PJM TO/TOP Matrix of Shared or Assigned Tasks

Version 18, Effective April 1, 2024

Finalized by the TO/TOP Matrix Subcommittee: November 17, 2023

Approved by the Transmission Owners Agreement-Administrative Committee: March 15, 2024

Governance

- 1. The PJM TO/TOP Matrix is a cross-reference between PJM Manuals and the NERC Reliability Standards, indicating where the assignment of various reliability tasks is documented in the PJM Manuals. It does not create any new obligations for PJM or its members.
- 2. The Matrix shall be reviewed and revised, if necessary, by PJM in collaboration with the PJM TO/TOP Matrix Subcommittee at least annually.
- 3. The Matrix shall be approved for use by the PJM Transmission Owner's Agreement Administrative Committee (TOA-AC).
- 4. The Matrix will be used as a basis (defines the scope, Member TOⁱ assigned and shared tasks) for the PJM TO/TOP Reliability Audit.
- 5. Information in the Evidence of Compliance and Audit Question columns in the Matrix is suggested evidence and questions to help in compliance and audit preparation. It is not a comprehensive list of acceptable evidence. It is also not a list of the minimum acceptable evidence.
- 6. Compliance to Assigned or Shared Member TO Tasks is expected starting on the Enforcement Date (the NERC-assigned effective date after FERC approval) as listed in the Matrix for each Requirement. Compliance ends on the Inactive Date (the date that the Standard is retired or is replaced by another Standard). Corresponding to the Enforcement and Inactive Dates for each Requirement in the current version of the Matrix, evidence of compliance is expected to be available back to the Member TO's last PJM TO/TOP Reliability Audit.

Notes

i: For the purposes of the TO/TOP Matrix, Member TO means a North American Electric Reliability Corporation (NERC) registered Transmission Owner and a signatory to the PJM Consolidated Transmission Owners Agreement.

Category	Standard	Requirement	Approved BOT/FERC Standards	A/S	Assigned or Shared Member TO Tasks	PJM Tasks	Audit Questions	Evidence of Compliance	Reference Documents	Enforcement	Inactive
СОМ	Number COM-001-3		To establish Interpersonal Communication capabilities necessary to maintain reliability.					(What auditors will be looking for)		Date	Date
СОМ	COM-001-3	(Heading)	Each Transmission Operator shall have Interpersonal Communication capability with the following entities (unless the Transmission Operator detects a failure of its Interpersonal Communication capability in which case Requirement R10 shall apply):								
СОМ	COM-001-3	R3.1	Its Reliability Coordinator.	S	Each Member TO shall have All Call capability and voice communications capability with PJM.	PJM shall have All Call capability and voice communications capability with each Member TO.		Provide evidence that you have All Call capability and voice communications capability with PJM.	PJM OA 11.3.1(b) General, 11.6 Membership Requirements M-1 Control Center and Data Exchange Requirements, Section 4-Interpersonal Communication Capability	10/1/2017	None
СОМ	COM-001-3	R3.2	Each Balancing Authority within its Transmission Operator Area.	S	Each Member TO shall have All Call capability and voice communications capability with PJM.	PJM shall have All Call capability and voice communications capability with each Member TO.		Provide evidence that you have All Call capability and voice communications capability with PJM.	PJM OA 11.3.1(b) General, 11.6 Membership Requirements M-1 Control Center and Data Exchange Requirements, Section 4-Interpersonal Communication Capability	10/1/2017	None
СОМ	COM-001-3		Each Distribution Provider within its Transmission Operator Area.	A	Each Member TO shall have voice communications capability with each Distribution Provider in its area.		Describe your capability for voice communications with each Distribution Provider in your area.	Provide evidence that you have voice communications capability with each Distribution Provider in your area.	PJM OA 11.3.1(b) General, 11.6 Membership Requirements M-1 Control Center and Data Exchange Requirements, Section 4-Interpersonal Communication-Capability	10/1/2017	None
СОМ	COM-001-3	R3.4	Each Generator Operator within its Transmission Operator Area.	S	Each Member TO shall have voice communications capability with each Generator Operator in its area.	PJM shall have voice communications capability with Generator Operators in its area.	Describe your capability for voice communications with each Generator Operator in your area.	Provide evidence that you have voice communications capability with each Generator Operator in your area.	PJM OA 11.3.1(b) General, 11.6 Membership Requirements M-1 Control Center and Data Exchange Requirements, Section 4-Interpersonal Communication-Capability	10/1/2017	None
СОМ	COM-001-3		Each adjacent Transmission Operator synchronously connected.	S	Each Member TO shall have voice communications capability with (i) neighboring Member TOs, internal to PJM. (ii) neighboring TOs/TOPs external to PJM, as appropriate.	PJM shall have voice communications capability with each Transmission Operator synchronously connected to PJM.	communications with (i) neighboring Member TOs, internal to PJM. (ii) neighboring TOs/TOPs external to	communications capability with (i) neighboring Member TOs, internal to PJM. (ii) neighboring TOs/TOPs external to PJM, as appropriate.	PJM OA 11.3.1(b) General, 11.6 Membership Requirements M-1 Control Center and Data Exchange Requirements, Section 4-Interpersonal Communication-Capability PJM Compliance Bulletin CB026 - Coordination with External Transmission Operators (TOPs)	10/1/2017	None
СОМ	COM-001-3	(Heading)	Each Transmission Operator shall designate an Alternative Interpersonal Communication capability with the following entities:								
СОМ	COM-001-3		Its Reliability Coordinator.	S	Each Member TO shall designate an Alternative Interpersonal Communication capability for voice communications with PJM.	PJM shall designate an Alternative Interpersonal Communication capability for voice communications with each Member TO.	-	Communications capability for voice	PJM OA 11.3.1(b) General, 11.6 Membership Requirements M-1 Control Center and Data Exchange Requirements, Section 4-Interpersonal Communication Capability	10/1/2017	None

Category	Standard	Requirement	Approved BOT/FERC Standards	A/S	Assigned or Shared Member TO Tasks	NERC Reliability St	Audit Questions	Evidence of Compliance	Reference Documents	Enforcement	Inactive
Category	Number	Number	Approved BOT/FERC Standards	A/3	Assigned of Shared Welliber TO Tasks	FJIVI Tasks	Addit Questions	(What auditors will be looking for)	Reference Documents	Date	Date
СОМ	COM-001-3		Each Balancing Authority within its Transmission Operator Area.	S	Each Member TO shall designate an Alternative Interpersonal Communication capability for voice communications with PJM.	PJM shall designate an Alternative Interpersonal Communication capability for voice communications with each Member TO.	Describe your Alternative Interpersonal Communications capability for voice communications with PJM.	Provide evidence that you have Alternative Interpersonal Communications capability for voice communications with PJM.	PJM OA 11.3.1(b) General, 11.6 Membership Requirements M-1 Control Center and Data Exchange Requirements, Section 4-Interpersonal Communication Capability	10/1/2017	None
СОМ	COM-001-3		Each adjacent Transmission Operator synchronously connected.	S	Each Member TO shall designate an Alternative Interpersonal Communication capability for voice communications with neighboring Member TOs or neighboring TOs or TOPs external to PJM, as appropriate.	PJM shall designate an Alternative Interpersonal Communication capability for voice communications with each Transmission Operator synchronously connected to PJM.	with neighboring Member TOs or	Provide evidence that you have Alternative Interpersonal Communication capability for voice communications with neighboring Member TOs or neighboring TOs or TOPs external to PJM, as appropriate.	PJM OA 11.3.1(b) General, 11.6 Membership Requirements M-1 Control Center and Data Exchange Requirements, Section 4-Interpersonal Communication Capability PJM Compliance Bulletin CB026 - Coordination with External Transmission	10/1/2017	None
COM	COM-001-3		Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall test its Alternative Interpersonal Communication capability at least once each calendar month. If the test is unsuccessful, the responsible entity shall initiate action to repair or designate a replacement Alternative Interpersonal Communication capability within 2 hours.	S	Each Member TO shall test its Alternative Interpersonal Communication capability for voice communications at least once each calendar month. If the test is unsuccessful, each Member TO shall initiate action to repair or designate a replacement Alternative Interpersonal Communication capability for voice communications within 2 hours.	PJM shall test its Alternative Interpersonal Communication capability for voice communications at least once each calendar month. If the test is unsuccessful, PJM shall initiate action to repair or designate a replacement Alternative Interpersonal Communication capability for voice communications within 2 hours.	Did you test your Alternative Interpersonal Communication capability for voice communications at least once each calendar month? If the test was unsuccessful, did you initiate action to repair or designate a replacement Alternative Interpersonal Communication capability for voice communications within 2 hours?	Provide evidence (e.g., test results, etc.) that you tested your Alternative Interpersonal Communication capability for voice communications at least once each calendar month. If the test was unsuccessful, provide evidence that you initiated repair or designated a replacement Alternative Interpersonal Communication capability for voice communications within 2 hours.	Operators (TOPs) PJM OA 11.3.1(b) General, 11.6 Membership Requirements M-1 Control Center and Data Exchange Requirements, Section 4-Interpersonal Communication-Capability	10/1/2017	None
СОМ	COM-001-3		Each Reliability Coordinator, Transmission Operator, and Balancing Authority shall notify entities as identified in Requirements R1, R3, and R5, respectively within 60 minutes of the detection of a failure of its Interpersonal Communication capability that lasts 30 minutes or longer.	S	1. Each Member TO shall notify PJM and, where applicable, TOs external to PJM, within 60 minutes of the detection of a failure of its Interpersonal Communication capability for voice communications that lasts 30 minutes or longer. 2. Each Member TO shall notify Distribution Providers and Generator Operators within its area within 60 minutes of the detection of a failure of its Interpersonal Communication capability for voice communications that lasts 30 minutes or longer.	capability for voice communications that lasts 30 minutes or longer.	capability for voice communications that lasted 30 minutes or longer during the audit period? 2. Did you notify PJM and, if applicable, TOs external to PJM within 60 minutes of the detection of the failure of your Interpersonal Communication capability for voice communications that lasted 30 minutes or longer? 3. Did you notify Distribution Providers and Generator Operators	1. Provide evidence (e.g., test records, operator logs, voice recordings, electronic communications, etc.) that you notified PJM and, if applicable, TOs external to PJM, within 60 minutes of the detection of the failure of your Interpersonal Communication capability for voice communications that lasted 30 minutes or longer. 2. Provide evidence that you notified Distribution Providers and Generator Operators within your area within 60 minutes of the detection of the failure of your Interpersonal Communication capability for voice communications		10/1/2017	None

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Category	Standard	Requirement	Approved BOT/FERC Standards	A/S	Assigned or Shared Member TO Tasks	PJM Tasks	Audit Questions	Evidence of Compliance	Reference Documents	Enforcement	Inactive
СОМ	Number	Number	Each Reliability Coordinator, Transmission	S	1. Where applicable, Each Member TO	1. PJM shall have internal	1. Do you have two or more Control	(What auditors will be looking for) 1. If you have two or more Control	PJM OA 11.3.1(b) General, 11.6	Date 10/1/2017	Date
COIVI	COM-001-3		Operator, Generator Operator, and	3	shall have internal Interpersonal	Interpersonal Communication		Centers that are actively monitoring	Membership Requirements	10/1/2017	None
			Balancing Authority shall have internal		Communication capabilities for the	capabilities for the exchange of	your system within the same	your system within the same	Wembership Requirements		
			Interpersonal Communication capabilities		exchange of information necessary for the		functional entity? If yes, do you have	1' '	M-1 Control Center and Data Exchange		
			for the exchange of information		Reliable Operation of the BES between	Reliable Operation of the BES. This	internal Interpersonal	that you have internal Interpersonal	Requirements, Section 4-Interpersonal		
			necessary for the Reliable Operation of		two or more Control Centers actively	includes communication capabilities	·	Communication capabilities for the	Communication-Capability, Section 4.1-		
			the BES. This includes communication		monitoring their Member TO system	between the PJM Control Centers.	•	exchange of information necessary for	Dispatch Voice & Facsimile		
			capabilities between Control Centers		within the same functional entity.	2. PJM shall have Interpersonal	for the Reliable Operation of the BES		Communications.		
			within the same functional entity, and/or		2. Each Member TO shall have internal	Communication capabilities for the	between such Control Centers?	between such Control Centers.			
			between a Control Center and field		Interpersonal Communication capabilities	·	2. Do you have internal Interpersonal				
			personnel.		for the exchange of information necessary	I		internal Interpersonal Communication			
					for the Reliable Operation of the BES	between PJM and every Member TO	-	capabilities for the exchange of			
					between each Member TO Control Center						
					and field personnel.			Operation of the BES between each			
					·		field personnel?	Control Center and field personnel.			
							·	·			
сом	COM-002-4	Purpose	To improve communications for the								
			issuance of Operating Instructions with								
			predefined communications protocols to								
			reduce the possibility of								
			miscommunication that could lead to								
			action or inaction harmful to the								
			reliability of the Bulk Electric System								
COM	COM 002 4	R2	(BES). Each Balancing Authority, Reliability	c	Each Member TO shall conduct initial	Offer initial training for Member TO	Did you conduct initial training for	Initial training records for each	M 1 Control Contor and Data Evolution	7/1/2016	None
COM	COM-002-4	K2	Coordinator, and Transmission Operator	3	training for each of its Member TO System	Offer initial training for Member TO	Did you conduct initial training for each of your System Operators	Initial training records for each certified System Operator showing	M-1 Control Center and Data Exchange Requirements, Section 4-Interpersonal	7/1/2016	None
			shall conduct initial training for each of its		Operators responsible for the Real-time	the Real-time operation of the	responsible for the Real-time	training on the documented	Communication Capability		
			operating personnel responsible for the		operation of the interconnected Bulk	interconnected Bulk Electric System		communications protocols developed	communication capability		
			Real-time operation of the		Electric System on the documented	on the documented communications	Electric System on the documented	in Manual 1 Section 4 prior to that			
			interconnected Bulk Electric System on		communications protocols developed in	protocols developed in Manual 1	communications protocols	individual operator issuing an			
			the documented communications		Manual 1 Section 4 prior to that individual		developed in Manual 1 Section 4	Operating Instruction.			
			protocols developed in Requirement R1		Member TO System Operator issuing an		prior to that individual operator				
			prior to that individual operator issuing		Operating Instruction.		issuing an Operating Instruction?				
			an Operating Instruction.								
СОМ	COM-002-4	R4	Each Balancing Authority, Reliability								
			Coordinator, and Transmission Operator								
			shall at least once every twelve (12)								
			calendar months:								
COM	COM-002-4		Assess adherence to the documented	Α	At least once every 12 calendar months		Did you at least once every 12	Records that show that at least once	M-1 Control Center and Data Exchange	7/1/2016	None
			communications protocols in		each Member TO shall assess adherence		calendar months assess adherence to	1	Requirements, Section 4.5.6-		
			Requirement R1 by its operating		to the documented communications		the documented communications	assessment of adherence to the	Communication Protocol Assessment		
			personnel that issue and receive		protocols in Manual 1 Section 4 for each		· · · · · · · · · · · · · · · · · · ·	documented communications			
			Operating Instructions, provide feedback		of its operating personnel that issue and			protocols in Manual 1 Section 4 by			
			to those operating personnel and take		receive Operating Instructions, provide			each of your operating personnel that			
			corrective action, as deemed appropriate		feedback to those operating personnel		I	issue and receive Operating			
			by the entity, to address deviations from		and take corrective action, as deemed			Instructions, provide feedback to			
			the documented protocols.		appropriate by the entity, to address			those operating personnel and take			
					deviations from the documented		appropriate by the entity, to address				
					protocols.			appropriate by the entity, to address			
							protocols?	deviations from the documented			
								protocols.			

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Section Procedure Proced	COIVI	COIVI-002-4	NO			-				_	7/1/2016	None
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EOP EOP-005-3 R1 EOP-005-3 R2 Ach Transmission Operator shall develop a restoration plan that supports restoring the Interconnection. A EACH Transmission Operator System following a particular of the Bulk Electric System (BS) shuts down and the use of Blackstart Resources is required to restore the shutdown area, to a state whereby the choice of the next Load to be restored is not driven by the need to control frequency or voltage regardless of whether the Blackstart Resources and the plan are required. Beach Transmission Operator's System Residential plan hall be restoration plan that supports restoring the Transmission Operator's System Residential plan hall and show that it covers a plan to receive displant that supports restoring the Transmission Operator's System Residential plan hall have a restoration plan that supports restoring the Transmission Operator's System Residential plan hall have a restoration plan that supports restoring the Transmission Operator's System Residential plan hall have a restoration plan that supports restoring the Transmission Operator's System Residential plan hall have a restoration plan that supports restoring the Transmission Operator's System Residential plan hall have a restoration plan that supports restoring the Transmission Operator's System Residential plan hall have a restoration plan that supports restoring the Transmission Operator's System Residential, selectric system in day show that it covers a plan to restoration plan that supports restoring the Transmission Operator's System Residential, selectric system in the revision, and rower in the exact sole and orderly manner in the event of a partial or total shutdown of its system, including necessary operatoring and show that it covers a plan to restoration plan that whether To Shall develop and implem				are prepared to enable System								
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The restoration plan shall be implemented to restore the Transmission Operator's System following a Disturbance in which one or more areas of the Member TO's BES shuts down. 2. The Member TO should submit the down. 3. Each Member TO shall, when required, to a state whereby the choice of the next Load to be restoration plan shall include: [Violation RISK Factor = High] Time Horizon = Operations Planning, Real-time following a Disturbance in which one or more areas of the Member TO's BES shuts down. 2. The Member TO should submit the down. 3. Each Member TO should submit the more of the Bulk Electric System (BES) shuts down and the use of Blackstart Resources is condecided within the Transmission Operator's System. The restoration plan shall include: [Violation RISK Factor = High] Time Horizon = Operations Planning, Real-time following a Disturbance in which one or more areas of the Member TO's BES shuts down? 2. The Member TO should submit the down. areas of your BES shuts down? 2. Did you submit your System restoration plan to PJM and was it approved by PJM? 3. Did you experience a Disturbance in which one or more areas of your BES shuts down? 2. The Member TO should submit the restoration plan to PJM for approved using the eDART application. 3. Each Member TO shall, when required, implement its restoration plan to PJM and approved by PJM? 3. Each Member TO shall, when required, implement its restoration plan to PJM and approved by PJM. 3. Each Member TO shall, when required, implement its restoration plan to PJM and approved by PJM. 4. Each of the Member TO's BES shuts down? 5. Did you submit your System restoration plan to PJM and approved by PJM? 5. Did you experience a Disturbance in which one or more areas of your BES shut down? 8. Each Member TO shall, when required in which one or more areas of your BES shut down? 8. Each Member TO shall, when required in which one or more areas of your BES shut down? 8. Each Member TO shall when required in which one or more areas of your BES shu				and implement a restoration plan			7 7	-	•	Policy Statements, PJM Member		
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Risk Factor = High] [Time Horizon and coordinated with PJM if any deviations Planning, Real-time deviations from your restoration plan												
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Operations] were required.				=Operations Planning, Real-time					deviations from your restoration plan			
				Operations]					were required.			

