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 when a Black Start Generator Owner (GO) plans to perform capital refurbishment to an existing black start unit and recover the Black Start Capital Cost 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.

10.3.1 Notification of Planned Refurbishment

The Generator Owner will notify PJM of the planned refurbishment of a black start unit where Black Start Capital Costs are expected to be recovered through Schedule 6A. 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 will include the following information:

- Estimated total cost and a breakdown of cost components. The estimated cost must be within +/- 25% of the actual cost.
- Proposed start date and end date of the project
- Proposed outage schedule (if required)

10.3.2 Refurbishment Process Step 1

Upon receiving such refurbishment notification from a GO, PJM will notify the Transmission Owner (TO) within 5 business days. The Transmission Owner would not be provided any of the refurbishment cost details.

10.3.3 Refurbishment Process Step 2

Within 30 days, PJM 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.

- 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

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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

If PJM and the TO 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 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 on *"Cost-Based Components for Black Start Replacement."* To be considered, the generation owner of the refurbishing unit must submit a bid for the unit 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 for all bids.

B. 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 to propose a capital plan for conversion of existing units to Black Start capable units.

C. 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.

D. 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.

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E. If PJM and the TO 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.

   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.

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 the existing process outlined in the PJM OATT.

10.3.5 Refurbishment Process Step 4

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.

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 the "proposed refurbishing" unit continues to provide black start service until the replacement black start unit is available for black start service.

B. In the event that such notice requests that the black start unit proposed for refurbishment withdraw from providing black start service (but which is not deactivating) continue operating, the notice shall request that such unit voluntarily fulfill its two-year rolling commitment to provide black start service.

C. 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.

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.

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E. 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.

F. 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.

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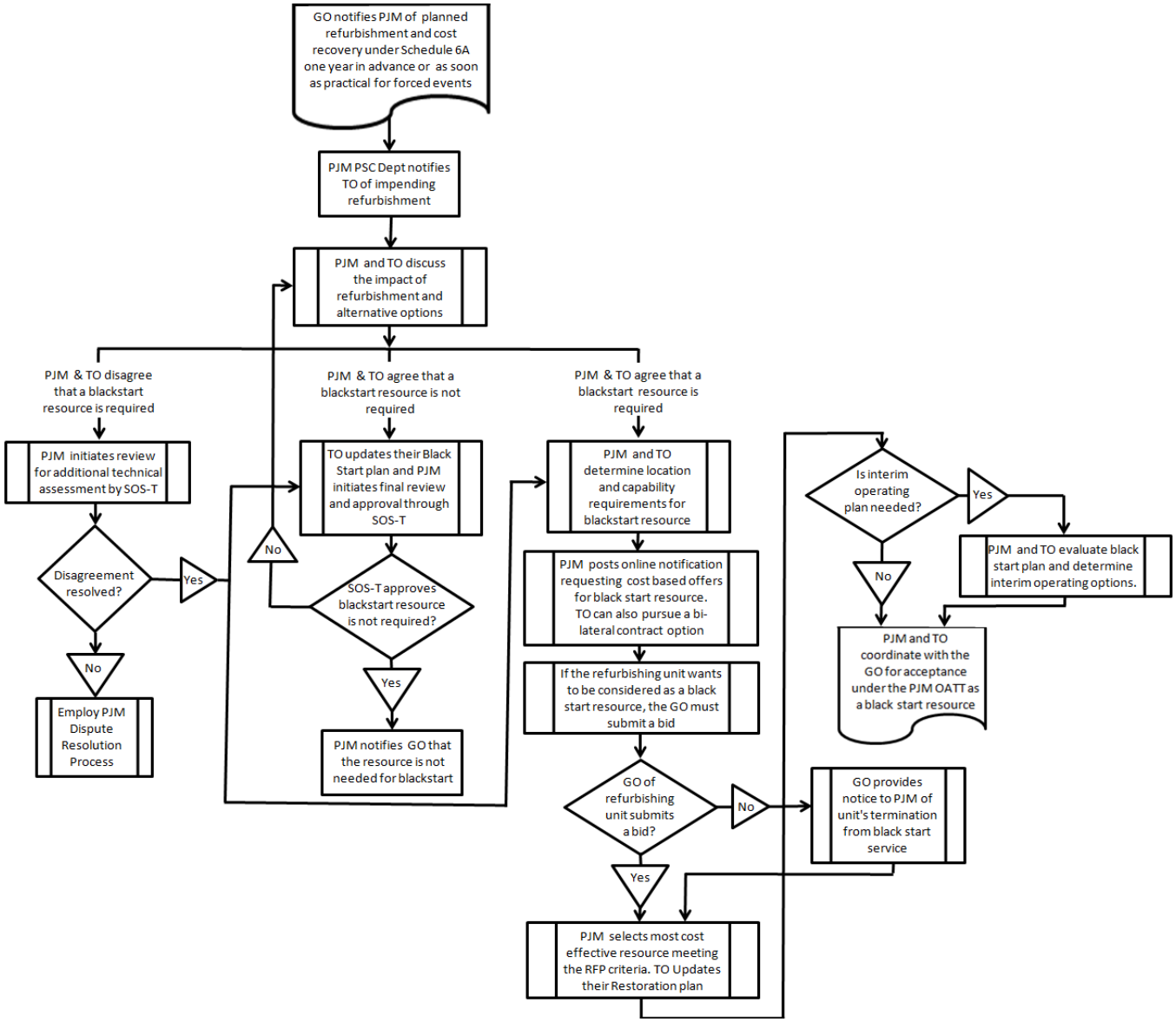

Exhibit 14-2: Black Start Refurbishment Process Flow Diagram