



Gen Model Tool – Upcoming Changes

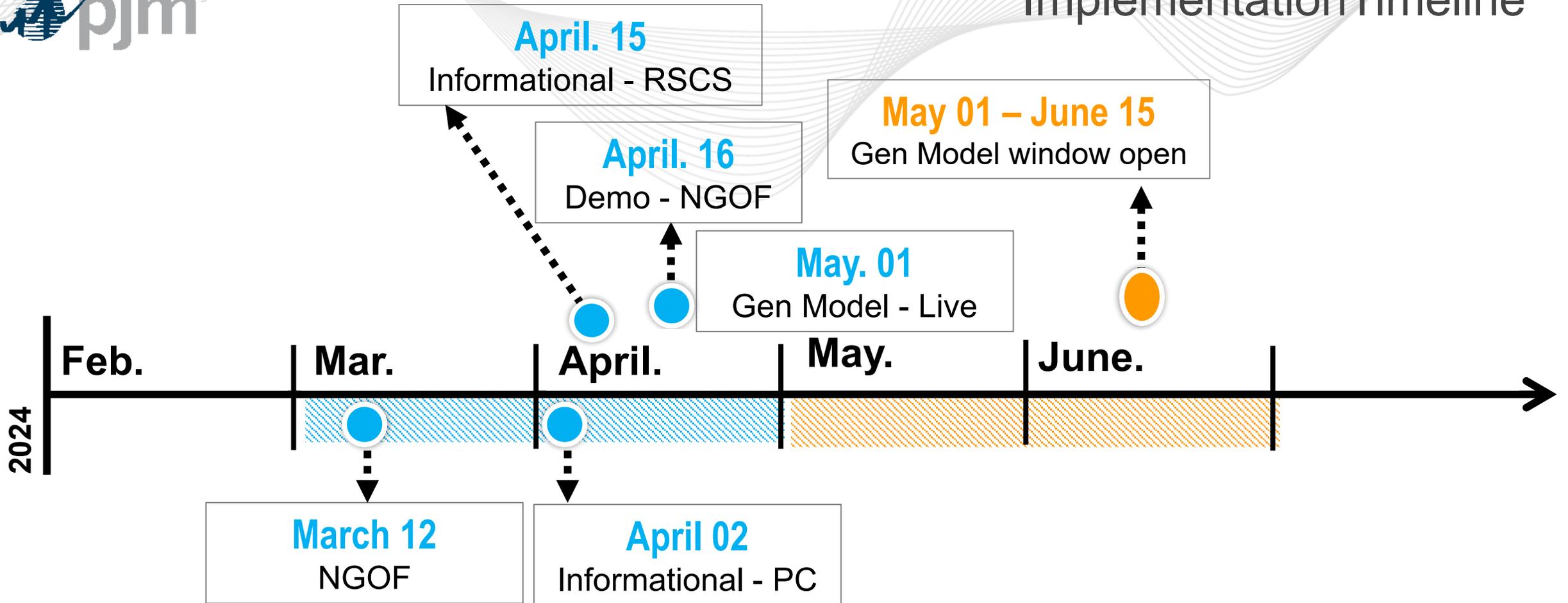
Ashwini Bhat

Reliability Standards and Compliance
Subcommittee

April 15, 2024

- Gen Model is an application that allows users to submit generator data for model builds on the planning horizon in order to support NERC MOD-032, TPL-007, and PRC-024 compliance.
- The Gen Model tool is undergoing enhancements to streamline the process and to provide a better user experience
- In the new paradigm, the Generator Owners(GOs) can view and verify data that PJM has on file for accuracy versus entering separately
- If the data aligns, GOs can click on the ‘Certify’ button to complete the submission for each Generator form

| Action Required | Deadline | Who May Be Affected |
|--|--|---|
| <p>Informational and Educational – no action required</p>  | <p>None</p>  | <p>Generator Owners who fall under the criteria of NERC MOD - 032 standard to submit data in Gen Model</p>  |



- If the presented data in Gen Model for the GOs Plant/generator will need a change, they can click on ‘Request data change’
- This allows GOs to enter the data and upload file/s to justify the data change request
- An automated email notification will be sent to MOD-032 group notifying the change request by GOs
- All dynamic data change request will need to go through MOD-026/27 process

- A ticket number generated through MOD-026/27 process must be entered in Gen Model after requesting for data change through MOD-026/27 (this will complete the submission process for Dynamics data)
- Data export feature is available
- Visibility to uploaded files by GOs

- The user can request a data change but selecting the second radio button and clicking the “Request Data Change” button. In that case, the user must also enter comments and optionally upload a supporting document

Certification of Accuracy

Please confirm that the information provided is accurate and complete. In instances of inaccurate or incomplete data, you may request a data change. Your selection below will confirm your data is accurate and complete or a change is needed.