Category	Standard	Requirement	Approved BOT/FERC Standards	Λ/ς	Assigned or Shared Member TO Tasks	PJM Tasks	Audit Questions	Evidence of Compliance	Reference Documents	Enforcement	Inactive
Category	Standard Number	Number	Approved BOT/FERC Standards	A/S	Assigned of Stidled Weitiber TO Tasks	PJIVI TASKS	Audit Questions	(What auditors will be looking for)	Reference Documents	Date	Date
EOP	EOP-005-3	R1.1	Strategies for System restoration that are	S	Each Member TO's restoration plan must	PJM's restoration plan states that the	Does your restoration plan clearly	Show that your restoration plan has a	M-36 System Restoration, Section 1.1-	4/1/2019	None
			coordinated with its Reliability		The state of the s	high level strategy of restoring the		high level strategy of restoring the	Policy Statements	., _, _, _	
			Coordinator's high level strategy for		the integrity of the Interconnection.	integrity of the Interconnection.	restoring the integrity of the	integrity of the Interconnection.	·		
			restoring the Interconnection.		,	0 ,	Interconnection?				
EOP	EOP-005-3	R1.2.	A description of how all Agreements or	Α	The Member TO's restoration plan shall, if		1. Do you have agreements for off-	If applicable, exhibit the parts of your	M-36 System Restoration, Section 3.1-	4/1/2019	None
			mutually_agreed upon procedures or		applicable, have a description of how all		site power for a nuclear plant?	restoration plan that have a	Restoration Process, Section 3.1.5-		
			protocols for off-site power requirements		Agreements or mutually-agreed upon		2. Does your restoration plan have a	description of how all Agreements or	Implement Restoration Procedure, A.1.2-		
			of nuclear power plants, including priority		procedures or protocols for off-site power		description of how all Agreements or	mutually-agreed upon procedures or	Minimum Critical Black Start		
			of restoration, will be fulfilled during		requirements of nuclear power plants,		mutually-agreed upon procedures or	protocols for off-site power	Requirement		
			System restoration.		including priority of restoration, will be		protocols for off-site power	requirements of nuclear power plants,			
					fulfilled during System restoration.		requirements of nuclear power	including priority of restoration, will	M-39 Nuclear Plant Interface		
							plants, including priority of	be fulfilled during System restoration.	Coordination, Section 2.6-System		
							restoration, will be fulfilled during		Restoration		
							System restoration?				
EOP	EOP-005-3	R1.4.	Identification of each Blackstart Resource	S	The Member TO restoration plan shall list	PJM will supply the details about	Do you list in your restoration plan		M-36 System Restoration, Section 1.1	4/1/2019	None
			and its characteristics including but not		each critical Blackstart Resource, if	critical blackstart units upon a		of critical Blackstart Resource, if	Policy Statements; PJM Member		
			limited to the following: the name of the		applicable, and its characteristics	request from a Member TO.	1	applicable, and their characteristics	Actions; Attachment A-Minimum Critical		
			Blackstart Resource, location, megawatt		including but not limited to the following:		including but not limited to the	_	Black Start Requirement		
			and megavar capacity, and type of unit.		the name of the Blackstart Resource,		_	following: the name of the Blackstart			
					location, megawatt and megavar capacity,		Resource, location, megawatt and	Resources, location, megawatt and	M-12 Balancing Operations, Section		
					and type of unit.		megavar capacity, and type of unit?		4.5.5-Objectives of Determining Black		
									Start Criticality		
									M-14D Generator Operational		
									Requirements, Section 10-Black Start		
									Generation Procurement	. / . /	
EOP	EOP-005-3		Identification of Cranking Paths and initial	Α	Each Member TO shall document the		1. Have you documented initial	Exhibit documentation of initial	M-36 System Restoration, Section 1.1-	4/1/2019	None
			switching requirements between each		Cranking Paths, including initial switching		switching requirements between	switching requirements and cranking	Policy Statements; Section 6.2-Cranking		
			Blackstart Resource and the unit(s) to be		requirements, between each Blackstart		each Blackstart generating unit and	paths in your restoration plan.	Power		
			started.		generating unit and the unit(s) to be		the unit(s) to be started in the				
					started in the restoration plan.		restoration plan?				
							2. Do you have cranking path				
							descriptions or diagrams in your restoration plan?				
EOP	EOP-005-3	R1.6	Identification of acceptable operating	c	Each Member TO shall, in their	M-36 requires regulation of the	Do you identify acceptable operating	Evhibit the acceptable operating	M-36 System Restoration, Section 3.1.5	4/1/2019	None
LOI	201 003 3		voltage and frequency limits during	3		frequency to between 59.75 Hz and		voltage and frequency limits used	Implement Restoration Procedure-	4/1/2013	None
			restoration.			61.0 Hz. M-36 also says reasonable		during restoration in the restoration	Frequency Control; Attachment G:		
			restoration.		1	voltage profiles shall be maintained	plan?	_	Coordination of Restoration Plan with		
					daring restoration.	(generally 90% to 105% of nominal)	pium.	l'	PJM Internal and External Neighboring		
						(generally considered)			Entities - PJM Approval for TO		
									Restoration Plans, G-2 #4		
EOP	EOP-005-3	R2	Each Transmission Operator shall provide	S	1. Each Member TO shall provide the	1. PJM shall provide the entities	1. Did you provide the entities	1. Exhibit emails, logs, or routing logs	M-36 System Restoration, Section 1.1-	4/1/2019	None
			the entities identified in its approved		entities (neighboring TOs, Distribution	identified in its approved restoration	(neighboring TOs, Distribution		Policy Statements; Section 6.2-Cranking		
			restoration plan with a description of any		Providers, Blackstart GOs and Cranked	plan with a description of any	Providers, Blackstart GOs and		Power, Attachment G: Coordination of		
			changes to their roles and specific tasks		Unit GOs) identified in its approved	changes to their roles and specific	Cranked Unit GOs) identified in its	Providers, Blackstart GOs, and Cranked	Restoration Plan with PJM Internal and		
			prior to the effective date of the plan.		restoration plan with a description of any	tasks prior to the effective date of	approved restoration plan with a	Unit GOs) identified in your approved	External Neighboring Entities - PJM		
			[Violation Risk Factor =		changes to their roles and specific tasks	the plan.	description of any changes to their	restoration plan with a description of	Approval Process for TO Restoration		
			Medium] [Time Horizon = Operations		prior to the effective date of the plan.	2. Maintain the eDART application for	roles and specific tasks prior to the	any changes to their roles and specific	Plans.		
			Planning]		2. Submit the restoration plan to PJM	Member TO to submit its restoration	effective date of the plan?	tasks prior to the effective date of the			
						plan to PJM.	,	plan.			
					the schedule in PJM Manual 36: System		-	2.Show evidence that you submitted			
					Restoration, Attachment G.		eDART according to the schedule in	the modified restoration plan to PJM			
							-	through eDART according to the			
							Attachment G.	schedule in PJM Manual 36: System			
								Restoration Attachment G.			

Category		•	Approved BOT/FERC Standards	A/S	Assigned or Shared Member TO Tasks	PJM Tasks	Audit Questions	•	Reference Documents					
	Number	Number						(What auditors will be looking for)		Date	Date			
EOP	EOP-005-3	R3	Each Transmission Operator shall review	S	Each Member TO shall annually review its		Did you annually review your	Exhibit emails, screen shots, or other	M-36: System Restoration, Section 1.1	4/1/2019	None			
			its restoration plan and submit it to its		restoration plan and submit the reviewed	· ·	•	documentation showing that you	Policy Statements, PJM Member					
			Reliability Coordinator annually on a		restoration plan to PJM for review and	Restoration.	reviewed restoration plan to PJM for	annually reviewed your restoration	Actions; Attachment G: Coordination of					
			mutually-agreed predetermined		approval as described in PJM Manual 36:		review and approval as described in	plan and submitted the reviewed	Restoration Plan with PJM Internal and					
			schedule. [Violation Risk Factor =		System Restoration, Attachment G:		PJM Manual 36: System Restoration,	restoration plan to PJM for review and	External Neighboring Entities - PJM					
			Medium] [Time Horizon = Operations		Coordination of Restoration Plan with		Attachment G: Coordination of	approval as described in PJM Manual	Approval Process for TO Restoration					
			Planning]		PJM Internal and External Neighboring		Restoration Plan with PJM Internal	36: System Restoration, Attachment G	Plans, G-3 Annual Coordination					
					Entities - PJM Approval Process for TO		and External Neighboring Entities -	Coordination of Restoration Plan with	Timeline, Table 1 - Annual Restoration					
					Restoration Plans, G-3 Annual		PJM Approval Process for TO	PJM Internal and External Neighboring	Plan Review Deadlines					
					Coordination Timeline.		Restoration Plans, G-3 Annual	Entities - PJM Approval Process for TO						
							Coordination Timeline?	Restoration Plans, G-3 Annual						
								Coordination Timeline.						
EOP	EOP-005-3	R4	Each Transmission Operator shall submit	S	Each Member TO shall submit its revised	1. Receive the submitted Member TO	Did you submit your revised	1. Exhibit dated documents showing	M-36 System Restoration, Attachment	4/1/2019	None			
			its revised restoration plan to its		System restoration plan to PJM for	restoration plans and consider for	restoration plan to PJM for approval,	revision(s) that would change your	G: Coordination of Restoration Plan with					
			Reliability Coordinator for approval, when		approval, when the revision would change	approval.	when the revision would change	ability to implement your System	PJM Internal and External Neighboring					
			the revision would change its ability to		the Member TO's ability to implement its	2. Notify Member TO of disposition	your ability to implement your	restoration plan.	Entities - PJM Approval Process for TO					
			implement its restoration plan, as		System restoration plan, as follows:	of submitted restoration plans.	System restoration plan, as follows?	2. Exhibit the revision log of your	Restoration Plans					
			follows: [Violation Risk Factor = Medium]					restoration plan and note the						
			[Time Horizon = Operations Planning]					applicable revisions.						
EOP	EOP-005-3	R4.1	Within 90 calendar days after identifying	S	Each Member TO shall submit its revised	1. Receive the submitted Member TO	Did you submit your revised	Exhibit evidence such as, emails,	M-36 System Restoration, Attachment	4/1/2019	None			
			any unplanned permanent BES		System restoration plan to PJM for	restoration plans and consider for	restoration plan to PJM for approval	screenshots, etc., showing that you	G: Coordination of Restoration Plan with					
			modifications.		approval when the revision would change		-	submitted your revised restoration	PJM Internal and External Neighboring					
					the Member TO's ability to implement its	2. Notify Member TO of disposition	identified any unplanned permanent		Entities - PJM Approval Process for TO					
						of submitted restoration plans.	BES modifications?	calendar days after you identified any	Restoration Plans					
					calendar days after identifying any			unplanned BES modifications.						
					unplanned permanent BES modifications.									
EOP	EOP-005-3		Prior to implementing a planned			1. Receive the submitted Member TO	· ·	Exhibit evidence such as, emails,	M-36 System Restoration, Attachment	4/1/2019	None			
			permanent BES modification subject to its		System restoration plan to PJM for	restoration plans and consider for		screenshots, etc., showing that you	G: Coordination of Restoration Plan with					
			Reliability Coordinator approval		approval when the revision would change			submitted your revised restoration	PJM Internal and External Neighboring					
			requirements per EOP-006.		the Member TO's ability to implement its	2. Notify Member TO of disposition	permanent BES modification.	plan to PJM for approval prior to	Entities - PJM Approval Process for TO					
						of submitted restoration plans.		implementing a planned permanent	Restoration Plans					
					implementing a planned permanent BES			BES modification.						
					modification.									
EOP	EOP-005-3		Each Transmission Operator shall have a	5	1. Each Member TO shall have a copy of	Provide a copy of Manual 36 - System		1. Exhibit evidence, such as, logs,	M-36 System Restoration, Section 1.1-	4/1/2019	None			
			copy of its latest Reliability Coordinator		its latest PJM approved restoration plan	Restoration to each Member TO so	PJM approved restoration plan		Policy Statements, Attachment G:					
			approved restoration plan within its		1	that it can be placed within the		etc., demonstrating that each of your	Coordination of Restoration Plan with					
			primary and backup control rooms so		rooms so that it is available to all of its	Member TO's primary and backup			PJM Internal and External Neighboring					
			that it is available to all of its System		System Operators prior to its effective	control rooms so that it is available		within your primary and backup	Entities - PJM Approval for TO					
			Operators prior to its effective date.			to all of its System Operators prior to		•	Restoration Plans, G-2 #6					
			[Violation Risk Factor = Lower] [Time		1	its effective date.	•	dates during the audit period.						
			Horizon = Operations Planning]		36 - System Restoration within your			2. Exhibit a copy of the latest PJM						
					primary and backup control rooms so that			approved restoration plan within your						
					it is available to all of your system		date <u>?</u> -	primary and backup control rooms.						
					operators prior to PJM Manual 36 -									
					System Restoration effective date.			1	1					

	ory Standard Requirement Approved BOT/FERC Standards A/S Assigned or Shared Member TO Tasks PJM Tasks Audit Questions Evidence of Compliance Reference Documents										
Category		•	Approved BOT/FERC Standards	A/S	Assigned or Shared Member 10 Tasks	PJINI Tasks	Audit Questions	•	Reference Documents	Enforcement	Inactive
EOP	Number EOP-005-3	R6	Each Transmission Operator shall verify through analysis of actual events, a combination of steady state and dynamic simulations, or testing that its restoration plan accomplishes its intended function. This shall be completed at least once every five years. Such analysis, simulations or testing shall verify: [Violation Risk Factor = Medium] [Time Horizon = Long-term Planning]	S	1. Each Member TO shall participate in the simulation exercises (PJM Restoration Drills) of system restoration at least annually. 2. Each member TO shall provide PJM requested information to support analysis of Blackstart Resources to meet the Real and Reactive Power requirements of the Cranking Paths and the dynamic capability to supply initial Loads.	System restoration at least annually. 2. PJM shall have analysis of Blackstart Resources to meet the Real and Reactive Power requirements of the Cranking Paths and the dynamic capability to supply	Restoration Drills) of System restoration at least annually? 2. Did you provide to PJM requested information to support analysis of Blackstart Resources to meet the Real and Reactive Power requirements of the Cranking Paths and the dynamic capability to supply initial Loads?	(What auditors will be looking for) 1. Exhibit documentation (drill logs, participation records, attendance records, etc.) that you participated in the simulation exercises (PJM Restoration Drills) of System restoration at least annually. 2. Exhibit evidence such as, emails, screenshots, etc., showing that you provided PJM requested information to support the analysis of Blackstart Resources to meet the Real and Reactive Power requirements of the Cranking Paths and the dynamic capability to supply initial Loads.	M-14D Generator Operational Requirements, Section 10.1.2 Selection Process, E: Verify Feasibility of Blackstart Units Selected M-36 System Restoration, Attachment D: Restoration Drill Guide M-40 Training and Certification Requirements, Section 1.5.3 Continuing Training Program, Section 1.6 Implementation of Program Activities, Section 3.2.1 Entity Training and Certification Requirements - Transmission Owner Operator	Date 4/1/2019	None
EOP	EOP-005-3	R6.1	The capability of Blackstart Resources to meet the Real and Reactive Power requirements of the Cranking Paths and the dynamic capability to supply initial Loads.	S	Each member TO shall provide PJM requested information to support analysis of Blackstart Resources to meet the Real and Reactive Power requirements of the Cranking Paths and the dynamic capability to supply initial Loads.	Reactive Power requirements of the Cranking Paths and the dynamic		provided PJM requested information to PJM to support the analysis of Blackstart Resources to meet the Real and Reactive Power requirements of	PJM OA Tariff; Schedule 6A-Black Start Service M-12 Balancing Operations, Section 4.6-	4/1/2019	None
EOP	EOP-005-3	R6.2	The location and magnitude of Loads required to control voltages and frequency within acceptable operating limits.	S	Each member TO shall provide PJM requested information to support analysis of Blackstart Resources to meet the Real and Reactive Power requirements of the Cranking Paths and the dynamic capability to supply initial Loads.	Reactive Power requirements of the Cranking Paths and the dynamic	information to support analysis of Blackstart Resources to meet the Real and Reactive Power requirements of the Cranking Paths	provided PJM requested information to PJM to support the analysis of Blackstart Resources to meet the Real and Reactive Power requirements of the Cranking Paths and the dynamic capability to supply initial Loads.	PJM OA Tariff; Schedule 6A-Black Start Service M-12 Balancing Operations, Section 4.6- Black Start Service M-14D Generation Operational Requirements, Section 7.1.6-Black Start, Section 10.1.2 Selection Process, E: Verify Feasibility of Blackstart Units Selected	4/1/2019	None
EOP	EOP-005-3	R6.3	The capability of generating resources required to control voltages and frequency within acceptable operating limits.	S	Each member TO shall provide PJM requested information to support analysis of Blackstart Resources to meet the Real and Reactive Power requirements of the Cranking Paths and the dynamic capability to supply initial Loads.	Reactive Power requirements of the Cranking Paths and the dynamic	information to support analysis of Blackstart Resources to meet the Real and Reactive Power requirements of the Cranking Paths and the dynamic capability to supply initial Loads?	provided PJM requested information to PJM to support the analysis of Blackstart Resources to meet the Real and Reactive Power requirements of the Cranking Paths and the dynamic capability to supply initial Loads.	PJM OA Tariff; Schedule 6A-Black Start Service M-12 Balancing Operations, Section 4.6-	4/1/2019	None
EOP	EOP-005-3	R8	Each Transmission Operator shall include within its operations training program, annual System restoration training for its System Operators. This training program shall include training on the following: [Violation Risk Factor = Medium] [Time Horizon = Operations Planning]	S	Each Member TO shall include within its operations training program, annual System restoration training for its System Operators to assure the proper execution of its restoration plan.		program have a requirement that all	Exhibit the section of the operations training program that requires annual training in system restoration.	M-40 Training and Certification Requirements, Section 1.5.3 Continuing Training Program, Section 1.6 Implementation of Program Activities, Section 3.2.1 -Entity Training and Certification Requirements - Transmission Owner Operator	4/1/2019	None

Category Standard Requirement Approved BOT/FERC Standards A/S Assigned or Shared Member TO Tasks PJM Tasks Audit Questions Evidence of Compliance Reference Documents Enforcement											
Category	Standard Number	Requirement Number	Approved BOT/FERC Standards	A/S	Assigned or Shared Member TO Tasks	PJM Tasks	Audit Questions	(What auditors will be looking for)	Reference Documents	Enforcement Date	Inactive Date
EOP	EOP-005-3	R8.1	System restoration plan including coordination with its Reliability Coordinator and Generator Operators included in the restoration plan.	S	Each Member TO operations training program shall include training on its restoration plan including how and when to coordinate with PJM and Generator Operators included in your restoration plan.	Annually provide the PJM System Operator Seminar. The PJM Annual System Operator Seminar partially meets these requirements.	restoration plan including how and when to coordinate with PJM and	Exhibit the section of your operations training program that includes training on your restoration plan including how and when to coordinate with PJM and Generator Operators included in your	Overview, Section 1.4.2 - Task Lists,	4/1/2019	None
EOP	EOP-005-3	R8.2	Restoration priorities.	S	Each Member TO operations training program shall include training on restoration priorities.	Annually provide the PJM System Operator Seminar. The PJM Annual System Operator Seminar partially meets this requirement.	Does your operations training program have a requirement that all of your System Operators have annual training in System restoration including restoration priorities?	Exhibit the section of your operations training program that has a requirement that all of your System Operators have annual training in	M-40 Training and Certification Requirements, Section 1.1- Training Overview, Section 1.4.2 - Task Lists, Section 1.4.3 Reliability-Related Tasks, Section 3 -Member Training and Certification Requirements M-36 System Restoration, Attachment D: Restoration Drill Guide	4/1/2019	None
EOP	EOP-005-3	R8.3	Building of cranking paths.	S	Each Member TO operations training program shall include training on building of cranking paths.	Annually provide the PJM System Operator Seminar. The PJM Annual System Operator Seminar partially meets these requirements.	of your System Operators have annual training in System restoration including building of cranking paths?	Exhibit the section of your operations training program that has a requirement that all of your System Operators have annual training in system restoration including building of cranking paths.	M-40 Training and Certification Requirements, Section 1.1- Training Overview, Section 1.4.2 - Task Lists, Section 1.4.3 Reliability-Related Tasks, Section 3 -Member Training and Certification Requirements M-36 System Restoration, Attachment D: Restoration Drill Guide	4/1/2019	None
EOP	EOP-005-3	R8.4	Synchronizing (re-energized sections of the System).	S	Each Member TO operations training program shall include training on synchronizing (re-energized sections of the System) under the direction of PJM.	Annually provide the PJM System Operator Seminar. The PJM Annual System Operator Seminar partially meets these requirements.	of your System Operators have	Exhibit the section of your operations training program that has a requirement that all of your System Operators have annual training in System restoration including synchronizing.	M-40 Training and Certification Requirements, Section 1.1- Training Overview, Section 1.4.2 - Task Lists, Section 1.4.3 Reliability-Related Tasks, Section 3 -Member Training and Certification Requirements M-36 System Restoration, Attachment D: Restoration Drill Guide	4/1/2019	None
EOP	EOP-005-3		Transition of Demand and resource balance within its area to the Balancing Authority.	S	Each Member TO operations training program shall include training on transition of Demand and resource balance within its area to the PJM as the Balancing Authority.	Annually provide the PJM System Operator Seminar, which covers this training.	transition of Demand and resource balance within your area to PJM as	l '	M-40 Training and Certification Requirements, Section 1.1- Training Overview, Section 1.4.2 - Task Lists, Section 1.4.3 Reliability-Related Tasks,	4/1/2019	None
EOP	EOP-005-3		Each Transmission Operator shall participate in its Reliability Coordinator's restoration drills, exercises, or simulations as requested by its Reliability Coordinator. [Violation Risk Factor = Medium] [Time Horizon = Operations Planning]	S	Each Member TO shall participate in PJM's restoration drills, exercises, or simulations as mentioned in Manual 40.	Keep Manual 40 up to date. Run restoration drills, exercises or simulations.	1	40.	M-40 Training and Certification Requirements, Section 1.1- Training Overview, Section 1.4.2 - Task Lists, Section 1.4.3 Reliability-Related Tasks, Section 3 -Member Training and Certification Requirements	4/1/2019	None
ЕОР	EOP-008-2	Purpose	Ensure continued reliable operations of the Bulk Electric System (BES) in the event that a control center becomes inoperable.								

