# Data Acquisition System for Synchronous Generator Transient Performance

Team name
PREW Generation



## Agenda

- 1- The Goal Of The Project. (what? & How?)
- 2- History of the project. (Previous related projects)
- 3- Questions about the equipment. (Rated parameters, how to use and for what?)
- 3- Understanding the schematic of the Generator/Motor.
- 4- Client Contact.



#### The Goal of the Project (What? & How?)

#### What we need to measure:

- 1. Speed
- 2. Torque
- 3. Load phase angle
- 4. Terminal current
- 5. Terminal Voltage
- 6. Field current

- 7. Field Voltage
- 8. Power



## How?



Measurements	
Machine voltage, 1, 2 or 3 phase	up to 500 V <sub>AC</sub>
Machine current, 1 phase	1 to 5 A <sub>AX</sub>
Network voltage, 1 phase	up to 500 V <sub>AC</sub>
Frequency range	10 to 150 Hz
Assumes	- · · · · · · · · · · · · · · · · · · ·

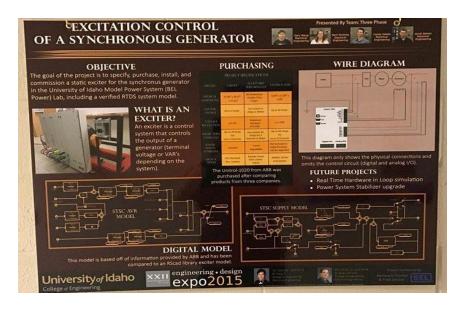
Exciter current measurements	
Full range	0 to 40 A
Accuracy	< 1 %
Resolution	< 100 mA

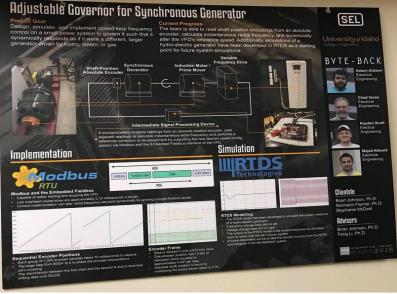
#### How?

Using PMU to calculate the phase load angle.



## History of the project





## Questions about the equipment

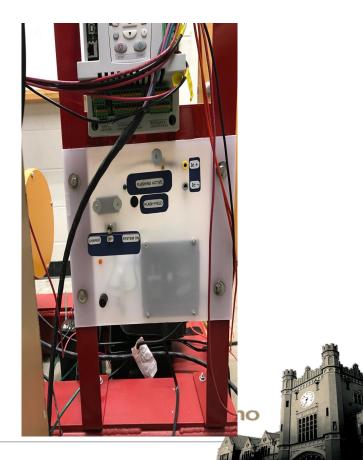
Battery in the back of ABB UNITROL1020.

It supplying DC to...



## Questions about the equipment

Flashing Active?
Flash field? And others, connected to ABB UNITROL1020.



#### Understanding the schematic of the Generator/Motor



Underdanig the schematic of the Generator/Motor



### Client Contact

How often we have to meet with Norman Fischer. Email?

