

Synchronous Condensing Costs

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Market Implementation Committee
March 6, 2024

- Synchronous condensers incur certain costs when operating in condensing mode.
 - Providing reserves, reactive support or post contingency operation
- Condensers provide PJM with three operating parameters and three financial parameters as part of their offer
 - Operating parameters: Energy Use (MW), Condense Notification Time, Condense to Generate Time
 - Financial parameters: Condense Startup Cost, Condense to Gen Cost, Condense Hourly Cost
- Issue originally brought to CDS in July, 2023

- Condensing costs are referenced in five sections of Schedule 1 of the Operating Agreement
- Problem: Terms are not defined in OA
- Current OA references to Condensing costs include:
 - “... offered prices for synchronous condensing..”
 - “... condense start-up cost...”
 - “... cost to provide synchronous condensing...”
 - “... startup cost of providing synchronous condensing...”
- Costs also referenced in M-11, M-15 and M-28

- Add definitions of the following terms to OA and update appropriate sections of OA, M-11, M-15 and M-28 to reference these definitions
 - Condense Startup Cost
 - Condense to Generate Cost
 - Condense Energy Use
- *Clean up OA (and parallel Tariff) language in sections utilizing the above terms to provide additional clarification*
- No change to intent of these terms, just adding definitions and clarifications to OA (and parallel Tariff provisions)

- Condense Hourly Cost was removed from M-15 as part of Reserve Price Formation changes on 10/1/22
 - Clean up M-11 and applicable OA sections to remove references to Condense Hourly Cost
 - Remove Condense Hourly Cost data field from Markets Gateway
 - Not being used currently
- No updates to cost offers or action by stakeholders is required

- **Condense Start-up Cost:**

“Condense Startup Cost” shall mean the applicable costs for a resource to transition from offline state to operate in condensing mode. Condense Startup Cost shall consist primarily of the unit’s start heat input (adjusted by the performance factor) times the fuel cost associated with the transition from offline state to operate in condensing mode. It also may include operating costs, Maintenance Adders, emissions allowances/adders, and station service cost associated with the transition from offline state to operate in condensing mode. Condense Startup Cost shall be capped at the applicable Start-Up Cost of the Cost-Based Offer.

- **Condense to Generate Cost:**

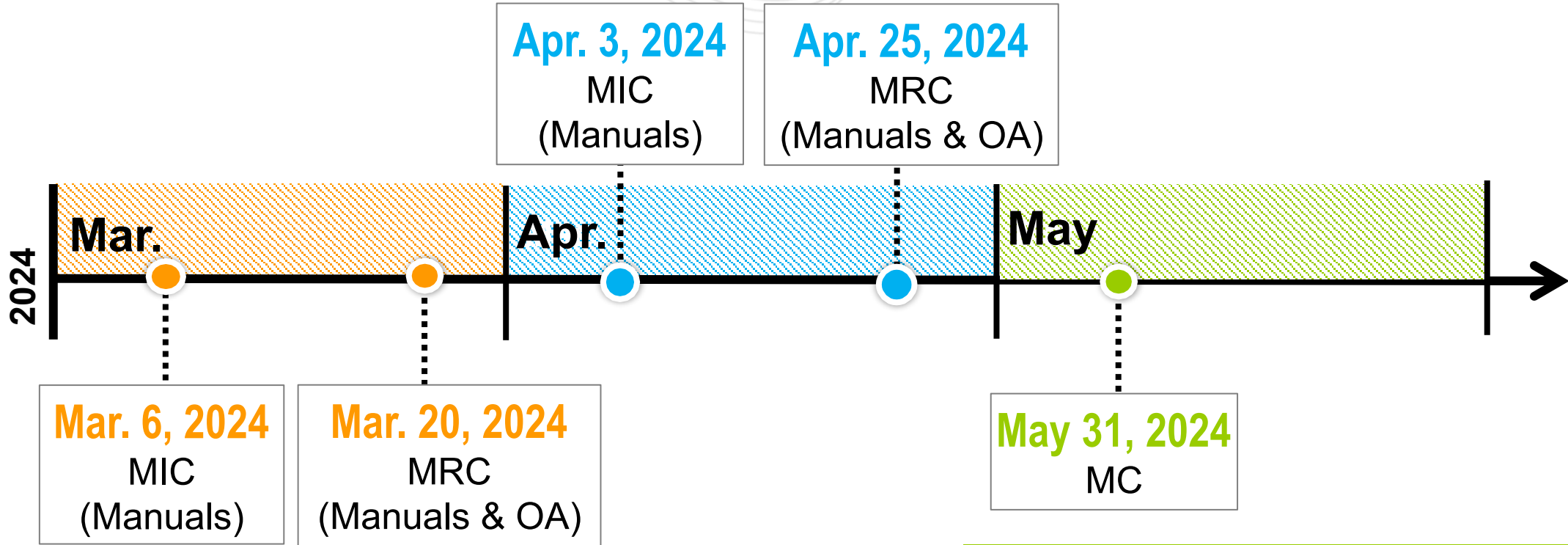
“Condense to Generate Cost” shall mean the applicable costs for a resource to transition from operating in condensing mode to operating in generating mode. Condense to Generate Cost shall consist primarily of the unit’s start heat input (adjusted by the performance factor) times the fuel cost associated with the transition from operating in condensing mode to operating in generating mode. It also may include operating costs, Maintenance Adders, emissions allowances/adders, and station service cost associated with the transition from operating in condensing mode to operating in generating mode. Condense to Generate Cost shall be capped at the applicable Start-Up Cost of the Cost-Based Offer.

- **Condense Energy use:**

“Condense Energy Use” shall mean the power (MW) used by a condensing resource while operating in condensing mode. The value must be less than or equal to the actual power consumed as observed in real time.



Manual/OA Endorsements



Manual/OA First Reads

Approval (M15/OA Only)

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Synchronous Condensing Costs

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