

Summary of M-03A Rev 13 Changes

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Overview of Changes (General Body Excluding Section 3.2 & Appendixes):

- Cover to Cover Periodic Review
- Non-substantive changes to format and references
- References: eDART Training Presentations link updated
- Section 1.3: Link added for online training presentations on model update related processes & procedures
- Section 2.2: Note added to address process to change to Flow CB
- Section 3.3: Added Flow CB as type of equipment can be submitted for ratings updates in TERM
- Section 3.5: Clarification added to generator unit naming requirements
- Section 4.4:
 - Elaboration added on Tie Line process; reference added to M01, Attachment D: Tie Line Meter Placement and Telemetry
 - New Exhibit 8: Tie Line Update Timeline added
 - Exhibit numbers updated per insertion of new Exhibit 8
- Section 4.8: Updated DMS parent committee & meeting occurrences

Overview of Changes (Section 3.2):

- Section 3.2:
 - Content reordering and reformatting for improved readability and flow
 - Reference note added to Appendix E: Checklist for New Equipment Energization Process
 - Referenced Manual 14B and online training for Supplemental Upgrades submission to PJM Planning
 - Updated list of required items needed for Network Model update submissions
 - Note added for Exhibit C1 outlining which facilities require ratings
 - Details added about process to link Network Model Requests to associated Cut-in Transmission Outage Tickets
 - Details outlined for areas needing TO quarterly in line with the model update process
 - Removed EHV Modeling as separate section (formerly 3.2.1) and made as Note in Section 3.2
 - Exhibit 5 moved from Section 3.2.1 to Section 3.2
 - New Section 3.2.1 - External Modeling
 - Moved external modeling specific verbiage from Section 3.2 to new Section 3.2.1
 - New Section 3.2.1.1 - Pseudo Tie Modeling used to identify PJM model update need for approved pseudo-ties
 - Points to Manual 12 for Pseudo-Tie consideration requirements

Overview of Changes (Appendixes):

- Appendix A: Title changed to 'TERM Equipment Ratings Update Process'
- Appendix C: Reference to NERC BES process and PJM white paper changed to a Note
- Appendix F: Acronyms & Descriptions updated

Appendix



Training

How system operations work in PJM

[Find Upcoming Training](#)

[Operator Seminar](#)

[Generation Operator Fundamentals](#)

[Fundamentals of Transmission Operations](#)

[How PJM Operates & Dispatches](#)

[Power System Fundamentals](#)

[Conservative Operations](#)

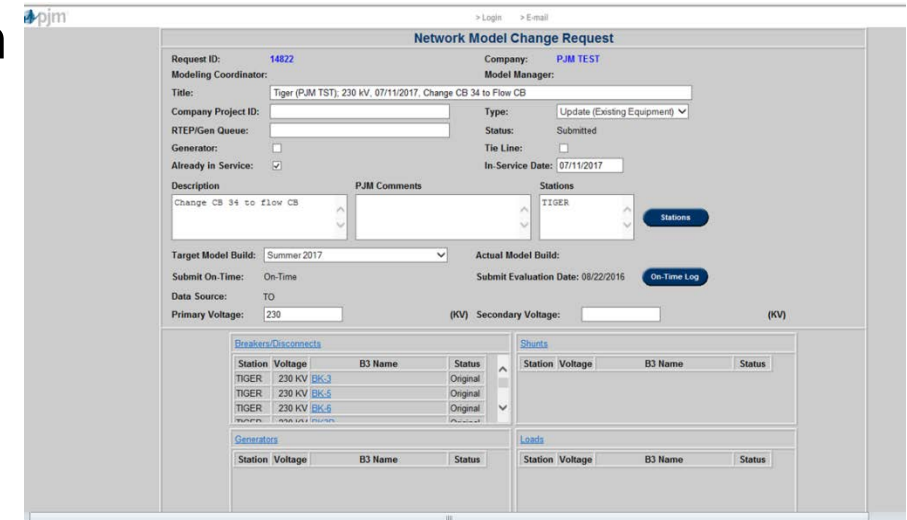
[Generation Basics](#)

[Load Forecasting & Weather](#)

Transmission Planning, Modeling & Energization

- [Introduction](#)
- RTEP Process: [Overview](#) | [Construction](#)
- Network Model Application:
 - [The Basics](#)
 - [Creating A New Change Request: Part 1](#) | [Part 2](#)
 - [View/Revise Change Requests](#)
 - [Additional Functions: Part 1](#) | [Part 2](#)
- [Telemetry & TERM](#)
- [Tie Line Energization](#)
- [New Equipment Energization Procedure](#)

- Section 1.3 - Reference made to online training provided on model update processes and procedures from planning through energization
 - Presentations around 10 minutes each
 - Markets & Operations – Systems Operations
- Section 2.2 - Note that conversion of CB to Flow CB accomplished through the Network Model Request process



The screenshot shows the 'Network Model Change Request' web application interface. Key fields include:

