

# Manual 14D

## Section 10: Black Start Replacement Process

### 10.1 BLACK START REPLACEMENT PROCESS

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### 10.2 COST-BASED COMPONENTS FOR BLACK START REPLACEMENT

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### 10.3 Black Start Refurbishment Process

This Black Start Refurbishment process ~~is intended to be a reference~~applies when a resource providing Black Start service, requests additional compensation under its Black Start Service ancillary service payment which meet the threshold limits listed below. Costs may include investment to either, i).continue operating the unit to provide black start service or ii).to continue operating the components of the unit that allows such unit to black start. Approved costs accepted under this refurbishment process shall be recovered under Schedule 6A of the Tariff. As per Schedule 6A, Black Start Capital Costs is the capital cost documented by the owner or accepted by the Commission for the incremental equipment solely necessary to enable a unit to provide Black Start Service in addition to whatever other products or services such unit may provide.

Thresholds for a blackstart unit to become eligible under these provisions include the following:

1. A unit that, without refurbishment would retire and would no longer be available to provide black start service.
2. A unit that without refurbishment of its black start components can no longer operate and meet black start qualifications and such refurbishments exceed the following levels:

<u>0 – 20 MW</u>	<u>\$200,000</u>
<u>21 – 35 MW</u>	<u>\$300,000</u>
<u>35 – 50 MW</u>	<u>\$400,000</u>
<u>51 MW &amp; Above</u>	<u>\$500,000</u>

Costs that are less than these thresholds are considered deminimus and the resource owner may apply for capital recovery under the black start service provisions of Schedule 6A of the tariff and is not subject to the replacement process provided herein.

#### 10.3.1 Notification of Planned Refurbishment

The Generator Owner ~~will~~shall notify PJM of the planned refurbishment of a black start unit where Black Start Capital Costs are ~~being requested to~~ expected to be recovered through Schedule 6A and which exceed the threshold requirements for evaluation under this refurbishment process. The notification shall be one year in advance of the planned investment. In case of a forced event causing damage and requiring refurbishment, the unit owner shall notify PJM as soon as practical. The notification ~~and~~will shall include the following information:

- Estimated total cost and a breakdown of cost components. The estimated cost must be within +/- 25% of the actual cost. These costs are to be used for the threshold evaluation only.
- Proposed start date and end date of the project
- ~~Proposed outage schedule (if required)~~

### 10.3.2 Refurbishment Process Step 1 – Notification of TO

Upon receiving such refurbishment notification from a GO, PJM ~~will~~shall notify the Transmission Owner (TO) within 510 business days, identifying the affected resource and schedule. ~~The Transmission Owner would not be provided any of the refurbishment cost details.~~

### 10.3.3 Refurbishment Process Step 2 – Consideration of Impacts

Within ~~3090~~ days, PJM and the TO will jointly consider the impacts the refurbishment unit imposes to their restoration plan. ~~will discuss with the TO the proposed refurbishment. PJM and the TO will assess the need, the impact, and the cost of refurbishing the black start resource. This impact study should identify potential alternatives to meet the current black start restoration requirements in addition to maintaining the current resource.~~

*{ CMT: If there was no need then how did it become a BS unit in the first place? Need assessments should not arise from refurbishment, they should already be part of the BS selection process. The impact study should point out where else can BS be located and get the system restored in the appropriate time period and it is competing against fixing the current resource. I eliminated the next sections for that reason}}*

~~The first determination is whether this black start unit is still required for system restoration. If PJM and the TO determine that there is sufficient redundancy of black start resources in the region, consistent with the minimum critical black start requirement defined in Attachment A of PJM Manual M-36 on System Restoration, such that there is no need to maintain or to replace the refurbishing black start unit in the restoration plan, PJM will initiate a final review and approval through the SOS-T committee of the TO's restoration plan and advise the TO whether such plan is adequate without the refurbishing black start unit.~~

- In the event that PJM and the TO do not agree on whether there is a need to maintain or to replace the refurbishing black start unit in the restoration plan, PJM will initiate a review with SOS-T for additional technical assessment, and if after the SOS evaluation, an agreement is not yet achieved, the PJM Dispute Resolution process will be employed. Please refer to Section 5 of the ***PJM Manual for Administrative Services for the PJM Interconnection Agreement*** for more details about the PJM Dispute Resolution process.

#### 10.3.4 Refurbishment Process Step 3 – Competitive Evaluation

Based on the impact analysis, if PJM and the TO shall implement a process to identify replacement black start resources, on a competitive basis to potentially offset the refurbishment unit following the process outlined below; determine that there is a need to maintain or to replace the refurbishing black start resource, then within 90 calendar days, PJM will seek alternative black start resource using the process below:

- ~~A. After PJM and the TO determine that there is a need to maintain or to replace the refurbishing black start resource in order to meet the defined minimum critical black start zonal requirement, and also determine the location and capability requirements, PJM will~~shall post online a notification about the need for a black start resource along with the location and capability requirements. Please refer to Attachment A of the ***PJM Manual for System Restoration*** for more details on the selection criteria for black start resources. The online notification will also advise that all bids submitted for the black start resource must be consistent with Schedule 6A of the PJM OATT. Details of the required cost components for each prospective black start replacement bid are provided in the following subsection labeled on “Cost-Based Components for Black Start Replacement.” ~~As long as the TO’s Black Start plan does not change the generator requirements significantly, then~~
- ~~B. To be considered, t~~he generation owner of the refurbishing unit must submit a bid for the unit ~~for consideration to continue~~ as a black start resource. The bid must contain the estimated refurbishing cost. ~~In the event the owner of the refurbishing unit decides not to submit a bid, the owner must then provide a notice to PJM of the unit’s termination from black start service. (The actual cost recoverable will be capped at +25% of the estimate submitted for all bids.)~~
- C. The black start resource posting should be made within 90 calendar days of receiving a notification to refurbish the existing black start resource, and will mark the beginning of a “Market Window” which will last 90 calendar days from the date of the posting. The posting will also advise that PJM will be reviewing pending generator interconnection projects and other projects that are received within the Market Window. **This process also allows for**

~~owners existing units to propose a capital plan for to allow conversion of existing units to Black Start capable units.~~

D. PJM will review each Generation Interconnection Request pending under Part IV of the PJM Tariff at the time a Market Window is opened (as described above) and each request from Black Start Units and each Interconnection Request it receives during such Market Window, to evaluate whether the project proposed in the request could meet the black start replacement criteria for which the Market Window was established.

