

Summary of M-03A Rev 11 Changes

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Overview of M-03A Changes

Overview of Changes:

- Updated URL for Tariff Facilities List throughout document
- Miscellaneous administrative and formatting updates
- Section 1.2: Submission timelines and detail added for modeling updates specific to Generators.
- Section 1.2.1: New section outlining Electrical Model Responsibilities for Behind the Meter Generation (BtMG)
- Appendix D: New appendix added for new Behind the Meter Generation (BtMG)
 Submission Form and outlining procedure for form submission.
 - New Exhibit D1 (blank BtMG submission form)
 - New Exhibit D2 (sample BtMG Submission Form for Distribution)
 - New Exhibit D3 (sample BtMG Submission Form for Transmission).
- Appendix E: Acronyms & Descriptions moved from Appendix D to Appendix E to accommodate new Appendix D for BtMG.



Section 1.2.1 BtMG Section Details

1.2.1 Electrical Model Responsibilities for Behind the Meter Generation (BtMG)

Consistent with Manual 14D, Appendix A (9) regarding BtMG that is 10 MW or greater of have been identified as requiring metering for operational security reasons the PJM TO operating entity (or Local Control Center – LCC – Transmission Operator) should undertake best efforts to work with the BtMG owner to provide the following information for the BtMG

by submitting a completed BtMG Modeling Information Form as an eDART Network Model Request as outlined in Appendix D: BtMG Modeling Information Form:

- Provide generator location and contact information.
 - Provide path that electrically connects facility with a Bulk Electric System (BES > 100 kV) substation.
 - This is the closest electrical path, or least impedance path, that is a normally closed-in path with a BES Station facility that is expected to supply this BtMG facility.
 - BtMG facility's generation typically reduce the amount of load that is supplied through the identified path from the BES station.
- Provide telemetry of generating units MW/MVAR output and status of switching devices. See Manual 14D, Appendix A for details.
- · Provide real-time operations information to PJM and other TOs
- Provide engineering data updates for generator, transmission and distribution system models to PJM and other TOs as necessary
- Provide equipment model. The information submitted for the BtMG's NERC E 860 list should be used as a reference for completing the form found at http://pim.com/committees-and-groups/subcommittees/dms.aspx. See Appendix D for details for form completion and submission. This NERC EIA-860 submission is at the following website: http://www.eia.gov/electricity/data/eia860/ (refer to detailed data in zipped files on right side of page, "3_1_Generator" spreadsheet).

Must replaced with should

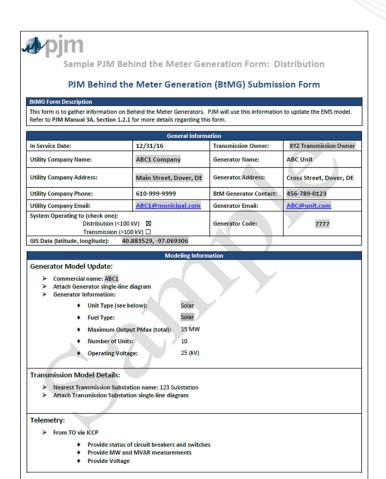
Details added to specify BtMG is a load reducer and how connects to BES equipment

Form submission process outlined

 Hyperlink to be made available after MRC endorsement



Appendix D – Distribution Samples & Diagrams



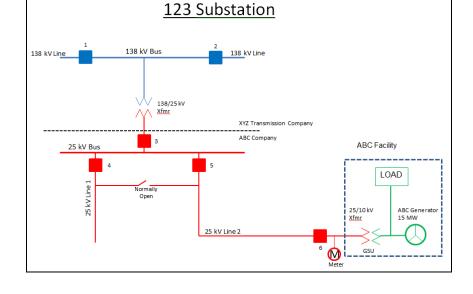
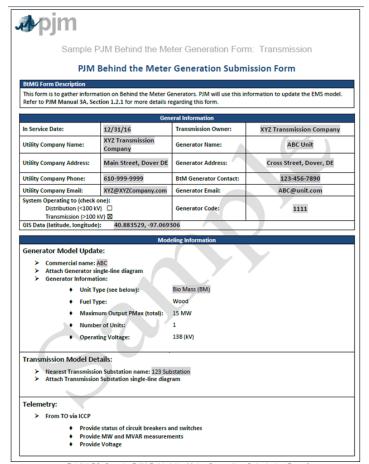


Exhibit D2: Sample PJM Behind the Meter Generation Submission Form for Distribution, With Supporting One-Line Diagram



Appendix D – Transmission Samples & Diagrams



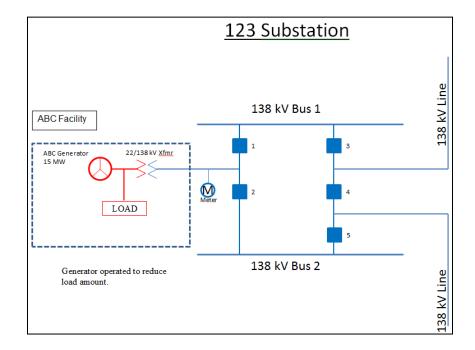


Exhibit D3: Sample PJM Behind the Meter Generation Submission Form for Transmission, With Supporting One-Line Diagram



Overview of M-03A Changes (cont'd)

Overview of Changes:

