizations save on energy costs, earn revenue through energy curtailment, enhance sustainability efforts, and contribute to a balanced, reliable grid)
  - **Invests over $2 billion in high voltage transmission to support U.S. renewables and grid reliability**

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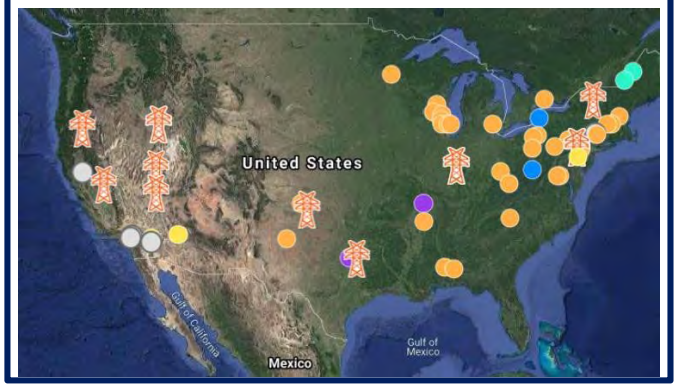
Innovation and Investment in Energy



Links to Prior Presentations

- 7/7/21: Initial presentation posted here.
- 7/23/21: Second presentation posted here.
- 8/10/21: Third presentation posted here.
- 10/21/21: Fourth Presentation posted here.
- 11/9/21: Fifth Presentation posted here.

Outline of Today's Presentation

- Why is this proposal necessary?
- Review of the proposal
- Response to ISO's 12/1 memo
- Review the proposed Tariff changes
- Next steps

Why are these changes needed?

Placing Pay-for-Performance (PfP) Risk in Perspective

A backcast shows 1/5th to 1/4th of Capacity Resources haven't participated in the Peak Load Hour in the last 5 years

- There is no tangible risk of a scarcity event, and the adverse selection problem raised in the 2014 PfP filing has yet to be addressed.
- In the last 5 years between 7 to 9 GW of capacity resources that obtained a Capacity Supply Obligation in the Forward Capacity Auction (FCA) did not participate in the peak load hour.
    - This analysis does not include the outcome of the annual and monthly reconfiguration auctions.

Capacity Commitment Period (CCP)	Peak Load HE/Date	Peak Load (MW)	Reserve Requirement (MW)	Total Energy + Reserves Requirement (MW)	Quantity of Capacity Procured in FCA (MW)	Capacity Resources that did not participate in the Peak Load Hour	
						Quantity in Excess of FCA Cleared Capacity (MW)	Percentage of FCA Cleared Capacity (%)
2017-2018	HE17 6/13/2017	23,508	3,034	26,542	33,712	7,170	21%
2018-2019	HE17 8/29/2018	25,559	2,262	27,821	34,695	6,874	20%
2019-2020	HE17 7/30/2019	23,929	2,668	26,598	35,567	8,969	25%
2020-2021	HE18 7/27/2020	24,727	2,551	27,278	35,835	8,557	24%
2021-2022	HE18 6/29/2021	25,269	2,849	28,117	34,828	6,711	19%

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Setting Future Expectations Drives Investment

Looking forward, not backwards

- PfP attempted to address identified problems – i.e., "money-for-nothing," adverse selection, limited financial incentives – through raising performance expectations.
  - See Dr. Matt White's testimony in ISO's original PfP filing (ER14-1050) filed January 17, 2014 accessible here.
- Absence of scarcity events was not an expected outcome and diluted/ eliminated performance incentives.
  - There has been only one ~2.5 hour event in 4 summers, whereas ISO's model predicted a handful of hours in every year.
- MOPR's elimination is expected to contribute to persistent near-term capacity surplus and further reduce the already miniscule probability of scarcity events.
- While on paper PfP appeared impactful, the accumulating evidence is clear that scarcity events are not occurring as frequently or in the manner ISO's modelling suggests.
  - Future expectations drive investment decisions, and without expectations investments in reliability and flexibility would be expected to decline.
  - In fact, an extraordinarily high PPR would likely exacerbate the very problems it's attempting to address by driving needed revenues from the market.

Does the Market Need Reforms?

