

PJM TO/TOP Matrix V16

Gizella Mali, TTMS Chair First Read January, 2022

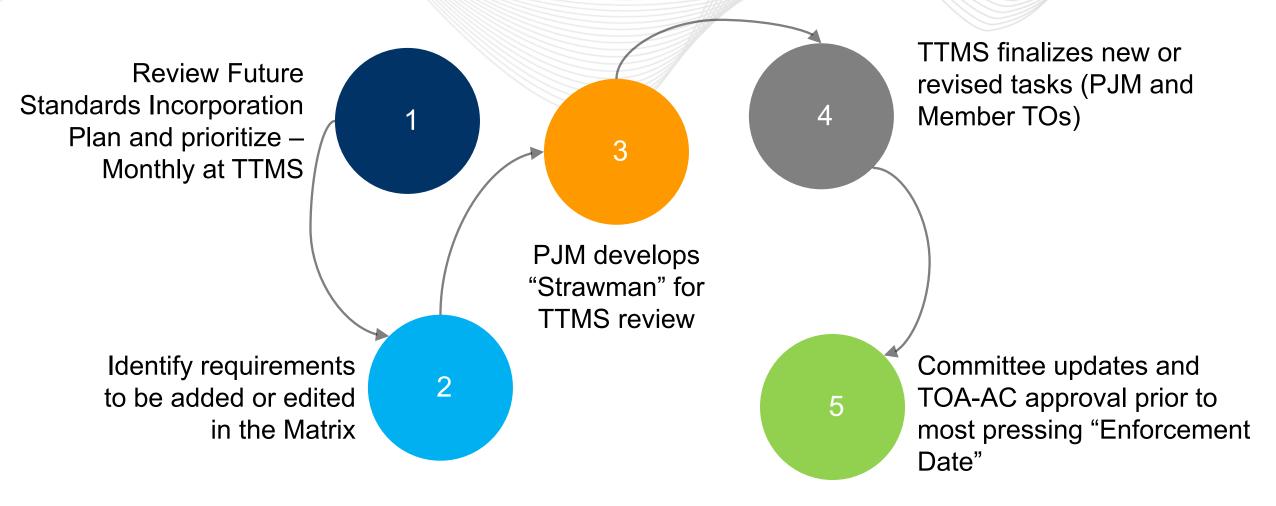


Action Required	Deadline	Who May Be Affected	
First Read of TO/TOP Matrix V16	April 1, 2022	PJM Member Transmission Owners (TOs)	

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TO/TOP Matrix Update Process



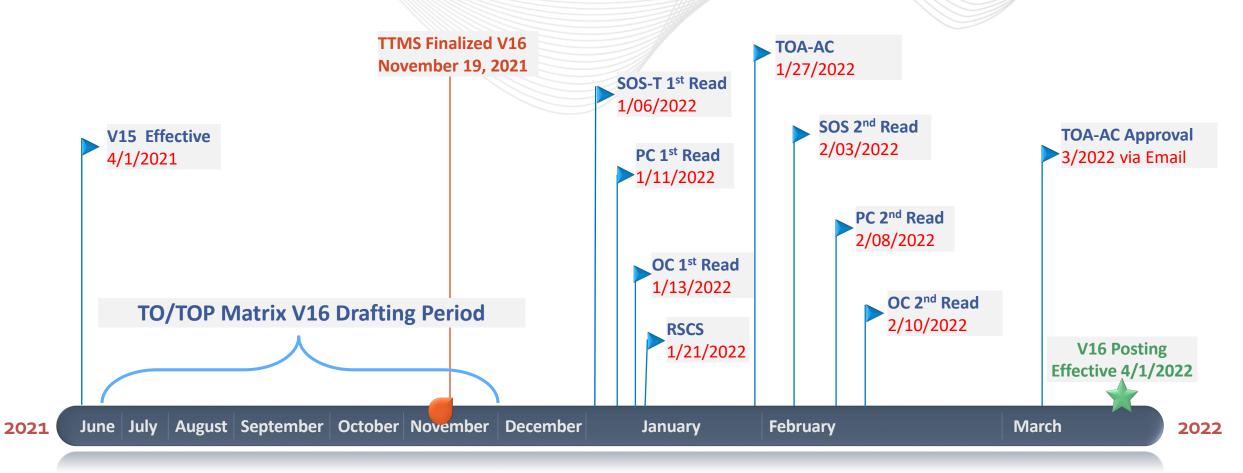


Changes Incorporated in V16

Administrative Changes Revised Tasks COM-002-4 R4.1 COM-002-4 R4.1 Revised from "assess" • EOP-005-3 R1 adherence" to "adhere" • EOP-010-1 R3.2, R3.3 • EOP-005-3 R1 Revised from "send" to • IRO-001-4 R2 "submit" • PER-005-2 R1.3 **TO/TOP Matrix** Updated reference documents • TOP-001-5 R1, R5, R6, R12, Spelling and grammar check **Version 16** R13, R14 Aligned abbreviations • TOP-010-1(i) R1, R1.3, R3, R3.2 **Standards Exiting Matrix New NERC Reliability Standards** None None



