UPDATES OF RES MODELING

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Presented at WECC MVS September 11th, 2025

PEACE

AKNOWLEDGMENTS

The work done thus far collectively by the Renewable Energy Modeling (REM) Adhoc group, within WECC MVS, has had contributions from many entities as well as constant feedback from the wider MVS group. Thanks to all who have contributed. Below are the main contributing entities. We apologies for any inadvertent omissions.

EPRI, GE, PEACE®, PGE, PowerTech Labs, PowerWorld, Qualus, Siemens PTI, WECC

Work done in these slides by PEACE®, in presenting proposed specifications for REPC_E model, was sponsored by EPRI
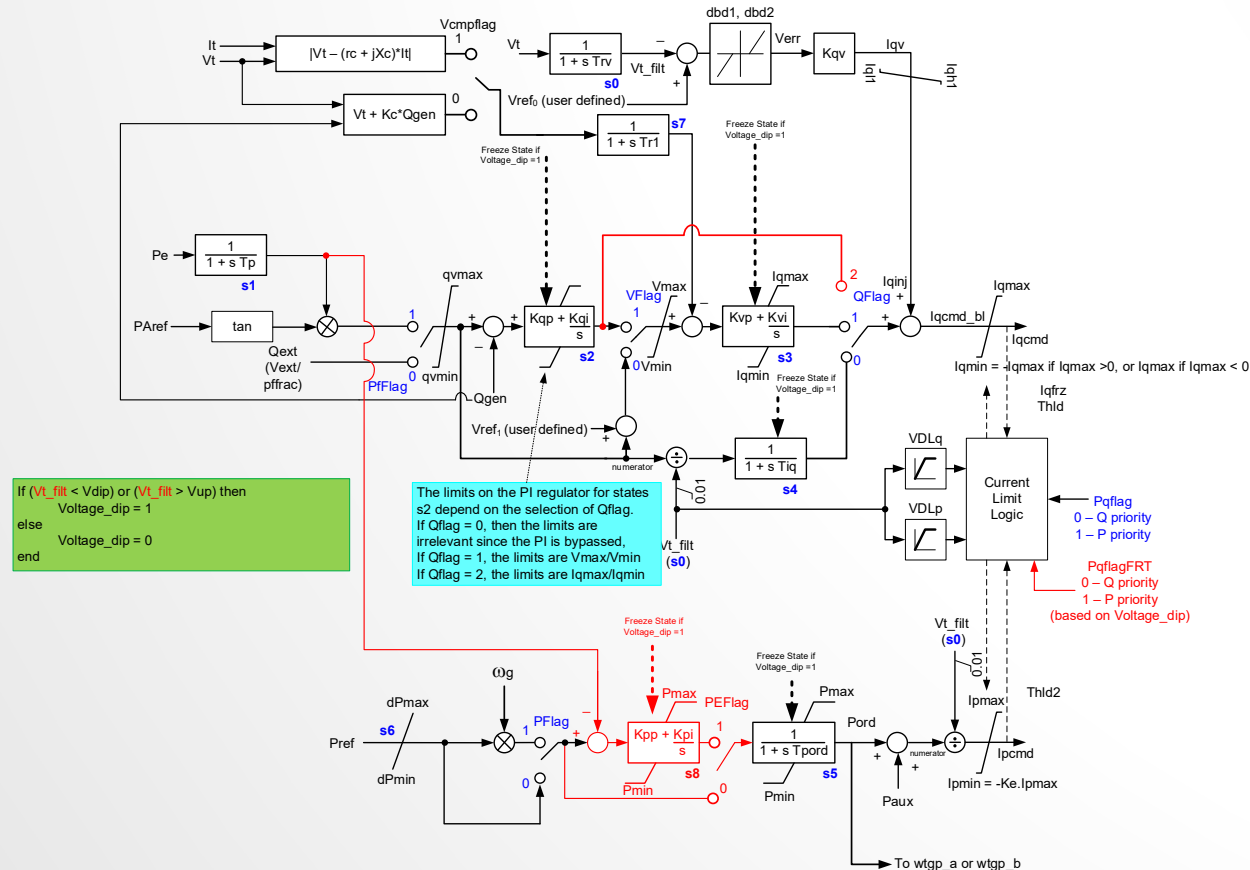
P E A C E ®

PREVIOUS WORK

- REGC_B, REGC_C (not WECC approved), REEC_D, REEC_E, REPC_C, REPC_D, WTGT_B, WTGIBFFR_A, WTGWGO_A, WTGP_B

- All above done and in all the tools (now including REEC_E)

