System Planning Modeling Update

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System Planning Modeling & Support
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2018 Series RTEP Powerflow Status

• 2021 Summer
  – Initial analysis and benchmark to RPM case in progress

• 2023: Summer, Winter, Light Load
  – Pre-final cases delivered to Transmission Planning early February
  – Will reach out to TOs as needed
  – Finalization to begin window analysis soon
Late March 2018
  • ‘Pre-final’ 2023 case sent to TOs
Upcoming Modeling Work

- **Operational Assessment Task Force case**
  - Updated 2018 summer based on MMWG case: Complete

- **Extreme Event Contingencies**
  - To match 2023 RTEP case

- **2022 RTEP Final Case**
  - Update 2017 Series RTEP 2022 base cases (Summer, Winter, LL)
  - Completed by end of May

- **Network Modeling Alignment**
  - Comparing transformer impedance and ratings between Ops and Planning

- **2018 Schedule**
  - Schedule for 2018 Series MMWG and 2019 series RTEP to be shared soon

- **2018 Series MMWG**
  - Process kicks off again in April
• **Purpose NERC MOD-032-1**
  – To establish consistent modeling data requirements and reporting procedures for development of planning horizon cases necessary to support analysis of the reliability of the interconnected transmission system

• **Collected data from Generation Owners and Transmission Owners in 2016 and 2017**
  – PJM has developed and used Gen Model portal for Generation Owner submission
  – PJM has implemented and used Model On Demand to build gather and build load flow cases
**MOD-032 Schedule for TOs**

<table>
<thead>
<tr>
<th>Date</th>
<th>Action Item</th>
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<tbody>
<tr>
<td>February 7, 2018</td>
<td>Modeling Working Group Conference Call #1</td>
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<tr>
<td>March 16, 2018</td>
<td>Transmission Owners to submit project revisions in Model-on-Demand</td>
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<tr>
<td>March 19, 2018</td>
<td>PJM to post 1, 2, &amp; 5 year summer cases for topology updates</td>
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<tr>
<td>March 30, 2018</td>
<td>Transmission Owners to submit topology updates to the 1, 2 &amp; 5 year summer cases in Model-on-Demand</td>
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<td>April 4, 2018</td>
<td>Modeling Working Group Conference Call #2</td>
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<td>May 1, 2018</td>
<td>PJM to post all 12 MMWG case definitions and tie lines for review</td>
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<td>May 25, 2018</td>
<td>Transmission Owners to submit updates to case definitions and tie lines</td>
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<td>May 30, 2018</td>
<td>Pull 12 cases from Model-on-Demand and begin:</td>
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<tr>
<td></td>
<td>o Set Load</td>
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<tr>
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<td>o Solve cases</td>
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<td></td>
<td>o Dispatch</td>
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<tr>
<td></td>
<td>o Incorporate tie lines and interchange</td>
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<tr>
<td>June 29, 2018</td>
<td>Data Coordinators submit Power Flow Data to Powertech (N-1 completed)</td>
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Gen Model for 2018

- Gen Model is the tool used by GOs to get PJM gen data
- 2018 Activity
  - Open April 2 – June 15
  - Form will be preloaded with 2017 data making it quick to submit generators with unchanged data and easy to update any changed parameters
  - No noticeable changes from last year
• PJM staff has reviewed and updated “PJM MOD-032 Steady State, Dynamics, and Short Circuit Modeling Data Requirements and Reporting Procedures Document”
• Most updates were to clarify questions from 2017
Document Updates

- Section 1.5.2
  - Added procedure for queue generation projects coming online
    - They are to submit MOD-032 data to “Queue Point” tool in the form of as built data
- Section 1.5.3
  - Added that TOs serving external load on their system are to coordinate with external entity to submit data to PJM
  - Added language for how to handle non-incumbent TOs
- Section 3.1
  - Updated Short Circuit schedule to better reflect current RTEP schedule
- Section 6.2.2
  - Updated language to be clear TOs and MTX provider only have to submit data they themselves own