

PJM Compliance Bulletin

CB026, Coordination with External Transmission Operators

General

PJM is the registered Transmission Operator (TOP) for its footprint except for transmission facilities owned and operated by ITC Interconnection LLC (ITCI) and facilities at or below 138 kV that are owned and operated by American Electric Power (AEP). The purpose of this Compliance Bulletin and the Coordination Guide in Attachment A is to document the approach that PJM as the registered TOP and the individual PJM Transmission Owners (TO) take to follow the applicable Requirements in the NERC Reliability Standards.

Background

Procedurally, PJM and the PJM TOs have coordinated with external TOPs in accordance with the NERC Reliability Standard Requirements and the PJM assigned/shared tasks in the PJM TO/TOP Matrix. The intent of the Coordination Guide is not to supersede or replace either the NERC Reliability Standards or the individual compliance programs developed by the entities. The Coordination Guide supplements the individual compliance programs by outlining the functional relationship between the entities and describes the interactions required to fulfill each entities' obligations as prescribed in the relevant NERC Reliability Standards.

The Coordination Guide also creates a cross-reference between PJM Manuals and the NERC Reliability Standards, indicating where the assignments of various reliability tasks are documented in the PJM Manuals. The Coordination Guide does not create any new obligations for PJM, its Members, or external entities. This Coordination Guide does not eliminate the need for TOPs to notify their Reliability Coordinator (RC) under applicable NERC Standards and other governing agreements. In the event of a conflict between the Coordination Guide and any of the following agreements collectively referred to as the Rules, Standards, and Agreements, the applicable Rules, Standards, and Agreements shall control:

- the PJM Manuals;
- PJM governing agreements that have been accepted by the Federal Energy Regulatory Commission (e.g., the PJM Open Access Transmission Tariff, Operating Agreement, Consolidated Transmission Owners Agreement, Reliability Assurance Agreement, Joint Operating Agreements, etc.);
- the PJM TO-TOP Matrix; and
- NERC Reliability Standards



As NERC registered TOPs, PJM and the external TOPs have the operating authority as described in NERC Reliability Standards to take actions necessary to preserve the integrity of the Bulk Electric System without becoming a burden on other systems. To the extent possible, the external TOPs should coordinate these actions with PJM TOs and their respective RC prior to implementation. In the event time does not allow for coordination, a TO/TOP entity may take actions to avoid violating safety, equipment, loss of life, regulatory or statutory requirements. In this instance, TOs/TOPs will notify their respective RCs as soon as possible.

In accordance with NERC Reliability Standards applicable to TOPs, PJM and the external TOPs will coordinate as appropriate interconnected transmission line operating activities that could impact inter- and intra-regional reliability. This includes operating to pre-established and communicated equipment ratings; monitoring and controlling voltage levels; real and reactive power flows; switching transmission elements; planned outages of transmission elements; mutual development of Interconnection Reliability Operating Limits (IROL) and System Operating Limits (SOL); prevention of IROL and SOL exceedance; and response to an IROL or SOL exceedance. PJM TOs and external TOPs will coordinate planned BES transmission outage submittals to their respective RCs. During real-time operations PJM TOs and external TOPs will request approval for these outages from their respective RCs (who will coordinate analysis and approval). Coordination between PJM TOs and external TOPs to develop work plans for outages and refining specific switching details should occur before final outage analysis and consent by PJM and the external TOP.

The Coordination Guide is periodically reviewed and revised, if necessary, by PJM’s NERC and Regional Coordination Department with guidance from the PJM Reliability Standards and Compliance Subcommittee (RSCS).

Conclusion

The purpose of this Compliance Bulletin is to outline the approach that PJM as the registered TOP and the individual PJM TOs take to follow the applicable requirements as defined by the NERC Reliability Standards.

Development History

Revision: 1	Date: 06/01/2017
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Approver:	Robert Eckenrod, Chief Compliance Officer
Reason:	<p>Revisions include:</p> <ol style="list-style-type: none"> 1. Background section clarified to identify how PJM, external TOPs and PJM TOs coordinate actions to maintain the reliability of the BES 2. Coordination Guide in Attachment A updated with reference to CB001 – NERC Standard PRC-001 – System Protection Coordination 3. Grammatical errors were fixed

Revision: 0	Date: 03/24/2017
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Approver:	Robert Eckenrod, Chief Compliance Officer
Reason:	This is a new Compliance Bulletin

