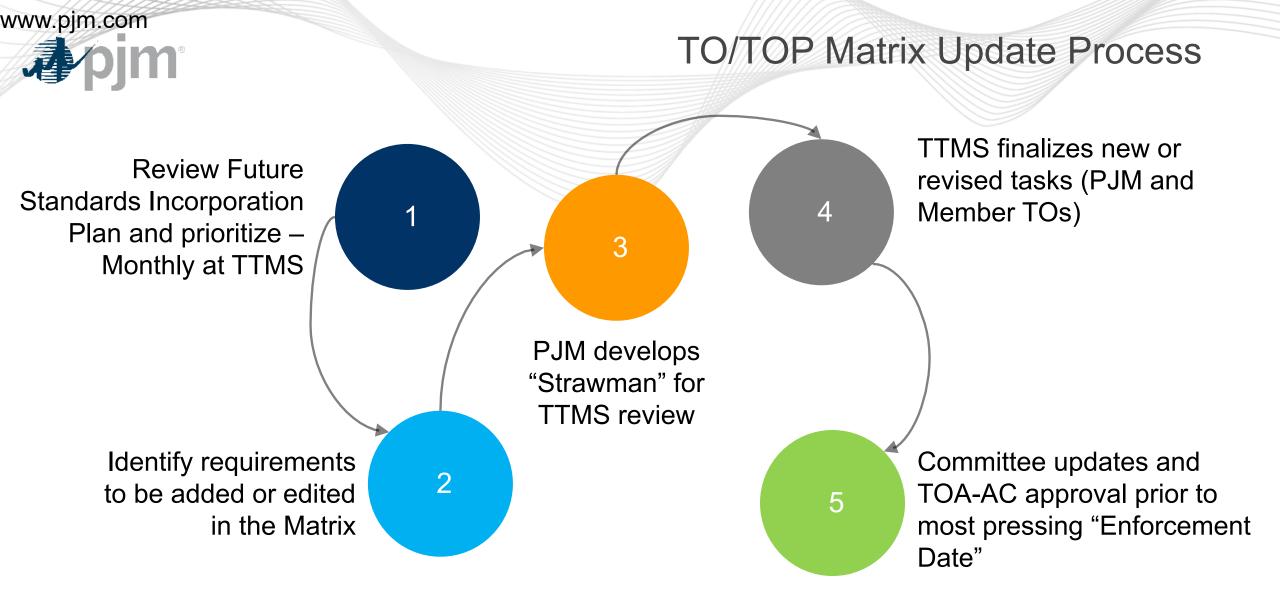
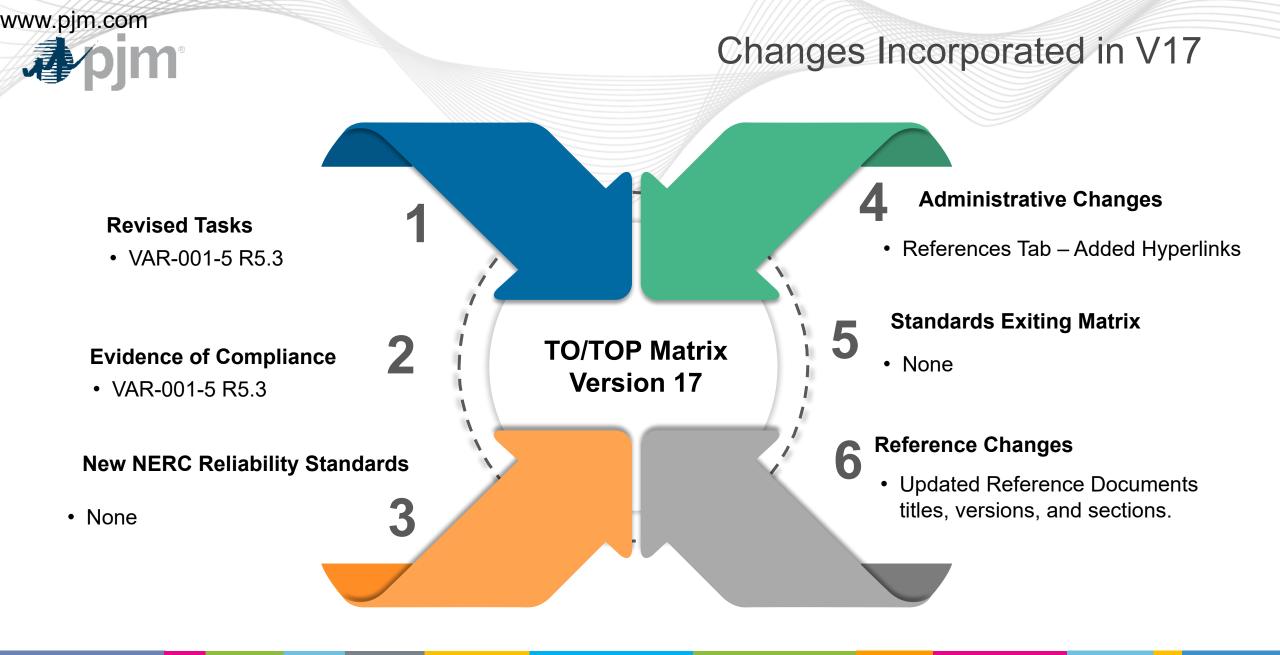


