Manual 01 Revision 36 – First Read

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M01 R36 Changes Summary

Section	Change to/Updated	Impact
2.3.1	NERC references updated	Minor
2.7	NERC references updated	Minor
3.2	Com methods during outages changed	Moderate
3.8	Transfer of M13 text on outages to M01	Minor

Section 2.3.1

M01: Control Center and Data Exchange Requirements

Section 2: Member Control Center Requirements

Section 2.3: Computer System Requirements

Section 2.3.1: Transmission Monitoring Capability

Edits (1/1):

PJM relies on Transmission Owners to serve as a backup to PJM, monitoring BES facilities, when the PJM EMS is inoperable ~~(TOP-007-1)~~. PJM Transmission Owners shall notify PJM dispatch within 15 minutes when their TO analysis packages are unavailable (~~TOP-004-2 R4~~TOP-010(i)-1 R3.2). In general, PJM may be in an unknown state when both PJM and TO analysis packages are unavailable.

Section 2.7

M01: Control Center and Data Exchange Requirements

Section 2: Member Control Center Requirements

Section 2.7: PJM Member Back Up Capability Required to Support PJM in its TOP Role

Edits (1/6):

If a PJM member primary EMS capability becomes unavailable, PJM will need back up capability (may include backup EMS or backup functionality or staffing critical substations, etc.) from the Transmission Owner to be available (within ~~1 hour~~2 hours per EOP-008-1 R1.5) from that member so that PJM can continue to perform its obligations as the TOP during such interruptions.

Section 2.7

M01: Control Center and Data Exchange Requirements

Section 2: Member Control Center Requirements

Section 2.7: PJM Member Back Up Capability Required to Support PJM in its TOP Role

Edits (2/6):

NERC Standard ~~TOP-004, R1~~TOP-001-3 R12, R14 requires the TOP to operate within the limits of its IROLs and SOLs. If the data for monitoring the IROLs and SOLs passes through the PJM member EMS and that capability becomes lost, then the PJM member is required to have a backup capability to ensure that the necessary data continues to be provided to PJM.

Section 2.7

M01: Control Center and Data Exchange Requirements

Section 2: Member Control Center Requirements

Section 2.7: PJM Member Back Up Capability Required to Support PJM in its TOP Role

Edits (3/6):

During the TO transition to its back up facility, PJM will continue to monitor the TO Transmission System to the extent data quality permits per EOP-008-1 R1.6.2.

Section 2.7

M01: Control Center and Data Exchange Requirements

Section 2: Member Control Center Requirements

Section 2.7: PJM Member Back Up Capability Required to Support PJM in its TOP Role

Edits (4/6):

~~NERC Standard TOP-004, R6 requires the TOP to have formal policies and procedures to ensure transmission reliability. If the PJM member is unable to execute operating procedures that may be implemented by PJM, such as switching or load shedding, due to the unavailability of its EMS or other operational tools, then the PJM member is required to have a backup capability to be able to execute these actions.~~

Section 2.7

M01: Control Center and Data Exchange Requirements

Section 2: Member Control Center Requirements

Section 2.7: PJM Member Back Up Capability Required to Support PJM in its TOP Role

Edits (5/6):

NERC Standard ~~TOP-006, R1, R2, R5-7,~~TOP-003-3 R19, R20 requires data to be provided to PJM to ensure reliability. If such data is interrupted by unavailability of the PJM member EMS, then the PJM member is required to have a backup capability to ensure that the necessary data continues to be provided to PJM.

Section 2.7

M01: Control Center and Data Exchange Requirements

Section 2: Member Control Center Requirements

Section 2.7: PJM Member Back Up Capability Required to Support PJM in its TOP Role

Edits (6/6):

NERC Standard ~~TOP-008, R1-4~~TOP-001-3 R12, R14 requires PJM to take immediate action to mitigate potential and actual IROL or SOL violations. Many of those actions require the PJM member to execute actions requested by PJM. If the unavailability of the PJM member EMS or other tools prevents the execution of those actions, then the PJM member is required to have back up capability to ensure that it can execute PJMrequested actions.

Section 3.2.3

M01: Control Center and Data Exchange Requirements

Section 3: Data Exchange Requirements

Section 3.2.3: EMS Data Exchange

Summary:

- The restructuring of requirements for Member actions during EMS data exchange (data link or RTU) planned and unplanned outages, continued from R35.
- Follow up activities are more conclusive on the type of failure and the capabilities of the Member.
- Two new subsections, for electronic and verbal alternate communications, have been created for better clarity.
- Thresholds for types of data to be sent and the change in values that necessitate an update have been lowered, increasing the level of activity and communication during an outage.

Section 3.2.3, RTU/Device Failure

IF an *RTU/device* fails and a subset of data over an ICCP/DNP link to PJM is failed (not updating, bad quality, inaccurate, etc)

THEN manually replace the values on the data link

OR if not feasible then begin verbal communications

OR if not feasible then begin file transfer based communications

Section 3.2.3, EMS Link Failure

IF an *EMS Link* fails and all data on the link is failed (not updating, bad quality, inaccurate, etc)

THEN begin file transfer based communications

OR if not feasible then begin verbal communications

Section 3.2.3, Man. Rep. and File Transfer

Features:

- The type of data to be sent every 30 minutes
- The type of system events or changes the require immediate verbal communication
- If transferring files instead of manual replacement, required meta-data to be included

Section 3.2.3.1, Man. Rep. and File Transfer

Features of Electronic Alternate Data Communications:

- Certain data (ex. Tie Lines) to be sent every 30 minutes
- System events or changes the require immediate verbal communication
- If transferring files instead of manual replacement, required meta-data to be included

Section 3.2.3.2, Verbal Communication

Features of Verbal Alternate Data Communications:

- Member to check at least every 30 minutes for significant changes (defined) compared to last communicated value to PJM
- Member to verbally communicate only changed values

Section 3.2.3, Significant Events Defined

- loss of any equipment ≥ **100kV**
- change of **≥ 25 MW of any generator MW flow**
- change of ≥ 100 MW flow at ≥ 500kV
- change of ≥ 50 MW flow at < 500kV
- transformer tap position change occurs at ≥ 230kV
- breaker status change at **≥ 100kV**

Section 3.2.3

M01: Control Center and Data Exchange Requirements

Section 3: Data Exchange Requirements

Section 3.8: Planning, Coordination and Notification of System Changes and Events

Summary:

- Text in M13 1.3 (Emergency Operations, EMS/ICCP Link Outages) has been transferred to M01 3.8 to better align the requirements.
- The requirements have not changed and still define PJM and PJM member (TOs and GOs) responsibilities and actions in the case of both planned and unplanned outages.
- Includes important notes on outage scheduling and restrictions.

Committee Schedule

- First Read
  - 11/2 – SOS Joint
  - 11/7 – OC
  - 11/16 – DMS Joint (Informational)
  - 11/16 – RSCS (Informational)
  - 12/7 – MRC
- Second Read
  - 12/7 – SOS Joint
  - 12/12 – OC
  - 12/21 – MRC

Questions

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