						ERC Reliability S					
Category	Standard Number	Requirement Number	Approved BOT/FERC Standards	A/S	Assigned or Shared Member TO Tasks	PJM Tasks	Audit Questions	Evidence of Compliance (What auditors will be looking for)	Reference Documents	Enforcement Date	Inactive Date
EOP	EOP-008-2		Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall have a current Operating Plan describing the manner in which it continues to meet its functional obligations with regard to the reliable operations of the BES in the event that its primary control center functionality is lost. This Operating Plan for backup functionality shall include: [Violation Risk Factor = Medium] [Time Horizon = Operations Planning]	;	Each Member TO shall have a current Operating Plan describing the manner in which the Member TO will continue to meet functional obligations with regard to the reliable operations of the BES in the event that the Member TO's primary control center functionality is lost.		you will continue to meet your functional obligations with regard to the reliable operations of the BES in the event that your primary control	, ,	M-1 Control Center and Data Exchange Requirements, Section 2.5.6-Recovery Procedures	4/1/2019	None
EOP	EOP-008-2	R1.1	The location and method of implementation for providing backup functionality.	A	The Member TO plan for the loss of primary control center functionality shall include the location and method of implementation for providing backup functionality.		Does your plan for the loss of primary control center functionality include the location and method of implementation for providing backup functionality?	primary control center functionality that includes the location and method	M-1 Control Center and Data Exchange Requirements, Section 2.5.6-Recovery Procedures	4/1/2019	None
ЕОР	EOP-008-2	(Heading)	A summary description of the elements required to support the backup functionality. These elements shall include:								
EOP	EOP-008-2	R1.2.1	Tools and applications to ensure that System Operators have situational awareness of the BES.	A	The Member TO plan for the loss of primary control center functionality shall include a summary description of tools and applications to ensure that System Operators have situational awareness of the BES.		Does your plan for the loss of primary control center functionality include a summary description of tools and applications to ensure that System Operators have situational awareness of the BES?	primary control center functionality	M-1 Control Center and Data Exchange Requirements, Section 2.3.1- Transmission Monitoring Capability	4/1/2019	None
EOP	EOP-008-2	R1.2.2	Data exchange capabilities.	A	The Member TO plan for the loss of primary control center functionality shall include a summary description of data exchange capabilities including a description of how PJMnet is used.		include a summary description of	primary control center functionality that includes a summary description of data exchange capabilities including a	M-1 Control Center and Data Exchange Requirements, Section 2.3.1- Transmission Monitoring Capability	4/1/2019	None
EOP	EOP-008-2	R1.2.3	Interpersonal Communications.	А	The Member TO plan for the loss of primary control center functionality shall include a summary description of Interpersonal Communications.		Does your plan for the loss of primary control center functionality include a summary description of Interpersonal Communications?	· · ·	M-1 Control Center and Data Exchange Requirements, Section 4- Interpersonal communication Capability.	4/1/2019	None
ЕОР	EOP-008-2		Power source(s).	А	The Member TO plan for the loss of primary control center functionality shall include a summary description of power sources.		Does your plan for the loss of primary control center functionality include a summary description of power sources?	Exhibit your plan for the loss of primary control center functionality that includes a summary description of power sources.	M-1 Control Center and Data Exchange Requirements, Section 2.3.1- Transmission Monitoring Capability	4/1/2019	None
EOP	EOP-008-2		Physical and cyber security.	А	The Member TO plan for the loss of primary control center functionality shall include a summary description of physical and cyber security.		include a summary description of	primary control center functionality that includes a summary description of physical and cyber security.		4/1/2019	None
EOP	EOP-008-2		An Operating Process for keeping the backup functionality consistent with the primary control center.		The Member TO plan for the loss of primary control center functionality shall include an Operating Process for keeping the backup functionality consistent with the primary control center.		include an Operating Process for keeping the backup functionality	primary control center functionality	M-1 Control Center and Data Exchange Requirements, Section 2.3.1- Transmission Monitoring Capability	4/1/2019	None

					_	NERC Reliability St	andards				
Category	Standard	Requirement	Approved BOT/FERC Standards	A/S	Assigned or Shared Member TO Tasks	PJM Tasks	Audit Questions	Evidence of Compliance	Reference Documents	Enforcement	Inactive
	Number	Number						(What auditors will be looking for)		Date	Date
EOP	EOP-008-2	R1.4.	Operating Procedures, including decision	Α	The Member TO plan for the loss of		Does your plan for the loss of	Exhibit your plan for the loss of	M-1 Control Center and Data Exchange	4/1/2019	None
			authority, for use in determining when to		primary control center functionality shall		Tr. Tr.	primary control center functionality	Requirements, Section 2.3.1-		
			implement the Operating Plan for backup		include Operating Procedures, including		include Operating Procedures,	that includes Operating Procedures,	Transmission Monitoring Capability		
			functionality.		decision authority, for use in determining		-	including decision authority, for use in			
					when to implement the Operating Plan			determining when to implement the			
					for backup functionality.		the Operating Plan for backup	Operating Plan for backup			
							functionality?	functionality.			
EOP	EOP-008-2	R1.5	A transition period between the loss of	Α	The Member TO plan for the loss of		Does your plan for the loss of	Exhibit your plan for the loss of	M-1 Control Center and Data Exchange	4/1/2019	None
			primary control center functionality and		primary control center functionality shall			primary control center functionality	Requirements, Section 2.3.1-		
			the time to fully implement the backup		include a transition period between the		-	with a transition period between the	Transmission Monitoring Capability		
			functionality that is less than or equal to		loss of primary control center			loss of primary control center			
			two hours.		functionality and the time to fully		· · · · · · · · · · · · · · · · · · ·	functionality and the time to fully			
					implement the backup functionality that		implement the backup functionality	implement the backup functionality			
					is less than or equal to two hours.		that is less than or equal to two	that is less than or equal to two hours.			
							hours?				
EOP	EOP-008-2	R1.6	An Operating Process describing the	Α	The Member TO plan for the loss of		Does your plan for the loss of	Exhibit your plan for the loss of	M-1 Control Center and Data Exchange	43556	None
			actions to be taken during the transition		primary control center functionality shall		I' '	primary control center functionality	Requirements, Section 2.3.1-		
			period between the loss of primary		include an Operating Process describing		include an Operating Process	that includes an Operating Process	Transmission Monitoring Capability		
			control center functionality and the time		the actions to be taken during the		describing the actions to be taken	describing the actions to be taken			
			to fully implement backup functionality		transition period between the loss of		during the transition period between	during the transition period between			
			elements identified in Requirement R1,		primary control center functionality and		the loss of primary control center	the loss of primary control center			
			Part 1.2. The Operating Process shall		the time to fully implement backup		functionality and the time to fully	functionality and the time to fully			
			include:		functionality elements identified in		implement backup functionality	implement backup functionality			
					Requirement R1, Part 1.2.		elements identified in Requirement	elements identified in Requirement			
							R1, Part 1.2?	R1, Part 1.2.			
EOP	EOP-008-2	R1.6.1	A list of all entities to notify when there is	S	The Member TO Operating Process shall	PJM, at the request of the Member	Does your Operating Process include	Exhibit your Operating Process that	M-1 Control Center and Data Exchange	4/1/2019	None
			a change in operating locations.		include a list of all entities, including PJM,	TO, shall monitor a Member TO's	a list of all entities, including PJM, to	includes a list of all entities, including	Requirements, 2.6.1 Staffing Upon Loss		
					to notify when there is a change in	system during the change of	notify when there is a change in	PJM, to notify when there is a change	of an EMS or a 765 kV, 500 kV, or 345 kV		
					operating locations.	operating locations.	operating locations?	in operating locations.	RTU		
EOP	EOP-008-2	R1.6.2	Actions to manage the risk to the BES	S	The Member TO Operating Process shall	PJM will monitor all lines available	Does your Operating Process include	Exhibit your Operating Process that	M-1 Control Center and Data Exchange	4/1/2019	None
			during the transition from primary to		include actions to manage the risk to the	for monitoring and ties and direct	actions to manage the risk to the BES	includes actions to manage the risk to	Requirements, 2.6.1 Staffing Upon Loss		
			backup functionality as well as during		BES during the transition from primary to	appropriate actions.	during the transition from primary to	the BES during the transition from	of an EMS or a 765 kV, 500 kV, or 345 kV		
			outages of the primary or backup		backup functionality as well as during		backup functionality as well as during	primary to backup functionality as well	RTU		
			functionality.		outages of the primary or backup		outages of the primary or backup	as during outages of the primary or			
					functionality.		functionality?	backup functionality.			
EOP	EOP-008-2	R1.6.3	Identification of the roles for personnel	Α	The Member TO Operating Process shall		Does your Operating Process include	Exhibit your Operating Process that	M-1 Control Center and Data Exchange	4/1/2019	None
			involved during the initiation and		include an identification of the roles for		an identification of the roles for	includes an identification of the roles	Requirements, Section 2.6.1 Staffing		
			implementation of the Operating Plan for		personnel involved during the initiation		personnel involved during the	for personnel involved during the	Upon Loss of an EMS or a 765 kV, 500		
			backup functionality.		and implementation of the Operating Plar		initiation and implementation of the	initiation and implementation of the	kV, or 345 kV RTU		
					for backup functionality.		Operating Plan for backup	Operating Plan for backup			
							functionality?	functionality.			
EOP	EOP-008-2	R2	Each Reliability Coordinator, Balancing	Α	Each Member TO shall have a copy of its			Exhibit a copy of your current	M-1 Control Center and Data Exchange	4/1/2019	None
			Authority, and Transmission Operator		current Operating Plan for backup			Operating Plan for backup	Requirements, Section 2.5.6 Recovery		
			shall have a copy of its current Operating		functionality available at its primary			functionality available at your primary			
			Plan for backup functionality available at		control center and at the location		1	control center and at the location			
			its primary control center and at the		providing backup functionality.		Tr. Tr.	providing backup functionality.			
			location providing backup functionality.				functionality?				
			[Violation								
			Risk Factor = Lower] [Time Horizon =								
			Operations Planning]								
	L		operations i familing		<u>!</u>	Į	ļ	<u> </u>]	

Catagoni	Ctondord	Doguiromont	Approved BOT/FFDC Standards	A /c		DIM Tasks		Evidence of Compliance	Poforonce Desuments	Enforcement	Inactive
Category	Standard Number	Requirement Number	Approved BOT/FERC Standards	A/S	Assigned or Shared Member TO Tasks	PJM Tasks	Audit Questions	Evidence of Compliance (What auditors will be looking for)	Reference Documents	Enforcement Date	Inactive
EOP	Number EOP-008-2		Each Balancing Authority and	Λ	Each Member TO shall have backup		Do you have backup functionality	(What auditors will be looking for) A tour of the backup functionality	M-1 Control Center and Data Exchange	Date 4/1/2019	Date None
LOP	LOF-008-2		Transmission Operator shall have backup	A	functionality (provided either through a			(provided either through a facility or	Requirements, Section 2.7 PJM Member	4/1/2019	None
			functionality (provided either through a		facility or contracted services staffed by		contracted services staffed by	contracted services staffed by	Back Up Capability Required to Support		
			facility or contracted services staffed by		applicable certified operators when			<u> </u>	PJM in its TOP Role		
			applicable certified operators when		control has been transferred to the			control has been transferred to the	FJWI III ILS TOF ROIE		
			control has been transferred to the				backup functionality location) that				
					backup functionality location) that			backup functionality location) that			
			backup functionality location) that		includes monitoring, control, logging, and			includes monitoring, control, logging,			
			includes monitoring, control, logging, and		alarming sufficient for maintaining		and alarming sufficient for	and alarming sufficient for maintaining			
			alarming sufficient for maintaining		compliance with all Reliability Standards		maintaining compliance with all	compliance with all Reliability			
			compliance with all Reliability Standards		that depend on a Member TO's primary		Reliability Standards that depend on				
			that are applicable to a Balancing		control center functionality. To avoid		your primary control center	primary control center functionality.			
			Authority's and Transmission Operator's		requiring tertiary functionality, backup		functionality.				
			primary control center functionality. To		functionality is not required during:						
			avoid requiring tertiary functionality,								
			backup functionality is not required		 Planned outages of the primary or 						
			during: [Violation Risk Factor = High]		backup functionality of two weeks or less						
			[Time Horizon = Operations Planning]		 Unplanned outages of the primary or 						
					backup functionality						
			 Planned outages of the primary or 								
			backup functionality of two weeks or less								
			 Unplanned outages of the primary or 								
			backup functionality								
EOP	EOP-008-2	R5	Each Reliability Coordinator, Balancing	Α	1.Each Member TO shall annually review		1. Do you annually review and	1. Exhibit your Operating Plan for	M-1 Control Center and Data Exchange	4/1/2019	None
			Authority, and Transmission Operator,		and approve its Operating Plan for backup		approve your Operating Plan for	backup functionality showing in the	Requirements, Attachment B: Schedule		
			shall annually review and approve its		functionality.		backup functionality?	revision history the annual review and	of Data Submittals		
			Operating Plan for backup functionality.		2. Submit certification to PJM of the		2. Did you submit to PJM	approval.			
			[Violation Risk Factor = Medium] [Time		annual review and approval of your		certification of the annual review	2. Exhibit evidence of submitting to			
			Horizon = Operations Planning]		Operating Plan through the PERCS secure		and approval of your Operating Plan	PJM the certification of the annual			
			,		website as described in Manual 1		through the PERCS secure website	review and approval of your			
					Attachment B; Schedule of Data		as described in Manual 1 Attachment				
					Submittals.		B; Schedule of Data Submittals?	secure website as described Manual 1			
								Attachment B; Schedule of Data			
								Submittals.			
EOP	EOP-008-2	R5.1	An update and approval of the Operating	Α	1. Each Member TO shall update their		1. Did you update your Operating		M-1 Control Center and Data Exchange	4/1/2019	None
			Plan for backup functionality shall take		Operating Plan for backup functionality			backup functionality showing in the	Requirements, Attachment B: Schedule	., _, _ = = = =	
			place within sixty calendar days of any		within sixty calendar days of any changes		sixty calendar days of any changes to		of Data Submittals.		
			changes to any part of the Operating Plan		to any part of the Operating Plan		any part of the Operating Plan	part of the Operating Plan described in			
			described in Requirement R1.		described in Requirement R1.		described in Requirement R1?	Requirement R1 were done within			
			described in Requirement R1.		Submit certification to PJM of changes		2. Did you submit to PJM	sixty calendar days.			
					to the Operating Plan described in		certification of changes to the	2. Exhibit evidence of submitting to			
					Requirement R1 through the PERCS		Operating Plan described in	PJM the certification of changes to the			
					secure website within 60 calendar days of		Requirement R1 through the PERCS	Operating Plan described in			
					-						
					any changes to any part of the Operating		secure website?	Requirement R1 through the PERCS			
					Plan described in Requirement R1.			secure website.			
EOP	EOP-008-2	R6	Each Reliability Coordinator, Balancing	Λ	Each Member TO shall have primary and		Do you have primary and backup	Show evidence that the primary and	M-1 Control Center and Data Exchange	4/1/2019	None
EUP	EUP-008-2		,	А						4/1/2019	None
			Authority, and Transmission Operator		backup functionality that do not depend		functionality that do not depend on	backup functionality do not depend on			
			shall have primary and backup		on each other for the control center		each other for the control center	each other for the control center	Procedures.		
			functionality that do not depend on each		functionality required to maintain		functionality required to maintain	functionality required to maintain			
			other for the control center functionality		compliance with Reliability Standards.		compliance with Reliability	compliance with Reliability Standards			
			required to maintain compliance with				Standards?	such as drawings showing their			
			Reliability Standards. [Violation Risk					independence.			
			Factor = Medium] [Time Horizon =								
			Operations Planning]								

	NERC Reliability Standards Standard Populisment Approved BOT/FERC Standards A/S Assigned or Shared Member TO Tasks BIM Tasks Audit Questions Stridence of Compliance Reference Documents Enforcement Inserting												
Category	Standard	Requirement	Approved BOT/FERC Standards	A/S	Assigned or Shared Member TO Tasks	PJM Tasks	Audit Questions	Evidence of Compliance	Reference Documents	Enforcement	Inactive		
	Number	Number						(What auditors will be looking for)		Date	Date		
EOP	EOP-008-2	R7	Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall conduct and document results of an annual test of its Operating Plan that demonstrates: [Violation Risk Factor = Medium] [Time Horizon = Operations Planning]	A	Each Member TO shall conduct and document results of a test of its Operating Plan for backup functionality at least annually.		Did you conduct and document results of a test of your Operating Plan at least annually?	Exhibit evidence such as, logs, test records, or reports of tests of your Operating Plan for backup functionality demonstrating that a test was performed at least annually and indicating performance.	M-1 Control Center and Data Exchange Requirements, Section 2.5.6 Recovery Procedures.	4/1/2019	None		
EOP	EOP-008-2	R7.1	The transition time between the simulated loss of primary control center functionality and the time to fully implement the backup functionality.	S	During the test of the Member TO's Operating Plan, account for the transition time between the simulated loss of primary control center functionality and the time to fully implement the backup functionality.	PJM, at the request of the Member TO, shall monitor a Member TO's system during the change of operating locations.	demonstrated the transition time between the simulated loss of primary control center functionality	Reports of the test of your Operating Plan noting the time between the simulated loss of primary control center functionality and the time to fully implement the backup functionality.	M-1 Control Center and Data Exchange Requirements, Section 2.5.6 Recovery Procedures.	4/1/2019	None		
EOP	EOP-008-2	R7.2	The backup functionality for a minimum of two continuous hours.	A	During the test of the Member TO's Operating Plan, demonstrate backup functionality for a minimum of two continuous hours.			Reports showing that you, during the test of the Member TO's Operating Plan, demonstrated backup functionality for a minimum of two continuous hours.	M-1 Control Center and Data Exchange Requirements, Section 2.5.6 Recovery Procedures.	4/1/2019	None		
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 reestablish primary or backup functionality to PJM so that PJM can meet its reporting requirements.	calendar months of the date when the functionality is lost, showing how the Member TO will re-establish primary or backup functionality.	your primary or backup functionality that you anticipated would last for more than six calendar months? 2. Did you report the anticipated sixmonth loss showing how you reestablished primary or backup functionality to PJM within 5	1	M-1 Control Center and Data Exchange Requirements, Section 2.5.6 Recovery Procedures.	4/1/2019	None		
EOP	EOP-010-1	Purpose	To mitigate the effects of geomagnetic disturbance (GMD) events by implementing Operating Plans, Processes, and Procedures.										
ЕОР	EOP-010-1	R1 (Heading)	Each Reliability Coordinator shall develop, maintain, and implement a GMD Operating Plan that coordinates GMD Operating Procedures or Operating Processes within its Reliability Coordinator Area. At a minimum, the GMD Operating Plan shall include:										

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Category	Standard	Requirement	Approved BOT/FERC Standards	A/S	Assigned or Shared Member TO Tasks	PJM Tasks	Audit Questions	Evidence of Compliance	Reference Documents	Enforcement	Inactive
	Number	Number						(What auditors will be looking for)		Date	Date
EOP	EOP-010-1		A process for the Reliability Coordinator to review the GMD Operating Procedures or Operating Processes of Transmission Operators within its Reliability Coordinator Area.	S	Where applicable, the Member TO shall submit its GMD Operating Procedures or Operating Processes for its area to PJM annually or within 30 days of a change.	PJM is responsible for developing, maintaining, and implementing its GMD Operating Procedures or Operating Processes located in PJM Manual 13: Emergency Operations, Section 3.7 Geo-Magnetic Disturbances. PJM shall review GMD Operating Procedures or Operating Plans submitted by Member TOs.	for your area? 2. If yes, do you submit your GMD Operating Procedures or Operating Processes to PJM annually or within 30 days of a change?	2. If applicable, exhibit emails, screen shots, etc., showing that you submitted your GMD Operating	PJM OA 11.3, Schedule 1, 1.9.9 TOA M-1 Control Center and Data Exchange Requirements, Section 4-Interpersonal Communication Capability M-3 Transmission Operations, Section 1.2-Responsibilities for Transmission Owner's Operating Entity M-37 Reliability Coordination, Section 1-Roles and Responsibilities M-13 Emergency Operations, Section 3.8 Geo-Magnetic Disturbances (GMD)	4/1/2015	None
									Operating Plan (EOP-010-1)		
ЕОР	EOP-010-1	(Heading)	Each Transmission Operator shall develop, maintain, and implement a GMD Operating Procedure or Operating Process to mitigate the effects of GMD events on the reliable operation of its respective system. At a minimum, the Operating Procedure or Operating Process shall include:								
EOP	EOP-010-1	R3.2	System Operator actions to be initiated based on predetermined conditions.	S	The Member TO shall comply with Operating Instructions to mitigate the effects of GMD events.	1. PJM is responsible for developing, maintaining, and implementing its GMD Operating Procedure located in PJM Manual 13: Emergency Operations, Section 3.7 Geo-Magnetic Disturbances. 2. PJM shall issue Operating Instructions to implement its GMD Operating Procedure to ensure mitigation of GMD events on its system.	Have you had any incidents when you were not able to comply with Operating Instructions to mitigate the effects of GMD events?	requires the Member TO System Operators to comply with Operating Instructions to mitigate the effects of GMD events. 2. Examples of the Member TO system operator following Operating Instructions to mitigate the effects of	PJM OA 11.3, Schedule 1, 1.9.9 TOA M-1 Control Center and Data Exchange Requirements, Section 4-Interpersonal Communication Capability M-3 Transmission Operations, Section 1.2-Responsibilities for Transmission Owner's Operating Entity M-37 Reliability Coordination, Section 1-Roles and Responsibilities M-13 Emergency Operations, Section 3.8 Geo-Magnetic Disturbances (GMD) Operating Plan (EOP-010-1)	4/1/2015	None

