

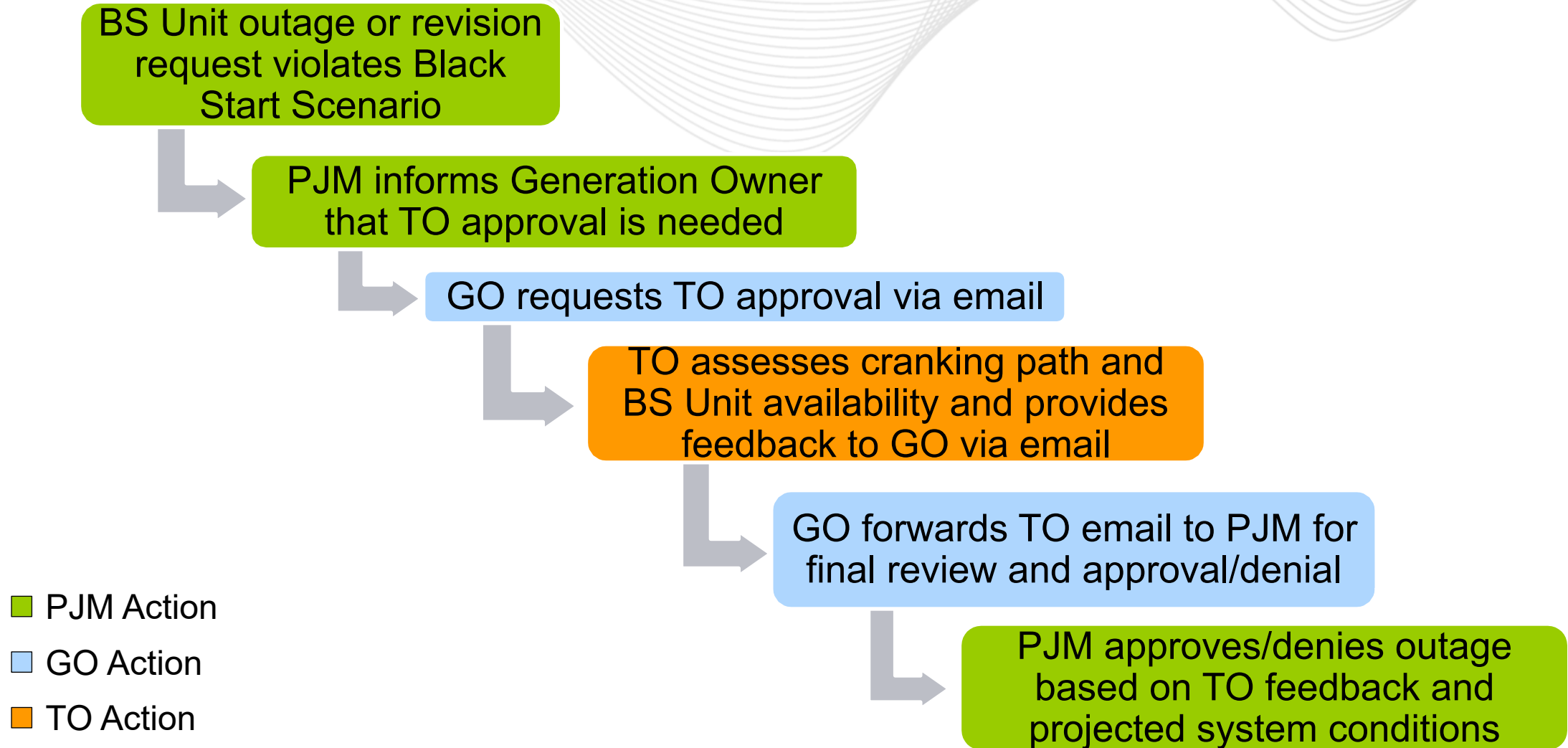


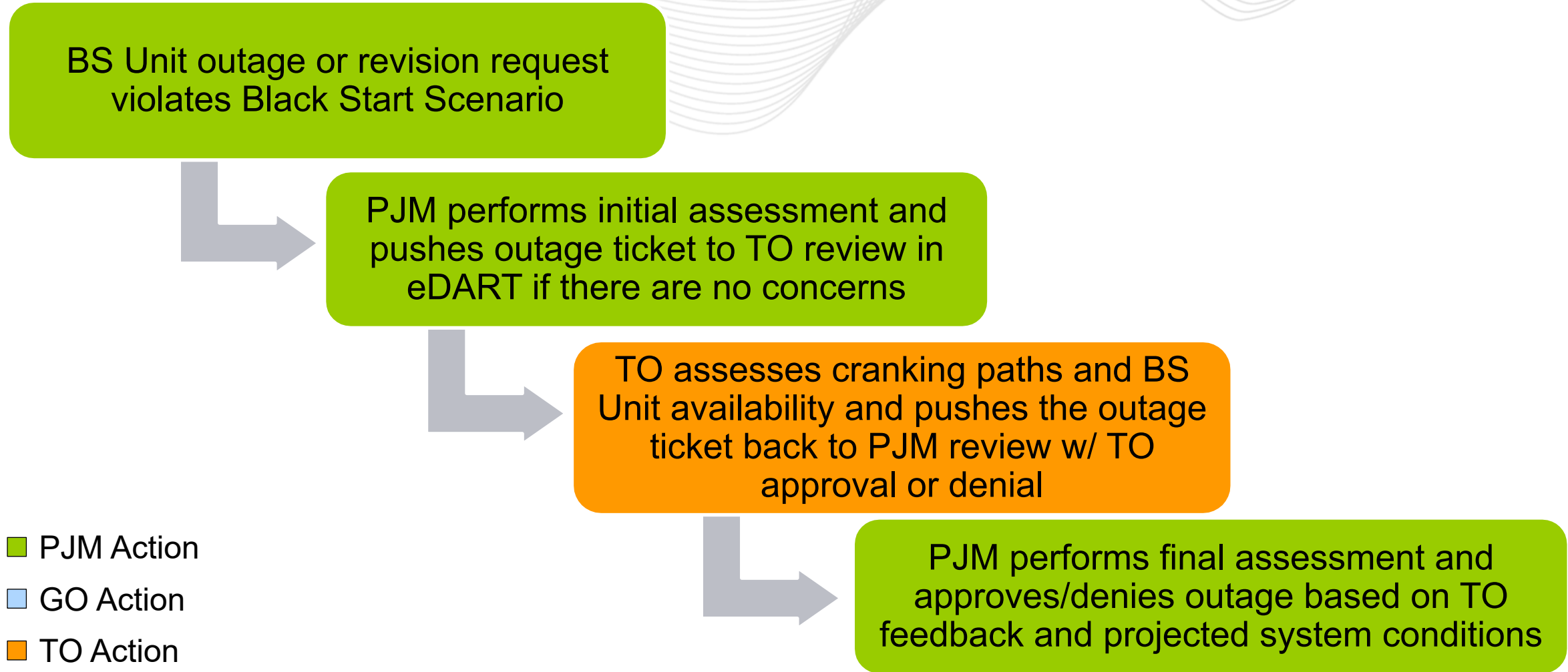
Black Start Outage Approval Process

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- Current Black Start (BS) outage approval process is cumbersome
- Process relies on emails which increases the risk of sharing information with the wrong entities
- No way to track BS outage approval progress, requiring multiple follow-up calls/emails

- BS resources need to be available to restart the grid, but outages are needed for reliability. Coordination of BS outages is needed to maintain sufficient BS resources for system restoration
- BS unit outages are restricted by [PJM Tariff Schedule 6A](#) and [Manual 10 Section 2.5.1](#)
- PJM creates BS Scenarios in eDART to identify BS outage requests/revisions requiring additional PJM and TO review prior to approval or denial





- Generator outage requests/revisions are reviewed and approved on a first come first served basis.
 - Planned Outages (PO) are submitted at least 30 days in advance
 - Maintenance Outages (MO) should be submitted at least 3 days in advance, but PJM will evaluate requests less than 3 days
- Generator outage requests submitted farther in advance provide time for PJM and TO to review. Last minute outage requests or revisions may not be approved in time.

- Timely feedback from PJM and TO is needed to ensure the following
 - Generators are properly marketed in real-time and day-ahead
 - Scheduling of contractors
 - Avoid outage denials due to delayed response from PJM or TO

- TOs and GOs to send initial feedback to PJM by February 1, 2023
- PJM will present similar material at future eDART Forum meetings to seek feedback while working towards longer term solution

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Member Hotline

(610) 666 – 8980

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custsvc@pjm.com

**PROTECT THE
POWER GRID
THINK BEFORE
YOU CLICK!**



Be alert to
malicious
phishing emails.

