TP’s experience in reviewing and accepting GENQEC Model.

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MOD—026 R6 Model Usability Check
TP's Experience with GENQEC Model Submission

Since 2024, BCH as TP has started to receive GENQEC model as part of the MOD-026 submissions.

This presentation intends to share our experience in reviewing and accepting the new GENQEC model in meeting the MOD-026-2 R6 requirements.

BCH maintains planning data in PSS/E, while we also require the PSLF version of the model for submission to WECC.

MOD—026 R6 Model Usability Check
TP's Experience with GENQEC Model Submission

MOD-026-1 Criteria for usability check include:

- R6.1: Initialize without error
- R6.2: No-disturbance run is flat
- R6.3: Exhibit positive damping

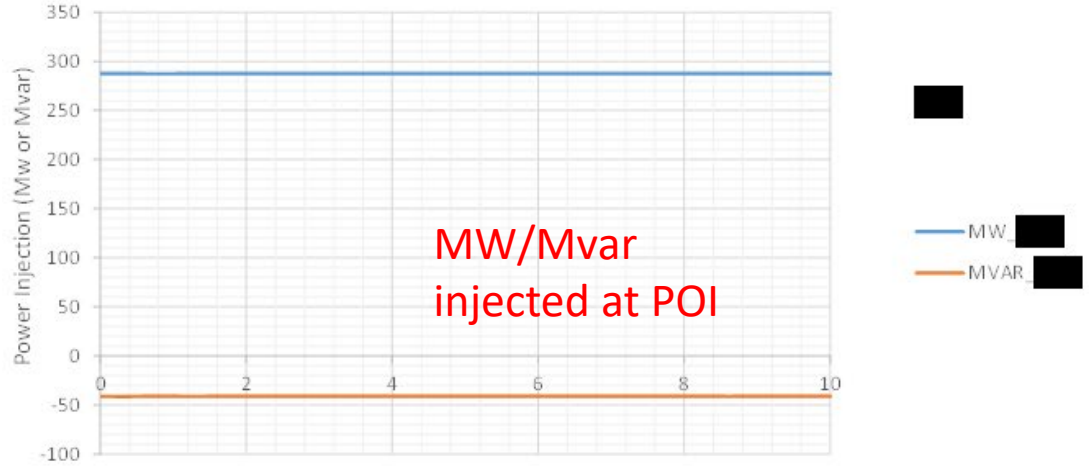
We typically check:

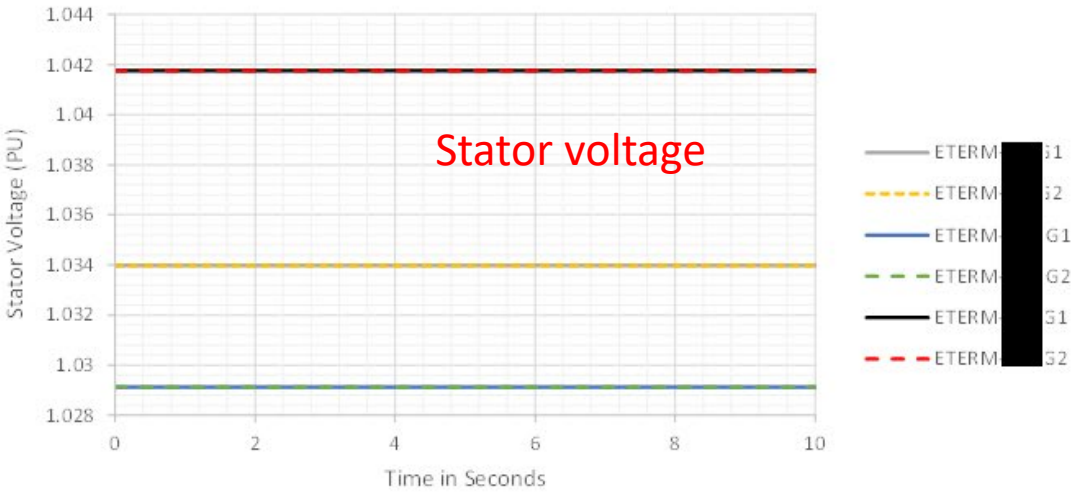
- No fault run,
- 3LG fault, and
- WECC Ringdown Test

