Recent Progress:

1. Generator un-tripping work:
   - Tripping method examined
   - Un-Tripping experimental method created
   - Re-initialize functions created for smpexc, tg, mac_sub
   - Test case and result document created
2. Zeroing out of derivatives for tripped machines added to fixed time-step routine. (Huen's Method)
3. GitHub updated:
   `https://github.com/thadhaines/MT-Tech-SETO`

Current Tasks:

1. Work on un-trip functionality:
   - Further study re-initialization actions / requirements
   - More generic/functionalized programming
   - Compatibility with VTS
2. 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$\longrightarrow$S flows
   - Solar generation declines as load increases
   - Inadequate CA dispatchable generation
   - Leads to large N$\longrightarrow$S flows
   - EIA data from 8/14/20 18:00?
3. Work towards PST 4.0.0:
   - Optimize Y-matrix reduction when tripping generators
   - Verify and Validate operation of AGC, PWRMOD, IVMMOD, and VTS.
   - Refine documentation
   - Clean up examples
   - Clean up code/comments
   - Clean up readme files
4. Rework AGC doc to better explain model/example?
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 golbal 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.
9. AGC capacity should consider defined machine limits instead of assuming 1 PU max.
10. AGC should allow for a 'center of inertia' frequency option instead of the weighted average frequency.

Coding Thoughts:

1. Rework how switching & perturbance 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.