Recent Progress:

1. Added zeroing of derivatives for tripped machines to improve VTS performance.
2. Updated PST versioning document.
3. FTS $\longrightarrow$ VTS seems okay
   VTS $\longrightarrow$ FTS may have minor issues
4. Added capacity tracking to AGC
5. Added interchange modulation capabilities and created associated use case document/code example.
6. Updated PST to version 4.0.0-aXXX
7. GitHub updated:
   `https://github.com/thadhaines/MT-Tech-SETO`
8. Employment "good" till 09/18/20

Current Tasks:

1. update AGC docs to include `icAdj`
2. Create extended term event with pwrmod and miniWECC
   - Rolling blackouts in CA
   - High PV penetration
   - Drought has lead to lower hydro output
   - initial Low N$\longrightarrow$S Flows
   - Solar decline as load increases
   - inadequate dispatable generation
   - Leads to Large N$\longrightarrow$S Flows
   - EIA data from 8/15/20?
3. 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
4. Work on understanding PST operation
5. Document findings of PST functionality
6. Investigate Octave compatibility

Action Items From Sandia:

- Run long term simulation to show benefits of VTS.

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 reversions and modifications.

Current Questions:

1. Play in data for variable solar irradiance? (Slow Sine with step events for clouds.)

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.