



## **Unit-Specific Minimum Operating Parameters for Capacity Performance and Base Capacity Resources**

Last Updated: 9/16/2016

Given FERC approval on June 9, 2015 of the PJM Capacity Performance filings in Docket Nos. ER15-623 and EL15-29, and subject to the additional Tariff and Operating Agreement revisions PJM has been directed to make by FERC in its order, PJM will be implementing unit-specific parameter limitations for Capacity Performance Resources that are committed for the 2016/2017 Delivery Year and subsequent Delivery Years, and Base Capacity Resources that are committed for the 2018/2019 and 2019/2020 Delivery Years. In order to inform Capacity Market Sellers' offers into those auctions, PJM provides this guidance with respect to the minimum unit-specific operating parameters that Generation Capacity Resources will be required to meet under these new rules as defined in Tariff, Attachment K-Appendix, Section 6.6 (and the parallel provisions of Operating Agreement, Schedule 1).

Capacity Market Sellers who do not believe their individual resources can meet these minimum unit-specific operating parameters, due to actual operating constraints, may request adjusted unit-specific parameters for those resources. These adjustment requests must be submitted by no later than the February 28 immediately preceding the commencement of the applicable Base Residual Auction for the first Delivery Year for which the adjusted unit-specific parameters are requested to commence. Requests must be submitted in writing to PJM via email to [unitspecificpls@pjm.com](mailto:unitspecificpls@pjm.com) and must include all the necessary data, information and documentation to justify the requested adjustment. The Independent Market Monitor for PJM (IMM) will automatically receive a copy of all information sent to the referenced email address.

The table below provides the minimum unit-specific operating parameters that PJM has determined, with input from the IMM, should apply to Capacity Performance Resources and Base Capacity Resources. Capacity Market Sellers should determine the technology classification category into which each of their resources fits in order to determine the applicable minimum unit-specific operating parameters. Unit-specific operating parameters referenced below will apply to the resource if no adjusted unit-specific parameter is requested and subsequently approved by PJM.

## Capacity Performance and Base Capacity Resource Minimum Unit-Specific Operating Parameters<sup>1</sup>

| Technology Classification <sup>2</sup>  | Min Down Time Hrs      | Min Run Time Hrs | Max Daily Starts | Max Weekly Starts | Start-up Time   |           |           | Notification Time Cold/Warm/ Hot Hrs | Turn Down Ratio | Max Run Time |
|---|------------------------|------------------|------------------|-------------------|---|-----------|-----------|--------------------------------------|-----------------|--------------|
|   |                        |                  |                  |                   | Hot Hrs.  | Warm Hrs. | Cold Hrs. |                                      |                 |              |
| Reciprocating Internal Combustion Units | 0.6                    | 1                | 12               | 84                | 0.1   | 0.1       | 0.1       | 0.1                                  | 1.0 or more     | 24 hrs.      |
| AERO CT Units                           | 1.1                    | 1                | 6                | 42                | 0.1   | 0.1       | 0.1       | 0.1                                  | 1.0 or more     | 24 hrs.      |
| Frame CT Units                          | 1.25                   | 2                | 4                | 28                | 0.25  | 0.25      | 0.25      | 0.1                                  | 1.5 or more     | 24 hrs.      |
| Combined Cycle Units                    | 3.5                    | 4                | 3                | 21                | 0.5   | 0.5       | 0.5       | 1                                    | 1.5 or more     | 24 hrs.      |
| Petroleum and Natural Gas Steam Units   | 6                      | 4                | 2                | 14                | 2   | 3         | 4         | 1                                    | 2.0 or more     | 24 hrs.      |
| Combined Cycle Based QF Units           | 4.5                    | 4                | 3                | 21                | 0.5   | 0.5       | 0.5       | 1                                    | 1.5 or more     | 24 hrs.      |
| Solid Fuel NUG Units                    | 8                      | 4                | 3                | 21                | 4   | 6         | 10        | 1                                    | 1.5 or more     | 24 hrs.      |
| Sub-Critical Coal Units                 | 8                      | 8                | 2                | 14                | 4   | 6         | 10        | 1                                    | 2.0 or more     | 24 hrs.      |
| Super-Critical Coal Units - Pre 2000    | 8                      | 6                | 1                | 7                 | 4   | 6         | 10        | 1                                    | 1.5 or more     | 24 hrs.      |
| Super-Critical Coal Units - Post 2000   | 6                      | 6                | 1                | 7                 | 2   | 2.5       | 5         | 1                                    | 1.5 or more     | 24 hrs.      |
| Capacity Storage Resource               | Shall not exceed 1 hr. | 1                | 12               | 84                | Start Time + Notification Time shall not exceed 1 hr. |           |           |                                      | 1.0 or more     | 24 hrs.      |