ISO's has not directly addressed this question

- LS Power initiated their proposal in response to ISO's invitation for stakeholders to offer proposals to accompany MOPR's elimination
- Our July 7, 2021 proposal challenged whether the current market framework is sustainable in a hybrid market (with subsidized and merchant resources participating in a signal market). We identified concerns that were present in the market and that would be exacerbated with MOPR's elimination
    - We did not disagree with MOPR's elimination but highlighted that without concurrent changes imbalances between buyers and sellers would increase, to the short-term detriment of sellers but also to the long-term harm to ratepayers.
- In their September 9, 2021 memo, ISO described our proposals as "too complex" to finalize the design details concurrent with its self-imposed schedule to eliminate MOPR and stated that these ideas were "independent" of MOPR's elimination, despite the nexus offered in our July presentation.
- In response, we narrowed our proposal to one that could be implemented for FCA17 and would reduce the imbalance in the markets while incenting flexibility and reliability.
- In their 12/1 memo, ISO found fault wit the technical details of the proposal and only offered to motive flexibility and reliability are "worthy of continued discussion." They take no position on the more fundamental issue of whether the market is in need of reform.
- The concepts we have raised and the evidence we have brought forth are indicative of a market in distress that requires immediate attention, and the market design efforts ISO has on its work plan (i.e., ELCC and DA co-optimization) will not materially improve this situation.
- We have no illusions that our proposal is perfect or even the right market design, but the question to the ISO is do they think market reforms are necessary to restore a balance between buyers and sellers? If not, why not?

Review of the proposal

The Scarcity Event Reduction Framework (SERF) Recap

A step towards differentiating capacity resources based on their actual performance

- If the Real-Time Reserve Clearing Price (RT RCP) for Thirty Minute Operating Reserves (TMOR) is non-zero and a Capacity Scarcity Condition (CSC) does not exist, a Scarcity Event Reduction Condition (SERC) shall exist.
- The performance payments and penalties under SERC are calculated identically as Pay-for-Performance with the exception that the SERC rate shall be $350/MWh
  - i.e., SERC payment/penalty = SERC rate x (Actual Capacity Provided – Capacity Balancing Ratio x Capacity Supply Obligation).
  - For a resource with zero CSO, their payment would be SERC rate x Actual Capacity Provided
- Monthly Stop Loss, Annual Stop Loss, and the insurance pool are treated as shared components of both SERF and PfP. That is, settlements occur at the end of each month after PfP and SERF events are aggregated.

How would the PfP rate be modified?

Value from PfP is moved to SERF

- ISO's market design principle that a resource would be indifferent to obtaining a Capacity Supply Obligation or participating only in the energy markets is maintained.
- An empirical adjustment is made to transfer value from PfP to SERF.

PfP paradigm: $PPR = \frac{Gross\ CONE - E\&AS\ Offset}{Hours_{new} \times Actual_{new}}$

SERF paradigm: $PPR' = \frac{Gross\ CONE - E\&AS\ Offset - SERF_{revenue}}{Hours_{new} \times Actual_{new}}$;

where $SERF_{revenue} = Rate_{SERF} \times Hours_{SERF} \times Actual_{new}$

$SERF_{revenue}$ = \$350 /MWh x 7.33 Hours x 0.9277
= \$2,380/MW

$$PPR' = \frac{Net\ CONE - SERF_{Revenue}}{Hours_{new} \times Actual_{new}}$$

$$= \frac{(\frac{\$7.468}{kWm} \times \frac{12{,}000\ MW-yr}{1\ kWm}) - \$2{,}380/\ MW-yr}{11.3\ hours/yr \times 0.9277}$$

= **\$8,321/MWh**

Legend:

$Actual_{new}$ – Reference unit availability factor
$Hours_{new}$ – modelled scarcity hours at Net ICR
$Rate_{SERF}$ – Settlement rate used for the SERF proposal
$Hours_{SERF}$ – historical average of SERF hours
PPR' – Pay-for-Performance rate with the SERF value removed

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Potential SERF revenue/penalties for resources are small but meaningful

Value from PfP is moved to SERF

- Consider a year with the expected 7.33 hours of SERF per year and with a typical balancing ratio during SERF of 0.72 (the average value during the labor day 2018 PfP event).
- SERF Performance Payments/Penalties depend on Real-Time resource performance.
  - For a 100 MW resource with **perfect performance**:
    - $Annual\ Rev = SERF\ Hours \times SERF\ Rate\ \times (ACP\ - BR \times CSO)$
    - $Annual\ Rev = 7.33\ Hours \times \$350/MWh \times (100MW - 0.72 \times 100MW)$
    - $\boldsymbol{Annual\ Rev = \$71,834/year\ \ or\ \ \$0.0599/kWm}$
  - For a 100 MW resource with **no performance**:
    - $Annual\ Rev = 7.33\ Hours \times \$350/MWh \times (0MW - 0.72 \times 100MW)$
    - $\boldsymbol{Annual\ Rev = -\$184,716/year\ \ or\ \ -\$0.1539/kWm}$
- SERF may also increase FCA Clearing Price by up to $0.15/kWm
  - The marginal resource is expected to include $0.15/kWM of SERF risk in its delist bid and the FCA clearing price would be, consequently, higher.
  - If the assumed CBR is 0.72 then 28% or more of the capacity suppliers would not be performing during SERF events; the probability is high that one of the 28% was the marginal resource in the FCA.
- The good performer would expect to derive the benefit of higher FCA inframarginal rents of up to $0.15/kWm plus performance payments of $0.06/kWm for a net of $0.21/kWm, but load only experiences higher capacity prices of $0.15/kWm through the leveraging effect.
- If the quantity of actual SERF hours is higher than expected, the leveraging effect is higher.

