MEMORANDUM

To: NEPOOL Markets Committee

From Ben Griffiths, Jericho Power

Subject: *Updated Amendment for Setting the COPT for CCP 2028/29,* Rev 1

Introduction

The Capacity Offer Price Threshold (COPT) is intended to serve as a market-relevant screen: it sets the level below which suppliers may submit offers without requiring an in-depth IMM review. The goal is to balance protection against uneconomic entry with allowing legitimate market participation.

Traditionally, the COPT has been based on two reference points—the most recent FCA clearing price and a forecast of the next auction's price. This approach worked under the three-year forward design, when prior auction results were timely and representative of prevailing conditions.

In the transition to prompt auctions, however, the region will need to deviate somewhat from this approach (III.A.22.2.1(e)). In particular, the ISO is proposing to rely on the FCA18 auction results from 2024 to set the COPT in 2028; a 4+ year gap. Using an FCA clearing price that is several years old risks disconnecting the COPT from actual system conditions. Without adjustment, the COPT risks being set at a level that is stale and misaligned with market realities

At the September MC, LS proposed to rely on the ARA3 results for CCP18, as those would be the most contemporaneous auction results on which to infer market conditions.

Based on feedback from the Committee, we now propose an even simpler approach: setting the COPT for CCP19 at a fixed price of $4.984/kWm. As discussed below, the $4.984/kWm figure represents the simple average of observed clearing prices in the summer 2025 ARAs and theoretical common-value component (CVC) estimates derived from the same auctions. The close alignment of these two perspectives supports a strong case for using this value. Our approach places emphasis on a single estimate that can be easily understood and defended, while still being firmly grounded in both market outcomes and ISO's modeling of scarcity conditions.

Methodology

Observed Auction Results from Summer 2025

Two reconfiguration auctions from summer 2025 provide observable market benchmarks:

1. **ARA-2 for CCP 2026/27**: Cleared 31,330 MW against an ICR of 30,600 MW, implying a system surplus of +730 MW. The clearing price was **$5.000/kW-month**.[1]
2. **ARA-1 for CCP 2027/28**: Cleared 31,106 MW against an ICR of 30,415 MW, implying a system surplus of +692 MW. The clearing price was **$5.129/kW-month**.[2]

Together, these results demonstrate that recent market outcomes have been clustering just above the $5.00/kW-month level.

Common Value Components for ARA-1 for CCP 27/28 and ARA-2 for CCP 26/27

As discussed at length by Calpine at recent MC meetings, CVC represents the expected value of scarcity revenues under PFP. The formula is:

$$CVC = \frac{Balancing\ Ratio \times PPR \times Scaricty\ Hours}{12{,}000}$$

To estimate the implied CVC for ARA-1 and ARA-2, we need values for the expected Balancing Ratio, PPR, and expected number of scarcity hours:

- **PPR:** for CCPs 26/27, 27/28, and 28/29, the PPR is fixed at $9,337/MWh
- **Balancing Ratio:** we rely on the 0.849 "peak load" ORTP BR value used by the ISO in its 2020 ORTP calculations.[3] This value reflects the BR of an system "as is" that has surplus of about 791 MW, slightly more than observed in the recent ARAs. This BR does not include winter and transient events and is somewhat lower than recent PfP experience.
- **Scarcity Hours:** Scarcity hour estimates are sourced from the ISO's estimates of Expected Annual Hours of System Operating Reserve Deficiencies[4], paired with the surplus capacity from the relevant ARA (tables reproduced in the appendix). To align

[1] https://www.iso-ne.com/markets-operations/markets/forward-capacity-market/fcm-auction-bilateral-results-cp?cp=1445; https://www.iso-ne.com/static-assets/documents/2016/12/summary_of_historical_icr_values.xlsx

[2] https://www.iso-ne.com/markets-operations/markets/forward-capacity-market/fcm-auction-bilateral-results-cp?cp=1446; https://www.iso-ne.com/static-assets/documents/2016/12/summary_of_historical_icr_values.xlsx

[3] https://www.iso-ne.com/static-assets/documents/2020/10/a00_iso_presentation_scarcity_hours_and_balancing_ratios.pptx at 11 & 14.