~~E. The TO will also have the option of negotiating a cost based bi-lateral contract in accordance with the existing process outlined in Schedule 6A of the PJM OATT with a generator owner for black start services. The TO may provide the alternative as one of the bids for the black start replacement that will be evaluated by PJM in step 4E pending FERC approval. {{CMT: BS is a PJM service and not the TO's responsibility}}.~~

F. If PJM ~~and the TO~~ {{CMT: BS is a PJM service and NOT the TO's}} determines that more than one of the proposed projects (including the existing black start unit proposed for refurbishment) within the 90 day market window meets the black start resource criteria, the most cost-effective resource will be chosen, provided the identified resource accepts and maintains designation as a market solution under Sections 36A or 41A of the PJM Tariff and executes the agreement(s) required there under. Submitted projects costs must be consistent with Schedule 6A of the PJM OATT. ~~If any of the proposed projects (including the existing black start unit that is requesting a refurbishment) is from an affiliate of the TO, then the Market Monitor will assist in the economic evaluation of all the proposals. {{CMT: PJM not the TO doing the evaluation here}}.~~

If no additional resources are received during the 90-day market window (other than the existing unit proposed for refurbishment), PJM ~~and the TO~~ will select the refurbishing unit as the most cost effective solution.

After PJM ~~and the TO have identified~~ the most cost-effective black start resource, PJM and the TO will coordinate with the GO for the GO's acceptance and continuance as a black start unit under the PJM tariff.

The selected black start unit will be compensated for provision of the black start service in accordance with Schedule 6A.~~the existing process outlined in the PJM OATT.~~ However a black start resource that is being refurbished in lieu of retirement to continue providing black start service shall have the entirety of those refurbishment costs included in its black start service compensation. {{CMT: You need to add words in 6A on this, it would be a CRF rate under paragraph 6/18}}

#### 10.3.5 Refurbishment Process Step 4 – Coordination

~~If the refurbishing unit is selected to continue as a black start resource, PJM and the TO will assess the impact to the restoration plan and potential outages required during the refurbishment of the unit. PJM will initiate a final review and approval through the SOS-T committee. {{CMT: There are already rules on BS outage coordination in the manuals, same as any other BS outage}}~~

If another unit is selected as a replacement black start resource PJM shall notify the original resource and its replacement resource of the outcome with an effective date at least 30 days in advance. The effective data shall be the date provided by the original black start resource in its notice of withdrawal or as mutually agreed by PJM and the original black start resource owner.

If another unit is selected as a replacement black start resource but will not be available prior to the proposed refurbishment date of the existing black start unit or the proposed date of withdrawal of the existing black start unit from providing black start service, PJM, will use the following process:

A. PJM will identify ~~whether there is a need to request that if~~ the “**proposed** refurbishing” unit is necessary to continues to provide black start service for an interim period until the replacement black start unit is available for black start service. This notice shall provide an estimate of the time period that the black start unit is needed to operate beyond the proposed withdrawal date.

B. In the event that ~~such notice requests that~~ the black start unit proposed for refurbishment is withdrawing from providing black start service (but ~~which is~~ not deactivating)~~continue operating, the notice~~ PJM shall request that such unit voluntarily fulfill its two-year rolling commitment to provide black start service. If the black start unit voluntarily agree's to operate on an interim basis the unit shall continue to receive black start service revenues pursuant to Schedule 6A of the PJM Tariff, in addition to any avoidable costs associated with maintaining the black start capability through the interim period that the generator would not have incurred if it were withdrawn from the black start service as requested.

C. In the event that the black start unit is deactivating PJM shall request that such unit voluntarily fulfill its two-year rolling commitment to provide black start service. If the black start unit voluntarily agree's to continue operating on an interim basis the unit shall continue

~~to receive black start service revenues pursuant to Schedule 6A of the PJM Tariff, in addition to any avoidable costs associated with maintaining the black start capability through the interim period that the generator would not have incurred if it were withdrawn from the black start service as requested. In the event that the notice to continue to provide black start service requests that the black start unit proposed for refurbishment continue operating, this notice shall provide an estimate of the time period that the black start unit is needed to operate beyond the proposed withdrawal date.{{CMT: Moved to A}}~~

D. Within 30 calendar days of such notice by PJM, the GO shall notify PJM whether the black start unit will continue operating beyond its proposed withdrawal date.

~~The black start unit proposing to withdraw from providing black start service (but which is not deactivating) that continues providing black start service for its entire rolling two-year commitment shall receive black start service revenues pursuant to Schedule 6A of the PJM Tariff.~~

~~E. In the event that, through the market window process described above, a replacement black start resource is identified, PJM, as soon as practicable, shall notify the “refurbishing” GO of such replacement, that its black start unit no longer will be needed for reliability, and the date the black start unit may withdraw from providing black start service or deactivate without affecting reliability.~~

*Exhibit 14-2: Black Start Refurbishment Process Flow Diagram*