Category	Ctandard	Poquiromont	Approved BOT/EEDC Standards	Λ/ς		PIM Tasks		Evidence of Compliance	Poforonco Documento	Enforcement	Inactivo
Category			Approved BOT/FERC Standards	A/S	Assigned or Shared Member 10 Tasks	PJIVI TASKS	Audit Questions	The state of the s	Reference Documents		
EOP	Standard Number EOP-010-1		The conditions for terminating the Operating Procedure or Operating Process.	s s	Assigned or Shared Member TO Tasks The Member TO shall comply with Operating Instructions to mitigate the effects of GMD events.	PJM Tasks 1. PJM is responsible for developing, maintaining, and implementing its GMD Operating Procedure located in PJM Manual 13: Emergency Operations, Section 3.7 Geo-Magnetic Disturbances. 2. PJM shall issue Operating Instructions to implement its GMD Operating Procedure to ensure mitigation of GMD events on its system.	Have you had any incidents when you were not able to comply with Operating Instructions to mitigate the effects of GMD events?	requires the Member TO System Operators to comply with Operating Instructions to mitigate the effects of GMD events. 2. Examples of the Member TO system operator following Operating Instructions to mitigate the effects of GMD events in the form of logs, voice recordings or transcripts of voice recordings, or other equivalent evidence.	PJM OA 11.3, Schedule 1, 1.9.9 TOA M-1 Control Center and Data Exchange Requirements, Section 4-Interpersonal Communication Capability M-3 Transmission Operations, Section 1.2-Responsibilities for Transmission Owner's Operating Entity M-37 Reliability Coordination, Section 1-Roles and Responsibilities M-13 Emergency Operations, Section 3.8 Geo-Magnetic Disturbances (GMD)	Enforcement Date 4/1/2015	None
EOP	EOP-011-3		To address the effects of operating Emergencies by ensuring each Transmission Operator and Balancing Authority has developed plan(s) to mitigate operating Emergencies and that those plans are implemented and coordinated within the Reliability Coordinator Area as specified within the requirements.						Operating Plan (EOP-010-1)		
EOP	EOP-011-3		Each Transmission Operator shall develop, maintain, and implement one or more Reliability Coordinator-reviewed Operating Plan(s) to mitigate operating Emergencies in its Transmission Operator Area. The Operating Plan(s) shall include the following, as applicable:	S	Each member TO shall develop, maintain, and implement an Emergency Operating Plan that include the following as applicable:	PJM is responsible for maintaining, and implementing PJM M-13 as the PJM Operating Plan to mitigate operating Emergencies in the PJM footprint.	Did you develop, maintain, and implement an Emergency Operating Plan in your area?		M-13 Emergency Operations, Section 1.1-Policy Statements; Section 2 Capacity Emergencies; Section 5: Transmission Security Emergencies; Attachment E: Manual Load Dump Allocation Tables; Attachment F: PJM Manual Load Dump Capability PJM OA, Schedule 1, 1.7.6 -Scheduling and Dispatching; 1.7.15- Corrective Action	TBD	
EOP	EOP-011-3		Roles and responsibilities for activating the Operating Plan(s);	S	Each member TO Emergency Operating Plan shall include roles and responsibilities for activating the Member TO Emergency Operating Plan	PJM is responsible for issuing an Emergency, and for directing the operations of the PJM Members as necessary to manage, alleviate, or end an Emergency.	Does your Emergency Operating Plan include roles and responsibilities for activating the Emergency Operating Plan?	Operating Plan that indicates roles and responsibilities for activating the	M-13 Emergency Operations, Section 1.1-Policy Statements; Section 2 Capacity Emergencies; Section 5: Transmission Security Emergencies;	TBD	
EOP	EOP-011-3		Processes to prepare for and mitigate Emergencies including:								
EOP	EOP-011-3	R1.2.2.	Cancellation or recall of Transmission and generation outages;	S	Each member TO Emergency Operating Plan shall include processes to determine if any maintenance or testing, scheduled or being performed, on any monitoring, control, or transmission equipment can be deferred or cancelled.	PJM is responsible for issuing an Emergency, and for directing the operations of the PJM Members as necessary to manage, alleviate, or end an Emergency.	if any maintenance or testing, scheduled or being performed, on any monitoring, control, or transmission equipment can be	Exhibit the part of your Emergency Operating Plan that indicates processes to determine if any maintenance or testing, scheduled or being performed, on any monitoring, control, or transmission equipment can be deferred or cancelled	M-13 Emergency Operations, Section 1.1-Policy Statements; Section 2 Capacity Emergencies; Section 5: Transmission Security Emergencies;	TBD	

Category	Standard	Requirement	Approved BOT/FERC Standards	A/S		PJM Tasks	Audit Questions	Evidence of Compliance	Reference Documents	Enforcement	Inactive
EOP	Number EOP-011-3	Number R1.2.3.	Transmission system reconfiguration;		Each member TO Emergency Operating Plan shall include processes to determine system reconfiguration in its area.	PJM is responsible for issuing an Emergency, and for directing the operations of the PJM Members as necessary to manage, alleviate, or end an Emergency.	include processes to determine system reconfiguration in your area?	(What auditors will be looking for) Exhibit the part of your Emergency Operating Plan that indicates processes to determine system reconfiguration in your area.	M-13 Emergency Operations Sec 1.1 Policy Statements, Section 1.1-Policy Statements; Section 2 Capacity Emergencies; Section 5: Transmission Security Emergencies;	Date TBD	Date
EOP	EOP-011-3	R1.2.5	Operator-controlled manual Load shedding during an Emergency that accounts for each of the following:		Each member TO shall include steps for Load shedding during an Emergency in its Emergency Operating Plan that accounts for each of the following:	PJM is responsible for maintaining PJM M13 that describes PJM's Emergency and Load shed plan.		Exhibit the part of your Emergency Operating Plan that includes steps for Load shedding during an emergency.	M-13 Emergency Operations, Section 1.1-Policy Statements; Section 2 Capacity Emergencies; Section 5: Transmission Security Emergencies; Attachment E: Manual Load Dump Allocation Tables; Attachment F: PJM Manual Load Dump Capability	TBD	
EOP	EOP-011-3	R1.2.5.1.	Provisions for manual Load shedding capable of being implemented in a timeframe adequate for mitigating the Emergency		Each member TO shall have provisions for manual Load shedding that is capable of being implemented in five (5) minutes. The Member TO System Operators shal comply with the PJM directive of manual Load shed action unless such actions would violate safety, equipment, regulatory, or statutory requirements.		being implemented within five (5) minutes? 2. Did you comply with PJM directives to shed Load unless such	Exhibit the part of your Emergency Operating Plan that includes provisions for implementing Load shedding within five (5) minutes. Evidence such as system operator logs, voice recordings, etc. for any incidents where your operators had to follow PJM directive to shed Load.	M-13 Emergency Operations, Section 1.1-Policy Statements; Section 2 Capacity Emergencies; Section 5: Transmission Security Emergencies; Attachment E: Manual Load Dump Allocation Tables; Attachment F: PJM Manual Load Dump Capability	TBD	
EOP	EOP-011-3	R1.2.5.2	Provisions to minimize the overlap of circuits that are designated for manual Load shed and circuits that serve designated critical loads;		Each member TO shall have provisions to minimize the overlap of circuits that are designated for manual Load shed and circuits that serve designated critical loads	PJM is responsible for implementing the plans to mitigate an Emergency	minimize the overlap of circuits that are designated for manual Load shed and circuits that serve designated critical loads?	Exhibit the part of your Emergency Operating Plan that includes a philosophy of provisions that recognize critical loads and have provisions to minimize the overlap of circuits that are designated for manual Load shed and circuits that serve designated critical loads.	M-13 Emergency Operations, Section 1.1-Policy Statements; Section 2 Capacity Emergencies; Section 5: Transmission Security Emergencies; Attachment E: Manual Load Dump Allocation Tables; Attachment F: PJM Manual Load Dump Capability	TBD	
EOP	EOP-011-3	R1.2.5.3.	Provisions to minimize the overlap of circuits that are designated for manual Load shed and circuits that are utilized for underfrequency load shed (UFLS) or undervoltage load shed (UVLS); and		Each member TO shall have provisions to minimize the overlap of circuits that are designated for manual Load shed and circuits that are utilized for underfrequency load shed (UFLS) or undervoltage load shed (UVLS)	PJM is responsible for implementing the plans to mitigate an Emergency	overlap of circuits that are designated for manual Load shed and circuits that are utilized for underfrequency load shed (UFLS) or undervoltage load shed (UVLS)?	Operating Plan that includes a philosophy of provisions for minimizing the overlap of circuits that are designated for manual Load shed	M-13 Emergency Operations, Section 1.1-Policy Statements; Section 2 Capacity Emergencies; Section 5: Transmission Security Emergencies; Attachment E: Manual Load Dump Allocation Tables; Attachment F: PJM Manual Load Dump Capability	TBD	
EOP	EOP-011-3	R1.2.5.4	Provisions for limiting the utilization of UFLS or UVLS circuits for manual Load shed to situations where warranted by system conditions.		Each member TO shall have provisions to limit the utilization of UFLS or UVLS circuits for manual Load shed to situations where warranted by system conditions.	PJM is responsible for implementing the plans to mitigate an Emergency	Does your Emergency Operating Plan have provisions to limit the utilization of UFLS or UVLS circuits for manual Load shed to situations where warranted by system		Transmission Security Emergencies;	TBD	

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Category	Standard	Requirement	Approved BOT/FERC Standards	A/S	Assigned or Shared Member TO Tasks	PJM Tasks	Audit Questions	Evidence of Compliance	Reference Documents	Enforcement	Inactive
	Number	Number						(What auditors will be looking for)		Date	Date
FAC	FAC-014-3 2		To ensure that System Operating Limits								
			(SOLs) used in the reliable planning and								
			operation of the Bulk Electric System								
			(BES) are determined based on an								
			established methodology or								
_			methodologies.								
FAC	FAC-014-3 2	R2	Each Transmission Operator shall	S	Each Member TO shall establish thermal	PJM shall maintain its SOL	Have you established Thermal	Exhibit evidence establishing	PJM OA , Section 1.9.8 Transmission	4/1/2024	None
			establish System Operating Limits (SOLs)		transmission Facility Ratings and Voltage	methodology.	Transmission Facility Ratings and	member's Thermal ratings and Voltage	Owner Responsibilitiesc		
			for its portion of the Reliability		Limits for its portion of PJM.		Voltage Limits for your portion of	Limit within member's internal			
			Coordinator Area in accordance with its				PJM?	systems.	Transmission Owners Agreement,		
			Reliability Coordinator's SOL						Section 4.11		
			methodology.								
									M-3 Transmission Operations, Sections		
									2.1.1 Facility Ratings, 3.3 Voltage Limits		
									M-37 Reliability Coordination, Section 3-		
									SOL and IROL Limits		
FAC	FAC-014-3		Each Transmission Operator shall provide	S	Each Member TO shall provide its thermal		1 ' ' '	Exhibit evidence of the member's	PJM OA, Section 1.9.8 Transmission	4/1/2024	None
			its SOLs to its Reliability Coordinator		transmission Facility Ratings and Voltage	transmission Facility Ratings and		thermal ratings and voltage limits	Owner Responsibilities		
					Limits for the PJM monitored facilities to	Voltage Limits provided by the	Voltage Limits for the PJM monitored	_			
					PJM using the PJM eDART tool.	Member TO.	facilities for your portion to PJM?		Transmission Owners Agreement, Sectio		
									4.11		
									M-3 Transmission Operations, Sections		
									1.2-Responsibilities for Transmission		
									Owner's Operating Entity		
									MA 27 Deliability Consultration Continue		
									M-37 Reliability Coordination, Section 3-		
IRO	IRO-001-4	D	To establish the responsibility of						SOL and IROL Limits		
IKO	IKU-001-4	Purpose	Reliability Coordinators to act or direct								
			other entities to act.								
IRO	IRO-001-4	R2	Each Transmission Operator, Balancing	ς	The Member TO System Operators shall	PIM shall have remedial plans if the	1. Do you have documented	Documentation of procedures that	PJM OA 11.3, Schedule 1, 1.9.9	4/1/2017	None
1110	1110 001 4	NZ	Authority, Generator Operator, and		comply with PJM Operating Instructions	Member TO cannot follow the	procedures that require your System	requires the Member TO System	1 3W 6/ 11.5, Schedule 1, 1.5.5	4/1/2017	None
			Distribution Provider shall comply with its		unless compliance with the Operating	Operating Instruction.			ТОА		
			Reliability Coordinator's Operating		Instructions cannot be physically	operating instruction.	Operating Instructions?	Operating Instructions.			
			Instructions unless compliance with the		implemented or unless such actions			Examples of the Member TO System	M-3 Transmission Operations Section		
			Operating Instructions cannot be		would violate safety, equipment,		your System Operators were not able		1.2-Responsibilities for Transmission		
			physically implemented or unless such		regulatory, or statutory requirements.		to comply with PJM Operating	Instructions in the form of logs, voice	Owner's Operating Entity		
			actions would violate safety, equipment,		- Sound of the statutory requirements.		Instructions because compliance	recordings or transcripts of voice	oer o operating Entity		
			regulatory, or statutory requirements.				-	recordings of transcripts of voice	M-37 Reliability Coordination, Section 1-		
			regulatory, or statutory requirements.				not be physically implemented or	evidence.	Roles and Responsibilities		
							unless such actions would have	eridence.	noies and nesponsibilities		
							violated safety, equipment,		M-1 Control Center and Data Exchange		
							regulatory, or statutory		Requirements, Section 4-Interpersonal		
							requirements?		Communication Capability		
							requirements:		Communication capability		
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Category	Standard	Requirement	Approved BOT/FERC Standards	A/S	Assigned or Shared Member TO Tasks	PJM Tasks	Audit Questions	Evidence of Compliance	Reference Documents	Enforcement	Inactive
_	Number	Number		_				(What auditors will be looking for)		Date	Date
IRO	IRO-001-4	R3	Each Transmission Operator, Balancing Authority, Generator Operator, and Distribution Provider shall inform its Reliability Coordinator of its inability to perform the Operating Instruction issued by its Reliability Coordinator in Requirement R1.		If the PJM Operating Instructions cannot be complied with because compliance with Operating Instructions could not be physically implemented or because such actions would have violated safety, equipment, regulatory, or statutory requirements, the Member TO System Operators shall inform PJM as soon as possible.	PJM shall have the responsibility and clear decision-making authority to issue Operating Instructions to ensure the reliability of its area and shall exercise specific authority to alleviate operating emergencies.	your System Operators were not able to comply with PJM Operating Instructions because compliance with the Operating Instructions could not be physically implemented or unless such actions would have violated safety, equipment, regulatory, or statutory requirements? 2. If because of the reasons	Exhibit evidence, if applicable, of any instances when your System Operators did not comply with PJM Operating Instructions because	PJM OA, Section 11.3 Member Responsibilities, 11.3.1 General (e) M-3 Transmission Operations, Section 1.2-Responsibilities for Transmission Owner's Entity, Section 1.3-Transmission Operating Guidelines M-13 Emergency Operations, Section 1.1-Policy Statements M-37 Reliability Coordination, Section 1.1-Policy Statements RAA - Schedule 2-Standards for Integrating an Entity into the PJM Region-B.3, Schedule 6-Procedures for Demand Resources ILR, and Energy Efficiency-A.5. Open Access Tariff, Section 1.7.4- General Obligations of the Market Participants (b), Section 5.3 Outage Authority and Coordination, 13.6A-Load Shedding, III-Network Integration Transmission Service Section 33-Load	4/1/2017	None
IRO	IRO-017-1		To ensure scheduled transmission outages that may affect the reliability of interconnected operations are planned and coordinated among Balancing Authorities, Transmission Operators, and Reliability Coordinators.						Shedding and Curtailments		
IRO	IRO-017-1	R2	R2. Each Transmission Operator and Balancing Authority shall perform the functions specified in its Reliability Coordinator's outage coordination process.		The Member TO shall submit transmission outage requests to PJM as described in PJM Manual 3 Transmission Operations; Section 4.2 Scheduling Transmission Outage Requests.		Do you submit transmission outage requests as described in PJM Manual 3?		M-3 Transmission Operations; Section 4.2 Scheduling Transmission Outage Requests M-10 Pre-Scheduling Operations; Section 2.2-Planned Outages M-37 Reliability Coordination, Section 1.1-Policy Statements M-38, Operations Planning; Section 3- Next Day Reliability Analysis	4/1/2017	None
PER	PER-003-2		To ensure that System Operators performing the reliability-related tasks of the Reliability Coordinator, Balancing Authority and Transmission Operator are certified through the NERC System Operator Certification Program when filling a Real-time operating position responsible for control of the Bulk Electric System.								