- Request ID:** 14822
- Company:** PJM TEST
- Modeling Coordinator:** [Empty]
- Model Manager:** [Empty]
- Title:** Tiger (PJM TST), 230 KV, 07/11/2017, Change CB 34 to Flow CB
- Company Project ID:** [Empty]
- Type:** Update (Existing Equipment)
- RTEP/Gen Queue:** [Empty]
- Status:** Submitted
- Generator:**
- Tie Line:**
- Already in Service:**
- In-Service Date:** 07/11/2017
- Description:** Change CB 34 to Flow CB
- PJM Comments:** [Empty]
- Stations:** TIGER
- Target Model Build:** Summer 2017
- Actual Model Build:** [Empty]
- Submit On-Time:** On-Time
- Submit Evaluation Date:** 08/22/2016
- Data Source:** TO
- Primary Voltage:** 230 (KV)
- Secondary Voltage:** [Empty] (KV)

Below the form are several tables for data entry and review:

- Breakers/Disconnects:**

Station	Voltage	B3 Name	Status
TIGER	230 KV	DK-3	Original
TIGER	230 KV	DK-5	Original
TIGER	230 KV	DK-6	Original
- Shunts:**

Station	Voltage	B3 Name	Status
- Generators:**

Station	Voltage	B3 Name	Status
- Loads:**

Station	Voltage	B3 Name	Status

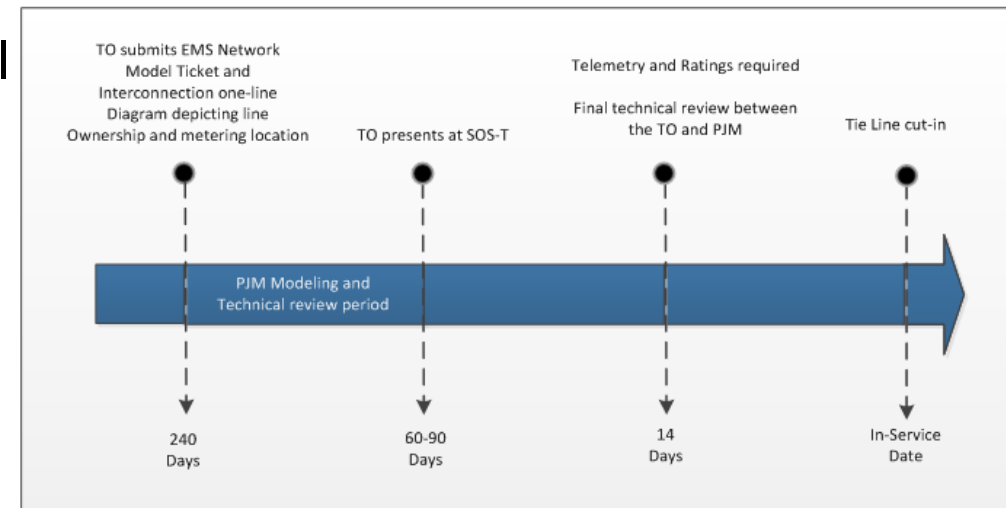
- Content reordering and reformatting for improved readability and flow
- Reference note added to Appendix E: Checklist for New Equipment Energization Process
- Identified need for Supplemental Upgrades to be submitted just like RTEP projects to PJM Transmission Planning staff
- Update of information needed for Model Request submission
- Note added for Appendix C, Exhibit C1: List of Monitored Priorities outlining equipment rating requirements based on Monitoring Priorities
- Reminder to link Network Model Requests to associated Cut-in Transmission Outage Tickets with pointing out available online training on how to do it

- To ensure the PJM Model is appropriately in sync with TO models TO should review the following summary information as it becomes available:
 - Updated one-lines available via the DMS SharePoint site and Network Model applications
 - Reports listing Network Model request that are in your zone via the Network Model application and the DMS SharePoint
 - Preliminary and final difference reports emailed to SOS-T and DMS-Confidential groups
 - Postings of other model related information on DMS SharePoint site
- Identified updates will be processed as new submissions according to model update schedule

- Changed EHV model update request section (formerly 3.2.1) to a Note as part of Section 3.2
 - Moved Exhibit 5 from Section 3.2.1 to Section 3.2
- Separated out External Modeling information from Section 3.2 to a new section (new version of 3.2.1) called External Modeling
 - New Section 3.2.1.1 - Pseudo Tie Modeling
 - References Manual 12, Attachment F: Dynamic Transfers for pseudo-tie consideration requirements
 - Explains criteria for determining what transmission facilities need to be modeled in the PJM EMS if an external unit is pseudo-tied into PJM

- **Section 3.3**
 - Added Flow CB as type of equipment available in TERM and removed text stating this to be available in the future
- **Section 3.5**
 - Generator naming requirements explained
 - Added new types: Fuel Cell & Behind the Meter Generation

- Section 4.4
 - Made reference to Manual 1, Attachment D: Tie Line Meter Placement and Telemetry
 - New Exhibit 8: Tie Line Update Timeline showing tie line timeline requirements for communication and parameter data
 - Reference made to online Tie Line Form & Manual 14C, Section 6.1.6 for further details
- Section 4.8
 - Adjusted reporting committee from SOS-T to OC
 - Updated DMS meeting months and frequency
 - Added reference to DMS Workplace



- Appendix A – Title changed to ‘TERM Equipment Ratings Update Process’, better representing section
- Appendix C – Reference to NERC BES process and PJM white paper changed to a Note and moved to earlier in section to make it stand out
- Appendix F – Acronym definitions added for BA, DFAX, TOP & TPL