Response to ISO's 12/1 memo

Offering Below A Resource's True Cost is Not a Practical Concern

ISO's critique that offers would offer below their MC requires perfect foresight

- ISO's 12/1 memo provides a simplified example of how a generator may tender an energy offer below its true MC when it anticipates a SERF event to avoid the more costly SERF penalties.
  - Generator G4 offers below its MC incurring a $360 loss in the energy markets in order to earn $5,600 in profits from SERF performance payments, or netting $5,240 in incremental revenues.
- ISO's simplified analysis fails to account for real and material aspects that would likely turn this approach into an unprofitable strategy.
  - (1) SERF events are most frequently less than one hour and may commence and end across the top of the Delivery Hour
    - Real-Time Re-offers are binding for an entire delivery hour. That is, frequently part of the hour would be unprofitable offsetting the profit-making potential in the rest of the hour.
  - (2) ISO's analysis requires perfect foresight.
    - A resource would have to predict at least 30-minutes in advance that a SERF event will be triggered in the subsequent delivery hour.
  - (3) While we have shown that SERF events are typically limited to afternoon summer hours, they still occur infrequently
    - In the last two Capacity Commitment Periods (CCP) SERF events would have occurred in only 13 days, or 7.6% of the summer peak days.
    - A generator's profit-maximizing/loss-minimizing strategy would be to present the same offer each day and ISO's analysis of G4's outcome ignores the cost of those days when the generator submits a below cost offer but a SERF event doesn't occur.

Offering Below A Resource's True Cost is Not a Practical Concern

Most SERF events would have been less than 60 minutes

- The table to the right shows a backcast distribution of SERF events by continuous duration.
  - 17 of 33 events (half) are 30 minutes or less
  - Only 8 of 33 events (one quarter), including the 4 that are tied to the 2018 PfP event, are longer than 90 minutes
- Real-Time Energy Offers are due 30-minutes prior to the start of the delivery hour and are binding for the entire delivery hour.
- RT LMPs and RT Reserve Clearing Pries are calculated every 5-minutes during the delivery hour.
- A resource would have to predict at least 30-minutes in advance that a SERF event will be triggered or continue in the subsequent delivery hour or be subject to losses that are not considered in the ISO's analysis.

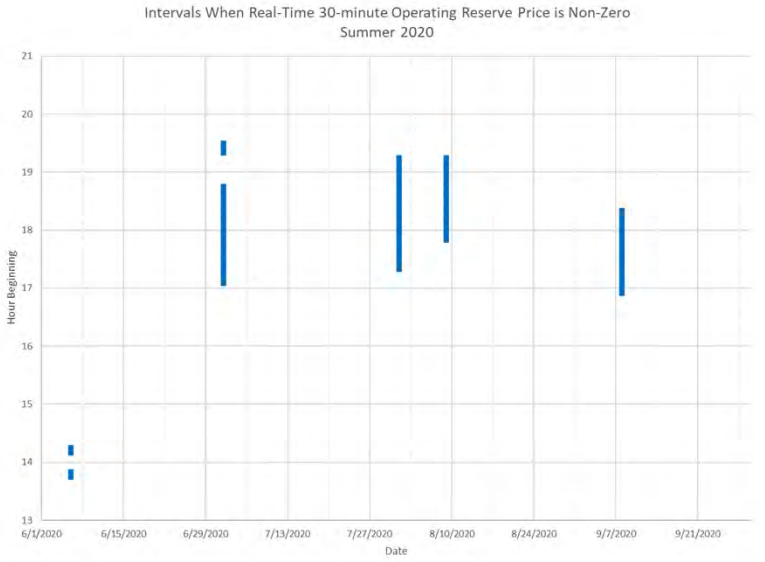
Count of Discrete Events by duration when Thirty Minute OR has a non-zero price and remains non-zero