Timeline





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TO/TOP Matrix Version 16



Member Hotline

(610) 666 - 8980

(866) 400 - 8980

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TO/TOP Matrix Educational/Background Slides

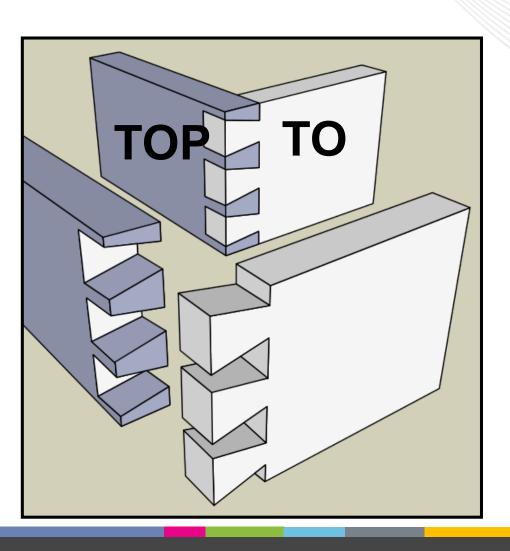


PJM TO/TOP Matrix

- 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

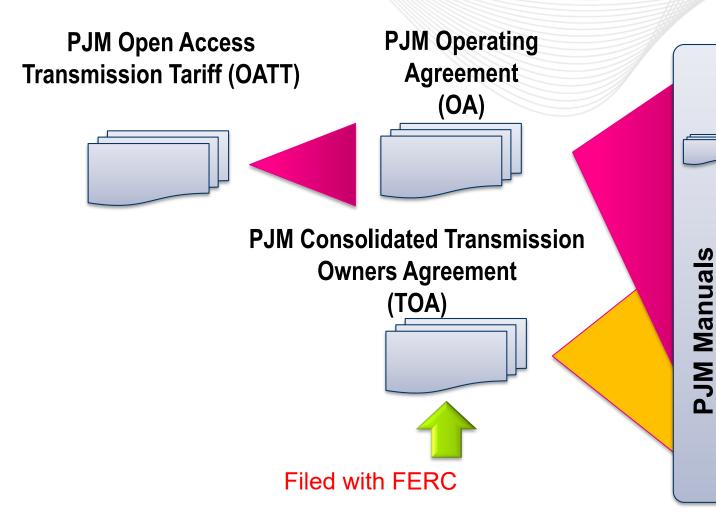






- Clear Responsibility and Authorities
 - Long Standing Relationship
 - Unity of Command and One Responsible Entity
 - Codified in PJM's Agreements
- PJM Committees (OC, SOS, PC...)
- Strong and proven Internal Control
 - PJM Training
 - TO/TOP Matrix
 - PJM TO/TOP Reliability Audits





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-13 Emergency Procedures

M-38 Operations Planning

Member Training

M-40 Certification & Training Requirements

Planning Authority

M-14D Generator Operational Requirements

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

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TO/TOP Audit Phase

Questions asked to demonstrate compliance

Examples of evidence auditors look for

PJM documents that describe PJM/TO responsibilities

Enforcement and Inactive dates of the NERC Reliability Standard

Evidence of Compliance Enforcement Inactive Reference Documents Audit Questions (What auditors will be looking for * Date Date Do you, in coordination with PJM as Exhibit evidence that you, in M3-Transmission Operations, Section 4/1/2021 None appropriate, obtain and utilize coordination with PIM as 1.3-Transmission Operating Guidelines status, voltages, and flow data for appropriate, obtain and utilize Facilities outside your TO area as M3A Energy Management System (EMS) status, voltages, and flow data for necessary to determine System Facilities outside your TO area as Model Updates and Quality Assurance Operating Limit (SOL) exceedances necessary to determine System (QA), Section 3.2.1-Explanation of within your TO area? Operating Limit (SOL) exceedances Consideration for External Modeling in within your TO area. the PIM FMS Model



- 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.

