

PRESENTING THE RESULTS OF THE REEC_E MODEL BENCHMARK TESTING AND OTHER UPDATES

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ACKNOWLEDGMENTS

This work was done collectively by the Renewable Energy Modeling (REM) Adhoc group within WECC MVS. Many have contributed as well as constant feedback from the wider MVS group. Below are the main contributing entities. We apologize for any inadvertent omissions.

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



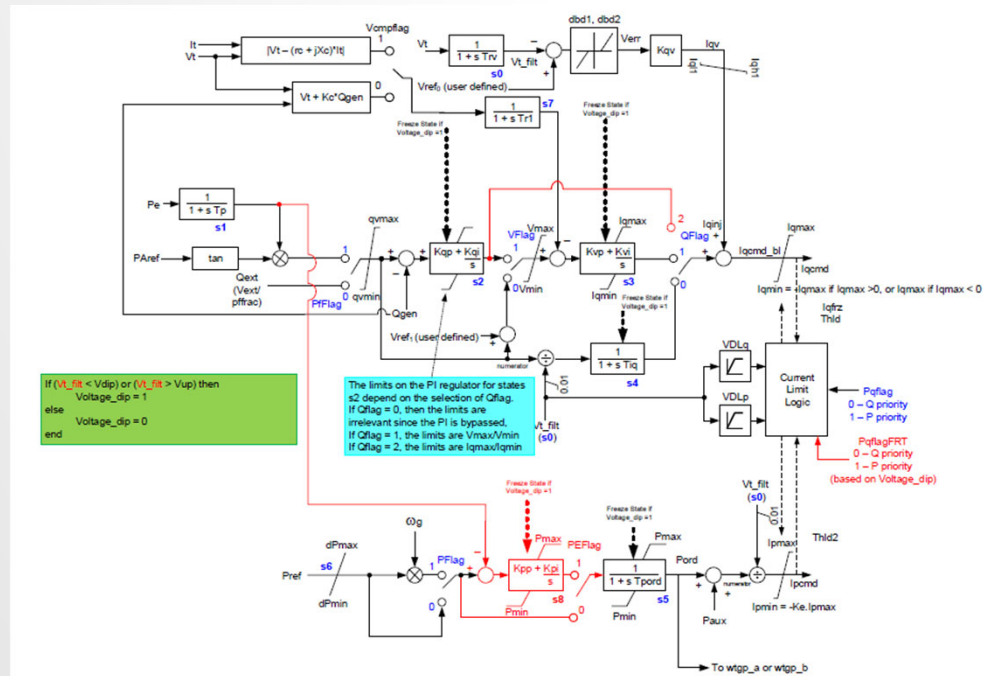
GENERAL UPDATES

- All the various modules in the last two round of model updates for RES models have now been approved.
- Latest item approved was REPC_D → it should be used instead of REPC_B moving forward
- PEACE® has actually successfully used REPC_D in a recent model validation exercises on large PV plant
- The two GFM models (REGMA_1 and REGMFB_1) have also been approved
- REEC_E needed benchmark testing – will discuss here
- Another GFM model is being proposed – next presenters will discuss



MODEL SPECIFICATIONS FOR REEC_E

- See memo dated 1/15/24 (latest revision) [1]

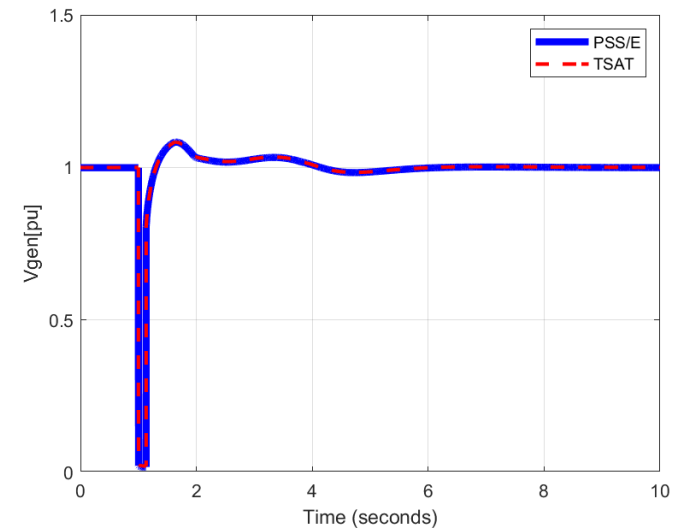
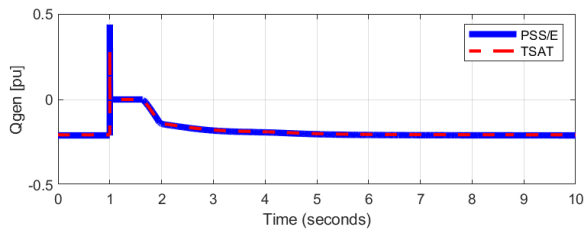
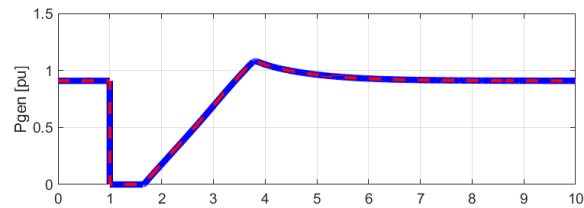
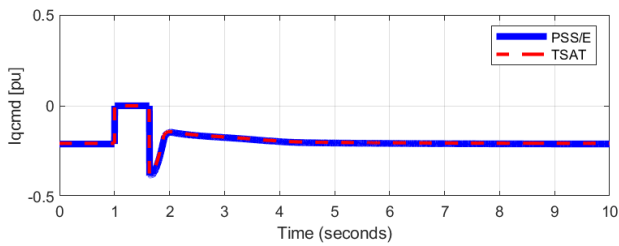
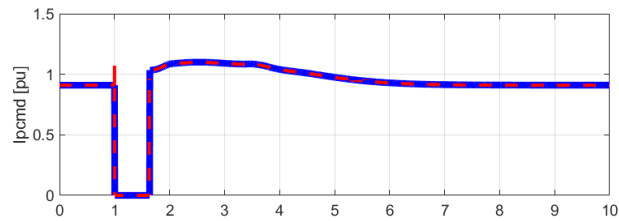