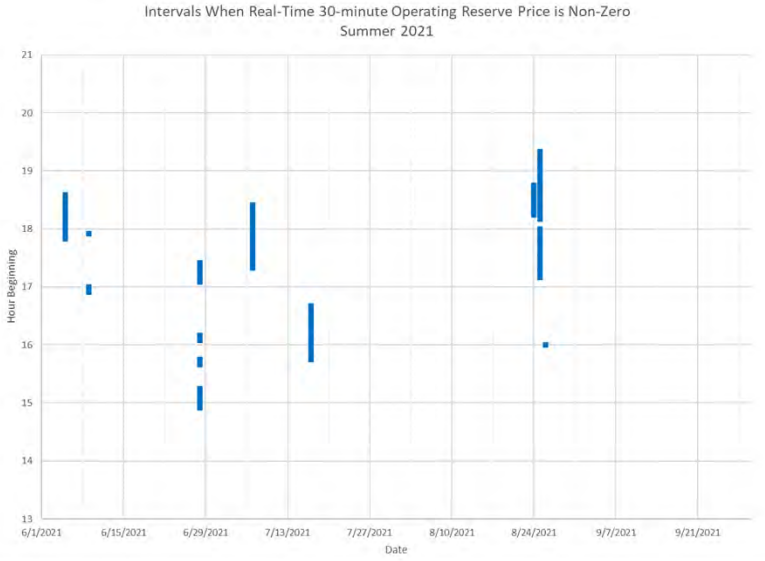
Duration of Discrete Event (minutes)	Capacity Commitment Period			
	2018-2019	2019-2020	2020-2021	2021-2022
5	-	-	-	-
10	-	-	-	2
15	2	-	2	4
20	-	-	1	-
25	2	-	-	-
30	3	-	-	1
35	-	-	-	-
40	-	1	-	1
45	-	-	-	-
50	-	-	-	-
55	-	-	-	1
60	-	-	-	1
65	-	-	-	1
70	1	-	-	-
75	-	-	-	1
80	-	-	-	1
85	-	-	-	-
90	-	-	-	-
95	-	-	2	-
100	-	-	-	-
105	-	-	-	-
110	-	-	1	-
115	-	-	-	-
120	-	-	-	-
125	-	-	1	-
130	-	-	-	-
...				
180	1	-	-	-
185	-	-	-	-
190	-	-	-	-
195	-	-	-	-
200	-	-	-	-
205	-	-	-	-
210	-	-	-	-
215	1	-	-	-
...				
300	1	-	-	-
305	1	-	-	-
Count of Discrete Events	12	1	7	13

Offering Below A Resource's True Cost is Not a Practical Concern

The pattern of SERF events is sporadic, and their frequency is few

- The charts to the right represent when SERF events would have occurred during CCP 2020-2021 (upper chart) and 2021-2022 (lower chart)
- While the distribution is limited to summer afternoon hours on peak days, the occurrence is relatively infrequent suggesting perfect foresight is illusory.
- A worthwhile analysis would include the cost of imperfect forecasting and may erode most, or all, of the profit-making potential ISO suggests.





Concerns Regarding Following Dispatch Instructions

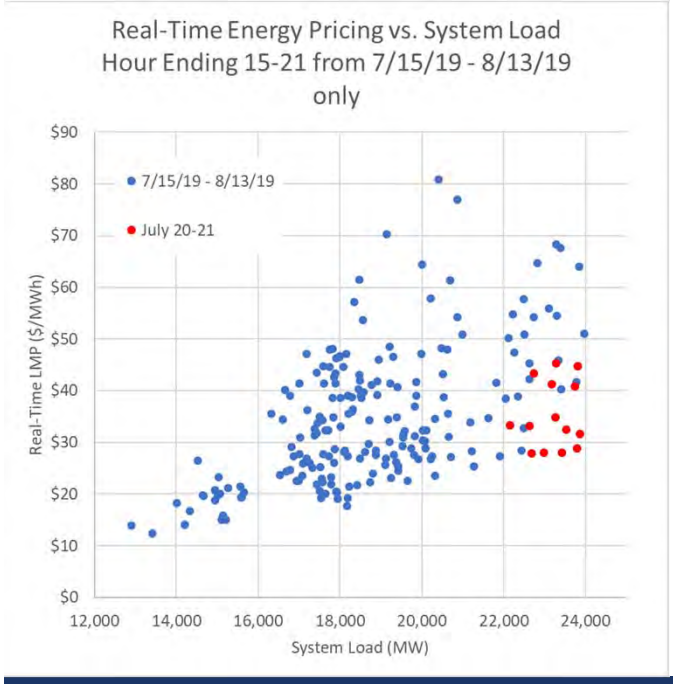
ISO's suggestion that a resource would willful