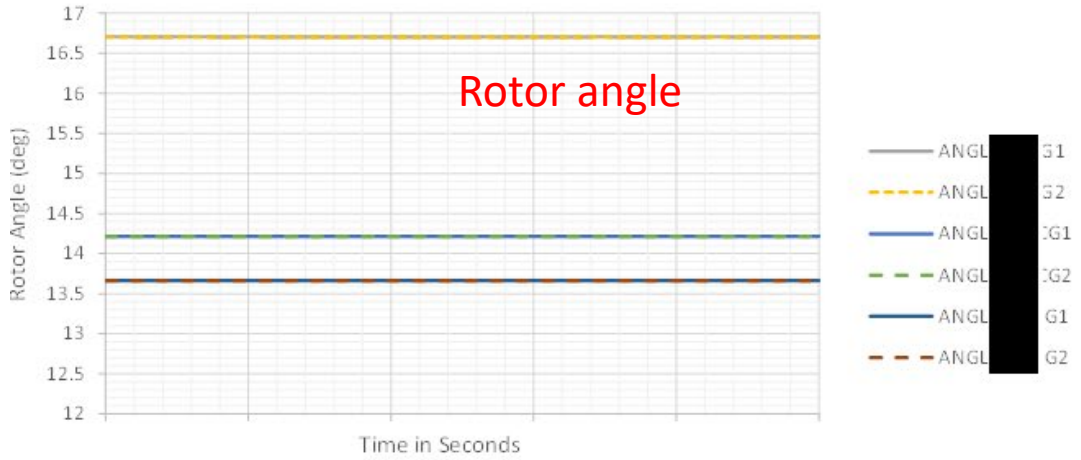
We check generator models in:

- PSS/E format, and
- PSLF format

No-disturbance run with GENQEC model (PSS/E)