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Category	Standard	Requirement	Approved BOT/FERC Standards	A/S	Assigned or Shared Member TO Tasks	PJM Tasks	Audit Questions	Evidence of Compliance	Reference Documents	Enforcement	Inactive
	Number	Number						(What auditors will be looking for)		Date	Date
PER	PER-003-2	R2	Each Transmission Operator shall staff its Real-time operating positions performing Transmission Operator reliability-related tasks with System Operators who have demonstrated minimum competency in the areas listed by obtaining and maintaining one of the following valid NERC certificates 2.1. Areas of Competency 2.1.1. Transmission operations 2.1.2. Emergency preparedness and operations 2.1.3. System operations 2.1.4. Protection and control 2.1.5. Voltage and reactive 2.2. Certificates • Reliability Operator • Balancing, Interchange and Transmission Operator		All Member TO system operators must be: * PJM Transmission certified and * NERC Transmission Operator or * Balancing, Interchange and Transmission Operator or * Reliability Operator Certified		operators PJM and NERC certified? 2. Were all your system operators PJM and NERC certified since the last audit?	Exhibit a list of TO system operators that have operated your system since the last audit. The list should include	M-40 Training and Certification Requirements, Section 2-Certification Overview, Section 3 - Member Training and Certification Requirements M-1 Control Center and Data Exchange Requirements, Section 2.6-Control Center Staffing M-3 Transmission Operations, Section 1.2-Responsibilities for Transmission Owner's Operating Entity	7/1/2019	None
			Transmission Operator Transmission Operator								
PER PER	PER-005-2	Purpose R1	To ensure that personnel performing or supporting Real-time operations on the Bulk Electric System are trained using a systematic approach. Each Reliability Coordinator, Balancing Authority, and Transmission Operator		Each Member TO shall establish a training program for Member TO	Keep Manual 40 up to date.	Have you developed and implemented a training program that	Evidence of using the PJM/Member SAT outlined in PJM Manual 40 or	PJM OA Section 10.4-Duties and Responsibilities (v), Section 11.3.1	7/1/2016	None
			shall use a systematic approach to develop and implement a training program for its System Operators as follows:		Operators that meets the training requirements outlined in PJM Manual 40, which includes requirements to use a systematic approach to training. 2. Each Member TO shall implement the training program.		meets the requirements outlined in PJM Manual 40, which requires the use of a systematic approach to training?	description/documentation of a SAT that meets the requirements of Manual 40. 2. Sample company training modules. 3. Training records showing implementation of the training program.	General (c) M-40 Training and Certification Requirements; Section 1.1.2 - Training for Member Operating/Dispatch Personnel; Section 1.2 - Member Systematic Approach to Training (SAT); Section 1.4.2 - Task Lists Section; 1.4.3 - Reliability-Related Tasks; Section 1.5 - Development of Training Programs; Section 1.5.2 - Initial Training Program; 1.5.3 - Continuing Training Program; 1.6 Implementation of Program Activities M-1 Control Center and Data Exchange Requirements, Section 2.6-Control Center Staffing M-3 Transmission Operations, Section 1.2-Responsibilities for Transmission Owner's Operating Entity M-36 System Restoration, Section 1.1- Policy Statements; Attachment D- Restoration Drill Guide		

Category	Standard	Requirement	Approved BOT/FERC Standards	A/S	Assigned or Shared Member TO Tasks	PJM Tasks	Audit Questions	Evidence of Compliance	Reference Documents	Enforcement	Inactive
category	Number	Number	Approved 501/1 Ene Standards	7,5	Assigned of Shared Member 10 Tusks	T SIVI TUSKS	Addit Questions	(What auditors will be looking for)	Reference Bocaments	Date	Date
PER	PER-005-2	R1.1.	Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall create a list of Bulk Electric System (BES) company-specific Real-time reliability-related tasks based on a defined and documented methodology.	S	Each Member TO, in coordination with PJM, shall create a list of BES common and company-specific reliability-related tasks performed by its TO Operators.	PJM, in coordination with each member TO, shall create a list of BES common reliability-related tasks and common objectives performed by its operators.	specific reliability-related tasks performed by your TO Operators?	Exhibit the list of BES company- specific Real-time reliability-related	M-40 Training and Certification Requirements, - Section 1.4.2 Task Lists; Section 1.4.3 - Reliability-Related Tasks	7/1/2016	None
PER	PER-005-2	R1.1.1.	Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall review, and update if necessary, its list of BES company-specific Real-time reliability-related tasks identified in part 1.1 each calendar year.	S	In coordination with PJM, review, and update if necessary, the list created in R1.1 each calendar year.	In coordination with each Member TO, review, and update if necessary, the list created in R1.1 each calendar year	reviewed, and updated if necessary, the list created in R1.1 each calendar year?	, , ,	M-40 Training and Certification Requirements, - Section 1.4.4 Task List Maintenance; Section 1.4.5 Task Modification	7/1/2016	None
PER	PER-005-2	R1.2.	Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall design and develop training materials according to its training program, based on the BES company-specific Real-time reliability-related task list created in part 1.1.	S	Each Member TO shall, in accordance with PJM Manual 40, design and develop training materials based on its company-specific tasks.	In coordination with each Member TO, PJM shall design and develop training materials based on the common task list created in R1.1.	1 ' '	that meet the design, development,	M-40 Training and Certification Requirements, Section 1.2 - Member Systematic Approach to Training; Section 1.5 - Development of Training Programs; Section 1.5.2 - Initial Training Program; 1.5.3 - Continuing Training Program; Section 1.6 Implementation of Program Activities	7/1/2016	None
PER	PER-005-2	R1.3.	Each Reliability Coordinator, Balancing Authority, and Transmission Operator shall deliver training to its System Operators according to its training program.	S	1. Each Member TO will provide training to its TO Operators on its company-specific tasks that meets the requirement of R1.2. 2. Each Member TO will ensure that company operators are in compliance with PJM training requirements in accordance with PJM M-40	PJM will offer training that meets the requirements of R1.2 for all common stasks.	company-specific tasks that meets the requirements of R1.2 to your TO Operators? 2. Did you confirm that your	training on company-specific tasks, meeting the requirements of R1.2, was delivered.	M-40 Training and Certification Requirements, Section 1.2 - Member	7/1/2016	None

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Category	Standard	Requirement	Approved BOT/FERC Standards	A/S	Assigned or Shared Member TO Tasks	PJM Tasks	Audit Questions	Evidence of Compliance	Reference Documents	Enforcement	Inactive
	Number	Number						(What auditors will be looking for)		Date	Date
PER	PER-005-2	R1.4.	Each Reliability Coordinator, Balancing	S	1. Each Member TO shall participate in	PJM shall conduct an evaluation, in	1. Have you participated in	1. Show evidence of participation in	M-40 Training and Certification	7/1/2016	None
			Authority, and Transmission Operator		evaluations of the PJM training program	coordination with the Member TOs,	evaluations of the PJM training	the PJM training program evaluation	Requirements, Section 1.7 Evaluation of		
			shall conduct an evaluation each calendar		established in R1, each calendar year, to	of the training program established in		each calendar year, such as emails,	Program Activities		
			year of the training program established		identify any needed changes to the PJM	R1 each calendar year, to identify any	2. Have you conducted an evaluation	minutes of meetings, reports from			
			in Requirement R1 to identify any needed		training program.	needed changes to the training		company Dispatcher Training			
			changes to the training program and shall		2. Each Member TO shall conduct an	program and shall implement the		Subcommittee (DTS) account in the			
			implement the changes identified.		evaluation of its training program	changes identified.		PJM Learning Management System			
					established in R1, each calendar year, to		program and implemented the	(LMS).			
					identify any needed changes to the		changes identified?	2. Show evidence of an evaluation of			
					training program and shall implement the			your training program established in			
					changes identified.			R1 each calendar year, to identify any			
								needed changes to the training			
								program, and any changes that have			
								been implemented. Evidence may			
								include evaluation completion records			
								in the company Dispatcher Training			
								Subcommittee (DTS) account of the			
								PJM Learning Management System			
								(LMS).			
PER	PER-005-2	R3	Each Reliability Coordinator, Balancing	Α	Each Member TO shall verify the		'	Show records of verification of	M-40 Training and Certification	7/1/2016	None
			Authority, Transmission Operator, and		capabilities of its personnel, identified in		your personnel, identified in	capabilities for each of your personnel,			
			Transmission Owner shall verify, at least		Requirement R1, assigned to perform		Requirement R1, assigned to	identified in Requirement R1, assigned			
			once, the capabilities of its personnel,		each of the applicable BES common and		perform each of the applicable BES	to perform each of the applicable BES	Transmission Owner Operators		
			identified in Requirement R1 or		company-specific Real-time reliability-			common and company-specific Real-			
			Requirement R2, assigned to perform		related tasks identified under		time reliability-related tasks	time reliability-related tasks identified			
			each of the BES company-specific Real-		Requirement R1 part R1.1 at least one		identified under Requirement R1	under Requirement R1 part R1.1.			
			time reliability-related tasks identified		time.		part R1.1 at least one time?	Evidence may include operator			
			under Requirement R1 part 1.1 or					records in the Task Tracking Module			
			Requirement R2 part 2.1.					(TTM) of the PJM Learning			
								Management System (LMS).			
PER	PER-005-2	R3.1.	Within six months of a modification or	Α	Within six months of a modification or			Show records that exhibit that the	M-40 Training and Certification	7/1/2016	None
			addition of a BES company-specific Real-		addition of an applicable BES common or			capabilities of each of your personnel	Requirements, Section 1.5.4 - Task		
			time reliability-related task, each		company-specific Real-time reliability-		common or company-specific Real-	identified in Requirement R1 were	Verification		
			Reliability Coordinator, Balancing		related task, each Member TO shall verify			verified within six months of a			
			Authority, Transmission Operator, and		the capabilities of each of its personnel		, , ,	modification or addition of an			
			Transmission Owner shall verify the		identified in Requirement R1 to perform		-	applicable BES common or company-			
			capabilities of each of its personnel		the new or modified BES common or			specific Real-time reliability-related			
			identified in Requirement R1 or		company-specific Real-time reliability-			task. Evidence may include operator			
			Requirement R2 to perform the new or		related tasks identified in Requirement R1		specific Real-time reliability-related	records in the Task Tracking Module			
			modified BES company-specific Real-time		part R1.1		task?	(TTM) of the PJM Learning			
			reliability-related tasks identified in					Management System (LMS).			
			Requirement R1 part 1.1 or Requirement								
			R2 part 2.1.								

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Category	Standard	Requirement	Approved BOT/FERC Standards	A/S	Assigned or Shared Member TO Tasks	PJM Tasks	Audit Questions	Evidence of Compliance	Reference Documents	Enforcement	Inactive
	Number	Number						(What auditors will be looking for)		Date	Date
PER	PER-005-2	R4.	Each Reliability Coordinator, Balancing Authority, Transmission Operator, and Transmission Owner that (1) has operational authority or control over Facilities with established Interconnection Reliability Operating Limits (IROLs), or (2) has established protection systems or operating guides to mitigate IROL violations, shall provide its personnel identified in Requirement R1 or Requirement R2 with emergency operations training using simulation technology such as a simulator, virtual technology, or other technology that replicates the operational behavior of the BES.	S	Each Member TO shall provide its personnel identified in Requirement R1 with emergency operations training using simulation technology such as a simulator, virtual technology, or other technology that replicates the operational behavior of the BES through participation in PJM training or an equivalent as required by Manual 40.	technology, or other technology that replicates the operational behavior of	identified in Requirement R1 with emergency operations training using simulation technology such as a simulator, virtual technology, or other technology that replicates the operational behavior of the BES through participation in PJM training or an equivalent as required by	Exhibit evidence that you provided your personnel identified in Requirement R1 with emergency operations training using simulation technology such as a simulator, virtual technology, or other technology that replicates the operational behavior of the BES through participation in PJM training or an equivalent as required by Manual 40.	M-40 Training and Certification Requirements, Section 3.2.1 - Transmission Owner Operators, Annual continuing Training	7/1/2016	None
ТОР	TOP-001-6	Purpose	To prevent instability, uncontrolled separation, or Cascading outages that adversely impact the reliability of the Interconnection by ensuring prompt action to prevent or mitigate such occurrences.								
TOP	TOP-001-6	R1	Each Transmission Operator shall act to maintain the reliability of its Transmission Operator Area via its own actions or by issuing Operating Instructions.	S	Instructions cannot be physically implemented or unless such actions would violate safety, equipment,		Operating Instructions?	requires the Member TO System Operators to comply with PJM Operating Instructions. 2. Examples of the Member TO System Operator following PJM Operating Instructions in the form of logs, voice recordings or transcripts of voice recordings, or other equivalent evidence.	PJM OA, Section 11.3 Member Responsibilities, 11.3.1 General (e) M-3 Transmission Operations, Section 1.2-Responsibilities for Transmission Owner's Entity, Section 1.3-Transmission Operating Guidelines M-13 Emergency Operations, Section 1.1-Policy Statements M-37 Reliability Coordination, Section 1.1-Policy Statements RAA - Schedule 2-Standards for Integrating an Entity into the PJM Region-B.3, Schedule 6-Procedures for Demand Resources ILR, and Energy Efficiency-A.5. Open Access Transmission Tariff, Section 1.7.4-General Obligations of the Market Participants (b), Section 5.3 Outage Authority and Coordination, 13.6A-Load Shedding, III-Network Integration Transmission Service Section 33-Load Shedding and Curtailments		None

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Category	Standard	Requirement	Approved BOT/FERC Standards	A/S	Assigned or Shared Member TO Tasks	PJM Tasks	Audit Questions	Evidence of Compliance	Reference Documents	Enforcement	Inactive
	Number	Number						(What auditors will be looking for)		Date	Date
ТОР	TOP-001-6	R5	Each Transmission Operator, Generator Operator, and Distribution Provider shall comply with each Operating Instruction issued by its Balancing Authority, unless		 The Member TO System Operators shall comply with PJM Operating Instructions unless compliance with the Operating Instructions cannot be physically 	Instructions to ensure the stable and reliable operation of the Bulk Electric	' '	Documentation of procedures that requires the Member TO System Operators to comply with PJM Operating Instructions.	PJM OA, Section 11.3 Member Responsibilities, 11.3.1 General (e) M-3 Transmission Operations, Section	4/1/2024	None
			such action cannot be physically implemented or it would violate safety, equipment, regulatory, or statutory		implemented or unless such actions would violate safety, equipment, regulatory, or statutory requirements.	PJM shall be prepared to implement alternate remedial actions when the Member TO cannot comply		2. Examples of the Member TO System Operator following PJM Operating Instructions in the form of logs, voice	· · · · · · · · · · · · · · · · · · ·		
			requirements.			with PJM issued Operating Instructions because the Operating Instructions could not be physically		recordings or transcripts of voice recordings, or other equivalent evidence.	M-13 Emergency Operations, Section 1.1-Policy Statements		
						implemented or unless such actions would have violated safety, equipment, regulatory, or statutory requirements.			M-37 Reliability Coordination, Section 1.1-Policy Statements		
									RAA - Schedule 2-Standards for Integrating an Entity into the PJM Region-B.3, Schedule 6-Procedures for		
									Demand Resources ILR, and Energy Efficiency-A.5. Open Access Tariff, Section 1.7.4-		
									General Obligations of the Market Participants (b), Section 5.3 Outage Authority and Coordination, 13.6A-Load		
									Shedding, III-Network Integration Transmission Service Section 33-Load Shedding and Curtailments		
TOP	TOP-001-6	R6	Each Transmission Operator, Generator Operator, and Distribution Provider shall inform its Balancing Authority of its			when the Member TO cannot comply	your System Operators were not able to comply with PJM Operating	Exhibit evidence, if applicable, of any instances when your System Operators did not comply with PJM Operating Instructions because	PJM OA, Section 11.3 Member Responsibilities, 11.3.1 General (e)	4/1/2024	None
			inability to comply with an Operating Instruction issued by its Balancing Authority.		physically implemented or because such actions would have violated safety, equipment, regulatory, or statutory requirements, the Member TO System	with PJM issued Operating Instructions because the Operating Instructions could not be physically implemented or unless such actions	with the Operating Instructions could not be physically implemented or	. 0	M-3 Transmission Operations, Section 1.2-Responsibilities for Transmission Owner's Entity, Section 1.3-Transmission Operating Guidelines		
					Operators shall inform PJM as soon as possible.	would have violated safety, equipment, regulatory, or statutory requirements.	violated safety, equipment, regulatory, or statutory requirements?	would have violated safety, equipment, regulatory, or statutory requirements and that your System	M-13 Emergency Operations, Section 1.1-Policy Statements		
						to issue Operating Instructions to		Operators informed PJM as soon as possible.	M-37 Reliability Coordination, Section 1.1-Policy Statements		
						shall exercise specific authority to	System Operators inform PJM as soon as possible?		RAA - Schedule 2-Standards for Integrating an Entity into the PJM Region-B.3, Schedule 6-Procedures for Demand Resources ILR, and Energy		
									Efficiency-A.5. Open Access Tariff, Section 1.7.4-		
									General Obligations of the Market Participants (b), Section 5.3 Outage Authority and Coordination, 13.6A-Load Shedding, III-Network Integration		
									Transmission Service Section 33-Load Shedding and Curtailments		

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Category	Standard Number	Requirement Number	Approved BOT/FERC Standards	A/S	Assigned or Shared Member TO Tasks	PJM Tasks	Audit Questions	Evidence of Compliance (What auditors will be looking for)	Reference Documents	Enforcement Date	Inactive Date
TOP	TOP-001-6		Each Transmission Operator shall inform its Reliability Coordinator, known impacted Balancing Authorities, and known impacted Transmission Operators of its actual or expected operations that result in, or could result in, an Emergency.	S	Each Member TO shall inform PJM of its actual or expected operations that result in, or could result in, an Emergency.				PJM OA 11.3-Member Responsibilities M-12 Balancing Operations; Attachment B-Transmission Constraint Control Guidelines, B.3.5-Maintaining System Reliability M-13 Emergency Operations, Section 1.1-Policy Statements TOA Article 4.7-Actions in Emergency M-3 Transmission Operations, Section 1.2-Responsibilities for Transmission	4/1/2024	None
TOP	TOP-001-6		Each Balancing Authority and Transmission Operator shall notify its Reliability Coordinator and known impacted interconnected entities of all planned outages, and unplanned outages of 30 minutes or more, for telemetering and control equipment, monitoring and assessment capabilities, and associated communication channels between the affected entities.		Each Member TO shall inform PJM of all planned outages before the planned outage occurs, and unplanned outages of 30 minutes or more within one hour of recognition of an unplanned outage of its data communication channels (e.g., ICCP link) between the following affected entities: (i) Member TO and PJM (ii) Where applicable, Member TO and a Member TO (iii) Where applicable, Member TO and an entity external to PJM	PJM shall inform known impacted interconnected entities of all planned outages and unplanned outages of 30 minutes or more, of data communication channels (e.g., ICCP link) between the following affected entities: (i) Member TO and PJM (ii) Where applicable, Member TO and a Member TO (iii) Where applicable, Member TO and an entity external to PJM	duration), and unplanned outages of 30 minutes or more, of your data communication channels (e.g., ICCP link) between the following affected entities? (i) Member TO and PJM (ii) Where applicable, Member TO and a Member TO	Exhibit examples where you informed PJM of planned outages and unplanned outages of 30 minutes or more, of your data communication channels (e.g., ICCP link) between the following affected entities: (i) Member TO and PJM (ii) Where applicable, Member TO and a Member TO (iii) Where applicable, Member TO and an entity external to PJM	Owner's Operating Entity PJM OA, 10.4-Duties and Responsibilities M-1 Control Center and Data Exchange Requirements, Section 2.5.4- Information Flow to Control Room Personnel; Section 3.2.3-EMS Data Exchange, Section 3.8: Planning, Coordination and Notification of System Changes and Events	4/1/2024	None
ТОР	TOP-001-6	(Heading)	Each Transmission Operator shall perform the following for determining System Operating Limit (SOL) exceedances within its Transmission Operator Area:		Citaty executation (1914)						
ТОР	TOP-001-6	R10.1	Monitor Facilities within its Transmission Operator Area;		1. Each Member TO shall monitor Transmission Facilities, identified in PJM Manual 3: Transmission Operations, Section 1.5.6: Monitored Transmission Facility, within its area. 2. Each Member TO shall notify PJM of changes in status of Facilities identified in PJM Manual 3: Transmission Operations, Section 1.5.6: Monitored Transmission Facility, within its area.	PJM shall monitor the status of all Transmission Facilities, identified in PJM Manual 3: Transmission Operations, Section 1.5.6: Monitored Transmission Facility, for determining System Operating Limit (SOL) exceedances within its Transmission Operator Area.	Transmission Operations, Section 1.5.6: Monitored Transmission Facility in your TO area? 2. Do you notify PJM of changes in status of your Facilities identified in PJM Manual 3: Transmission Operations, Section 1.5.6: Monitored Transmission Facility?	screenshots, logs, etc., that you monitor the status of each Facility identified in PJM Manual 3: Transmission Operations, Section 1.5.6: Monitored Transmission Facility in your TO area. 2. Show evidence, such as, logs, emails, recordings, etc., that you notify PJM of changes in status of your Facilities identified above.	M-3 Transmission Operations; Section 1.2-Responsibilities for Transmission Owner's Operating Entity, Section 1.3- Transmission Operating Guidelines, Section 1.5.4-Reportable Transmission Facility, Section 1.5.6-Monitored Transmission Facility M-14D Generator Operational Requirements, Section 4.2.1-Data Management and Security M-37 Reliability Coordination, Section 3.2-Monitoring of SOL and IROL Limits, Attachment A-PJM Reliability Plan, Section C.2-Common Tasks for Next-Day and Current-Day Operations	4/1/2024	None

