

PJM TO/TOP Matrix V18

Gizella Mali, TTMS Chair January, 2024



PJM TO/TOP Matrix

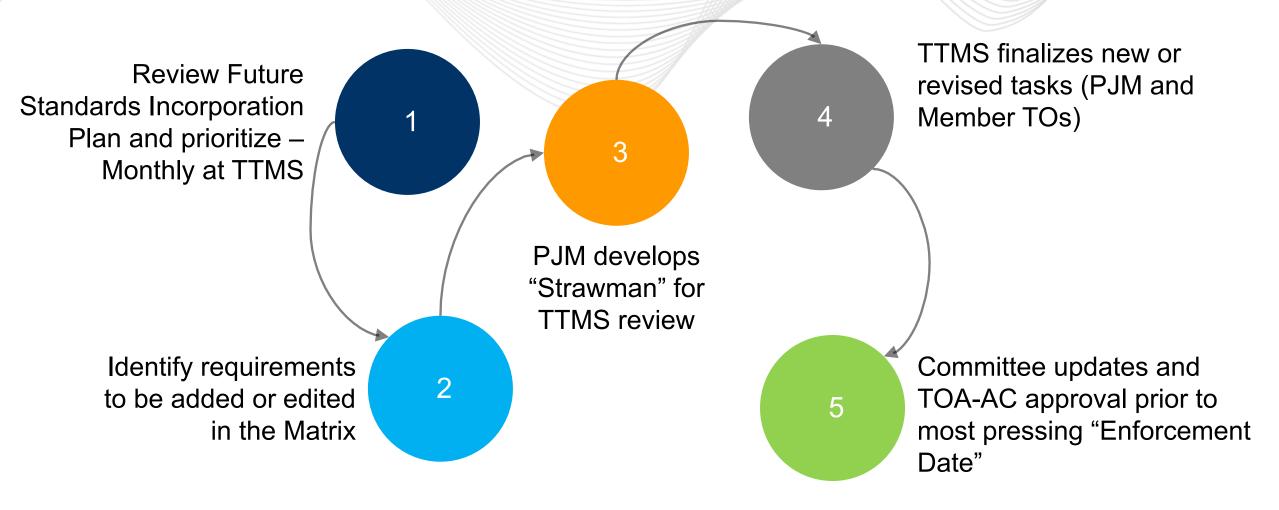
- Index between the PJM Manuals / Governing Documents and NERC Reliability Standards applicable to PJM as the TOP
- Delineates the Assigned/Shared Tasks for Member TOs where PJM relies on its TOs to perform certain tasks
- Does not create any new obligations for PJM or its Member TOs
- An efficient and effective tool fundamental to a strong PJM Internal Control – the PJM TO/TOP Reliability Audit Program



Informational Only	Deadline	Who May Be Affected
TO/TOP Matrix V18	April 1, 2024	PJM Member Transmission Owners (TOs)

