



Manual 14C Update

TOA-AC
July 6, 2016

- Manual 14C: Generation and Transmission Interconnection Facility Construction
- Administrative Updates
 - Updated names
 - Minor update to practices
 - New sections
 - Tie-line process
 - Project assignment

- Agreement Overviews
 - Designated Entity Agreement (DEA)
 - Interconnection Coordination Agreement (ICA)
- DEA Processes
 - Reporting requirements
 - Breach, Cure, Re-Evaluation and Default
 - DEA Upgrade Project Modification Process

- Comments were provided to PJM for language consistency and clarification
- Comments for language consistency were accepted and changed
 - See Appendix for details of changes
- Comments for clarification will be included in the fall Manual 14C update



Tie Line Process Update

- PJM has encountered deficiencies in the existing process for cutting in Tie Lines
 - Compliance Risk: Inaccurate external Tie Line modeling
 - 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
 - Operational Risk
 - PJM delayed the energization of a critical new external 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

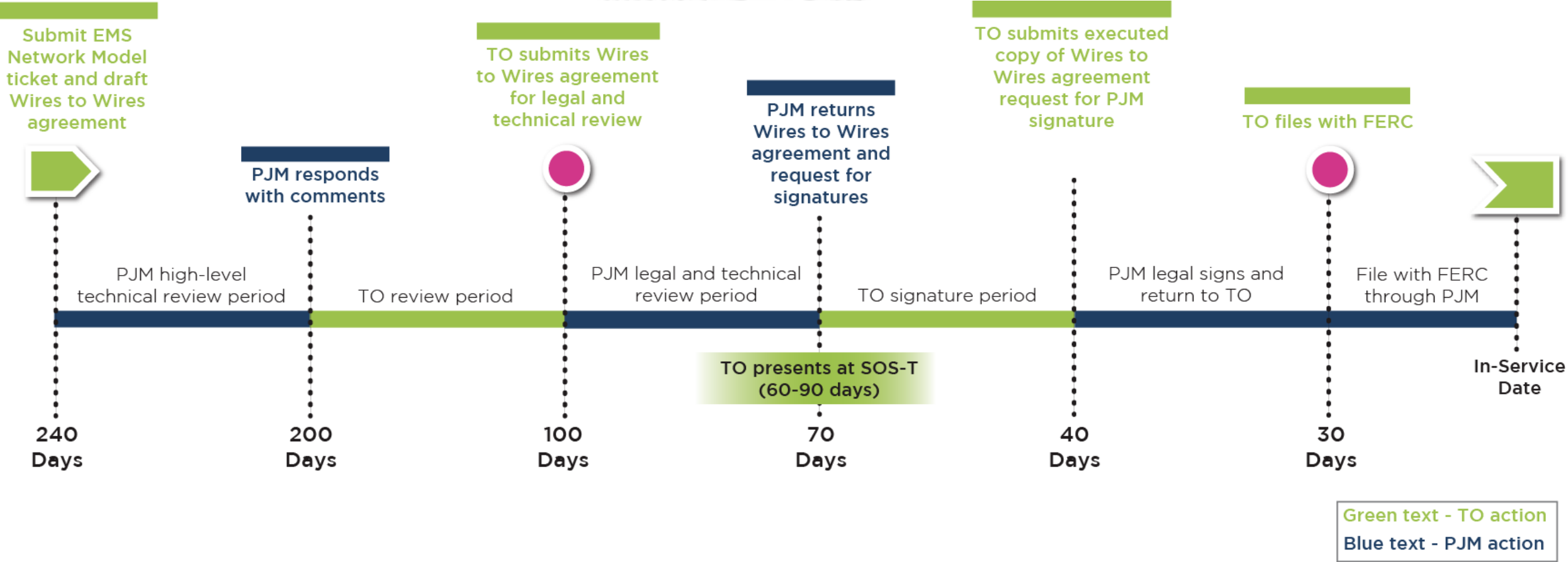
- Mainesburg Substation – Tapping Homer City Watercure 345kV line
 - Tie line agreement was submitted weeks prior to schedule IS date
 - Required months to reach agreement on metering with NYSEG and resolve IA language
 - Project delayed 6 months
- Bosserman Substation - New 138kV substation tapping tie lines with NIPSCO
 - Project impacted multiple 138kV tie lines
 - Required over 4 months to clarify one line and resolve just the metering arrangement
 - Project IS delayed to accommodate additional metering installation work
- Farragut-Marion 345 kV line – modified an existing tie line
 - Tie line changes were not flagged in model change process until late in project
 - No wires agreement was submitted prior to energization
 - Multiple model issues due to inadequate time to address specific project modeling needs

- 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 – detailed on the next slide
- Timing of Interconnection Agreement submission
 - Timeline will be devised through the Stakeholder process to better align with the current requirements for Network Model updates

Wires to Wires Agreement Process Flow



- **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

Appendix

- Section 2.2.3 Transmission Owner Facilities
 - Request to add the language ‘per the provisions of the agreement’
 - Change forwarded for inclusion in the fall Manual 14C revision
- Section 3.3.2 Transmission Owner Billing Guidelines
 - Inconsistent language between para 1 and para 3
 - Removed a deletion in paragraph 3 to make the two paragraphs agree
- Section 3.4 ICSA Generation and Merchant Transmission Project Agreement Scope Change Process
 - Reviewed and feel that the striking of the term ‘ISA/ICSA’ is consistent – no change
- Section 3.8.3 Project Meetings
 - Request to change ‘submitted’ to ‘submitting’
 - Change accepted
- Section 3.12 Assignment
 - Request to add the language ‘per the provisions of the agreement’
 - Change forwarded for inclusion in the fall Manual 14C revision

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- Section 4.1 Transmission Owner Standards
 - Question the consistency of adding ‘merchant’ to transmission projects
 - Reviewed the section and determined that ‘merchant transmission project’ and ‘merchant transmission upgrade’ are used consistently in this Section
 - Additional note: the addition of the term ‘merchant’ to the first paragraph was done to differentiate queue projects from Order 1000 projects
- Section 5.1 Option to Build
 - Section 2.2.3 contains the same language that was modified differently than this section
 - Changed the language in Section 5.1 to align with Section 2.2.3
- Section 6.1.1.1 Designated Entity Agreement (DEA)
 - There are three references to ‘this Agreement’ in the list of the standard project milestones to the DEA
 - This has been change to ‘the DEA’