

Recent Progress:

1. GitHub updated:
<https://github.com/thadhaines/MT-Tech-SET0>

Current Tasks:

1. Rework AGC doc to better explain model/example?
2. Figure out how to connect generator **during** simulation.
3. Create extended term event:
 - Use miniWECC and pwrmod
 - Issue: rolling blackouts in CA
 - High PV penetration
 - Drought has led to lower hydro output
 - Initial low N→S flows
 - Solar generation declines as load increases
 - Inadequate CA dispatchable generation
 - Leads to large N→S flows
 - EIA data from 8/14/20 18:00?
4. Work towards PST 4.0.0:
 - Verify and Validate operation of AGC, PWRMOD, IVMMOD, and VTS.
 - Refine documentation
 - Clean up examples
 - Clean up code/comments
 - Clean up readme files
5. Work on understanding PST operation
6. Document findings of PST functionality
7. Investigate Octave compatibility

Current Questions:

1. Only 1 pwrmod **model** allowed per case?
2. Real data for case?

Loose ends:

1. As infinite buses don't seem to be used in dynamic simulation, they were not converted to use the global g.
2. **tgh** model not converted for use with global g. (no examples of tgh gov)
3. In original (and current) **s_simu**, the global **tap** value associated with HVDC is over-written with a value used to compute line current multiple times. It probably shouldn't be.
4. Constant Power or Current loads seem to require a portion of constant Impedance.
5. PSS design functionality not explored
6. No examples of of delta P omega filter or user defined damping controls for SVC and TCSC models
7. Differences in **mac_ind** between pst 2 and 3 seem backward compatible - untested.
8. DC is not implemented in VTS - Just combine into main routine? Seems counter intuitive to do multi-rate variable time step integration.

Coding Thoughts:

1. Rework how switching & perturbation events are handled into a more flexible and general format. (flags? objects?)
2. Generate comparison scripts to verify simulated results match between code revisions and modifications.
3. AGC capacity should probably consider defined machine limits - it assumes 1 PU as max, but this may not always be the case.
4. AGC should allow for a 'center of inertia' frequency option instead of the current inertia weighted average frequency.