- I have reviewed the information and certify the data.
- I request a data change.

Comments *

Explanation of why the data change is needed

Supporting Documents

Supporting Document

+ Upload File

03/08/2024

Gen Model - New Process - ReqDoc_Draft (1).docx



Certify

Request Data Change

Synchronous Generator

[Back](#)

| General Information | Review your data for completeness and accuracy | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------------|--|---|----------------------------|----------------------------|-----------------------|---------------------------------|-------------|----------------------|--|-------------|--|----------------|----------------------|---|----------------------------|----------------------------|-----------------------|-------|-----|----------|----------|----------|----------|--------------------|-------------------------|------------------------------|--------------------------|-----------------------|-------------------|----|-----------|----------|----------|----------|----------|--|--|----------------------|--|--|--|--|--|----------|--|--|--|
| Synchronous Generator | Last Update:03/08/2024 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Attachment Line Data | Synchronous Generator | | Step-Up Transformer | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum Facility Output | <table border="1"> <thead> <tr> <th>Machine Id</th> <th>Progress</th> <th>Actions</th> </tr> </thead> <tbody> <tr> <td>ALT 1</td> <td>In Progress</td> <td> </td> </tr> </tbody> </table> | | Machine Id | Progress | Actions | ALT 1 | In Progress | | <table border="1"> <thead> <tr> <th>Transformer Id</th> <th>Progress</th> <th>Actions</th> </tr> </thead> <tbody> <tr> <td>ALT GSU1</td> <td>In Progress</td> <td> </td> </tr> </tbody> </table> | | | Transformer Id | Progress | Actions | ALT GSU1 | In Progress | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Machine Id | Progress | Actions | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ALT 1 | In Progress | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Transformer Id | Progress | Actions | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ALT GSU1 | In Progress | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dynamic Data | <p>Synchronous Generator: ALT 1</p> <table border="1"> <thead> <tr> <th colspan="2">Individual generator capability</th> <th colspan="2">Saturated Reactances</th> <th colspan="2">Resistances</th> </tr> </thead> <tbody> <tr> <td>Machine Id *</td> <td>Energy Source Code *</td> <td>Saturated sub-transient reactance, X'd(v) *</td> <td>Transient Reactance, Xd(v)</td> <td>DC armature resistance, Ra</td> <td>Positive sequence, R1</td> </tr> <tr> <td>ALT 1</td> <td>WDS</td> <td>0.140000</td> <td>0.209000</td> <td>0.002800</td> <td>0.002800</td> </tr> <tr> <td>Prime Mover Code *</td> <td>Terminal Voltage (KV) *</td> <td>Synchronous Reactance, Xd(v)</td> <td>Negative sequence, X2(v)</td> <td>Negative sequence, R2</td> <td>Zero sequence, R0</td> </tr> <tr> <td>ST</td> <td>13.800000</td> <td>1.875000</td> <td>0.157000</td> <td>0.018000</td> <td>0.001800</td> </tr> <tr> <td></td> <td></td> <td>Zero sequence, X0(v)</td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td>0.077000</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> | | | | | Individual generator capability | | Saturated Reactances | | Resistances | | Machine Id * | Energy Source Code * | Saturated sub-transient reactance, X'd(v) * | Transient Reactance, Xd(v) | DC armature resistance, Ra | Positive sequence, R1 | ALT 1 | WDS | 0.140000 | 0.209000 | 0.002800 | 0.002800 | Prime Mover Code * | Terminal Voltage (KV) * | Synchronous Reactance, Xd(v) | Negative sequence, X2(v) | Negative sequence, R2 | Zero sequence, R0 | ST | 13.800000 | 1.875000 | 0.157000 | 0.018000 | 0.001800 | | | Zero sequence, X0(v) | | | | | | 0.077000 | | | |
| Individual generator capability | | Saturated Reactances | | Resistances | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Machine Id * | Energy Source Code * | Saturated sub-transient reactance, X'd(v) * | Transient Reactance, Xd(v) | DC armature resistance, Ra | Positive sequence, R1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ALT 1 | WDS | 0.140000 | 0.209000 | 0.002800 | 0.002800 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Prime Mover Code * | Terminal Voltage (KV) * | Synchronous Reactance, Xd(v) | Negative sequence, X2(v) | Negative sequence, R2 | Zero sequence, R0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ST | 13.800000 | 1.875000 | 0.157000 | 0.018000 | 0.001800 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Zero sequence, X0(v) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 0.077000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Review | <p>Certification of Accuracy</p> <p>Please confirm that the information provided is accurate and complete. In instances of inaccurate or incomplete data, you may request a data change. Your selection below will confirm your data is accurate and complete or a change is needed.</p> <p> <input type="radio"/> I have reviewed the information and certify the data. <input checked="" type="radio"/> I request a data change. </p> <p>Comments *</p> <p>xzc</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