MODEL SPECIFICATIONS FOR REEC_E

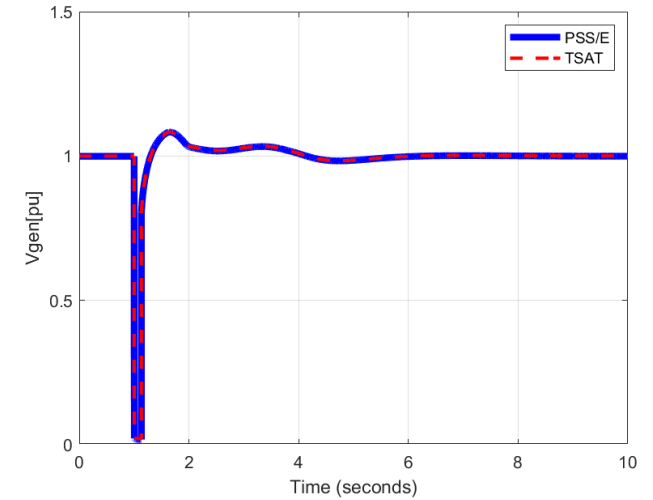
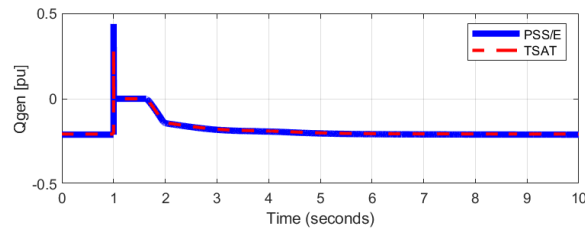
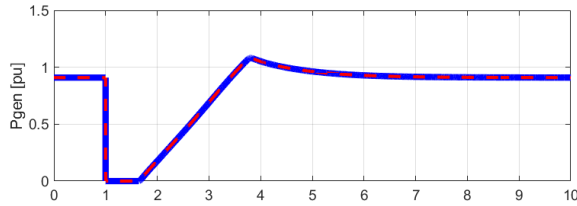
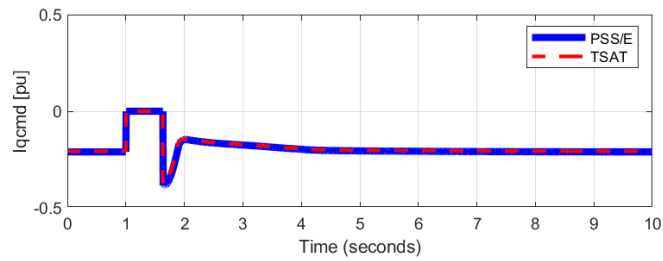
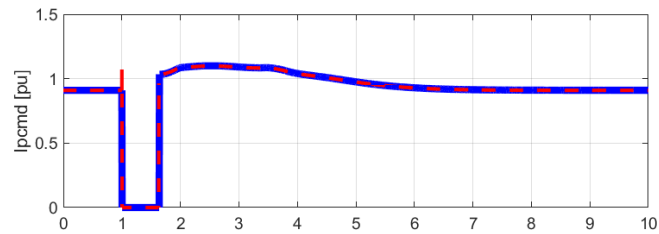
- Almost identical to REEC_D
- Addition of extra flags to allow for PI control in
 - Q control
 - P control
- Addition of extra flag for P/Q priority being different into fault
- Thus, run Tests 6p and 6q from the benchmark test previously done on REEC_D



TEST 6P



TEST 6Q



CONCLUSIONS

- REEC_E model ready and available in PSS®E and TSAT™
- Results match in these tools
- GE PSLF™, PowerWorld and DigSilent PowerFactory nearly done on the model implementation
- We should close this one out and approve soon



REFERENCES

[1] Memo Revision 1/15/24, *Proposal for New Plant Controller and Electrical Controller*, sent to WECC MVS, funded by EPRI.

