



Tie Line Process Update TOA-AC

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- Over the past several years, PJM has encountered deficiencies in the existing process for cutting in Tie Lines
 - Interconnection Agreements submitted late or not at all
 - Inaccuracies in data submitted
 - Telemetry was unavailable before line was energized
- An updated Tie Line Cut-In Process was developed in an effort to reduce the risk of non-compliance and operational issues

- Inaccurate modeling of an external Tie Line
 - PJM RTO ACE error and inadvertent after the Tie was placed into service
 - PJM over generation and Eastern Interconnection Time Error
Corrections for fast clock were made until the Tie was added to the PJM model
 - Non-compliant with NERC Standard BAL-005 R12

- PJM delayed the energization of a critical new transmission line due to the unavailability of required metering to support the interconnection
- Not having reviewed the Interconnection Agreement with sufficient notice prior to the energization date led to significant concerns about operational control and outage coordination

- After reevaluating the process, PJM identified opportunities for improvement and created an updated methodology. This will result more accurate modeling and efficient cut-in of future Tie Lines.
 - An internal focus group was created to holistically review and evaluate the Tie Line cut-in process.
 - Reviewed case studies and implemented recommendations resulting from an Apparent Cause Analysis

- Process Oversight
 - A PJM Client Manager oversees the process from the submittal of Interconnection Agreements through energization.
- Workflow Management
 - PJM will utilize a software tool to automate and communicate each step throughout the cut-in process.
- Increased communication
 - Continuation of the Tie Line focus group to analyze progress and any additional areas for improvement.
 - Monthly check-in meetings to review upcoming cut-ins

- **Communication**
 - Upon cut in, PJM hosts a conference call with all parties involved to confirm the accuracy of all data.
- **Interconnection Agreement Submission**
 - PJM has developed a web page ([Tie Lines](#)) for members to submit draft Interconnection Agreements
- **Manual Updates**
- **Timing of Interconnection Agreement submission**
 - Timeline will be devised through the Stakeholder process to better align with the current requirements for Network Model updates

- **Manual 01 - Control Center and Data Exchange Requirements**
 - Graphics updated for clarity
 - Table added to detail requirements for each category of Tie Line
- **Manual 03A - Energy Management System (EMS) Model Updates and Quality Assurance (QA)**
 - Removed definition information / added references to other manuals
- **Manual 14C - Generation and Transmission Interconnection Facility Construction**
 - Added construction process and timeline to coordinate Interconnection Agreements and Network Model Submission
- **Tariff**
 - Add Tie Line definition

- Manuals will be vetted through the stakeholder process

TASK	2016 TARGET DATE	COMMITTEE
M01 - First Read	June	MTF/SIS/OC/MRC
M01 - Endorsement	July/August	MTF/SIS/OC/MRC
M03A - First Read	October	DMS/SOS/OC/MRC
M03A - Endorsement	November/December	DMS/SOS/OC/MRC
M14C - First Read	June	PC/MRC
M14C - Endorsement	July/August	PC/MRC
Tariff - First Read	June	PC/MRC
Tariff - Endorsement	July/August	PC/MRC

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