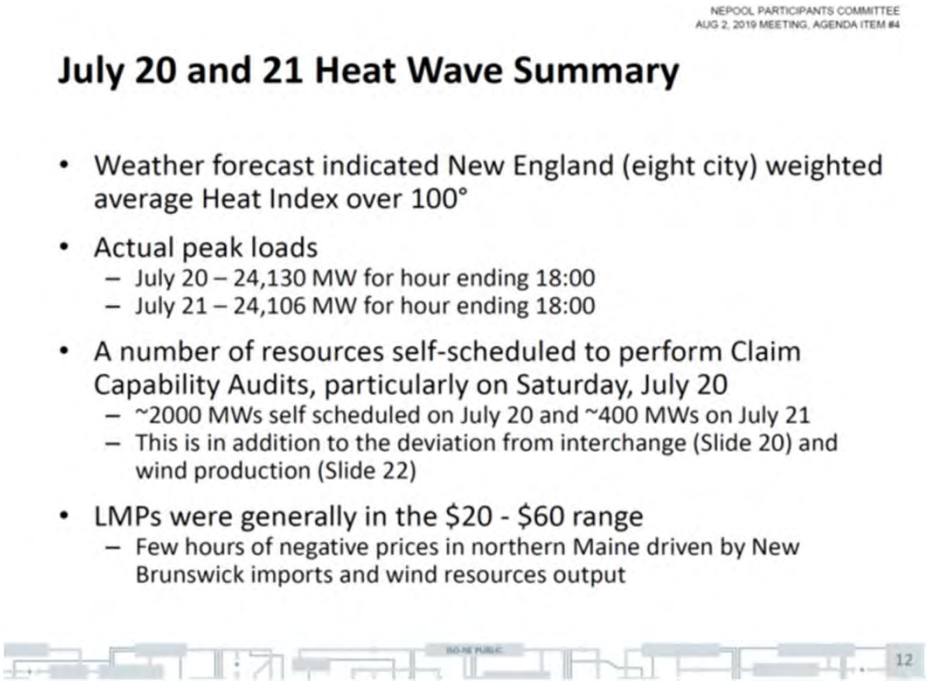
- ISO provided a simple example to demonstrate that LS Power's proposal offers a financial incentive for resources to disregard Dispatch Instructions (DI). ISO's example shows that for a marginal resource that is unloaded (i.e., is not assigned energy and reserve obligation equal to its Economic Maximum) it has an incentive to increase its energy output, which could create market distortions.
- We think the ISO's concerns are overstated for these reasons:
  - ISO assumes that the Market Participant has timely, perfect information available to decision makers and the decision makers make instantaneous decisions to willfully disregard DI. This involve an administrative construct we have never witnessed or at a minimum would require written instructions from management to control room personnel.
  - ISO also ignores the very real risk, and costs, of potential enforcement action.
    - IMM may refer a Market Participant to "the Commission's Office of Enforcement of instances in which a Market Participant's behavior…may require investigation, including…inappropriate dispatch that creates substantial concerns regarding unnecessary" See MR1 III.A.2.1(c)
    - Ignoring DI is quantifiable and easily demonstrable.
    - The cost of defending an enforcement action is relatively expensive, especially compared to the potential profit derived from SERF.
- While the ISO's arguments may have theoretical appeal, the willful disregard for DI carries substantial risk that is significantly more costly than the potential benefit. For these reasons it is highly unlikely that a Market Participant would actually undertake such behavior.

PfP appears to be driving Market Distortions

The extraordinarily high PPR would be expected to increase market distortions

- The chart below plots RT LMP vs System Load for Hours Ending 15-21 from 7/15/19 – 8/15/19. The historic +100 Deg F heat wave occurred July 20-21, 2019. The points in red are the LMPs during the heat wave.
- The chart shows an unexplained bias for lower-than-expected LMPs during this period. ISO states that 2,000 MW self-scheduled during this period, which likely contributed to the lower-than-expected LMPs. There may have also been offers below unit-specific MCs during this period too. Regardless, PfP, which had a PfP Payment Rate (PPR) of $2,000/MWh at this time, likely elicited the market response that eliminated not only a reasonable chance of scarcity pricing but also depressed LMPs.
- The relatively low cost to mitigate PfP risk through self-scheduling or below marginal cost (MC) offers compared to the relatively high penalties from PfP likely lead to market distortions during the July 20-21, 2019 heat wave.
- With a PPR around ~$10,000/MWh, the incentive to self-schedule or offer below true marginal costs will be stronger.





Proposed Tariff Changes

Proposed Tariff Changes

Adding a new Category

III.13.7.2 Capacity Performance Payments.

III.13.7.2.1 Definition of Capacity Scarcity Condition.

A Capacity Scarcity Condition shall exist in a Capacity Zone for any five-minute interval in which the Real-Time Reserve Clearing Price for that entire Capacity Zone is set based on the Reserve Constraint Penalty Factor pricing for: (i) the Minimum Total Reserve Requirement; (ii) the Ten-Minute Reserve Requirement; or (iii) the Zonal Reserve Requirement, each as described in Section III.2.7A(c); provided, however, that a Capacity Scarcity Condition shall not exist if the Reserve Constraint Penalty Factor pricing results only because of resource ramping limitations that are not binding on the energy dispatch.

III.13.7.2.1A Definition of Scarcity Event Reduction Condition.

