

# Electrical Utility Interface Protections and Challenges

EE HPC WG SC18 Workshop

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# Electrical Utility

- What is the main purpose of the electrical utility?
- What level of service is the electrical utility mandated to provide?

## Things To Consider

- Aging infrastructure
- Weather and other impacts
- Evolving technology
- Variable loads

# Protections

- Dual Conversion UPS - Batteries
- Rotary UPS
- Diesel Rotary UPS
- SPD – Surge Protection Devices (formerly referred to as Transient Voltage Surge Suppression or TVSS)

## Things to Consider

- Maintenance of systems
- Proper level of protection – risk assessment

# Challenges

- Step losses – 480 / 208 – DC?
- 480V 3 Phase systems – are they really 3 Phase?
- Outages vs “bumps”- what is the utility required to report?
- Maintenance – internal and external
- Communication – relationship between facility and utility provider

## Things to consider

- Transformer selection
- Distribution gear selection

# Monitoring

- What is the electrical utility obligated to tell you?
- Important to monitor at all levels when determining where a problem exists – internal or external
- Avoid the “finger pointing”
- Protection from the computing vendor “blame game”
- Breaker coordination study – are you current?
- Arc flash – very important to understand your utility interface

Questions?