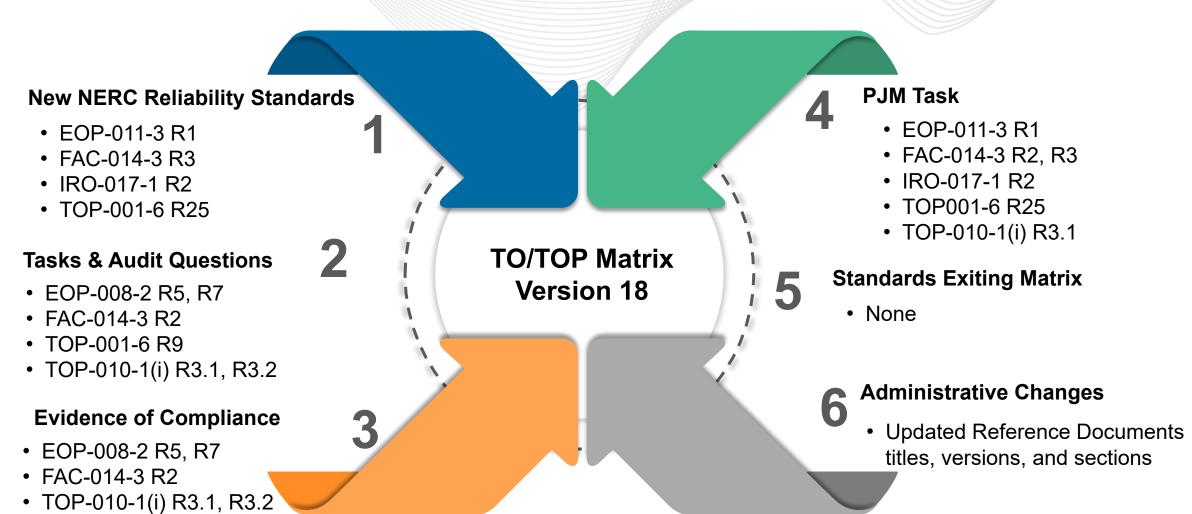


TO/TOP Matrix Update Process





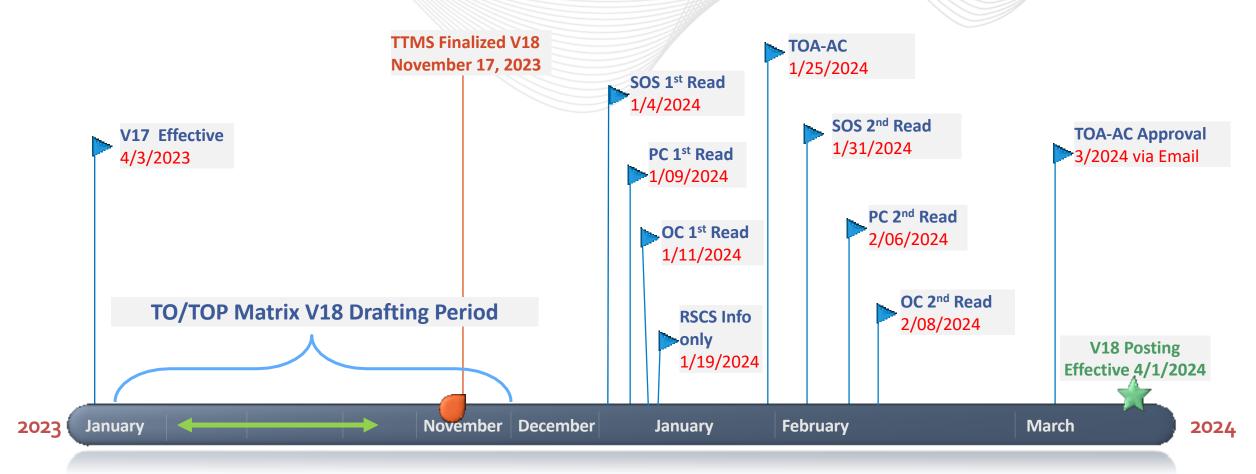
Changes Incorporated in V18



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Timeline





Presenter: Gizella Mali

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TO/TOP Matrix Version 18



Member Hotline

(610) 666 - 8980

(866) 400 - 8980

custsvc@pjm.com



TO/TOP Matrix Educational/Background Slides

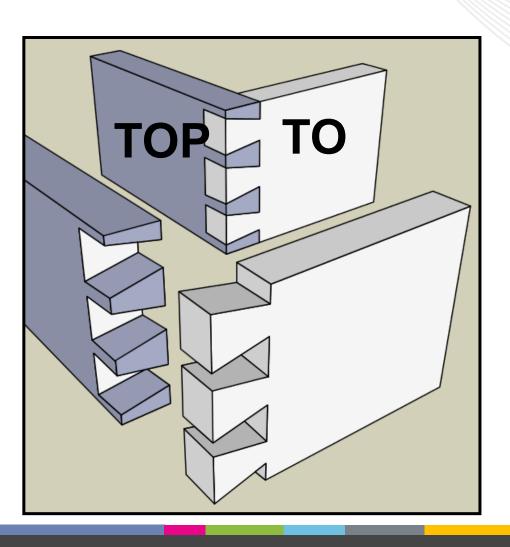


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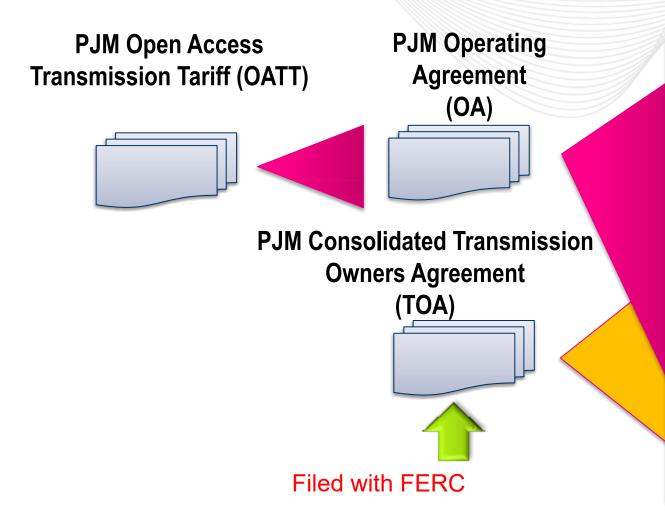