- New GFM models also recently done and approved:
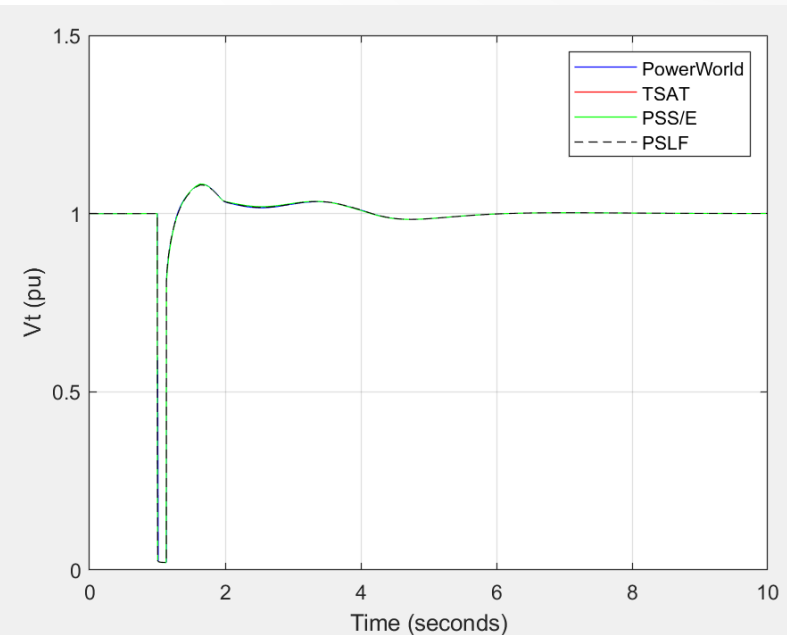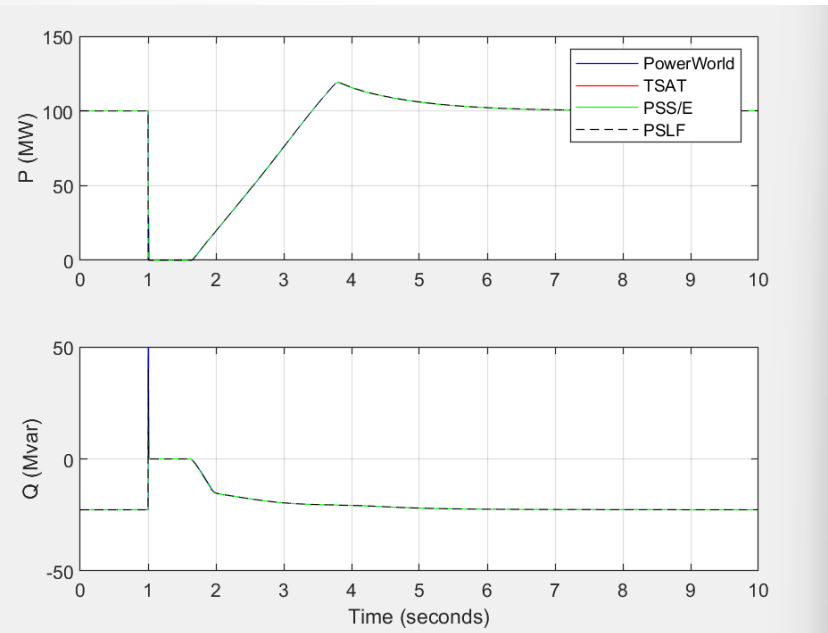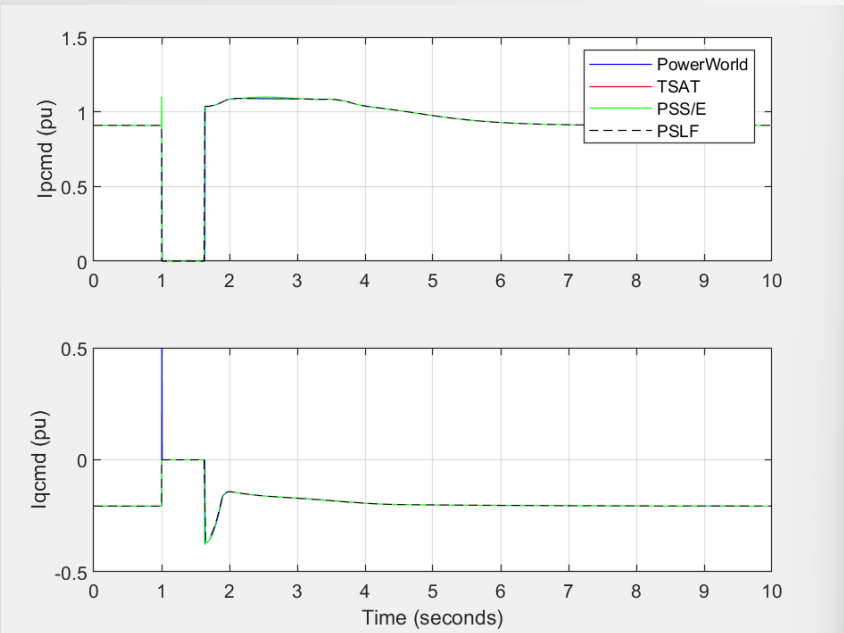 - REGFM_A1
  - REGFM_B1

LET US APPROVE REEC_E

- The model is a simple enhancement of REEC_D

LET US APPROVE REEC_E

- As of August 2025, the model is in all major tools

- The software vendors have benchmarked against each other

- Simple changes – let us approve to move on

REPC_E MODEL

- Proposed new PPC

- There have been four (4) proposed additions, specifically:
  - From Energinet (Anders Oddleif Nielsen – email 12/18/24; forwarded to MVS by WECC staff on 1/15/25)
    - FCAS or LFSM – a second layer of frequency response controls (frequency response as a service or limited frequency sensitive mode)
    - Different KP/KI for various Q/V control modes
    - Pavailable limit on active power path to emulate maximum power tracking
  - From BC Hydro (Sam Li – discussed in September 2024 WECC MVS meeting)
    - QV-droop control – to have a separate proportional/droop control mode with deadband and limits to allow for Q limits at point-of-measurement

MODEL SPECIFICATIONS

- Has now been developed and sent to MVS

- Changes were discussed last meeting

- Let us look at the specification quickly

- Seeking approval of specification

QUESTIONS AND COMMENTS

- Any other questions or comments?