



Black Start Unit Capital Recovery Factor; and Involuntary Termination & Substitution Rules

Problem / Opportunity Statement

A Black Start Unit is a generating unit that has equipment enabling it to start without an outside electrical supply or a generating unit with a high operating factor (subject to Transmission Provider concurrence) with the demonstrated ability to automatically remain operating, at reduced levels, when disconnected from the grid. A Black Start Unit must meet the criteria set forth in the Open Access Transmission Tariff (Schedule 6A Black Start Service) and PJM Manuals (Section 4.6 Black Start Service in PJM Manual 12). PJM has identified four areas in the Black Start Service documentation that requires additional clarification or updating.

1) Testing Requirements for Black Start resources not compensated through Schedule 6A

Black Start units in PJM are typically compensated through Schedule 6A of the Open Access Transmission Tariff. In order to receive Black Start Service compensation, the Unit must have a successful black start test submitted to PJM within the preceding 13 months from the last successful test on record. Some Black Start Units entered Black Start Service via a Transmission Owner (TO) integration and are not compensated via Schedule 6A but through a contractual relationship with the TO. PJM has identified the need to provide clarity within its black start testing requirements to ensure consistency, including testing submittal timelines, for Black Start Units compensated by either PJM or Transmission Owner(s).

2) Black Start Unit Substitution Rules

A Black Start Unit Owner may utilize another unit to substitute as a Black Start Unit as long as the unit is on the same voltage level and has a valid annual black start test. This is generally intended to allow for more than one Black Start Unit on planned outage at the same time. PJM has received an increase in questions and interest in adding, maintaining, and managing units as Black Start Unit substitutes. Some examples of the questions include notification time required to allow a Black Start Unit substitution; managing updates to system restoration plans to document black start resources, and reporting of black start testing for units not designated as critical. As a result, PJM has identified the need to provide additional clarification to the existing substitution process rules.

3) Black Start Termination Rules

Per PJM's Open Access Transmission Tariff and PJM Manual language, PJM or a Black Start Unit owner is required to provide a one year's advance notice of intent to terminate Black Start Service (following an initial two years of Black Start Service). PJM has identified the potential for a Black Start Unit to either fail or not perform a black start test and remain without a successful black start test on file for an extended period of time before issuing or receiving a termination notice. This can potentially delay PJM from procuring replacement Black Start Service. PJM has identified the need to update the Open Access Transmission Tariff and PJM Manual language with additional rules to address this potential delay.



4) Black Start Capital Recovery Factor (CRF)

Black Start Units electing to recover new or additional Black Start capital costs commit to provide Black Start Service for a term based on the age of the Black Start Unit. Open Access Transmission Tariff, Schedule 6A, Capital Recovery Factor (CRF) Table lists the term periods of commitment and applicable Capital Cost Recovery factors. Recent tax law and interest rate changes no longer reflect the multiple assumptions used in the current CRF. These changes include implementation periods in order to conform to the new tax laws, along with expected future changes that are not yet finalized. PJM is requesting to update the current CRF Table to meet current tax law and interest rates; and take this opportunity to explore a new process for automatically updating and documenting the CRF Table to remain consistent with tax law changes.

(Please note: Current Black Start Units receiving the capital cost recovery rate (Schedule 6A) and units already awarded in recent Black Start RFPs will continue with the commitment period and CRF rates as documented in the current Open Access Transmission Tariff, Schedule 6A, Black Start Service.)

5) Minimum Tank Suction Level (MTSL)

Oil fired Black Start Unit's storage tanks typically have an un-usable volume of oil called the Minimum Tank Suction Level (MTSL) which is a function of the size of the storage tank. Black start unit owners can currently include this volume in the calculation of the unit's oil carrying cost for the annual revenue requirement. Many of the oil fuel tanks are shared by multiple units and/or sized for an energy production time period that is greater than needed for the 16 hour black start run requirement. Because the size of the oil tanks was determined by the size of the generating unit and because the tank is now used to provide both energy and Black Start, PJM is requesting to revise the recovery Tariff method of including the full volume of the MTSL in the oil carrying costs to include a share of the MTSL equal to the 16 hour Black Start requirement divided by the total size of the tank.