Attachment A: Coordination Guide

Coordination Guide				
NERC Standard	Requirement Number	Requirement Language	Coordination Actions	Reference Manual
COM-001-2.1	3	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):	<p>PJM has ICCP links to all PJM TOs as well as all external RCs and indirect voice communication to all internal and external entities with direct ties. PJM TOs have communications (voice and data links) with PJM and external TOPs with direct ties. The communications (data and voice) are staffed and available for addressing a real-time emergency condition 24 hours, 7 days a week. The Balancing Authorities (BA) and RCs coordinate communications in accordance with their respective procedures for implementation of the COM standards, including 3-way or 4-way communications as appropriate.</p> <p>The dispatch voice system provides high-priority Interpersonal Communication (voice communications) capability between PJM and other parties, including PJM Members, other internal entities and external entities including all external TOPs with direct ties to PJM.</p> <p>PJM determines the data requirements to support its reliability coordination tasks and requests such data from members or adjacent RCs. PJM provides for data exchange with local control centers and adjacent RCs via a</p>	Manual 1
	3.5	Each adjacent Transmission Operator synchronously connected.		
	3.6	Each adjacent Transmission Operator asynchronously connected.		
	4	Each Transmission Operator shall designate an Alternative Interpersonal Communication capability with the following entities:		
	4.3	Each adjacent Transmission Operator synchronously connected.		

	4.4	Each adjacent Transmission Operator asynchronously connected.	secure network. PJM members provide data to PJM via ICCC. PJM provides data to entities outside PJM via direct links and EIDSN.	
	10	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.	The PJM TO will notify PJM and any external TOP with direct ties to the TO within 60 minutes of the detection of a failure of its Interpersonal Communication capability for voice communications that lasts 30 minutes or longer.	
PRC-001-1.1(ii)	2	Each Generator Operator and Transmission Operator shall notify reliability entities of relay or equipment failures as follows:	Please see Compliance Bulletin CB001 - NERC Standard PRC-001-1 – System Protection Coordination.	Manual 3,7
	2.2	If a protective relay or equipment failure reduces system reliability, the Transmission Operator shall notify its Reliability Coordinator and affected Transmission Operators and Balancing Authorities. The Transmission Operator shall take corrective action as soon as possible.		

	3	A Generator Operator or Transmission Operator shall coordinate new protective systems and changes as follows.		
	3.2	Each Transmission Operator shall coordinate all new protective systems and all protective system changes with neighboring Transmission Operators and Balancing Authorities.		
	4	Each Transmission Operator shall coordinate Protection Systems on major transmission lines and interconnections with neighboring Generator Operators, Transmission Operators, and Balancing Authorities.		
	5	A Generator Operator or Transmission Operator shall coordinate changes in generation, transmission, load or operating conditions that could require changes in the Protection Systems of others:		
	5.2	Each Transmission Operator shall notify neighboring Transmission Operators in advance of changes in generation, transmission, load, or operating conditions that could require changes in the other Transmission Operators' Protection Systems.		

	6	Each Transmission Operator and Balancing Authority shall monitor the status of each Special Protection System in their area, and shall notify affected Transmission Operators and Balancing Authorities of each change in status.		
TOP-001-3	8	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.	PJM or the external TOP with direct ties will inform the other party of its actual or expected operations that result in, or could result in, an Emergency.	Manual 37
	9	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.	PJM or the external TOP with direct ties will notify the other party 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.	Manual 1
TOP-003-3	3	Each Transmission Operator shall distribute its data specification to entities that have data required by the Transmission Operator's Operational Planning Analyses, Real-time monitoring, and Real-time Assessment.	PJM or the external TOP will distribute its respective data specification to entities that have data required by the TOP's Operational Planning Analyses, Real-time monitoring, and Real-time Assessment.	Manual 1, 3, 3A, 7, 10, 37, 38
	5	Each Transmission Operator, Balancing Authority, Generator Owner, Generator Operator, Load-Serving Entity, Transmission Owner, and Distribution Provider receiving a data specification in Requirement R3 or R4 shall satisfy the obligations of the documented specifications using:	PJM or the external TOP receiving a data specification will satisfy the obligations of the documented data specifications as required.	Manual 1, 34

	5.1	A mutually agreeable format		
	5.2	A mutually agreeable process for resolving data conflicts		
	5.3	A mutually agreeable security protocol		
VAR-001-4.1	1	Each Transmission Operator shall specify a system voltage schedule (which is either a range or a target value with an associated tolerance band) as part of its plan to operate within System Operating Limits and Interconnection Reliability Operating Limits.	PJM will coordinate the control of voltage levels and MVAR flows with external TOPs with direct ties as required.	Manual 14D
	1.1	Each Transmission Operator shall provide a copy of the voltage schedules (which is either a range or a target value with an associated tolerance band) to its Reliability Coordinator and adjacent Transmission Operators within 30 calendar days of a request.		