

Thesis Schedule:

1. First Draft thesis to Donnelly and Southergill Week of **Feb 10**.
2. Revised thesis to Committee week of **Mar 9** (pre-spring break).
3. Thesis Defense week of **April 13**.
4. Final thesis and docs to Southergill week of **April 20**.
5. Other tasks:

Complete other graduation forms

Book room for defense

Get EIT references

Recent Progress:

1. Work started on Delay Agent
2. Registered for graduation
3. Branch Flow calculation correction

New calculations:

$$I = \frac{V_S e^{j\delta_S} - V_R e^{j\delta_R}}{\sqrt{3}(R + jX)} \quad (1)$$

$$P = \sqrt{3}V_S |I| \cos(\delta_S - \angle I) \quad (2)$$

$$Q = \sqrt{3}V_S |I| \sin(\delta_S - \angle I) \quad (3)$$

Old calculations:

$$P = \frac{V_R V_S}{X} \sin(\delta_S - \delta_R) \quad (4)$$

$$Q = \frac{V_R}{X} (V_S \cos(\delta_S - \delta_R) - V_R) \quad (5)$$

$$I = \frac{|P + jQ|}{V_R \sqrt{3}} \quad (6)$$

4. GitHub updated:
<https://github.com/thadhaines/>

Current Tasks:

1. Work on gov delay scenario?
2. Create daily load cycle agent to read EIA data (hourly forecast and demand values)
3. Solidify test cases for engineering problem
4. Update Code flowchart and finalize code
5. Thesis work

Proposed MiniWECC test cases:

duration: 4-6 hours

- system noise
- wind generation ramps
- daily load cycle (during peak/valley transition)

Control variations:

Normal gov deadband and large gov deadband
Fast (seconds) and slow (minutes) AGC

Three cases:

- normal gov, Slow AGC
- normal gov, Fast AGC
- large gov, Fast AGC

Experimental Measures:

- Valve movement
- NERC mandate adherence

Current Questions:

1. Progress on case data?
2. VAR calculation - Real power and AMPS match, Reactive power off (see reverse)

