Manual 3A, Revision 18
2019 Cover-to-cover Periodic Review

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The overall purpose and intent of changes included in Revision 18 of Manual 03A can be summarized as:

- 2019 Cover-to-cover Periodic Review for M03A
- Phase I of an overall effort to:
  - update
  - reorganize
  - streamline
- **New Section:** Modeling Philosophy
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<td>Examples of EMS Sub-transmission Modeling</td>
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Section 1 Changes

• Section 1.2: Formatting changes; generator data descriptions removed; outdated procedure removed

• Section 1.5: Description of PJM’s use of ‘three concentric model’ revised and updated

• Section 1.6: Formatting changes; updates made to text to reflect current procedures. New note added to specify PJM timelines for TOs to provide telemetry and a full SCADA file from members with ICCP connection
Section 1

- Section 1.7: The words ‘Real-Time’ removed from title (now reads: **PJM’s Operations Transient Stability Model**); section updated to reflect current procedures.

- Exhibit 1: Replaced with updated version; layers renamed for clarity.
Section 2 redesigned to reflect PJM’s modeling philosophy. Revisions throughout section are a combination of text from existing sections 3.5 and 4.9, as well as text to reflect current modeling practices and guidelines.

**Section 2 Content by Heading:**

- 2.2.1 Internal World Modeling Philosophy
  - BES Facility Modeling
  - Sub-transmission Modeling

- 2.2.2 Sub-transmission Modeling Criterion and Responsibilities
Section 2 Headings (continued)

- 2.2.3 PJM External World Modeling
  - External World Modeling
  - Model Exchange and Extraction (with reference to JRCA added)
  - Pseudo Tie Modeling
  - Pseudo Tie Eligibility
  - Pseudo Tie EMS Modeling
- 2.2.4 Naming and Modeling Standards (from existing Section 3.5)
- 2.2.5 Unique Device Consideration in the PJM Model
2.3.1 Prepare Initial BES Data to Denote BES Elements of the System

- TOs staff perform an initial review of existing systems to assess what is to be included or excluded to the current list of BES elements and provide necessary documentation to NERC. 

Footnote added

Section 3

• Section 3.2: Content moved from Section 4.9 to Section 3.2:
  – TO Staff Responsibilities – To Address BES Definitions
  – PJM Staff Responsibilities – To Address Revised BES Definitions
  – PJM Staff Responsibilities – Ongoing Sub-transmission Modeling Considerations

• Section 3.4: Text revised to reflect updated procedures when changing transformers and shunts.
• Section 3.5: Content moved to new Section 2.2.4 Naming and Modeling Standards

• Exhibit 10: Refreshed with updated screen shot of Sample TO Facilities List
Section 4

- Section 4.3:
  - Exhibit 6 One-line Diagram Symbols refreshed with clearer version (no change to content)
Section 4

• Section 4.8: DMS section updated
  – Removed stipulation of SOS appointment of DMS members (per recently endorsed DMS Charter)
  – Requirements for access to DMS SharePoint added (active, signed NDA on file in eDART)
  – Added that DMS can meet as needed

• Section 4.9: Section removed
  – Topics relocated to Sections 2.2, Section 3.2, and (new) Appendix G (Examples of EMS Sub-transmission Modeling)
Section 5

• Section 5.1: Formatting and content changes made

• Section 5.2: Section updated to reflect current procedures related to State Estimator (SE) Solution Quality and ICCP Links

• Section 5.3:
  – Heading changed from ‘New EMS Models Validation and Benchmarking’ to ‘Real-time Contingency Analysis (RTCA) and Solution Quality’
  – Text addressing PJM’s Security Analysis (SA) Program and RTCA Data Quality moved from existing Section 5.5
Section 5

• Section 5.4:
  – Heading changed from ‘Real-time Contingency Analysis (RTCA)’ to ‘New EMS Models Validation and Benchmarking’ (previously Section 5.3 Heading)
  – Text updated to reflect current procedure

• Section 5.5:
  – Text realigned to Section 5.3 (at section addressing PJM’s Security Analysis (SA) Program and RTCA Data Quality)
  – Section removed
• Appendix F: New entry added in Acronyms table for DER: Distributed Energy Resources

• Appendix G: New appendix added for Examples of EMS Sub-transmission Modeling (moved from existing Section 4.9)