- Clear Responsibility and Authorities
 - Long Standing Relationship
 - Unity of Command and One Responsible Entity
 - Codified in PJM's Agreements
- PJM Committees (OC, SOS, PC...)
- Strong and proven Internal Control
 - PJM Training
 - TO/TOP Matrix
 - PJM TO/TOP Reliability Audits





Reliability Coordination

M-37 Reliability Coordination M-36 System Restoration

Transmission Operator

- M-1 Control Center and Data Exchange
- M-3 Transmission Operations
- M-3A Energy Management System (EMS) Model Updates and Quality Assurance (QA)
- M-3B Transmission Operations Procedure (CEII)
- M-13 Emergency Procedures
- M-38 Operations Planning
- M-39 Nuclear Plant Interface Coordination

Member Training

M-40 Certification & Training Requirements

Planning Authority

M-14D Generator Operational Requirements
M-12, Balancing Operations

A Look at the TO/TOP Matrix

Delineation of Reliability Tasks

Standard/ Requirement information

NERC Reliability Standard Requirement Text

Tasks Assigned to Member
TOs or Shared between PJM
and Member TOs

Tasks PJM performs to ensure Reliability Requirement is met in combination with TO Assigned/Shared Tasks

Category	Standard Number	Requirement Number	Approved BOT/FERC Standards	A/S	Assigned or Shared Member TO Tasks	PJM Tasks
ЕОР	EOP-008-2	R8	Each Reliability Coordinator, Balancing Authority, and Transmission Operator that has experienced a loss of its primary or backup functionality and that anticipates that the loss of primary or backup functionality will last for more than six calendar months shall provide a plan to its Regional Entity within six calendar months of the date when the functionality is lost, showing how it will re-establish primary or backup functionality. [Violation Risk Factor = Medium] [Time Horizon = Operations Planning]	S	Each Member TO that has experienced a loss of its primary or backup functionality and that anticipates that the loss of primary or backup functionality will last for more than six calendar months shall provide a plan showing how it will reestablish primary or backup functionality to PJM so that PJM can meet its reporting requirements.	PJM will provide a plan to RFC or SERC, as necessary, within six calendar months of the date when the functionality is lost, showing how the Member TO will re-establish primary or backup functionality.

A Look at the TO/TOP Matrix

TO/TOP Audit Phase

Questions asked to demonstrate compliance

Examples of evidence auditors look for

PJM documents that describe PJM/TO responsibilities

Reference Documents

dates of the NERC Reliability Standard

Inactive

Date

None:

Enforcement

Date

4/1/2021

Audit Questions

Do you, in coordination with PJM as appropriate, obtain and utilize status, voltages, and flow data for Facilities outside your TO area as necessary to determine System Operating Limit (SOL) exceedances within your TO area?

Evidence of Compliance (What auditors will be looking for *

Exhibit evidence that you, in coordination with PIM as appropriate, obtain and utilize status, voltages, and flow data for Facilities outside your TO area as necessary to determine System Operating Limit (SOL) exceedances within your TO area.

M3-Transmission Operations, Section 1.3-Transmission Operating Guidelines

M3A Energy Management System (EMS) Model Updates and Quality Assurance (QA), Section 3.2.1-Explanation of Consideration for External Modeling in the PIM FMS Model

Enforcement and Inactive



- TO/TOP Matrix Subcommittee (TTMS), a PJM subcommittee with participation limited to Member TOs, develops and maintains the TO/TOP Matrix
- The TTMS reports to the Transmission Owners Agreement-Administrative Committee (TOA-AC), which approves the Matrix
- Monthly meetings to collaborate on new or existing NERC Reliability Standards applicable to PJM as the TOP



Typical Roadmap to a Version Approval

Review
Future
Standards
Incorporation
Plan and
prioritize
accordingly

Develop Assigned and/or Shared Tasks for NERC Reliability Standard Requirements where PJM relies on Member TOs

Conduct an annual review of the Matrix and agree to a final version for updates to various stakeholders

Take finalized version to PJM SOS, OC, PC, and RSCS, seeking their recommendation to TOA-AC to approve the Matrix

TOA-AC approves the Matrix. Publish the approved Version.