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Category	Standard Number	Requirement Number	Approved BOT/FERC Standards	A/S	Assigned or Shared Member TO Tasks	PJM Tasks	Audit Questions	Evidence of Compliance (What auditors will be looking for)	Reference Documents	Enforcement Date	Inactive Date
TOP	TOP-001-6		Monitor the status of Remedial Action Schemes within its Transmission Operator Area;		Each Member TO shall monitor the status of Remedial Action Schemes within its area. Each Member TO shall notify PJM of changes in the status of the Remedial Action Schemes within its area.	PJM shall monitor the status of all Remedial Action Schemes within its Transmission Operator Area.	the status of the Remedial Action	monitor the status of Remedial Action Schemes in your TO area. 2. Show evidence, such as, logs, emails, recordings, etc., that you	M-3 Transmission Operations; Section 1.2-Responsibilities for Transmission Owner's Operating Entity M-03B Transmission Operating Procedure (CEII); Section 1 Index and Operating Procedure for PJM RTO Operation M-14D Generator Operational Requirements, Section 4.2.1-Data Management and Security	4/1/2024	None
									M-37 Reliability Coordination; Attachment A-PJM Reliability Plan		
TOP	TOP-001-6		Monitor non-BES facilities within its Transmission Operator Area identified as necessary by the Transmission Operator;	S	1. Each Member TO shall identify non-BES facilities in its TO area that may affect BES in a significant manner resulting in coordination with PJM to determine if additional modeling is required. 2. Each Member TO shall provide PJM appropriate information (e.g., status and loading information - Digital and Analog Telemetry) for the identified non-BES facilities to be included in PJM's model and monitored by PJM. 3. Each Member TO shall monitor the non-BES facilities Member TO has identified in its TO area and coordinated with PJM to be included in PJM's model.	TOs to include non-BES facilities identified by Member TOs in the PJM model. 2. PJM shall monitor all non-BES facilities identified by PJM Member TOs within its Transmission Operator Area.	in your area that may affect BES in a significant manner resulting in coordination with PJM to determine if additional modeling is required? 2. Do you provide PJM appropriate information (e.g., status and loading information - Digital and Analog Telemetry) for the non-BES facilities you have identified to be included in PJM's model and monitored by PJM? 3. Do you monitor the non-BES facilities you have identified in your TO area and coordinated with PJM to be included in PJM's model?	BES facilities in your area that may affect BES in a significant manner resulting in coordination with PJM to determine if additional modeling is required. 2. Exhibit evidence that you provide PJM appropriate information (e.g., status and loading information - Digital and Analog Telemetry) for the non-BES facilities you have identified to be included in PJM's model and	M-3 Transmission Operations; Section 1.2-Responsibilities for Transmission Owner's Operating Entity M-3A Energy Management System (EMS) Model Updates and Quality Assurance (QA), Section 1.3 Electrical Model Responsibilities for Transmission Owner's Operating Entity, Section 2.2.1.2 Sub-transmission Modeling,	4/1/2024	None
TOP	TOP-001-6		Obtain and utilize status, voltages, and flow data for Facilities outside its Transmission Operator Area identified as necessary by the Transmission Operator;	_	Each Member TO, in coordination with PJM as appropriate, shall obtain and utilize status, voltages, and flow data for Facilities outside its TO area as necessary to determine System Operating Limit (SOL) exceedances within its TO area.	1. PJM shall obtain and utilize status, voltages, and flow data for Facilities outside its Transmission Operator Area that PJM identified as necessary for determining System Operating Limit (SOL) exceedances within its Transmission Operator Area. 2. PJM will assist the Member TOs, as needed and within PJM's legal authority, in obtaining and maintaining model information for Facilities external to the Member TO areas.	appropriate, obtain and utilize status, voltages, and flow data for Facilities outside your TO area as necessary to determine System Operating Limit (SOL) exceedances	Exhibit evidence that you, in	M-3A Energy Management System	4/1/2024	None

	NERC Reliability Standards											
Category	Standard	Requirement	Approved BOT/FERC Standards	A/S	Assigned or Shared Member TO Tasks	PJM Tasks	Audit Questions	Evidence of Compliance	Reference Documents	Enforcement	Inactive	
	Number	Number						(What auditors will be looking for)		Date	Date	
ТОР	TOP-001-6		Obtain and utilize the status of Remedial Action Schemes outside its Transmission Operator Area identified as necessary by the Transmission Operator; and	S	Each Member TO, in coordination with PJM as appropriate, shall obtain and utilize status of Remedial Action Schemes outside its TO area as necessary to determine System Operating Limit (SOL) exceedances within its TO area.	1. PJM shall obtain and utilize status of Remedial Action Schemes outside its Transmission Operator Area that PJM identified as necessary for determining System Operating Limit (SOL) exceedances within its Transmission Operator Area. 2. PJM shall assist the Member TOs, as necessary, in obtaining and utilizing the status of Remedial Action Schemes external to the Member TO areas.	your TO area as necessary to determine System Operating Limit (SOL) exceedances within your TO	Exhibit evidence that you, in coordination with PJM as appropriate, obtain and utilize status of Remedial Action Schemes outside your TO area as necessary to determine System Operating Limit (SOL) exceedances within your TO area.	M-3 Transmission Operations, Section 1.3-Transmission Operating Guidelines, Section M-03B Transmission Operating Procedure (CEII); Section 1 Index and Operating Procedure for PJM RTO Operation	4/1/2024	None	
TOP	TOP-001-6		Obtain and utilize status, voltages, and flow data for non-BES facilities outside its Transmission Operator Area identified as necessary by the Transmission Operator.	S	Each Member TO, in coordination with PJM as appropriate, shall obtain and utilize status, voltages, and flow data for non-BES facilities outside its TO area as necessary to determine System Operating Limit (SOL) exceedances within its TO area.	PJM shall, in coordination with Member TOs as appropriate, obtain and utilize status, voltages, and flow data for non-BES facilities outside its	appropriate, obtain and utilize status, voltages, and flow data for non-BES facilities outside your TO area as necessary to determine System Operating Limit (SOL)	area as necessary to determine System	Assurance (QA), Section 1.3 Electrical Model Responsibilities for Transmission	4/1/2024	None	
TOP	TOP-001-6		Each Transmission Operator shall not operate outside any identified Interconnection Reliability Operating Limit (IROL) for a continuous duration exceeding its associated IROL Tv. Tv=30 Minutes	S	The Member TO System Operators shall comply with PJM Operating Instructions of an Interconnection Reliability Operating Limit (IROL) unless compliance with the Operating Instructions cannot be physically implemented or unless such actions would violate safety, equipment, regulatory, or statutory requirements. 2. If because of the reasons mentioned above the Member TO System Operators cannot comply with PJM Operating Instructions of an IROL, the Member TO System Operators shall inform PJM as soon as possible.	1. PJM shall issue Operating Instructions so that following a Contingency or other event that results in an IROL violation, PJM shall return its transmission system to within the IROL as soon as possible, but no longer than 30 minutes. 2. PJM shall be prepared to implement alternate remedial actions if Member TOs cannot comply with Operating Instructions for the listed reasons.	Operating Instructions? 2. Have you had any incidents when your System Operators were not able to comply with PJM Operating Instructions of an IROL because compliance with the Operating Instructions could not be physically implemented or unless such actions would have violated safety, equipment, regulatory, or statutory requirements? 3. If because of the reasons mentioned above, your System Operators could not comply with PJM Operating Instructions, did your System Operators inform PJM as	Operators to comply with PJM Operating Instructions of an Interconnection Reliability Operating Limit (IROL). 2. Examples of the Member TO System Operator of following PJM Operating Instructions of an IROL in the form of logs, voice recordings or transcripts of voice recordings, or other equivalent evidence.	Owner's Operating Entity, 1.3- Transmission Operating Guidelines, 3.5- Voltage Control Actions M-37 Reliability Coordination, Sections 1.1-Policy Statements, Section 3-SOL and IROL Limits M-13 Emergency Operations, Section 5.5-Interconnection Reliability Operating Limits (IROL) Manual Load Dump Warning/Action M-12 Balancing Operations, Section	4/1/2024	None	

Category	tegory Standard Requirement Approved BOT/FERC Standards A/S Assigned or Shared Member TO Tasks PJM Tasks Audit Questions Evidence of Compliance Reference Documents Enforce								Enforcement	Inactive	
Category	Number	Number	Approved BOT/FERC Stalldards	A/3	Assigned of Shared Mentiber TO Tasks	CACDI IVILA	Audit Questions	(What auditors will be looking for)	Reference Documents	Date	Date
TOP	TOP-001-6		Each Transmission Operator shall ensure	S	If PJM experiences a failure of its Real-	1. PJM shall ensure that a Real-time	1. Have you had an instance when		PJM OA, Section 11.3.1e- Member	4/1/2024	None
			that a Real-time Assessment is performed		time Assessment capability that lasts	Assessment is performed at least	PJM informed you that PJM	logs, voice recordings, etc., of	Responsibilities, General	,, =, === :	
			at least once every 30 minutes.		longer than 15 minutes, PJM will rely on	once every 30 minutes. If PJM	1	instances when PJM informed you that			
			·		the Member TOs, where applicable, to	experiences a failure of its Real-time	Assessment capability that lasted	PJM experienced a failure of its Real-	Transmission Owners Agreement,		
					perform a Real-Time Assessment at least	Assessment capability that lasts	longer than 15 minutes?	time Assessment capability that lasted	Section 4.5		
					once every 20 minutes until PJM informs	longer than 15 minutes, PJM shall	2. If applicable, did you perform a	longer than 15 minutes.			
					the Member TOs that PJM's Real-time	rely on the Member TOs, where	Real-time Assessment at least once	2. If applicable, evidence that you	M-1 Control Center and Data Exchange		
					Assessment capability is restored.	applicable, to perform a Real-time	every 20 minutes until PJM's Real-	performed a Real-time Assessment at	Requirements, Section 2.3.1-		
						Assessment at least once every 20	time Assessment capability is	least once every 20 minutes until	Transmission Monitoring Capability		
						minutes until PJM's Real-time	restored?	PJM's Real-time Assessment capability			
						Assessment capability is restored.		is restored.	M-3 Transmission Operations, Sections		
									1.2-Responsibilities for Transmission		
									Owner's Operating Entity, 1.3-		
									Transmission Operating Guidelines, 3.5-		
									Voltage Control Actions		
									M-37 Reliability Coordination, Sections		
									1.1-Policy Statements, Section 3-SOL		
									and IROL Limits		
									and more times		
									M-12 Balancing Operations, Section		
									3.1.3-PJM Member Control		
									Implementation, Section 5-Transmission		
									Facility Control		
									M-39 Nuclear Plant Interface		
									Coordination, Section 2.3-Notification		
									for Loss of Calculation Capability		
TOP	TOP-001-6		Each Transmission Operator shall initiate	S	1. The Member TO System Operators shall			1. Examples of the Member TO System		4/1/2024	None
			its Operating Plan to mitigate a SOL		comply with PJM Operating Instructions	Instructions so that following a	your System Operators were not able		Responsibilities, General		
			exceedance identified as part of its Real-		to mitigate a SOL unless compliance with	Contingency or other event that	to comply with PJM Operating	Instructions to mitigate a SOL in the	Transmission Owners Agreement		
			time monitoring or Real-time		the Operating Instructions cannot be physically implemented or unless such	results in an SOL exceedance PJM is able to mitigate the SOL exceedance.	Instructions to mitigate a SOL because compliance with the	form of logs, voice recordings or transcripts of voice recordings, or	Transmission Owners Agreement, Section 4.5		
			Assessment.		actions would violate safety, equipment,	2. PJM shall be prepared to	'	other equivalent evidence.	Section 4.5		
					regulatory, or statutory requirements.	implement alternate remedial actions	1 · · · · · · · · · · · · · · · · · · ·	•	M-3 Transmission Operations, Sections		
					2. If because of the reasons mentioned	when the Member TO cannot comply		could not comply with PJM Operating			
						with PJM issued Operating			Owner's Operating Entity, 1.3-		
					cannot comply with PJM Operating	Instructions because the Operating			Transmission Operating Guidelines, 3.5-		
					Instructions to mitigate a SOL, the	Instructions could not be physically			Voltage Control Actions		
					Member TO System Operators shall	implemented or unless such actions		Instructions could not be physically	_		
					inform PJM as soon as possible.	would have violated safety,	Operators could not comply with	implemented or because such actions	M-37 Reliability Coordination, Sections		
						equipment, regulatory, or statutory	PJM Operating Instructions to	would have violated safety,	1.1-Policy Statements, Section 3-SOL		
						requirements.	mitigate a SOL, did your System	equipment, regulatory, or statutory	and IROL Limits		
							•	requirements and that the Member			
							possible?	TO System Operators informed PJM as			
								soon as possible.	5.5-Interconnection Reliability Operating		
									Limits (IROL) Manual Load Dump		
									Warning/Action		
									NA 12 Belonging Operations Contin		
									M-12 Balancing Operations, Section		
									3.1.3-PJM Member Control		
									Implementation, Section 5-Transmission		
									Facility Control		

Category Standard Requirement Approved BOT/FERC Standards A/S Assigned or Shared Member TO Tasks PJM Tasks Audit Questions Evidence of Compliance Reference Document							Deference Decuments	Enforcement	Incotive		
Category	Standard Number	Requirement Number	Approved BOT/FERC Standards	A/S	Assigned or Shared Member TO Tasks	PJIVI Tasks	Audit Questions	Evidence of Compliance (What auditors will be looking for)	Reference Documents	Enforcement Date	Inactive Date
TOP	TOP-001-6		Each Transmission Operator shall provide	c	Member TO System Operators shall	PJM shall issue Operating Instructions	Have you complied with PIM	Exhibit evidence, such as, system	PJM OA, Section 11.3.1e- Member	4/1/2024	None
101	101-001-0		its System Operators with the authority	3	comply with PJM Operating Instructions	to-approve or deny planned outages	1	-	Responsibilities, General	4/1/2024	None
			to approve planned outages and			and maintenance of data	deny planned outages and	incident reports, emails. etc.,	nesponsibilities, deficial		
			maintenance of its telemetering and			communication channels (e.g., ICCP	, , ,	demonstrating that you complied with	Transmission Owners Agreement		
			control equipment, monitoring and		channels (e.g., ICCP link) between the	link) between the following affected	channels (e.g., ICCP link) between		Section 4.5		
			assessment capabilities, and associated		following affected entities:	entities:		approve or deny planned outages and	Section 4.5		
			communication channels between		(i) Member TO and PJM	(i) Member TO and PJM	(i) Member TO and PJM	maintenance of data communication	M-1 Control Center and Data Exchange		
			affected entities.		(ii) Where applicable, Member TO and a	(ii) Where applicable, Member TO	(ii) Where applicable, Member TO	channels (e.g., ICCP link) between the	Requirements, Section 3.8: Planning,		
			affected efficies.		1	and a Member TO	and a Member TO	following affected entities:	Coordination and Notification of System		
					(iii) Where applicable, Member TO and an		(iii) Where applicable, Member TO	_	Changes and Events		
					1	and an entity external to PJM	and an entity external to PJM	(ii) Where applicable, Member TO and	Changes and Events		
					lentity external to Filvi	and an entity external to Film	and an entity external to Filvi		M-3 Transmission Operations, Sections		
								(iii) Where applicable, Member TO and	1		
									Owner's Operating Entity, 1.3-		
								an entity external to PJM	Transmission Operating Guidelines, 3.5-		
									Voltage Control Actions		
									M 27 Poliability Coordination Sections		
									M-37 Reliability Coordination, Sections 1.1-Policy Statements, Section 3-SOL		
									and IROL Limits		
									NA 42 Emparation Continue Continue		
									M-13 Emergency Operations, Section		
									5.5-Interconnection Reliability Operating		
									Limits (IROL) Manual Load Dump		
									Warning/Action		
									M 42 Peleveire Oceantiene Centien		
									M-12 Balancing Operations, Section		
									3.1.3-PJM Member Control		
									Implementation, Section 5-Transmission		
TOD	TOD 004 6	D4.0	Facility Transportation On south and the Harris and the		The Manuel of TO Contains On a gata as all all	In the sky war and a see the see to a	4. Usana and banks and other with	4 Fullillian deligence of the second of	Facility Control	4/4/2024	N1
TOP	TOP-001-6		Each Transmission Operator shall operate	S	, ,	In instances where there is a	•	1. Exhibit evidence of instances, if	M-3 Transmission Operations, Section	4/1/2024	None
			to the most limiting parameter in		always operate the Bulk Electric System to			applicable, where you had to	1.3-Transmission Operating Guidelines		
			instances where there is a difference in		the most limiting parameter where there		between you and PJM?	coordinate with PJM because of a	14 27 B 15 15 15 C 15		
			SOLs.		is a difference in SOLs.	always operate the Bulk Electric		difference in SOLs between you and	M-37 Reliability Coordination, Section		
						System to the most limiting	limiting parameter?		5.3-Mitigating Operational Problems,		
						parameter.		l '	Attachment A-PJM Reliability Plan,		
								ı ·	Section C.2-Common Tasks for Next-Day		
TOP	TOP-001-6	P20	Each Transmission Operator shall have	c	Each Member TO shall have data	PJM shall have data exchange	Do you have data exchange	i'	and Current-Day Operations M-1 Control Center and Data Exchange	4/1/2024	None
100	104-001-0		Each Transmission Operator shall have	3		_	, ,	, , , , , , , , , , , , , , , , , , , ,		4/1/2024	None
			data exchange capabilities, with		exchange capabilities, with redundant and			_	Requirements; Section 3.2-Energy		
			redundant and diversely routed exchange		diversely routed exchange infrastructure		,	_	Management System (EMS) Data		
			infrastructure within the Transmission		· · ·	infrastructure within PJM's primary	infrastructure within your primary	infrastructure, demonstrating that you	_		
			Operator's primary Control Center, for		_	Control Centers, for the exchange of	Control Center, for the exchange of	' '	Communications		
			the exchange of Real-time data with its		1 '''	Real-time data with PJM Member	Real-time data with PJM and, if	redundant and diversely routed			
			Reliability Coordinator, Balancing		entities where the Member TO exchanges		applicable, those entities where the				
			Authority, and the entities it has		Real-time data directly with another	identified PJM needs data from in	_	primary Control Center, for the			
			identified it needs data from in order to			order to perform Real-time		exchange of Real-time data with PJM			
			perform its Real-time monitoring and		1	monitoring and Real-time		and, if applicable, those entities where			
			Real-time Assessments.		time Assessments.	Assessments.	_	the Member TO exchanges Real-time			
							Assessments?	data directly with the another entity,			
								to allow you and PJM to perform Real-			
								time monitoring and Real-time			
								Assessments.			

	NERC Reliability Standards										
Category	Standard	Requirement	Approved BOT/FERC Standards	A/S	Assigned or Shared Member TO Tasks	PJM Tasks	Audit Questions	Evidence of Compliance	Reference Documents	Enforcement	Inactive
	Number	Number		_				(What auditors will be looking for)		Date	Date
ТОР	TOP-001-6		Each Transmission Operator shall test its primary Control Center data exchange capabilities specified in Requirement R20 for redundant functionality at least once every 90 calendar days. If the test is unsuccessful, the Transmission Operator shall initiate action within two hours to restore redundant functionality.	S	Each Member TO shall test its primary Control Center data exchange capabilities specified in Requirement R20 for redundant functionality at least once every 90 calendar days. If the test is unsuccessful, each Member TO shall initiate action within two hours to restore redundant functionality.	specified in Requirement R20 for redundant functionality at least once every 90 calendar days. If the test is unsuccessful, PJM shall initiate action	Center data exchange capabilities specified in Requirement R20 for redundant functionality at least once every 90 calendar days? If the test is unsuccessful, do you initiate action within two hours to restore redundant functionality?	Exhibit evidence such as, testing logs, records, or documentation, that you tested your primary Control Center data exchange capabilities specified in Requirement R20 for redundant functionality at least once every 90 calendar days. Exhibit evidence that demonstrates that you initiated action within two hours to restore redundant functionality when the test was unsuccessful.	_	4/1/2024	None
ТОР	TOP-001-6		Each Transmission Operator shall use the applicable Reliability Coordinator's SOL methodology when determining SOL exceedances for Real-time Assessments, Realtime monitoring, and Operational Planning Analysis	S	Each Member TO shall assess SOLs in its pre-contingency and post-contingency analysis using thermal transmission Facility Ratings and Voltage Limits, where applicable, for the PJM monitored facilities.	PJM shall develop and maintain its SOL methodology.	and Voltage Limits for the PJM monitored facilities?	when determining SOL exceedances	M-3 Transmission Operations, Section 1.3: Transmission Operating Guidelines; Section 2: Thermal Operating Guidelines; Section 3: Voltage & Stability Operating Guidelines;	4/1/2024	None
ТОР	TOP-010-1(i)		Establish requirements for Real-time monitoring and analysis capabilities to support reliable System operations.								
ТОР	TOP-010-1(i)	R1.	Each Transmission Operator shall implement an Operating Process or Operating Procedure to address the quality of the Real-time data necessary to perform its Real-time monitoring and Real-time Assessments. The Operating Process or Operating Procedure shall include:	S	Each Member TO shall determine data quality indicators for all data presented to its operators and transmitted to PJM through different methods (e.g., ICCP, DNP, etc.).	PJM shall keep Manual 1 Quality Codes definitions and procedures up to date.	ICCP, DNP, etc.)?	Exhibit evidence, such as, screenshots or other evidence, indicating the quality of all data presented to your operators and transmitted to PJM through different methods (e.g., ICCP, DNP, etc.). Quality indicators, such as, color codes, data quality flags, or other such indicators as found in Realtime monitoring specifications may be used as evidence.		4/1/2018	None
ТОР	TOP-010-1(i)		Provisions to indicate the quality of Real- time data to the System Operator; and	S	Each Member TO shall indicate the quality of Real-time data to their System Operators. Each Member TO shall indicate the quality of Real-time data to PJM.	Using Member TO quality of Real- time data, PJM shall indicate the quality of Real-time data to PJM System Operators.	time data to PJM?	Exhibit evidence, such as, screenshots or other evidence,	M-1 Control Center and Data Exchange Requirements, Section 2.3.1 Transmission Monitoring Capability, 2.3.6-Data Integrity, 3.2.3-EMS Data Exchange, 3.3.2-Synchrophasor Data Exchange, 3.6-Real-Time Analysis Monitoring Requirements for System Security	4/1/2018	None
ТОР	TOP-010-1(i)		Actions to address Real-time data quality issues with the entity(ies) responsible for providing the data when data quality affects Real-time Assessments.	S	The Member TO's Operating Process or Operating Procedure shall include actions to address Real-time data quality issues.	PJM shall use data provided to perform state estimations and Real-time assessments.	2. Does your Operating Process or Operating Procedure include actions	If you perform Real-time Assessments, exhibit your Operating Process or Operating Procedure that includes actions to address Real-time data quality issues.	M-1 Control Center and Data Exchange Requirements, Section 2.3.1 Transmission Monitoring Capability, 2.3.6-Data Integrity, 3.2.3-EMS Data Exchange, 3.3.2-Synchrophasor Data Exchange, 3.6-Real-Time Analysis Monitoring Requirements for System Security	4/1/2018	None