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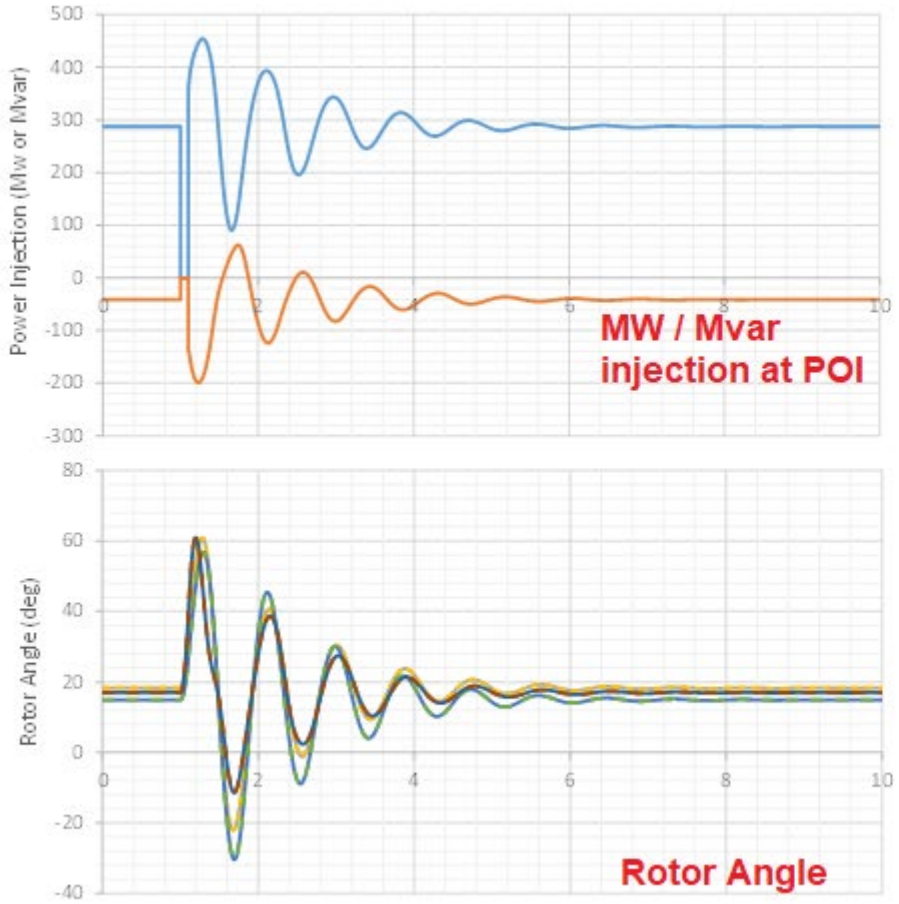
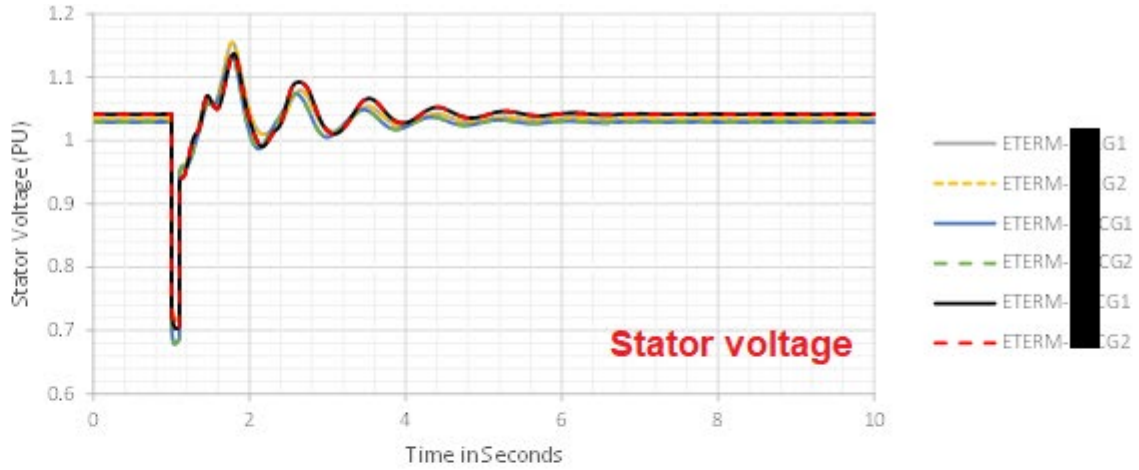
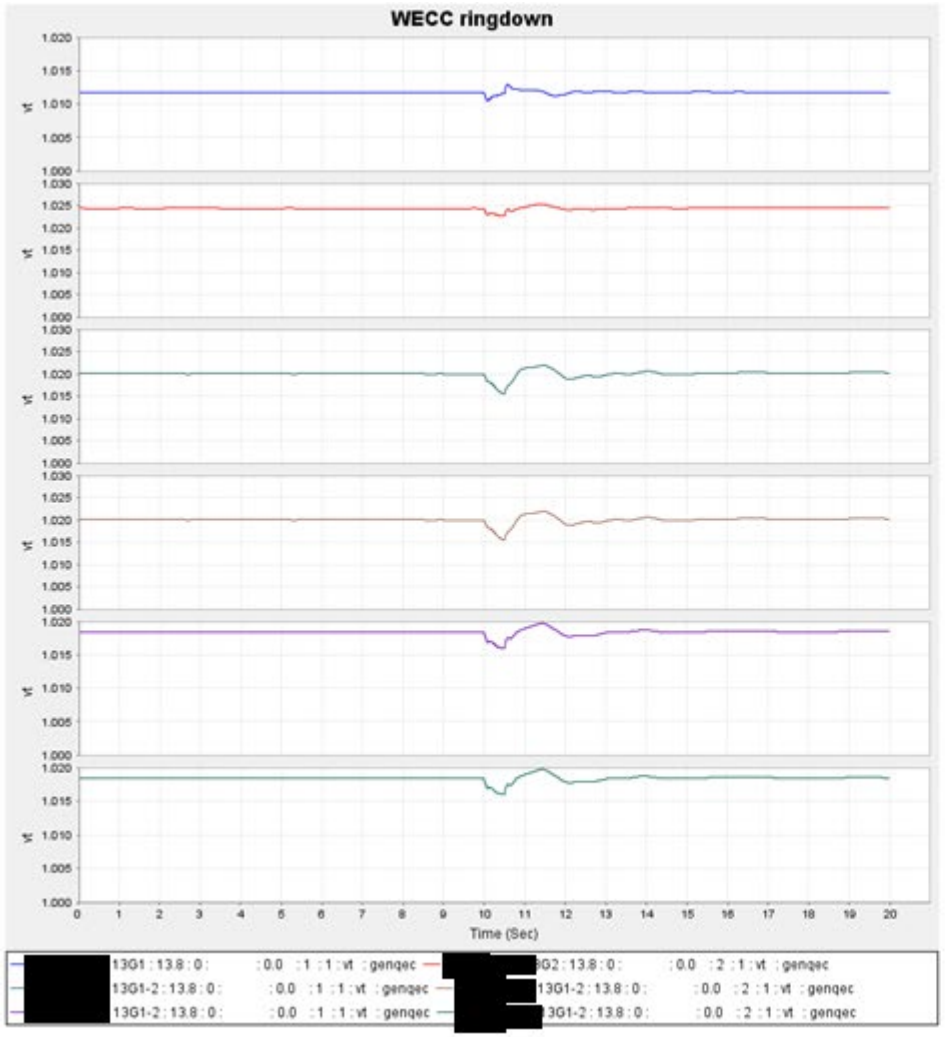
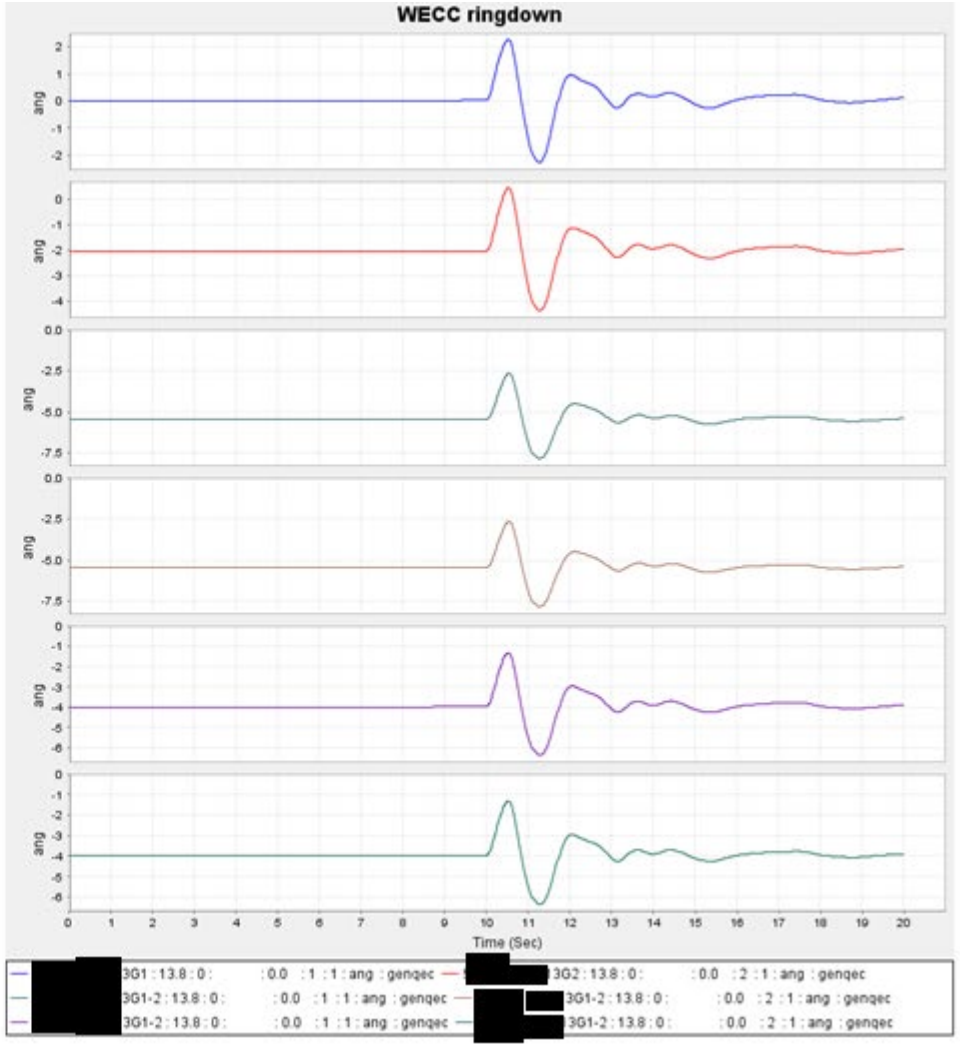
3LG line fault with GENQEC model (PSS/E)





WECC ringdown with GENQEC model (PSLF)





Experience using GENQEC in T-Planning study

- Using GENQEC model for planning studies is straightforward; minimal effort is required to accept the newly submitted GENQEC model from model user's perspective.
- With WECC's new tool, Kw can be easily obtained from either field test data or OEM's preliminary datasheet (VEE curve).
- The new GENQEC model is expected to result in a dynamic simulation result largely consistent with classic generator models.

Experience using GENQEC in T-Planning study

- The intended purpose of GENQEC is to improve steady state accuracy (field current estimation). Dynamically, the dynamic behavior is expected to align well with classic model such as GENROU.
- GENQEC inherently exhibits damping similar to GENROU. The user should anticipate a slightly different damping comparing to GENTPJ.
- When receiving a newly-submitted GENQEC model, TP may choose to do a quick comparison against existing models, which can help boost confidence in the new GENQEC model.