A Scarcity Event Reduction Condition shall exist system-wide for any five-minute interval in which the Real-Time Reserves Clearing Price for Thirty-Minute Operating Reserves is greater than zero. If CSC exists system-wide or in any Capacity Zone, then a SERC shall not exist.

Proposed Tariff Changes

Calculation of SERF is identical to PfP

III.13.7.2.2 Calculation of Actual Capacity Provided During a Scarcity Event Reduction Condition or a Capacity Scarcity Condition.

For each five-minute interval in which a Capacity Scarcity Condition exists, the ISO shall calculate the Actual Capacity Provided by each resource, whether or not it has a Capacity Supply Obligation, in any Capacity Zone that is subject to the Capacity Scarcity Condition~~.~~, and for each five-minute interval in which a Scarcity Event Reduction Condition exists, the ISO shall calculate the Actual Capacity Provided by each resource, whether or not it has a Capacity Supply Obligation, system-wide. For resources not having a Capacity Supply Obligation (including External Transactions), the Actual Capacity Provided shall be calculated using the provision below applicable to the resource type. Notwithstanding the specific provisions of this Section III.13.7.2.2, no resource shall have an Actual Capacity Provided that is less than zero.

(a) A Generating Capacity Resource's Actual Capacity Provided during a Capacity Scarcity Condition or a Scarcity Event Reduction Condition shall be the sum of the resource's output during the interval plus the resource's Reserve Quantity For Settlement during the interval; provided, however, that if the resource's output was limited during the Capacity Scarcity Condition or the Scarcity Event Reduction Condition as a result of a transmission system limitation, then the resource's Actual Capacity Provided may not be greater than the sum of the resource's Desired Dispatch Point during the interval, plus the resource's Reserve Quantity For Settlement during the interval. Where the resource is associated with one or more External Transaction sales submitted in accordance with Section III.1.10.7(f), the resource will have its hourly Actual Capacity Provided reduced by the hourly integrated delivered MW for the External Transaction sale or sales.

Proposed Tariff Changes

III.13.7.2.2 continued

(b) An Import Capacity Resource's Actual Capacity Provided during a Capacity Scarcity Condition or a Scarcity Event Reduction Condition shall be the net energy delivered during the interval in which the Capacity Scarcity Condition or a Scarcity Event Reduction Condition occurred. Where a single Market Participant owns more than one Import Capacity Resource, then the difference between the total net energy delivered from those resources and the total of the Capacity Supply Obligations of those resources shall be allocated to those resources pro rata.

(c) An On-Peak Demand Resource or Seasonal Peak Demand Resource's Actual Capacity Provided during a Capacity Scarcity Condition or a Scarcity Event Reduction Condition shall be the sum of the Actual Capacity Provided for each of its components, as determined below, where the MWhs of reduction, other than MWhs associated with Net Supply, are increased by average avoided peak transmission and distribution losses.

(i) For Energy Efficiency measures, the Actual Capacity Provided shall be zero.

(ii) For Distributed Generation measures submitting meter data for the full 24 hour calendar day during which the Capacity Scarcity Condition or the Scarcity Event Reduction Condition occurs, the Actual Capacity Provided shall be equal to the submitted meter data, adjusted as necessary for the five-minute interval in which the Capacity Scarcity Condition or the Scarcity Event Reduction Condition occurs.

(iii) For Load Management measures submitting meter data for the full 24 hour calendar day during which the Capacity Scarcity Condition or the Scarcity Event Reduction Condition occurs, the Actual Capacity Provided shall be equal to the submitted demand reduction data, adjusted as necessary for the five-minute interval in which the Capacity Scarcity Condition or the Scarcity Event Reduction Condition occurs.

(iv) Notwithstanding any other provision of this Section III.13.7.2.2(c), for any On-Peak Demand Resource or Seasonal Peak Demand Resource that fails to provide the data necessary for the ISO to determine the Actual Capacity Provided as described in this Section III.13.7.2.2(c), the Actual Capacity Provided shall be zero.

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Proposed Tariff Changes

III.13.7.2.2 continued

(d) An Active Demand Capacity Resource's Actual Capacity Provided during a Capacity Scarcity Condition or a Scarcity Event Reduction Condition shall be the sum of the Actual Capacity Provided by its constituent Demand Response Resources during the Capacity Scarcity Condition, or the Scarcity Event Reduction Condition.