Cataga	Ctondond	Poguirer:	Approved BOT/FFBC Standards	A /C		DIM Tasks		Evidence of Compliance	Poforonea Dogumenta	Enforcement	Inactive
Category	Standard Number	Requirement Number	Approved BOT/FERC Standards	A/S	Assigned or Shared Member TO Tasks	PJM Tasks	Audit Questions	Evidence of Compliance (What auditors will be looking for)	Reference Documents	Enforcement Date	Inactive Date
TOP	TOP-010-1(i)		Each Transmission Operator shall implement an Operating Process or Operating Procedure to address the quality of analysis used in its Real-time Assessments. The Operating Process or Operating Procedure shall include:		Assessments, the Member TO shall implement an Operating Process or	PJM shall maintain PJM's Operating Process to address the quality of State Estimator and Contingency Analysis in Manual 3A.	2. If yes, have you implemented an Operating Process or Operating Procedure to continuously review and notify your operator of the quality of analysis used in your Realtime Assessments?	Assessments, exhibit an Operating Process or Operating Procedure to continuously review and notify your operator of the quality of analysis used in your Real-time Assessments.	M-1 Control Center and Data Exchange Requirements, Section 2.3.1 Transmission Monitoring Capability, 2.3.6-Data Integrity, 3.2.3-EMS Data Exchange, 3.3.2-Synchrophasor Data Exchange, 3.6-Real-Time Analysis Monitoring Requirements for System Security Manual 3A: Energy Management System (EMS) Model Updates and Quality Assurance (QA), Section 5.2 State Estimator (SE) Solution Quality and ICCP Links, Section 5.3.1 RTCA Solution Quality, Section 5.5 Quality of Analysis Used in Real-time Assessments	4/1/2018	None
TOP	TOP-010-1(i)		Criteria for evaluating the quality of analysis used in its Real-time Assessments		Assessments, the Member TO's Operating Process or Operating Procedure to	PJM shall maintain PJM's Operating Process to address the quality of analysis used in its Real-time Assessment identified in Manual 3A.	in your Real-time Assessments include the following? (i) criteria for evaluating the quality	exhibit evidence that your Operating Process or Operating Procedure to address the quality of analysis used in your Real-time Assessments includes the following: (i) criteria for evaluating the quality of	M-1 Control Center and Data Exchange Requirements, Section 2.3.1 Transmission Monitoring Capability, 2.3.6-Data Integrity, 3.2.3-EMS Data Exchange, 3.3.2-Synchrophasor Data Exchange, 3.6-Real-Time Analysis Monitoring Requirements for System Security Manual 3A: Energy Management System (EMS) Model Updates and Quality Assurance (QA), Section 5.2 State Estimator (SE) Solution Quality and ICCP Links, Section 5.5 Quality of Analysis Used in Real-time Assessments	4/1/2018	None
TOP	TOP-010-1(i)		Provisions to indicate the quality of analysis used in its Real-time Assessments; and		Assessments, the Member TO's Operating Process or Operating Procedure to	Process to address the quality of analysis used in its Real-time Assessment identified in Manual 3A.	Process or Operating Procedure to address the quality of analysis used in your Real-time Assessments include the following? (ii) Provisions to indicate the quality of analysis used in your Real-time Assessments 2. If you perform Real-time Assessments, have you notified PJM when analysis quality issues affecting your Real-time Assessment have existed for 30 minutes and when your Real-time Assessment quality was back to normal.	Assessments, exhibit evidence that your Operating Process or Operating Procedure to address the quality of analysis used in your Real-time Assessments includes the following: (ii) Provisions to indicate the quality of analysis used in your Real-time Assessments 2.If you perform Real-time Assessments, exhibit evidence, such as, logs, screenshots, or recordings	M-1 Control Center and Data Exchange Requirements, Section 2.3.1 Transmission Monitoring Capability, 2.3.6-Data Integrity, 3.2.3-EMS Data Exchange, 3.3.2-Synchrophasor Data Exchange, 3.6-Real-Time Analysis Monitoring Requirements for System Security Manual 3A: Energy Management System (EMS) Model Updates and Quality Assurance (QA), Section 5.2 State Estimator (SE) Solution Quality and ICCP Links, Section 5.5 Quality of Analysis	4/1/2018	None

	NEIXO IXEIIADIIITY Staridards										
Category	Standard	Requirement	Approved BOT/FERC Standards	A/S	Assigned or Shared Member TO Tasks	PJM Tasks	Audit Questions	Evidence of Compliance	Reference Documents	Enforcement	Inactive
T00	Number	Number			16 14 1 70 6 7 11			(What auditors will be looking for)	10.10.10.10.10.10.10.10.10.10.10.10.10.1	Date	Date
TOP	TOP-010-1(i)	R3.3	Actions to address analysis quality issues affecting its Real-time Assessments.	A	If a Member TO performs Real-time Assessments, the Member TO's Operating Process or Operating Procedure shall include actions to address analysis quality issues affecting its Real-time Assessments.		2. If yes, does your Operating	actions to address analysis quality issues in your Real-time Assessments.	M-1 Control Center and Data Exchange Requirements, Section 2.3.1 Transmission Monitoring Capability, 2.3.6-Data Integrity, 3.2.3-EMS Data Exchange, 3.3.2-Synchrophasor Data Exchange, 3.6-Real-Time Analysis Monitoring Requirements for System Security Manual 3A: Energy Management System (EMS) Model Updates and Quality Assurance (QA), Section 5.2 State Estimator (SE) Solution Quality and ICCP Links, Section 5.3.1 RTCA Solution Quality, Section 5.5 Quality of Analysis Used in Real-time Assessments	4/1/2018	None
TOP	TOP-010-1(i)	R4	Each Transmission Operator and Balancing Authority shall have an alarm process monitor that provides notification(s) to its System Operators when a failure of its Real-time monitoring alarm processor has occurred.	A	Each Member TO shall have an alarm process monitor that provides notification(s) to its System Operators when a failure of its Real-time monitoring alarm processor has occurred.		monitor that provides notification(s) to your System Operators when a	shots of an alarm process monitor that provides notification(s) to your System Operators when a failure of your Realtime monitoring alarm processor has occurred.	M-1 Control Center and Data Exchange Requirements, Section 2.3.1 Transmission Monitoring Capability,	4/1/2018	None
VAR	VAR-001-5	Purpose	To ensure that voltage levels, reactive flows, and reactive resources are monitored, controlled, and maintained within limits in Real-time to protect equipment and the reliable operation of the Interconnection.								
VAR	VAR-001-5	R3	Each Transmission Operator shall operate or direct the Real-time operation of devices to regulate transmission voltage and reactive flow as necessary.	S	When PJM issues an Operating Instruction the Member TO shall be able to operate the devices under its control necessary to regulate transmission voltage and reactive flow. (On transformers with low side voltage of 138 kV or lower, the Member TO can operate the tap changers without notifying PJM)	Instruction to operate devices to regulate Transmission voltage and	devices when PJM issues an Operating Instruction necessary to	you can operate the devices necessary to regulate transmission voltage and reactive flow when PJM issues an Operating Instruction.	PJM OA, Section 11.3.3d-Electric Distributors, 1.7.20b-Communication and Operating Requirements M-3 Transmission Operations; Section 3.3-Voltage Limits, Section 3.5- Voltage Control Actions	1/1/2019	None
VAR	VAR-001-5		Each Transmission Operator shall specify a voltage or Reactive Power schedule (which is either a range or a target value with an associated tolerance band) at either the high voltage side or low voltage side of the generator step-up transformer at the Transmission Operator's discretion.	S	Each Member TO shall use PJM default generator voltage schedules specified in Manual 3, Section 3.11 or establish and coordinate voltage schedules for all BES generators within its zone with PJM.	Keep PJM Manual 3 Section 3.11 up to date. Maintain eDART.	voltage schedules specified in Manual 3, Section 3.11 or establish and coordinate voltage schedules for all BES generators within your zone with PJM?	PJM default generator voltage schedules specified in Manual 3, Section 3.11 or establish and coordinate voltage schedules for all BES generators within your zone with PJM.	PJM OA, Section 11.3.3d-Electric Distributors, 1.7.20b-Communication and Operating Requirements M-3 Transmission Operations; Section 3.3-Voltage Limits, Section 3.5- Voltage Control Actions, Section 3.11 Generator Voltage Schedules M-14D Generator Operational Requirements, Section 7.1.2-Voltage and Reactive Control	1/1/2019	None

	NERC Reliability Standards											
Category	Standard	Requirement	Approved BOT/FERC Standards	A/S	Assigned or Shared Member TO Tasks	PJM Tasks	Audit Questions	Evidence of Compliance	Reference Documents	Enforcement	Inactive	
	Number	Number						(What auditors will be looking for)		Date	Date	
VAR	VAR-001-5	R5.1	The Transmission Operator shall provide	S	Each Member TO shall notify PJM of the	1. Keep PJM Manual 3 Section 3.11	Did you notify PJM of the specified	1. Exhibit eDART voltage schedule	PJM OA, Section 11.3.3d-Electric	1/1/2019	None	
			the voltage or Reactive Power schedule		specified voltage schedule (PJM default	up to date.	voltage schedule (PJM default	tickets, screen shot showing posted	Distributors, 1.7.20b-Communication			
			(which is either a range or a target value		schedule as specified in PJM Manual 3,	2. Maintain eDART.	schedule as specified in PJM Manual	voltage schedules, etc.	and Operating Requirements			
			with an associated tolerance band) to the		Section 3.11 or Member TO voltage		3, Section 3.11 or your voltage					
			associated Generator Operator and direct		schedule) using communication methods		schedule) using communication		M-3 Transmission Operations; Section			
			the Generator Operator to comply with		established in PJM Manual 3, Section		methods established in PJM Manual		3.3-Voltage Limits, Section 3.5- Voltage			
			the schedule in automatic voltage control		3.11.		3, Section 3.11?		Control Actions, Section 3.11 Generator			
			mode (the AVR is in service and						Voltage Schedules			
			controlling voltage).									
									M-14D Generator Operational			
									Requirements, Section 7.1.2-Voltage			
									and Reactive Control			
VAR	VAR-001-5	R5.3	The Transmission Operator shall provide	S	1. Each Member TO shall provide the	1. PJM shall keep PJM Manual 3,	1.Did you provide the criteria used to	1. Exhibit evidence (logs, emails, or	PJM OA, Section 11.3.3d-Electric	1/1/2019	None	
			the criteria used to develop voltage		criteria used to develop Member TO	Section 3.11 up to date.	develop Member TO voltage	other form of communication) that	Distributors, 1.7.20b-Communication			
			schedules or Reactive Power schedule		voltage schedules, if applicable, or	2. If the Member TO is not able to	schedules, if applicable, or Member	you provided the criteria used to	and Operating Requirements			
			(which is either a range or a target value		Member TO Reactive Power schedule, if	provide the criteria used to develop	TO Reactive Power schedule, if	develop Member TO voltage, if				
			with an associated tolerance band) to the		applicable, (which is either a range or a	the Member TO voltage schedule to	applicable, (which is either a range or	applicable, schedules or Member TO	M-3 Transmission Operations; Section			
			Generator Operator within 30 days of		target value with an associated tolerance	the Generator Operator in its area	a target value with an associated	Reactive Power schedule (which is	3.3-Voltage Limits, Section 3.5- Voltage			
			receiving a request.		band) to PJM as defined in PJM Manual 3,	and notifies PJM, PJM shall provide	tolerance band) to PJM as defined in	either a range or a target value with ar	Control Actions, Section 3.11 Generator			
					Section 3.11.	the criteria used to develop the	PJM Manual 3, Section 3.11.	associated tolerance band) to PJM as	Voltage Schedules			
						default voltage schedule as specified		defined in PJM Manual 3, Section 3.11.				
						in PJM Manual 3, Section 3.11 to			M-14D Generator Operational			
						Generator Operator within 30 days of			Requirements, Section 7.1.2-Voltage			
						receiving a request.			and Reactive Control			

Reference Documents

The following Reference Documents are utilized in the TO/TOP Matrix:

Manual 1, Control Center and Data Exchange Requirements

Manual 3, Transmission Operations

Manual 3A, Energy Management System (EMS) Model Updates and Quality Assurance (QA)

Manual 3B Transmission Operating Procedure (CEII)

Manual 12, Balancing Operations

Manual 13, Emergency Operations

Manual 14C Generation & Transmission Interconnection Facility Construction

Manual 14D, Generator Operational Requirements

Manual 36, System Restoration

Manual 37, Reliability Coordination

Manual 39, Nuclear Plant Interface Coordination

Manual 40, Training and Certification Requirements

Link to the PJM Manuals

Reliability Assurance Agreement Among Load Serving Entities in the PJM Region (Effective Date: September 17, 2010)

Consolidated Transmission Owners Agreement Rate Schedule FERC No. 42 referenced as TOA in the TO/TOP Matrix

Amended And Restated Operating Agreement of PJM Interconnection, L.L.C referenced as PJM OA in the TO/TOP Matrix

PJM Open Access Transmission Tariff

PJM Compliance Bulletin CB026 Coordination with External Transmission Operators (TOPs)

NERC Operating Committee Compliance Implementation Guidance Data Exchange Infrastructure and Testing Requirements

Extreme Cold Weather Preparedness, Technical Rationale and Justification for EOP-011-3

Version 18

Effective: April 1, 2024

Finalized by TO/TOP Matrix Subcommittee: November 17, 2023

Approved by the Transmission Owners Agreement-Administrative Committee: March 15, 2024

	New NERC I	Reliability Standard Additions	1 None	Standards Ex	<u>kiting Matrix</u>
1 EOP-011-3	R1	Added new shared task		PJM Task	
2 FAC-014-3	R3	Added new shared task	1 EOP-011-3	R1	Added new shared task
3 IRO-017-1	R2	Added new shared task	3 FAC-014-3	R3	Added new shared task
4 TOP-001-6	R25	Added new shared task	4 IRO-017-1	R2	Added new shared task
			5 TOP-001-6	R25	Added new shared task
			6 TOP-010-1(i)	R3.1	Seperated shared language, Added new taks for PJM
	Assigned or	· Shared Task Updates			
1 EOP-008-2	R5	Added annaul submition of Backup Plan to PJM		Audit Question	on Updates
2 EOP-008-2	R7	Removed submition of test results	1 EOP-008-2	R5	Added annaul submition of Backup Plan to PJM
3 FAC-014-3	R2	Revised language for clarification	2 EOP-008-2	R7	Removed submition of test results
4 TOP-001-6	R9	Revised language for clarification	3 FAC-014-3	R2	Revised language to align with new standard version
5 TOP-010-1(i)	R3.1, R3.2	Seperated shared language	4 TOP-001-5	R9	Revised language for clarification
			5 TOP-010-1(i)	R3.1, R3.2	Seperated shared language
	Evidence of	Compliance Updates			
1 EOP-008-2	R5	Added annaul submition of Backup Plan to PJM		Refer	ence Changes
2 EOP-008-2	R7	Removed submition of test results	1 Updated all R	eference Docui	ments to current titles, versions, and sections
3 FAC-014-3	R2	Revised language to align with new standard version			
4 TOP-010-1(i)	R3.1, R3.2	Seperated shared language		Administrativ	<u>ve Changes</u>
			1 PER-003-2	Note removed	I
			2 TOP-001-5	Note removed	l

Version 17

Effective: April 3, 2023

Finalized by TO/TOP Matrix Subcommittee: November 18, 2022

Approved by the Transmission Owners Agreement-Administrative Committee: March 02, 2023

1 None <u>New NERC Reliability Standard Additions</u>

Assigned or Shared Task Updates

1 VAR-001-5 R5.3 Added PJM M3 reference

Evidence of Compliance Updates

1 VAR-001-5 R5.3 Added PJM M3 reference

1 None PJM Task

1 None

Audit Question Updates

Standards Exiting Matrix

1 VAR-001-5 R5.3 Added PJM M3 reference

Reference Changes

1 Updated all Reference Documents to current titles, versions, and sections

1 None Administrative Changes

Version 16

Effective: April 1,2022

Finalized by TO/TOP Matrix Subcommittee: 11,19,2021

Approved by the Transmission Owners Agreement-Administrative Committee: March, 7, 2022

1 None New NERC Reliability Standard Additions 1 None Standards Exiting Matrix

Version 18 Page 34 of 38 April 1, 2024

PJM Task

A	Assigned or Sha	ared Task Updates	1 TOP-001-5	R6	Added Task #1 to better align with Assigned / Shared Task
1 COM-002-4	R4.1	Revised to clarify communicaiton assessment for each operator	2 TOP-001-5	R13	Match changes in Assigned or Shared Task
2 EOP-005-3	R1	Added eDART application	3 TOP-010-1(i)	R1.3	Added Task for PJM responsibility
3 EOP-010-1	R3.2	Added GMD events to better align with NERC standard			
4 EOP-010-1	R3.3	Added GMD events to better align with NERC standard		<u>Au</u>	dit Question Updates
5 IRO-001-4	R2	Removed Task #2 to avoid duplication in R3	1 COM-002-4	R4.1	Match changes in Assigned or Shared Task
6 PER-005-2	R1.3	Added Task #2 for Operator Training Requirements	2 EOP-005-3	R1	Match changes in Assigned or Shared Task
7 TOP-001-5	R1	Removed Task #2 to avoid duplication listed in R6	3 IRO-001-4	R2	Match changes in Assigned or Shared Task
8 TOP-001-5	R5	Removed Task #2 to avoid duplication listed in R6	4 PER-005-2	R1.3	Match changes in Assigned or Shared Task
9 TOP-001-5	R12	Added IROL events to better align with NERC standard	5 TOP-001-5	R1	Match changes in Assigned or Shared Task
10 TOP-001-5	R13	Removed Task #2 and Task #3 to avoid duplication listed in R1, R5, and R6	6 TOP-001-5	R5	Match changes in Assigned or Shared Task
11 TOP-001-5	R14	Added SOL events to better align with NERC standard	7 TOP-001-5	R12	Match changes in Assigned or Shared Task
12 TOP-010-1(i)	R1	Revised to include Operators	8 TOP-001-5	R13	Match changes in Assigned or Shared Task
13 TOP-010-1(i)	R1.3	Revised from Assigned to Share Task. Removed "when" factor.	9 TOP-001-5	R14	Match changes in Assigned or Shared Task
14 TOP-010-1(i)	R3	Revised to include Operators	10 TOP-010-1(i)	R1	Match changes in Assigned or Shared Task
15 TOP-010-1(i)	R3.2	Removed PJM Manual Reference from Task	11 TOP-010-1(i)	R1.3	Match changes in Assigned or Shared Task
			12 TOP-010-1(i)	R3	Match changes in Assigned or Shared Task
			13 TOP-010-1(i)	R3.2	Match changes in Assigned or Shared Task
	Evidence of Cor	mpliance Updates			

1 COM-002-4	R4.1	Match changes in Assigned or Shared Task
2 EOP-005-3	R1	Match changes in Assigned or Shared Task
3 EOP-010-1	R3.2	Match changes in Assigned or Shared Task
4 EOP-010-1	R3.3	Match changes in Assigned or Shared Task
5 IRO-001-4	R2	Match changes in Assigned or Shared Task
6 TOP-001-5	R1	Match changes in Assigned or Shared Task
7 TOP-001-5	R5	Match changes in Assigned or Shared Task
8 TOP-001-5	R12	Match changes in Assigned or Shared Task
9 TOP-001-5	R13	Match changes in Assigned or Shared Task
10 TOP-001-5	R14	Match changes in Assigned or Shared Task
11 TOP-010-1(i)	R1	Match changes in Assigned or Shared Task
12 TOP-010-1(i)	R1.3	Match changes in Assigned or Shared Task
13 TOP-010-1(i)	R3	Match changes in Assigned or Shared Task
14 TOP-010-1(i)	R3.2	Match changes in Assigned or Shared Task