<sup>1</sup> Parameter definitions can be found in the eMkt userguide, (<http://www.pjm.com/~media/etools/emkt/ts-userguide.ashx>).

<sup>2</sup> The technology classifications in the above table will apply to Capacity Performance Resources and Base Capacity Resources and have been adjusted from those technology classifications listed in the default matrix in Tariff, Attachment K-Appendix, Section 6.6(c) and the parallel provisions of Operating Agreement, Schedule 1. The technology classifications have been revised based in part on advice from the IMM considering the current PJM generation fleet as well as the Planned Generation Capacity Resources being constructed in the PJM Region.

Brief descriptions of the new technology classifications are:

Reciprocating Internal Combustion Engines – Petroleum, natural gas, or landfill gas fired internal combustion engines

AERO CT Units –Aero-derivative combustion turbines and hybrid designs of any MW size which use a power turbine to drive the generator, including single Pratt and Whitney FT4 and FT8 units of about 20 MW, Pratt and Whitney FT4 TwinPac units of about 40 MW and Rolls Royce Trent units at 50 MW

Frame CT Units – Industrial combustion turbines and hybrid technology designs with shaft connected generators of any MW size

Combined Cycle Units – All Combined Cycle units that are not PURPA Qualifying Facilities (“QF”)

Petroleum and Natural Gas Steam Units – Boiler steam generator units that use natural gas or liquid petroleum derived fuels as primary fuel; QFs that are not Combined Cycle units; Non-Utility Generation (“NUG”) units that do not burn solid fuel.

Combined Cycle Based QF Units - QFs that are Combined Cycle units

Solid Fuel NUG Units - NUG units, primarily municipal waste, biomass or waste coal fired steam boiler and –steam generator power plants

Sub-Critical Coal Units – Boiler steam generator units that use coal as the primary fuel operating at sub-critical boiler steam pressure.

Super-Critical Coal Units – Pre 2000 – Boiler steam generator units that use coal as the primary fuel operating at super-critical boiler steam pressure with commercial operation date 2000 or earlier.

Super-Critical Coal Units – Post 2000 – Boiler steam generator units that use coal as the primary fuel operating at super-critical boiler steam pressure with commercial operation date after 2000.

Capacity Storage Resource - Pumped storage hydro, flywheel and battery technologies units.

The matrix of default parameter limited schedule values found in Tariff, Attachment K-Appendix, Section 6.6(c) and the parallel provisions of Operating Agreement, Schedule 1 will continue to apply to Capacity Resources that are currently committed as Capacity Resources but did not clear as Capacity Performance in the Transitional Incremental Auctions for the 2016/2017 and 2017/2018 Delivery Years.

Adjustment requests must be submitted in writing to PJM via email to [unitspecificpls@pjm.com](mailto:unitspecificpls@pjm.com) and must include all the necessary data, information and documentation to justify the requested adjustment. Unit specific adjustment request FAQs can be found at the following link:

<http://www.pjm.com/~media/committees-groups/committees/elc/postings/20150715-cp-unit-specific-adjustment-request-faqs.ashx>