

Section 4: Regulation Accounting

4.2 Regulation Credits

Regulation credits are paid to Market Participants that supply their resource to PJM either by pool-scheduled or self-scheduled. PJM sums the 5-minute Regulation credits (both Regulation Clearing Price credits and Lost Opportunity Cost credits) to determine the total credit for each Regulation market participant. Regulation credits for joint-owned generators supplying Regulation are allocated to the owners based on their ownership shares.

4.2.1 Regulation Clearing Price Credit

Each resource supplying pool-scheduled or self-scheduled Regulation is credited based on the five minute RMCCP and RMPCP with consideration of the resource's Regulation performance, and where applicable, the mileage ratio. Lost opportunity cost credits are described in Section 4.2.2 of this PJM Manual.

Any resource with a five minute performance score below the applicable threshold for minimum performance as defined in PJM Manual 11: Energy & Ancillary Services Market Operations, Section 3.2.10 receives zero regulation credits for that five minute interval.

PJM Actions

- PJM retrieves the following information for the Regulation Clearing Price Credit (further definitions of terms may be found in PJM Manual 11: Energy & Ancillary Services Market Operations or Operating Agreement of PJM Interconnection, L.L.C.):
 - o Performance Score
 - o Mileage Ratio (MWh)
 - o PJM-Assigned Reg MW
 - o Self-schedule Reg MW
 - o Regulation Market Capability Clearing Price (RMCCP) (\$/MWh)
 - o Regulation Market Performance Clearing Price (RMPCP) (\$/MWh)

- From the Regulation log, PJM identifies each resource that supplied Regulation (both pool-scheduled and self-scheduled) with a five minute performance score greater than or equal to the applicable threshold for minimum performance as defined in PJM Manual 11: Energy & Ancillary Services Market Operations, Section 3.2.10.

- PJM calculates the total Regulation Clearing Price Credit as the RMCCP Credit plus the RMPCP Credit for that 5-minute interval.
 - o Regulation Clearing Price Credit = RMCCP Credit + RMPCP Credit

- PJM calculates the five minute RMCCP Credit for each applicable regulating resource by multiplying each increment of such Regulation in megawatts during the five minute interval by the Regulation Market Capability Clearing Price (RMCCP) and the resource's actual performance score for that five minute interval. This result is then divided by 12 to determine the five minute interval RMCCP Credit.
 - o RMCCP Credit = Five minute integrated Regulation MW * Five minute Performance Score * Five minute RMCCP / 12)

- PJM calculates the five minute RMPCP Credit for each applicable regulating resource by multiplying each increment of such Regulation in megawatts during the five minute interval by the Regulation Market Performance Clearing Price (RMPCP) for that five minute interval, the applicable mileage ratio, and the resource's actual performance score for that five minute interval. The result is then divided by 12 to determine the five minute interval RMPCP Credit
 - o $\text{RMPCP Credit} = \text{Five minute integrated Regulation MW} * \text{Five minute Performance Score} * \text{Mileage Ratio} * \text{Five minute RMPCP} / 12$
 - o $\text{Mileage Ratio (RegA)} = \text{RegA hourly mileage} / \text{RegA hourly mileage}$
 - o $\text{Mileage Ratio (RegD)} = \text{RegD hourly mileage} / \text{RegA hourly mileage}$
 - If the RegA hourly mileage equals zero, then a value of 0.1 will be used
 - Calculations of mileage for RegA and RegD are described in PJM Manual 11: Energy & Ancillary Services Market Operations, Section 3.2.7.3