(i) A Demand Response Resource's Actual Capacity Provided during a Capacity Scarcity Condition or a Scarcity Event Reduction Condition shall be: (1) the sum of the Real-Time demand reduction of its constituent Demand Response Assets (provided, however, that if the Demand Response Resource was limited during the Capacity Scarcity Condition or the Scarcity Event Reduction Condition as a result of a transmission system limitation, then the sum of the Real-Time demand reduction of its constituent Demand Response Assets may not be greater than its Desired Dispatch Point during the interval), plus (2) the Demand Response Resource's Reserve Quantity For Settlement, where the MW quantity, other than the MW quantity associated with Net Supply, is increased by average avoided peak transmission and distribution losses; provided, however, that a Demand Response Resource's Actual Capacity Provided shall not be less than zero.

~~(i)~~ The Real-Time demand reduction of a Demand Response Asset shall be calculated as described in Section III.8.4, except that: (1) in the case of a Demand Response Asset that is on a forced or scheduled curtailment as described in Section III.8.3, a Real-Time demand reduction shall also be calculated for intervals in which the associated Demand Response Resource does not receive a non-zero Dispatch Instruction; (2) in the case of a Demand Response Asset that is on a forced or scheduled curtailment as described in Section III.8.3, the minuend in the calculation described in Section III.8.4 shall be the unadjusted Demand Response Baseline of the Demand Response Asset; and (3) the

(ii) resulting MWhs of reduction, other than the MWhs associated with Net Supply, shall be increased by average avoided peak transmission and distribution losses.

Proposed Tariff Changes

Capacity Balancing Ratio Measurement is identical to PfP

III.13.7.2.3 Capacity Balancing Ratio.

For each five-minute interval in which a Capacity Scarcity Condition or a Scarcity Event Reduction Condition exists, the ISO shall calculate a

Capacity Balancing Ratio using the following formula:

(Load + Reserve Requirement) / Total Capacity Supply Obligation

(a) If the Capacity Scarcity Condition is a result of a violation of the Minimum Total Reserve Requirement such that the associated system-wide Reserve Constraint Penalty Factor pricing applies or a Scarcity Event Reduction Condition exists, then the terms used in the formula above shall be calculated as follows:

Load = the total amount of Actual Capacity Provided (excluding applicable Real-Time Reserve Designations) from all resources in the New England Control Area during the interval (with the Actual Capacity Provided of Energy Efficiency measures being zero, as specified in Section III.13.7.2.2(c)(i)).

Reserve Requirement = the Minimum Total Reserve Requirement during the interval.

Total Capacity Supply Obligation = the total amount of Capacity Supply Obligations in the New England Control Area during the interval, excluding the Capacity Supply Obligations associated with Energy Efficiency measures.

Proposed Tariff Changes

III.13.7.2.4Capacity Performance Score.

Each resource, whether or not it has a Capacity Supply Obligation, will be assigned a Capacity Performance Score for each five-minute interval in which a Scarcity Event Reduction Condition or a Capacity Scarcity Condition exists in the Capacity Zone in which the resource is located. A resource's Capacity Performance Score for the interval shall equal the resource's Actual Capacity Provided during the interval (with the Actual Capacity Provided of Energy Efficiency measures being zero, as specified in Section III.13.7.2.2(c)(i)) minus the product of the resource's Capacity Supply Obligation (which for this purpose shall not be less than zero) and the applicable Capacity Balancing Ratio; provided, however, that for an On-Peak Demand Resource or a Seasonal Peak Demand Resource, the Capacity Supply Obligation associated with any Energy Efficiency measures shall be excluded from the calculation of the resource's Capacity Performance Score. The resulting Capacity Performance Score may be positive, zero, or negative.

Proposed Tariff Changes

Adding the new SER Payment Rate definition

III.13.7.2.5 Capacity Performance Payment Rate.

For the three Capacity Commitment Periods beginning June 1, 2018 and ending May 31, 2021, the Capacity Performance Payment Rate shall be $2000/MWh. For the three Capacity Commitment Periods beginning June 1, 2021 and ending May 31, 2024, the Capacity Performance Payment Rate shall be $3500/MWh. For the Capacity Commitment Period beginning on June 1, 2024 and ending on May 31, 2025, the Capacity Performance Payment Rate shall be $5455/MWh. For the Capacity Commitment Period beginning on June 1, 2025 and ending on May 31, 2026 and thereafter, the Capacity Performance Payment Rate shall be ~~$933~~ $8,321 MWh. The ISO shall review the Capacity Performance Payment Rate in the stakeholder process as needed and shall file with the Commission a new Capacity Performance Payment Rate if and as appropriate.

New Term

III.13.7.2.5A Scarcity Event Reduction Payment Rate.

For the Capacity Commitment Period beginning June 1, 2026 and thereafter, the Scarcity Event Reduction Payment Rate shall be $350/MWh. The ISO shall review the Scarcity Event Reduction Payment Rate in the stakeholder process as needed and shall file with the Commission a new Scarcity Event Reduction Payment Rate if and as appropriate.

Proposed Tariff Changes

Capacity Performance Payments are broadened to include SER Payments

III.13.7.2.6 Calculation of Capacity Performance Payments.

