<table>
<thead>
<tr>
<th>Effective Date</th>
<th>10/31/2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impacted Manual #(s)/Manual Title(s):</td>
<td>Manual 14-D: Generator Operational Requirements</td>
</tr>
<tr>
<td>Conforming Order(s):</td>
<td>Electric Storage Participation in Markets Operated by Regional Transmission Organizations and Independent System Operators (Issued February 15, 2018) Docket Nos. RM16-23-000; AD16-20-000; Order No. 841</td>
</tr>
<tr>
<td>Associated Issue Tracking Title:</td>
<td>Electric Storage Participation - FERC Order 841</td>
</tr>
</tbody>
</table>
| Committee Approval Path - What committee(s) have already seen these changes? | First Read 6/6/19 System Operations Subcommittee  
First Read 6/11/19 Operating Committee  
Endorsement 9/5/19 System Operations Subcommittee  
Endorsement 9/10/19 Operating Committee  
First Read 9/26/19 Markets and Reliability Committee  
Endorsement 10/31/19 Markets and Reliability Committee |
| MRC 1st read date: | 9/26/2019 |
| MRC voting date: | 10/31/2019 |
| Impacted Manual sections: | Multiple – see below |
| Reason for change: | Compliance with FERC Order 841: Electric Storage Resource Participation model to allow ESRs to participate in all markets where technically feasible. **(Bolded below)** |
| Summary of the changes: | **Cover to cover review**  
**Throughout**  
- Replaced references to Client Manager with Member Relations where applicable  
- Corrected typos and capitalized terms where appropriate  
**About this Manual**  
- **Added subsection covering “Definitions and Applicability”**  
- Section 1.2 - Generator Commercial Naming Convention |
• Replaced Performance Compliance with Operations Analysis and Compliance
• Section 3.2.4 - Control Center Staffing Requirements
  • Remove reference to Section 6 as it relates to training and certification requirements
• Section 4.1.7 – SCADA—Supervisory Control and Data Acquisition
  • Corrected typo in heading in Exhibit 6
  • Updated Exhibit 6 to include State of Charge for Energy Storage Resources
• Section 4.2.3 – Metering for Individual Generators
  • Added metering requirement specific to Energy Storage Resources
• Section 6.2.2 – PJM Transmission Owner (TO) Operator and Generation Dispatcher Certification
  • Corrected typo
• Section 7.1.5 – Generator Operations Under Emergency Conditions
  • Corrected typo in Exhibit 8
• Section 7.3 – Critical Information and Reporting Requirements
  • Added Energy Storage Resource outage reporting requirements
• Section 7.3.5 – Fuel and Emissions Reporting
  • Replaced references to Supplementary Status Report (SSR) with references to Resource Limitations page in Markets Gateway.
• Section 10.2.3 – Implications for Terminating Black Start Units
  • Updated to cross reference correct section – Section 9
• Attachment D: PJM Generating Unit Reactive Capability Curve Specification and Reporting Procedures
  • Updated to include Energy Storage Resources
  • Corrected references to Exhibit 13
  • Updated stand-alone document containing D-curve examples
• Attachment E: PJM Generator, Energy Storage and Synchronous Condenser Reactive Capability Testing
  • Updated to include Energy Storage Resources
• Attachment N: Attachment N: Cold Weather Preparation Guideline and Checklist
  • Deleted outdated link to PJM Polar Vortex Presentation at FERC Technical Conference, 4/1/14
• Appendix A – Behind the Meter Generation Business Rules
  • Added reference to Manual 13 – Emergency Operations