



Review of Real Time Values Market Rules Report Out and First Read

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Members Committee
February 24, 2021

Capacity Resources

- Required to submit cost based and parameter limited price based schedules (price PLS)
- Based on technology type, resources are required to submit parameter limits that adhere to the established proxy parameters found in the Minimum Operating Parameter matrix
- Three ways to communicate a change in the operational capability of a resource
 1. Unit Specific Parameter Adjustment
 2. Parameter Limited Exception
 3. Real Time Values

Parameter Limits
Minimum Down Time
Minimum Run Time
Maximum Run Time
Maximum Daily Starts
Maximum Weekly Starts
Hot/Warm/Cold Start Up Time
Notification Time
Turn Down Ratio (Eco Max/Eco Min)

- Mechanism for a resource to communicate to PJM the current operating capability of a resource if it could not operate according to its unit specific parameter limits or approved parameter limited exceptions
- Do not require PJM approval and are non-permanent
- Resources using RTVs will not receive Operating Reserve Credits and will not be made whole unless the Market Seller can justify to PJM that operating outside of its unit specific parameters was the result of an actual constraint

Parameters Eligible for RTV Overrides
Minimum Down Time
Minimum Run Time
Maximum Run Time
Hot/Warm/Cold Start Up Time
Notification Time
Turn Down Ratio

1. It has been observed that RTVs are being used to consistently override a resource's unit specific parameter limits or approved parameter limited exceptions
2. There have been operational impacts in real time when a resource is called on by PJM dispatch based on its unit specific parameter limits or approved parameter limited exceptions, and at that time the resource notifies PJM that they cannot physically meet their unit specific parameter limits and have not submitted a RTV

November 2020 MIC

- The committee endorsed the PJM proposal with 166 (73%) in favor, 60 (27%) opposed, and 7 abstentions.
- The committee did not endorse the IMM proposal with 18 (8%) in favor, 197 (92%) opposed, and 7 abstentions.
- A non-binding poll showed stakeholders preferred the PJM proposal with 119 (55%) in favor over status quo 98 (45%).

January 2021 MRC

- The committee **endorsed** the proposed revisions in a sector-weighted vote with 4.9 in favor.

- **Market participant Consequences for not reflecting known actual operating conditions in submitted operating parameters (not using RTV).**
 - PJM will include RTV in the tariff including that multiple discrepancies or incidences of misrepresentation of parameters may result in PJM, the with timely advice and input from the Market Monitor, referring the market seller to FERC.
 - Market Participant will be required to enter a forced outage ticket into eGADS for the period of increased notification, start-up time and/or minimum downtime.
- **Market participant Consequences for using RTV to override unit specific parameters on the price based PLS or cost based schedules.**
 - In addition to the status quo on make whole payments, during a hot weather or cold weather alert or max generation emergency: if market participant uses RTVs to modify a schedule resulting in an offer with more limited parameters (for PJM), unless it is a physical limitation, PJM has the option to refer the Market Seller to the FERC.
 - Additionally documentation of the physical limitation must be provided to PJM within 3 business days.
- **Timeline of RTV submittal**
 - RTV submittal will not carry forward. RTV request time period cannot exceed one market day. When an RTV is requested it will be available for that one day then the schedule will revert to the previous day's values (for the entire schedule).
 - Participants will need to be aware that their schedule from the day that has the RTV will not roll forward and RTVs will need to be entered each day they are needed.
- **Implementation Date**
 - Upon FERC Approval

- **Market participant Consequences for not reflecting known actual operating conditions in submitted operating parameters (not using RTV).**
 - Considered a violation of FERC market behavior rules. Daily financial penalty in PJM tariff when incorrect parameter identified by PJM or IMM in any submitted offer (PLS or non-PLS) and Market Participant/PJM was not having technical issues submitting actual operating parameters.
 - For committed capacity resources, two times the penalty for using RTVs assuming RTVs submittals for the last 12 months.
 - If violation coincides with PAI, penalty for that day will be max (penalty for inaccurate parameter, capacity deficiency charges, nonperformance assessment charges).
 - For resources without capacity commitment, a fixed escalating penalty. First violation - \$1,000, second violation \$2,000 and so on.
- **Market participant Consequences for using RTV to override unit specific parameters on the price based PLS or cost based schedules.**
 - Forfeit capacity revenues on a daily basis. Calculated as: $(\text{BRA Price} * \text{Committed UCAP} * \text{Penalty Intervals}) / 288$
 - Where Penalty Intervals = $\max(\text{Min Run Time} * A, \text{Economic Intervals})$,
 - Where: $A = 0$ when unit is either unavailable or online for all 24 hours, else 1.
 - Economic Intervals = number of intervals during the day in which:
 - 1) the unit submitted an RTV more inflexible than its PLS and
 - 2) the unit was available and offline and
 - 3) the unit lowest offer at Eco Min is equal to or less than the RT LMP
 - If RTV submission coincides with PAI, penalty for that day will be max (RTV capacity penalty, capacity deficiency charges, nonperformance assessment charges).

- **Eligible Parameters for RTV**
 - Status Quo minus Minimum Run Time, Specify in Tariff
- **Valid reasons for using RTV in place of approved unit specific operating parameters. (No consequence for using RTV)**
 - If a unit is derated with a valid outage ticket, or a unit self schedules at fixed output for testing and equipment checks, RTVs to reflect lower Turn Down Ratio are appropriate.
- **Credits for penalty allocation**
 - Daily RT Load
- **Process & timeline for submitting documentation to support RTV justification**
 - Status Quo, state in Tariff
- **Implementation Date**
 - Upon FERC Approval

- December – MRC First Read
- January – MRC Vote
- February - MC vote (if applicable OA / OATT redlines)

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Appendix

- RTV Solution Matrix: <https://www.pjm.com/-/media/committees-groups/committees/mic/2020/20200916-real-time/20200916-item-03-rtv-matrix-corrected.ashx>
- Issue Charge: <https://pjm.com/-/media/committees-groups/committees/mic/2020/20200131-special/20200131-item-02a-rtv-issue-charge-final.ashx>
- Problem Statement: <https://pjm.com/-/media/committees-groups/committees/mic/2020/20200131-special/20200131-item-02-rtv-problem-statement.ashx>
- Manual 11 Section 2.3.4 and 2.3.4.4: <https://www.pjm.com/~media/documents/manuals/m11.ashx>
- PJM Operating Agreement Schedule 1 Section 6.6: <https://www.pjm.com/directory/merged-tariffs/oa.pdf>