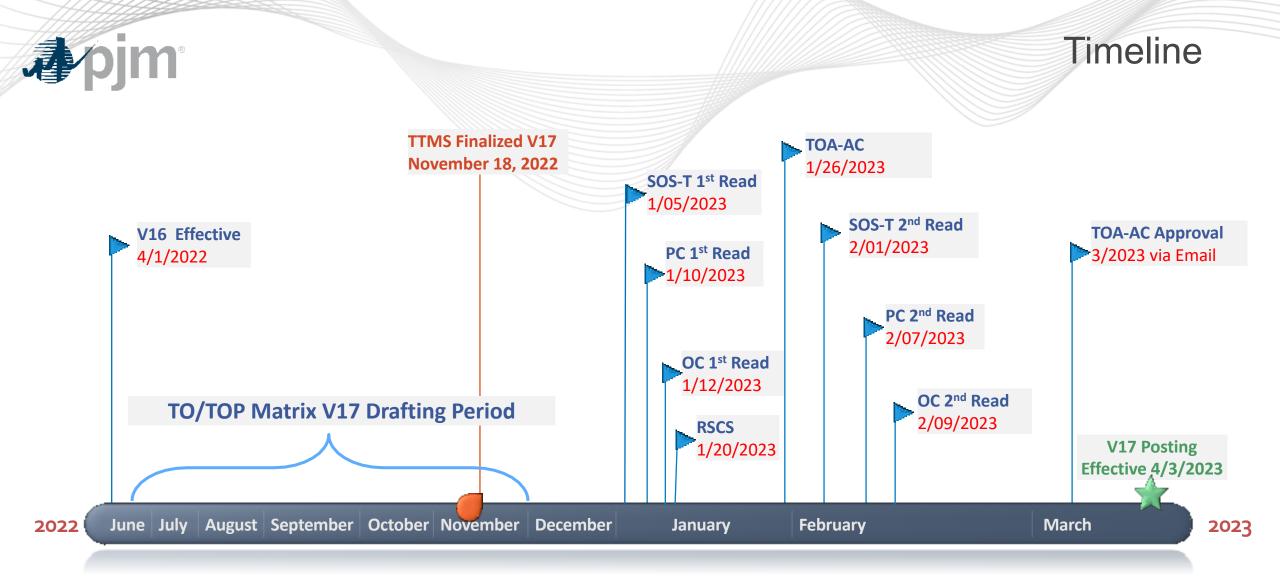
PJM TO/TOP Matrix V17

Gizella Mali, TTMS Chair Second Read February, 2023

Actio	n Required	Deadline	Who May Be Affected
Second Read of	f TO/TOP Matrix V17	April 3, 2023	PJM Member Transmission Owners (TOs)