- Section 3.2: Submit-on-time functionality and process outlined; (old) Exhibit 3 deleted (redundant/confusing); Exhibit 3 (General Schedule for Submitting Modeling Data) enhanced distinguish between Required and Preferred In Service Date for Project; Exhibit 4 (Network Model Data Submission and Model Validation Timeline) enhanced to display corrected timelines, and new timelines added for 'Preferred In Model Build' and 'PJM Tests New Model'
- Section 3.2.1: New section added for EHV Modeling.
- Section 3.4: Paragraph added to outline non-automated process for submitting fixed tap changes to PJM.
- Section 4.1: Paragraph 5 updated to reflect current practices.
- Section 4.8.1: Sharing of data and one-lines across DMS Members outlined.
- Section 4.9: Reference added for PJM Sub-Transmission Modeling White Paper.
- Section 4.9.3: Instructions added for BES notification of BES exceptions
 - Exhibit 12 and preceding paragraph moved to Section 2.4 (now Exhibit 2).
- Appendix C: New paragraph added to outline BESNet process with supporting web links.



Appendix



Section 1.2:

- Outlines GSU details needed specifically for units 20MW+ connected to BES in consistent with Manuals 1, 3, 14b, 14d
- Added information on where to view build schedule and exhibit on submission timelines

Section 1.2.1:

- New section detailing model update requirements to link telemetry as required in Manual 14d Appendix A Item 9 for BtMG 10MW+
 - Adding reference to this section in Manual 14d Appendix A Item 9



Section 3.2:

- Removed Exhibit 3: Timeline for PJM Actions in Coordinating Model Update - Sample Summer Process since info already covered in Exhibit 4: Network Model Data Submission & Model Validation Timeline
 - Repointed all references to removed exhibit to Network Model Data Submission & Model Validation Timeline exhibit
- Added task for model update testing period to Network Model Data
 Submission & Model Validation Timeline exhibit
- Adjusted effective model update area with colors to better explain period being modeled and time period to date of model build forward



Section 3



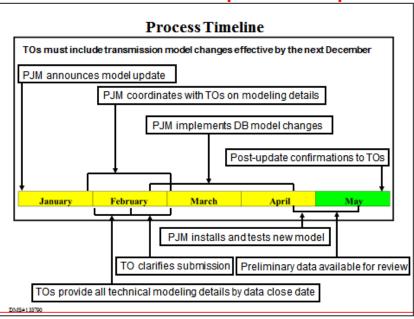
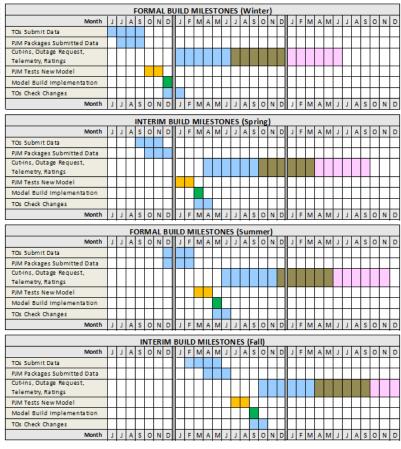


Exhibit 3: Timeline for PJM Actions in Coordinating Model Update—Sample Summer Process



Color Key

Required in model build

Preferred in model build

Desired/discretionary in model build

Testing Period

Changes Implemented

Exhibit 43: Network Model Data Submission & Model Validation Timeline



Section 3.2:

 Updated renumbered Exhibit 3: General Schedule for Submitting Modeling Data by replacing Target In-Service Date for Project with Required & Preferred In-Service Date for Project columns to better align with updated Exhibit 4: Network Model Data Submission & Model Validation Timeline

Quarterly Build Name	Build Type	Information Submission Close Date Timeframe	EMS Model Update Date	Required In- Service Date for Project	Preferred In- Service Date for Project
Spring	<u>Interim⁴</u>	<u>Late November</u>	<u>March</u>	April - Sept.	October + 11 months
Summer	<u>Formal</u>	Early February	May	June - Nov.	December + 11 months
<u>Fall</u>	Interim	Early June	September	Oct March	April + 11 months
Winter	<u>Formal</u>	Early September	<u>December</u>	Jan June	July + 11 months

 Two new paragraphs added that detail Submit-on-time functionality now available through Network Model application.



Section 3.2.1:

 New section added to state that EHV equipment update info should be communicated to PJM a year in advance of energization

Section 3.4:

 Specific direction added on how to submit updates on load tap parameters and nominal voltage information for transformers



Section 4.1:

 Additional clarifying text on using the data posted on the secure DMS SharePoint site to review model updates

Section 4.8.1:

Added example of types of files stored on the DMS SharePoint site

Section 4.9:

Added reference to Sub-Transmission whitepaper

Section 4.9.3:

- Added reference to PJM Compliance Bulletin 14 and utilization of NERC BESnet tool to request changes to transmission facility BES status
- Transmission Facilities page on PJM.com exhibit moved to section 2.4



Appendix C:

- PJM Compliance Bulletin 14 referenced
- Required use of BESNet tool identified

Appendix D:

- Note: Detailed review of processes and procedures referenced in this appendix provided as part of a separate DMS agenda item
- Detailed explanation of field requirements in the new PJM Behind the Meter Generation Submission Form
- Example of form submission where unit tied to transmission facilities
- Example of form submission where unit tied to distribution facilities

Appendix E:

 Acronyms & Descriptions moved from Appendix D to Appendix E to accommodate new Appendix D for BtMG