Reference Changes

1 PER-005-2 R1.3 2 TOP-001-5 R21

Administrative Changes

1 COM-002-4 R4.1 Revised from "assess adherence" to "adhere"

Reference Changes

R13

R20

R3.2

1 TOP-001-5

2 TOP-001-5

3 TOP-010-1(i)

2 EOP-005-3 R1 Revised from "send" to "submit"

3 Updated all Reference Documents to current versions

4 Alligned abriviations

Version 15

Effective: April 1, 2021

Finalized by TO/TOP Matrix Subcommittee: December 18, 2020

Approved by the Transmission Owners Agreement-Administrative Committee: March 5, 2021

Standards	Exiting Matrix
	7 DDO 004 4 4(::)

	=		
1 BAL-005-0.2b	7 PRC-001-1.1(ii)	1 COM-001-3	R4.3
2 COM-001-2.1	8 TOP-001-3	2 TOP-001-5	R9.
3 EOP-004-3	9 TOP-001-4	3 VAR-001-5	R5
4 EOP-005-2	10 VAR-001-4.1	4 VAR-001-5	R5.1
5 EOP-008-1	11 VAR-001-4.2	5 VAR-001-5	R5.2
6 PER-003-1		6 VAR-001-5	R5.3

Assigned Task Updates

Revised to match format of R3.5 as per RF request Added timeframes for submittal of outage information Remove need for TO to send GO voltage schedule Revised to reflect new eDART procedure for handling voltage schedules Deleted due to new eDART procedure Revised to reflect new eDART procedure for handling voltage schedules

Audit Question Updates

1 COM-001-3	R4.3	Match changes in Shared Task
2 VAR-001-5	R5	Match changes in Shared Task
3 VAR-001-5	R5.1	Match changes in Shared Task
4 VAR-001-5	R5.2	Match changes in Shared Task
5 VAR-001-5	R5.3	Match changes in Shared Task

Version 14

Effective: April 1, 2020

Finalized by TO/TOP Matrix Subcommittee: December 13, 2019

Approved by the Transmission Owners Agreement-Administrative Committee: March 11, 2020

Standards	Standards Exiting Matrix (3 Years Past Enforcement)		ement)	Audit Question Updates	Reference Changes				
1 COM-001-1.4	#######	12 PRC-010-0	3/31/2017	1 EOP-005-3 R4.1 Updated audit question to better align with parent requirement	1 EOP-005-2	R8	14 PER-005-2	R1	
2 COM-002-2	#######	13 PRC-022-1	3/31/2017	2 EOP-005-3 R4.2 Updated audit question to better align with parent requirement	2 EOP-005-3	R1.5	15 PER-005-2	R1.1	
3 EOP-001-2.1b	#######	14 TOP-001-1a	3/31/2017	3 EOP-005-3 R5 Added a question mark for audit question	3 EOP-005-3	R2	16 PER-005-2	R1.1.1	
4 EOP-003-2	#######	15 TOP-002-2.1b	3/31/2017		4 EOP-005-3	R6	17 PER-005-2	R1.2	
5 EOP-004-2	#######	16 TOP-003-1	3/31/2017	Administrative Changes	5 EOP-005-3	R8	18 PER-005-2	R1.3	
6 IRO-001-1.1	#######	17 TOP-004-2	3/31/2017	1 Updated all Reference Documents to current versions	6 EOP-005-3	R8.1	19 PER-005-2	R1.4	
7 IRO-004-1	#######	18 TOP-006-2	3/31/2017	2 Spelling and Grammar updates where needed	7 EOP-005-3	R8.2	20 PER-005-2	R3	
8 IRO-005-3.1a	#######	19 TOP-007-0	3/31/2017	3 Added a footnote to the governance page of the TO/TOP Matrix explaining who a Member TO is	8 EOP-005-3	R8.3	21 PER-005-2	R3.1	
9 PER-001-0.2	#######	20 TOP-008-1	3/31/2017	for the purposes of the TO/TOP Matrix	9 EOP-005-3	R8.4	22 PER-005-2	R4	
10 PER-005-1	#######				10 EOP-005-3	R8.5	23 TOP-001-4	R1	
11 PRC-001-1.1(ii) R2, R2.2, R5.2, R	6 #######				11 EOP-005-3	R10	34 TOP-001-4	R5	
					12 IRO-001-4	R3	25 TOP-001-4	R6	
					13 PER-003-2	R2	26 TOP-001-4	R9	

Version 13

Effective: April 1, 2019

Finalized by TO/TOP Matrix Subcommittee: December 14, 2018

Approved by the Transmission Owners Agreement-Administrative Committee: March 12, 2019

rippiorod by the	ne manemiecien ew	ioro / igroomoni / ian		55. Mai 511 12, 25 15					Refere	ence Cha	nges	
	New NERC Reliability Standard Standards Exiting Matrix (3 Years Additions Past Enforcement)		`	Assigned Tas Updates	k			1 EOP-00 R2.	14 PRC-001-1.1(ii) R3.2	27 TOP-001-1a	R6
1 EOP-004-4	R2 ###	1 COM-001-1.1 Except R4	9/30/2015	1 COM-001-3	R3.5	Clarified assigned task to ider	ntify entities Member TOs need to have voice communications	capabil 2 EOP-00 R2.:	15 PRC-001-1.1(ii) R4	28 TOP-001-4	R1
2 EOP-005-3	s to existing	2 COM-001-2	11/12/2015	2 TOP-001-4	R10.2	Added an assigned task (#2)	- notify PJM of change of status in RAS schemes	3 EOP-00 R4	16 PRC-001-1.1(ii) R5.2	29 TOP-001-4	R8
3 EOP-005-3 4 EOP-005-3 5 EOP-005-3	R4 ### R4.1 ### R4.2 ###	3 FAC-001-1 4 VAR-001-4	12/31/2015 11/12/2015	3 TOP-001-4 4 TOP-001-4 5 VAR-001-5	R19 R10.1 R5.1	Added an assigned task (#2)	ect the correct part of PJM Manual 1 Attachment B - notify PJM of change of status for monitored facilities ect process change in communication of voltage schedules	4 EOP-00 R2 5 EOP-00 R7 6 EOP-00 R1	17 PRC-022-1 18 PRC-022-1 19 PRC-022-1	R1 R1.1 R1.2	30 TOP-001-4 31 TOP-001-4 32 TOP-001-4	R10.4 R16 R19
6 EOP-005-3	R8.5 ###	Inactive Da	te Changes					7 EOP-012	20 PRC-022-1	R1.3	33 TOP-004-2	R3
7 EOP-008-2	s to ### existing	1 EOP-004-2	3/31/2017	Evi	idence of	f Compliance Updates	ਸਪ min istr ਰਹੈ [*]	8 EOP- 010-1 R3.:	21 PRC-022-1	R1.4	34 TOP-008-1	R3
8 PER-003-2	revisions to	2 EOP-004-3	3/31/2019	1 EOP-005-3	R1.2	6 EOP-0 R4	1 ^{M-} 001-	9 EOP-01R3.	22 PRC-022-1	R1.5	35 TOP-010-1(i)	R3
9 TOP-001-4 10 TOP-001-4	R20 ### R21 ###	3 EOP-005-2 4 EOP-008-1	3/31/2019 3/31/2019	2 EOP-005-3 3 EOP-005-3	R6 R6.1	7 TOP-0 R10.3 8 VAR-0 R5.1	2 ^{2:∪} 3 B _{Pu}	10 PER-00R1 11 PRC-00R1	23 TOP-001-1a 24 TOP-001-1a	R1 R2	36 TOP-010-1(i) 37 TOP-010-1(i)	
11 VAR-001-5	revisions to	5 PER-003-2	6/30/2019	4 EOP-005-3	R6.2	9 VAR-0 R5.2	4 ated all	12 PRC-00 R2.:	25 TOP-001-1a	R3	38 TOP-010-1(i)	R4
	oviotina	6 PRC-001-1.1(ii) 7 VAR-001-4.2	3/31/2017 9/30/2020 12/31/2018	5 EOP-005-3	R6.3	10 VAR-0 R5.3	Sp€ 5 Iling	13 PRC-00 R3	26 TOP-001-1a	R5		

Version 12

Effective: July 1, 2018

Finalized by TO/TOP Matrix Subcommittee: March 16, 2018

Approved by the Transmission Owners Agreement-Administrative Committee: June 12, 2018

	eliability Standard	Standards Exiting Matrix (3 Years Past Enforcement)	sig		Reference Changes			
1 TOP-001-4	R10	1 PRC-001-1.1 5/28/2015	1 BAL-005-0.2b R	1.2	1 DAI OO D1 ' 16 LOD OO6 ')	R8	29 TOP-001-4	R5
2 TOP-001-4	R10.1	2 VAR-001-3 9/30/2014	2 EOP-008-1 R	rataearra		R10	30 TOP-001-4	R6
3 TOP-001-4	R10.2		3 TOP-010-1(i) R	Acciecand		R5	31 TOP-001-4	R10.1
4 TOP-001-4	R10.3	Inactive Date Changes	4 TOP-010-1(i) R	Crameta	4 EOP-00 R3. 18 EOP-008-1	R5.1	32 TOP-002-2.1b	R16.2
5 TOP-001-4	R10.4	1 BAL-005-00.2b 6/30/2018	5 TOP-010-1(i) R	3.2 Aediseu		R7	33 TOP-004-2	R3

6 TOP-001-4	R10.5	2 TOP-001-3	6/30/2018	6 VAR-001-4.2	R5.1	i ve vioeu		6 EOP-00R1	20 EOP-008-1 R7.1	34 TOP-008-1	R2
			.,				removal of				
7 TOP-001-4	R10.6	3 VAR-001-4.1	9/25/2017			PJM Task Updates	Attestations	7 EOP-00 R5	21 IRO-001-4 R3	35 TOP-008-1	R3
							from Evidence				
8 VAR-001-4.2	Errata			1 BAL-005-0.2b	R1.2	Added a PJM task to update list of Transmission Facilities	1 BAL-005-0.2b R1.2	8 EOP-00 R6	22 IRO-005-3.1a R9	36 TOP-008-1	R4
				2 TOP-001-4	R19	Added a PJM task to perform Operational	2 EOP-005-2 R5	9 EOP-00 R8	23 PRC-001-1.1(ii) R1	37 TOP-010-1(i)	R3
	Administr	ative Changes		3 TOP-010-1(i)	R1.2	Revised PJM task to indicate PJM shall use Member	3 EOP-008-1 R6	10 EOP-00 R6	24 PRC-001-1.1(ii) R2	38 TOP-010-1(i)	R3.2
1 Updated all Refe	rence Documei	nts to current versions		4 TOP-010-1(i)	R3.2	Revised PJM task to indicate that PJM shall maintain the	4 TOP-002-2.1b R17	11 EOP-00 R6.	25 PRC-001-1.1(ii) R2.2	39 TOP-010-1(i)	R3.3
2 Spelling and Gra	mmar updates	where needed						12 EOP-00 R6.:	26 PRC-001-1.1(ii) R4	40 TOP-010-1(i)	R4
								13 EOP-00 R6.:	27 PRC-001-1.1(ii) R5.2		
								14 EOP-00 R7	28 TOP-001-4 R1		

Version 11

Effective: October 1, 2017

Finalized by TO/TOP Matrix Subcommittee: June 16, 2017

Approved by the Transmission Owners Agreement-Administrative Committee: September 20, 2017

New NERC Reliability Standards Inactive Since Standard Additions V10		ReliabilityFirst Annual Review of TO/TOP Matrix V10 - Related Updates			Reference Changes							
1 COM-001-3	R12	1 IRO-004-2	3/31/2017	Reference Upd			•	R1.2.	17 EOP-001-2.1b	R4	33 TOP-006-2	R5.
2 TOP-010-1(i)	R1	2 IRO-005-3.1a	3/31/2017	1 EOP-003-2	R2	6 EOP-0R10.2	2 COM-001-3	R3.1	18 EOP-005-2	R1	34 TOP-006-2	R6.
3 TOP-010-1(i)	R1.2	3 PER-001-0.2	3/31/2017	2 EOP-003-2	R4	7 EOP-0R10.3	3 COM-001-3	R3.2	19 EOP-005-2	R4	35 TOP-006-2	R7.
4 TOP-010-1(i)	R1.3	4 TOP-004-2	3/31/2017	3 EOP-003-2	R7	8 EOP-0 R10.4	4 COM-001-3	R3.3	20 EOP-005-2	R4.1	36 VAR-001-3	R4.
5 TOP-010-1(i)	R3	5 TOP-006-2	3/31/2017	4 EOP-005-2	R1.6	9 EOP-0 R5	5 COM-001-3	R3.4	21 IRO-001-1.1	R8	37 VAR-001-3	R6.
6 TOP-010-1(i)	R3.2	6 TOP-007-0	3/31/2017	5 EOP-005-2	R5	10 EOP-0 R7	6 COM-001-3	R4.1	22 IRO-001-4	R2	38 VAR-001-3	R6.1.
7 TOP-010-1(i)	R3.3	7 TOP-008-1	3/31/2017	0 20. 000 2	. 10	10 201 0111	7 COM-001-3	R4.2	23 IRO-004-2	R1.	39 VAR-001-3	R7.
8 TOP-010-1(i)	R4	7 101 000 1	0,01,2011				8 COM-001-3	R4.3	24 PER-005-1	R1.	40 VAR-001-4.1	R5
0 101 010 1(1)		Assigne	ed Task Upd	ates			9 COM-001-3	R9	25 PER-005-2	R1	41 VAR-001-4.1	R5.1
Inactive Date Ch	nanges	1 COM-001-3	3.5		tion with nei	ghboring TOPs external to PJM	10 COM-001-3	R10	26 PRC-010-0	R1	42 VAR-001-4.1	R5.2
1 COM-001-2.1	#######	2 COM-001-3	R4.3			phboring TOPs external to PJM	11 COM-002-2	R2.	27 PRC-010-0	R1.1.1	43 VAR-001-4.1	R5.3
2 TOP-003-1	#######	3 EOP-005-2	R1	Evidence of Compliance s			12 COM-002-4	R2	28 PRC-010-0	R1.1.2	40 7711 001 4.1	110.0
2 101 -000-1	***************************************	4 TOP-001-3	R9	•		data communication channels	13 COM-002-4	R4	29 PRC-010-0	R1.1.3		
		5 TOP-001-3	R16	•		data communication channels	14 COM-002-4	R4.1	30 TOP-001-3	R8		
		6 TOP-006-2	R6	Updated Manual 1 referer			15 COM-002-4	R6	31 TOP-001-3	R10.1		
		7 VAR-001-3	R4	Updated Manual 3 referer		9	16 EOP-001-2.1b		32 TOP-001-3	R13		
			R5	•		•	10 EOF-001-2.1b	N2.3	32 TOF-001-3	KIS		
		8 VAR-001-4.1 9 VAR-001-4.1	R5.1	Updated Manual 3 referer Updated Manual 3 referer		9				Administra	tive Changes	

Administrative Changes

- 1 Updated all Reference Documents to current versions
- 2 Added Reference Documents
- 3 Spelling and Grammar updates where needed

Version 10

-Effective: January 1, 2017

10 VAR-001-4.1

11 VAR-001-4.1 R5.3

R5.2

Updated Manual 3 reference in the assigned task

Updated Manual 3 reference in the assigned task

	New NERC Reli	iability	COM-002-4 O	perating	Rel		
1	EOP-004-3	R2	1 COM-002-2	R2	PJM Shared Task A	Additions to	Existing Requirements
2	IRO-001-4	R2	2 EOP-001-2.1b	R2.2	1 EOP-001-21.b	R2.2	
3	IRO-001-4	R3	3 EOP-001-2.1b	R2.3	2 EOP-001-21.b	R2.3	
4	TOP-001-3	R1	4 EOP-010-1	R3.2	3 EOP-003-2	R1	
5	TOP-001-3	R5	5 EOP-010-1	R3.3	4 EOP-003-2	R5	
6	TOP-001-3	R6	6 IRO-001-1.1	R8	5 EOP-003-2	R6	
7	TOP-001-3	R8	7 IRO-004-2	R1	6 EOP-003-2	R8	
8	TOP-001-3	R9	8 IRO-005-3.1a	R5	TO Assigned Task	Additions to	Existing Requirements
9	TOP-001-3	R10	9 IRO-005-3.1a	R6	1 IRO-001-1.1	R8	
10	TOP-001-3	R10.1	10 TOP-001-1a	R1	Addition of Assigne	d/Shared Ta	asks for New Requirements
11	TOP-001-3	R12	11 TOP-001-1a	R2	1 EOP-005-2	R3	
12	TOP-001-3	R13	12 TOP-001-1a	R3	2 EOP-005-2	R8	
13	TOP-001-3	R14	13 TOP-001-1a	R5	3 TOP-001-1a	R6	
14	TOP-001-3	R16	14 TOP-001-1a	R8			
15	TOP-001-3	R18	15 TOP-004-2	R1	nce Document Updates		
16	TOP-001-3	R19	16 TOP-004-2	R2	1 BAL-005-0.2b	R1.2.	23 PRC-0 R1.4.

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CIC		
1	CIP-001-2a	12/31/2013
2	EOP-001-0.1b	6/30/2013
3	EOP-003-1	9/30/2013
4	EOP-004-1	12/31/2013
5	EOP-005-1	6/30/2013
6	EOP-008-0	6/30/2013
7	FAC-001-0	11/24/2013
8	PER-002-0	3/31/2013
9	PRC-001-1	3/31/2013
10	VAR-001-2	12/31/2013

Administrative

Font consistency throughout the Matrix Spelling/Grammar Check Deletion of extraneous text in the following instances EOP-001-2.1b R3

⁻Approved by TO/TOP Matrix Subcommittee: September 16, 2016

⁻Approved by the Transmission Owners Agreement-Administrative Committee: November 9, 2016

Inactive Date	Changes	17 TOP-004-2 18 TOP-004-2	R3 R4	2 COM-001-1.1 3 EOP-010-1	R 2. R1.2	24 PRC-0 R1.5. 25 TOP-0 R1.		TOP-006-2	Purpose
	Ū								
1 EOP-001-2.1b	#######	19 TOP-004-2	R5	4 EOP-010-1	R3.2	26 TOP-0 R1.			
2 EOP-003-2	#######	20 TOP-007-0	R2	5 EOP-010-1	R3.3	27 TOP-0 R1.2.			
3 EOP-004-2	#######	21 TOP-007-0	R3	6 PER-005-1	R1.	28 TOP-0 R1.3.			
4 PRC-010-0	#######	22 TOP-008-1	R1	7 PER-005-1	R1.3.	29 TOP-0 R2.			
5 PRC-022-1	#######	23 TOP-008-1	R2	8 PER-005-1	R2	30 TOP-0 R3.	Updated Assigned Task		
6 TOP-001-1a	#######	24 TOP-008-1	R3	9 PER-005-1	R3	31 TOP-0 R7.			
7 TOP-002-2.1b	#######	25 TOP-008-1	R4	10 PER-005-2	R1	32 TOP-0 R3.			
8 TOP-003-1	#######	26 VAR-001-3	R7	11 PER-005-2	R1.3.	33 TOP-0 R4.			
		27 VAR-001-3	R8	12 PER-005-2	R3				
		28 VAR-001-3	R10	13 PER-005-2	R4.				
		29 VAR-001-3	R12	14 PRC-001-1.1(i	i) R2.2.				
		30 VAR-001-4.1	R3	15 PRC-010-0	R1				
				16 PRC-010-0	R1.1.1				
				17 PRC-010-0	R1.1.2				
				18 PRC-010-0	R1.1.3				
				19 PRC-022-1	R1.				
				20 PRC-022-1	R1.1.				
				21 PRC-022-1	R1.2.				
				22 PRC-022-1	R1.3.				

Version 9.1

- -Effective: January 26, 2016
- -Approved by TO/TOP Matrix Subcommittee: December 18, 2015
- -Approved by the Transmission Owners Agreement-Administrative Committee: January 26, 2016

Changes Incorporated in Version 9.1

- 1. COM-001-1.1: Inactive Date 9/30/2015. R4 Inactive Date 6/30/2016. Errata fix to a missing "Inactive Date" in Version 9.
- 2. COM-002-2: Inactive Date 6/30/2016. Errata fix to a missing "Inactive Date" in Version 9.
- 3. PER-005-1: Inactive Date 6/30/2016. Errata fix to a missing "Inactive Date" in Version 9.
- 4. COM-001-2.1: Enforceable 11/13/2015. FERC Letter Order approved errata to COM-001-2.1. Docket RD15-6-000
- 5. VAR-001-4.1: Enforceable 11/13/2015. FERC Letter Order approved errata to VAR-001-4.1. Docket RD15-6-000
- 6. Added "Purpose" rows for EOP-004-1, FAC-014-2, IRO-004-2, and VAR-001-4.1

Version 9

- -Effective: October 1, 2015
- -Approved by TO/TOP Matrix Subcommittee: August 20, 2015
- -Approved by the Transmission Owners Agreement-Administrative Committee: September 15, 2015

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