For each machine, there will be a panel displaying dynamic data with each model on a separate tab

- General Information
- Synchronous Generator
- Attachment Line Data
- Maximum Facility Output
- Dynamic Data**
- Review

Review your data for completeness and accuracy
Last Update: 03/08/2024

Machine 1 on bus 315201

IDV DYR Source: mmwg 2019sum
Dynamics: p16(2022sum)(eia6167).dyr

GENSAL
PSS2A
ESST1A
WEHGOV

| Type | Name | Description |
|-------------|-------------|------------------|
| ICON | | |
| ICON | 1 | UEL (1; 2; or 3) |
| ICON | 1 | VOS (1 or 2) |
| CON | | |
| CON | 0.10000E-01 | TR (s) |
| CON | 999.00 | VIMAX |
| CON | -999.00 | VIMIN |
| CON | 1.0000 | TC (s) |
| CON | 1.6670 | TB (s) |
| CON | 0.0000 | TC1 (s) |
| CON | 0.0000 | TB1 (s) |
| CON | 250.00 | KA |
| CON | 0.0000 | TA (s) |
| CON | 5.1700 | VAMAX |
| CON | -4.6400 | VAMIN |
| CON | 5.1700 | VRMAX |
| CON | -4.6400 | VRMIN |
| CON | 0.64000E-01 | KC |
| CON | 0.0000 | KF |
| CON | 1.0000 | TF > 0 (s) |
| CON | 1.0000 | KLR |
| CON | 2.6700 | ILR |

[Machine 2 on bus 315202](#)
[Machine 3 on bus 315203](#)
[Machine 4 on bus 315204](#)
[Machine 5 on bus 315205](#)
[Machine 6 on bus 315206](#)

- When requesting dynamic data change, a ticket number and comments are required

I have reviewed the information and certify the data.

I request a data change.

Changes to this data must be submitted through the MOD 026/027 process by entering a ticket. Enter the confirmation number below:

MOD-026/027 Confirmation Ticket Number *

Comments *

Certify

Request Data Change

Sample Review Page

Review

[Back Submissions](#)

| | | | |
|-------------------------|--|--|--|
| General Information | <div style="background-color: #4CAF50; color: white; padding: 5px; border-radius: 5px;"> <i>!</i> All data must be reviewed before submitting. Please Certify or Request Data Change for the following forms: Maximum Facility Output </div> | | |
| Wind Farm | | | |
| Attachment Line Data | | | |
| Maximum Facility Output | | | |
| Circuit Breaker | | | |
| Main Transformer | | | |
| Dynamic Data | | | |
| Review | | | |

| Form | Form Status | Action |
|-------------------------|-----------------------|--------|
| General Information | Data Change Requested | ✓ |
| Wind Farm | Data Change Requested | ✓ |
| Attachment Line Data | Data Change Requested | ✓ |
| Maximum Facility Output | Not Started | ✎ |
| Circuit Breaker | Data Change Requested | ✓ |
| Main Transformer | Data Change Requested | ✓ |
| Dynamic Data | Certified | ✓ |

| 1 | 2 | 3 |
|---|---|---|
| <ul style="list-style-type: none">• Gen model tool changes and enhancements are expected to go live into production on May 01, 2024 | <ul style="list-style-type: none">• PJM- IT Demonstration at Nuclear Generator Owners Forum (NGOF) on April 16, 2024 (10:00 a.m.- 12:00 p.m.)• A recording of the demo (internally conducted) will be released for all GOs prior to the window opening | <ul style="list-style-type: none">• Refer contact slide # 14 to reach out for any questions or concerns related to the Gen Model tool |

SME/Presenter:

Ashwini Bhat

Ashwini.Bhat@pjm.com

SMEs: David Egan & Tao He

David.Egan@pjm.com

Tao.He@pjm.com

MOD-032@pjm.com

Gen Model Tool – Upcoming
Changes



Member Hotline

(610) 666 – 8980

(866) 400 – 8980

custsvc@pjm.com

**PROTECT THE
POWER GRID
THINK BEFORE
YOU CLICK!**



Be alert to
malicious
phishing emails.

Report suspicious email activity to PJM.
(610) 666-2244 / it_ops_ctr_shift@pjm.com

