

**Recent Progress:**

1. **PSLF License Expires June 30.**
2. Timing added to simulation.
3. AMQP message grouping speed results.
4. Batch processing of test cases functional.
5. GE 4 machine 2 area system too sloppy for actual study  $\therefore$  Kundur 4 machine 2 area system created and adapted for LTD
6. Work on step and ramp perturbances for Loads and Generators.
7. GitHub updated:  
<https://github.com/thadhaines/>

**Current Tasks:**

1. Compile Code flowchart to aid in further development.
2. Work to incorporate Matt's *Suggested Use Cases* into simulation.
  - Add perturbation Agents for Generator/Slack, Shunt, Branch, ...
  - Think about Shunt Control / Generic Agent control based on system state(s)
  - Add logging to Shunt and Branch Agents
  - Define Agent actions for AGC/LFC (i.e. ACE calculations)
3. Keep Goals and Requests in mind.

**Current Questions:**

1. Should the Global Slack = Area slack from Area with most buses?  
OR Should global slack error be average Area slack error?

**'Soft Goals':**

1. Simulate  $10\times$  faster than PSDS.  
Not met — MiniWECC  $\approx 8\times$  faster.  
Varies with system size & time step.

**Future Tasks:**

1. Formulate an experiment utilizing a multi-area model that can be validated with PSDS.
2. Formulate feasible plan of action for casting all WECC governors to LTD governors (tgov1). Something like:
  - (a) Parse models of interest from dyd.
  - (b) Create dyd from parsed model.
  - (c) Automate a Pref step test for a one machine infinite bus in PSDS.
  - (d) Read output data
  - (e) Generate/Calculate LTD equivalent model parameters from results (this will probably use MATLAB and jfind)
  - (f) Export custom dyd for LTD simulation. (PSDS would still use original the dyd, though *could* use modified dyd)
3. Add import mirror / bypass mirror init sequence option to prevent repeated mirror creations.
4. Create an agent for every object: SVD, Transformer, ...

**Matt Requests:**

1. Enable multiple dyd files to overwrite / replace previously defined agents/parameters
2. Allow for variable time steps.