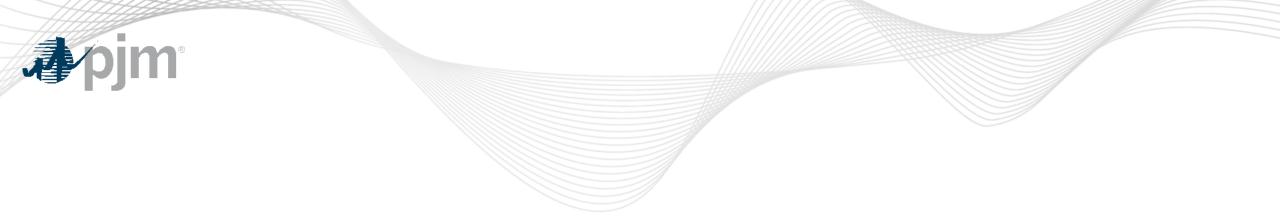




Presenter: Gizella Mali Gizella.Mali@pjm.com

TO/TOP Matrix Version 17

Member Hotline (610) 666 – 8980 (866) 400 – 8980 custsvc@pjm.com



TO/TOP Matrix Educational/Background Slides



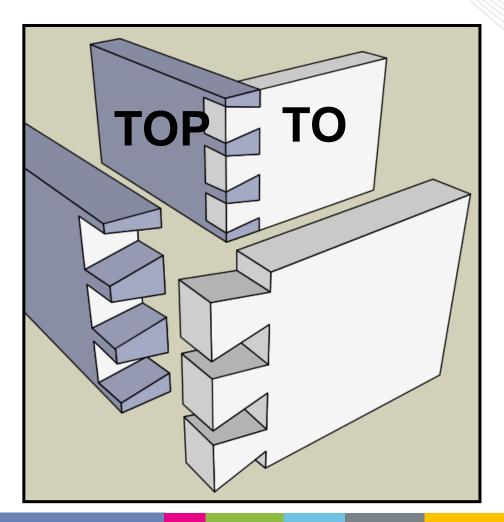
Introduction

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



PJM Open Access Transmission Tariff (OATT) PJM Operating Agreement (OA)

PJM Consolidated Transmission Owners Agreement

(TOA)

Filed with FERC

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

Manuals

PJM



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

					Υ	
Category	Standard Number	Requirement Number 🖵	Approved BOT/FERC Standards	A/S	Assigned or Shared Member TO Tasks	PJM Tasks
EOP	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 re- establish 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.



2

A Look at the TO/TOP Matrix



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

Audit QuestionsWhat auditors will be looking forReference DocumentsDateDateDateDateDo you, in coordination with PJM as appropriate, obtain and utilizeExhibit evidence that you, in coordination with PJM asM3-Transmission Operations, Section 1.3-Transmission Operating Guidelines tatus, voltages, and flow data for4/1/2021None			Y	γ	<u></u>
appropriate, obtain and utilize coordination with PJM as 1.3-Transmission Operating Guidelines status, voltages, and flow data for appropriate, obtain and utilize	Audit Questions	-	Reference Documents		Inactive Date
status, voltages, and flow data for appropriate, obtain and utilize	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 PJM as	1.3-Transmission Operating Guidelines		
Facilities outside your TO area as status, voltages, and flow data for M3A Energy Management System (EMS)	status, voltages, and flow data for	appropriate, obtain and utilize			
	Facilities outside your TO area as	status, voltages, and flow data for	M3A Energy Management System (EMS)		
necessary to determine System Facilities outside your TO area as Model Updates and Quality Assurance	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	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?	Operating Limit (SOL) exceedances	Consideration for External Modeling in		
within your TO area. the PJM EMS Model		within your TO area.	the PJM EMS 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.

