Manual 01 Revision 39
Second Read

Bilge Derin
System Operations Subcommittee
September 6, 2018
Changes since the First Read – Section 4.5.4

• **Section 4.5.4: Communication Protocols**
  – Prior to taking actions to control thermal and voltage constraints, PJM and TO operators should verify:
    • Monitored element
    • Facility Ratings
    • Actual flow or voltage
    • Contingency flow or voltage
• **Attachment A: Data Specification & Collection**
  • Communication of Protection System outages a required input to PJM
  • NERC Standard PRC-001 mentioning this requirement retired but TOP-003 still has this data specification.

<table>
<thead>
<tr>
<th>Inputs to PJM</th>
<th>Information Services</th>
<th>PJM Member Regional Transmission Owner</th>
<th>PJM Member Generating Entity</th>
</tr>
</thead>
<tbody>
<tr>
<td>B: EMS Services</td>
<td></td>
<td></td>
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<tr>
<td>B.6</td>
<td>Protection System failures and unplanned outages via eDART or other communication methods</td>
<td>X</td>
<td>X</td>
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<tr>
<td>D: Transmission Maintenance Planning Services</td>
<td></td>
<td></td>
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<tr>
<td>D.3</td>
<td>Protection System planned outages via eDART or other communication methods</td>
<td>X</td>
<td>X</td>
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</tbody>
</table>
## Summary of Revision 39 Changes

<table>
<thead>
<tr>
<th>Change Type</th>
<th>Sections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revised for clarity &amp; missing information</td>
<td>• 1.6: Markets Gateway</td>
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<tr>
<td></td>
<td>• 2.2: PJM Member Data Exchange</td>
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<tr>
<td></td>
<td>• 3: EMS and Synchrophasor Data Exchange</td>
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<tr>
<td></td>
<td>• Attachment A: Data Specifications</td>
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<tr>
<td></td>
<td>• “LCC” changed to “TO”</td>
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<tr>
<td>NERC Standard references updated</td>
<td>• 2.3.1: Transmission Monitoring Capability</td>
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<tr>
<td></td>
<td>• 2.7: PJM Member Back Up Capability</td>
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<td></td>
<td>• 4: Interpersonal Communication Capability</td>
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<tr>
<td></td>
<td>• Attachment B: Schedule of Data Submittals</td>
</tr>
<tr>
<td>New requirements</td>
<td>• 3.2: EMS Data Exchange</td>
</tr>
<tr>
<td></td>
<td>• Attachment A: Data Specification and Collection</td>
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</tbody>
</table>
Second Read/Endorsement Schedule

• **Second Read**
  – September 6 – SOS
  – September 11 – OC
  – September 27 – MRC

• **Effective Date:** September 27, 2018
• Bilge Derin
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  – 610-666-3121
Section 1.6: Markets Gateway

• Section 1: PJM Systems
  – Brief definition of PJM Systems/Tools and what they are used for

• Old Language
  – Overview of DA and RT Markets, not the tool

• New Language
  – Defining Markets Gateway and tool capabilities
Section 2: Computer Requirements

• Section 2.3.1: Transmission Monitoring Capability
  – If PJM experiences a failure of its Real-time Assessment capability for longer than 15 minutes, PJM will notify TOs.
  – TOs shall conduct a Real-time Assessment at least once every 20 min during this time. (TOP-001 R13 and TO/TOP Matrix)

• Section 2.7: PJM Member Back Up Capability
  – NERC Standard references updated.
    • TOP-003 R1, R3, R5 on data requirements.
    • TOP-001 R1 on actions to maintain the reliability of PJM TOP area.
    • TOP-001 R12 and R14 on operating within the limits of IROL and SOL.
Section 2: Computer Requirements

- Section 2.2: PJM Member Data Exchange
  - Removed the bulleted list of “Member Type” referencing Attachment A.
  - Attachment A has more detailed information on what type of entities the data is exchanged with.
Section 3.2: EMS Data Exchange

- New language to cover DNP3 Communication Protocol.
  - PJM uses both ICCP and DNP3 to receive real-time EMS data from PJM Members.
- Bolstered the language explaining PJMnet.
- New subsection to define Jetstream system.
  - Used with DNP3 protocol to receive data from small generation assets over the internet.
Section 3.2: EMS Data Exchange

- New requirement for ICCP data definition files.
  - Applies to PJM Members with an ICCP connection to PJM EMS.
  - ICCP dump file listing all measurements available to PJM.
  - ICCP Object ID and Measurement Description included.
  - PJM member shall provide an updated file at least every 6 months or upon PJM’s request.
Section 3.3: Synchrophasor System Data Exchange

- Revised language for clarity.
- No requirement changes.
- Removed reference to Phasor Data Quality Task Force.
  - A maximum of 0.2% overall inaccuracy requirement remains.
Per COM-001-3:

- added Distribution Providers to the list of entities PJM has voice communications with.
- Updated acronyms and definitions for clarity.
Section 4.2: Alternative Interpersonal Comm Capability

• Per COM-001 R4.3 and R9:
  – Transmission Owners shall designate an Alternative Interpersonal Communication capability.
  – This alternate method shall be tested once every calendar month.
  – If test is unsuccessful, initiate action to repair or replace within 2 hours.
Section 4.5: PJM Communication Protocol

• Added definition for what qualifies as an “Emergency”
• Provided a table that outlines the criteria for when an emergency starts and ends.
• Highlighted the importance of three part communication during emergencies in accordance with NERC Standard COM-002.
Attachment A: Data Specification and Collection

• Table A: Generation Scheduling Services
  – Removed the references to the data submission timelines.
  – These business rules are in M11 and M14D.

• Table B: EMS Services
  – Added Performance Assessment Interval (PAI) Trigger via SCADA/ICCP.
  – This is an optional service for Generating entities.
Attachment B: Schedule of Data Submittals

- Reworded EOP-008-1 R5 to ensure TOs are submitting the right evidence.

<table>
<thead>
<tr>
<th>Standard Reference</th>
<th>To be Submitted</th>
<th>Frequency and Date</th>
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<tbody>
<tr>
<td>EOP 008-1 R7</td>
<td>Coordinate a backup test with PJM and submit the test documentation and the results indicating the performance. Submittal to be provided via PERCS website.</td>
<td>(Annual) Recommend September 30</td>
</tr>
</tbody>
</table>

- TOs submit to submit test documentation and results, not the test itself.
Change throughout the Manual

- References to “Local Control Center” (LCC) has been updated to “Transmission Owner Control Center” or “Transmission Owner” throughout the manual.
  - “LCC” was a defined term in Section 2.1 of M01.
  - Previously updated to “TO” in M40 and M14D.