For each resource, whether or not it has a Capacity Supply Obligation, the ISO shall calculate a Capacity Performance Payment for each five-minute interval in which a Scarcity Event Reduction Condition or a Capacity Scarcity Condition exists in the Capacity Zone in which the resource is located. A resource's Capacity Performance Payment for an interval shall equal the resource's Capacity Performance Score for the interval multiplied, as applicable, by either (i) the Capacity Performance Payment Rate for a Capacity Scarcity Condition, or (ii) the Scarcity Event Reduction Payment Rate for a Scarcity Event Reduction Condition. The resulting Capacity Performance Payment for an interval may be positive or negative.

Proposed Tariff Changes

Broadening the Definition of Capacity Performance Payment Simplifies Allocation

III.13.7.4 Allocation of Deficient or Excess Capacity Performance Payments.

For each type of Capacity Scarcity Condition as described in Section III.13.7.2.1 and for each Capacity Zone or for each Scarcity Event Reduction Condition as described in Section III.13.7.2.1A, the ISO shall allocate deficient or excess Capacity Performance Payments as described in subsections (a) and (b) below. Where more than one type of Capacity Scarcity Condition applies, then the provisions below shall be applied in proportion to the duration of each type of Capacity Scarcity Condition.

(a) If the sum of all Capacity Performance Payments to all resources subject to the Scarcity Event Reduction Condition or the Capacity Scarcity Condition in the Capacity Zone in an Obligation Month is positive, the deficiency will be charged to resources in proportion to each such resource's Capacity Supply Obligation for the Obligation Month, excluding any resources subject to the stop-loss mechanism described in Section III.13.7.3 for the Obligation Month and excluding any resource, or portion thereof, consisting of Energy Efficiency measures. If the charge described in this Section III.13.7.4(a) causes a resource to reach the stop-loss limit described in Section III.13.7.3, then the stop-loss cap described in Section III.13.7.3 will be applied to that resource, and the remaining deficiency will be further allocated to other resources in the same manner as described in this Section III.13.7.4(a).

(b) If the sum of all Capacity Performance Payments to all resources subject to the Scarcity Event Reduction Condition or the Capacity Scarcity Condition in the Capacity Zone in an Obligation Month is negative, the excess will be credited to all such resources (excluding any resource, or portion thereof, consisting of Energy Efficiency measures) in proportion to each resource's Capacity Supply Obligation for the Obligation Month. For a resource subject to the stop-loss mechanism described in Section III.13.7.3 for the Obligation Month, any such credit shall be reduced (though not to less than zero) by the amount not charged to the resource as a result of the application of the stop-loss mechanism described in Section III.13.7.3, and the remaining excess will be further allocated to other resources in the same manner as described in this Section III.13.7.4(b)).

Proposed Tariff Changes

Addressing Capacity Performance Bilaterals

III.13.5.3. Capacity Performance Bilaterals.

A resource's Capacity Performance Score during a Scarcity Event Reduction Condition or a Capacity Scarcity Condition may be adjusted by

entering into a Capacity Performance Bilateral as described in this Section III.13.5.3.

III.13.5.3.1. Eligibility.

If a resource has a Capacity Performance Score that is greater than zero in a five-minute interval that is subject to a Scarcity Event Reduction Condition or a Capacity Scarcity Condition, that resource may transfer all or some of that Capacity Performance Score to another resource for that same five-minute interval so long as both resources were subject to the same Capacity Scarcity Condition.

III.13.5.3.2. Submission of Capacity Performance Bilaterals.

The Lead Market Participant for a resource having a Capacity Performance Score that is greater than zero in a five-minute interval that is subject to a Scarcity Event Reduction Condition or a Capacity Scarcity Condition may submit a Capacity Performance Bilateral to the ISO assigning all or a portion of its Capacity Performance Score for that interval to another resource, subject to the eligibility requirements specified in Section III.13.5.3.1. The Capacity Performance Bilateral must be confirmed by the Lead Market Participant for the resource receiving the Capacity Performance Score.

Proposed Tariff Changes

Capacity Performance Bilateral (continued)

III.13.5.3.3. Effect of Capacity Performance Bilateral.

A Capacity Performance Bilateral does not affect in any way either party's Capacity Supply Obligation or the rights and obligations associated therewith. The sole effect of a Capacity Performance Bilateral is to modify the Capacity Performance Scores of the transferring and receiving resources for the Scarcity Event Reduction Conditions or the Capacity Scarcity Conditions subject to the Capacity Performance Bilateral for purposes of calculating Capacity Performance Payments as described in Section III.13.7.2.

Summary and Next Steps

Next Steps

Aligned with ISO's MOPR filing schedule

- January 11-12 MC: vote on amendment