[4] As Net ICR has not meaningfully changed from the base auction to the ARA, it is reasonable to rely on the surplus values from the ARA paired with he deficiency tables from the associated base auction. For CCP 26/27: https://www.iso-ne.com/static-assets/documents/2022/11/iso_memo_on_operating_reserve_deficiency_information_for_ccp_2026_2027.pdf For CCP 27/28: https://www.iso-ne.com/static-assets/documents/100014/iso_memo_on_operating_reserve_deficiency_information_ccp_2027_2028.pdf

with the BR, we exclude an additional **1.4 hours** of shortage that were included in the 2020 Net CONE and ORTP updates to capture expected "transient" and "winter" scarcity conditions.

Applying these parameters:

1. **ARA-2 (CCP 2026/27):** With a +730 MW surplus, expected peak load scarcity hours are ~7.265. The resulting CVC is **$4.799/kW-month**.
2. **ARA-1 (CCP 2027/28):** With a +691 MW surplus, expected peak load scarcity hours are ~7.582. The resulting CVC is **$5.009/kW-month**.

As a sensitivity, if we used the same approach as found in the ORTP analysis, including the lower "total" BR of 0.816 and additional 1.4 hours of transient and winter scarcity conditions we would see somewhat higher CVCs:

1. **ARA-2 (CCP 2026/27):** With a +730 MW surplus, expected peak load scarcity hours are ~7.265. Total scarcity, inclusive of winter and transient hours is 8.465. The resulting CVC is **$5.37/kW-month**.
2. **ARA-1 (CCP 2027/28):** With a +691 MW surplus, expected peak load scarcity hours are ~7.582. Total scarcity, inclusive of winter and transient hours is 8.782. The resulting CVC is **$5.58/kW-month**.

Final COPT

The simple average of the ARA clearing prices ($5.000 and $5.129) as well as the implied CVCs ($4.799 and $5.009), resulting in a final COPT of $4.984/kWm

Comparison of Auction Results & CVC Estimates

The comparison of actual clearing prices and theoretical CVC values shows remarkable consistency:

- **ARA-2**: Clearing price $5.00 vs. CVC $4.799
- **ARA-1**: Clearing price $5.129 vs. CVC $5.009

Both auctions exhibit differences of less than 5% between observed outcomes and theoretical scarcity values. Because both observed market results and theoretical scarcity values converge, the $4.984 level is not only simple but also robust.

This alignment demonstrates that the CVC framework accurately captures the economic forces driving auction clears. It also suggests that the market expects tighter conditions with higher level of scarcity than the base auctions run in 2023 and 2024. This makes

sense given news around delays in new resources, suggesting the system is getting tighter, as well as the June 24, 2025 PfP event showing significant exposure even for generally good performing resources.

Conclusion

Based on both observed clearing results and surplus-adjusted theoretical estimates, a COPT of **$4.984/kW-month** for CCP 2028/29 is reasonable, transparent, and well-supported. This value balances economic theory with market evidence, and provides a clear and credible basis for moving forward.

Appendix: Expected Annual Hours of System Operating Reserve Deficiencies

Table 1: Estimated Annual Hours of System Operating Reserve Deficiencies for 2026-2027 CCP

Capacity Level	Expected	5/95	50/50	95/5
Net ICR + 3,200 MW	1.2	0.5	1.0	2.7
Net ICR + 2,800 MW	1.6	0.6	1.3	3.5
Net ICR + 2,400 MW	2.2	0.8	1.9	4.6
Net ICR + 2,000 MW	3.0	1.1	2.6	6.0
Net ICR + 1,600 MW	4.0	1.6	3.5	7.6
Net ICR + 1,200 MW	5.3	2.3	4.8	9.7
Net ICR + 800 MW	6.9	3.4	6.3	12.4
Net ICR + 400 MW	9.0	4.8	8.1	15.7
Net ICR	11.5	6.2	10.4	19.7
Net ICR – 400 MW	14.6	8.0	13.3	25.2
Net ICR – 800 MW	18.8	10.3	17.2	31.9
Net ICR – 1,200 MW	24.2	13.3	22.6	39.7
Net ICR – 1,600 MW	31.3	17.7	29.6	49.7

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Net ICR + 2,800 MW	1.6	0.6	1.4	3.6
Net ICR + 2,400 MW	2.2	0.8	1.9	4.6
Net ICR + 2,000 MW	3.0	1.1	2.7	6.1
Net ICR + 1,600 MW	4.0	1.7	3.7	7.7
Net ICR + 1,200 MW	5.4	2.5	5.0	10.0