Report suspicious email activity to PJM.
(610) 666-2244 / it_ops_ctr_shift@pjm.com



- [PJM Tariff Schedule 6A](#) and [Manual 10 Section 2.5.1](#) does not allow more than one Black Start Unit at a Black Start Plant to be on a MO or PO at any one time without written approval of PJM and the Transmission Owner in the Zone receiving Black Start Service. Restriction excludes MO or PO on common plant equipment that may make all units unavailable
- Concurrent planned outages at multiple Black Start Plants within a zone may be restricted based on TO requirements for Black Start Service availability

10. No more than one Black Start Unit at a Black Start Plant may be subject to a Generator Planned Outage or Generator Maintenance Outage at any one time without written approval of the Transmission Provider and the Transmission Owner in the Zone receiving Black Start Service from the Black Start Plant. This restriction excludes outages on common plant equipment that may make all units unavailable. A Black Start Unit not selected for providing

Black Start Service in accordance with this Schedule 6A, section 4 and the PJM Manuals may be substituted for a Black Start Unit that is subject to a Generator Planned Outage to permit a concurrent planned outage of another critical Black Start Unit at the same Black Start Plant. The Black Start Unit used as a substitute shall not receive compensation for additional capital expenditures to qualify for Black Start Service, will not increase the current Black Start Unit capital recovery commitment period, must be connected at the same voltage level and cranking path, must be similar age as the current Black Start Unit, must provide equivalent Black Start

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Intra-PJM Tariffs --> OPEN ACCESS TRANSMISSION TARIFF --> OATT VI. ADMINISTRATION AND STUDY OF NEW SERVICE REQUESTS; R --> OATT SCHEDULE 6A

Unit Capacity, and must have had a valid annual test within the previous 13 months. Black Start Unit substitutions may be permitted for reasons other than Generator Planned Outages if requested by the Black Start Unit owner and if approved by the Transmission Provider; provided, however, all requests for Black Start Unit substitutions must be supported by documentation and information demonstrating operational or technical reasons for the substitution satisfactory to the Transmission Provider and may only occur once within a 12-month period.

11. Concurrent planned outages at multiple Black Start Plants within a zone may be restricted based on Transmission Owner requirements for Black Start Service availability. Such restrictions must be predefined and approved by Transmission Provider in accordance with the PJM manuals.

obligations, from a part of the generation resource undergoing an approved full or partial Unplanned Outage.

2.5 Outage Reporting for Facilities Providing PJM Black Start Service

2.5.1 Outage Restrictions for Black Start Units

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 shall be considered capable of providing Black Start Service only when it meets the criteria set forth in the PJM manuals. Black Start Units selected to provide Black Start Service shall be eligible to receive compensation pursuant to Tariff, Schedule 6A.

In order to ensure adequate black start capability is available in case of a system restoration, no more than one unit at a black start plant with multiple black start units may be on Generator Planned Outage or a Generator Maintenance Outage at any one time (excluding outages on common plant equipment which may make all units unavailable) without written approval of the Transmission Provider and the Transmission Owner in the Zone receiving Black Start Service from the Black Start Plant. The Generation Owner must request permission from the Transmission Owner in the zone receiving the Black Start Service via email and provide to PJM prior to ticket approval.

In addition, concurrent Planned Outages at multiple Black Start Plants within a zone may be restricted based on Transmission Owner requirements for black start availability. These restrictions have been predefined, approved by PJM and will be incorporated into the eDART tool. If submission of an outage on a Black Start unit triggers one of these scenarios, the ticket will be placed in "Pending Evaluation" status. In this situation, the Generation Owner must request permission from the Transmission Owner in the zone receiving the Black Start Service via email and provide to PJM prior to ticket approval.

A Generation Owner may substitute another Black Start Unit at the same plant, at the same voltage level and cranking path for a Black Start Unit that is on a Planned Outage or Maintenance Outage to allow a concurrent Planned Outage or Maintenance Outage of another critical Black Start Unit at a plant to begin. This substituted unit must be of similar age, equivalent capacity, and have a valid black start test within the last 13 months to be considered as an eligible substitution.