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Berkshire Medical Center CHP Microgrid

How does CHP microgrid provide resiliency to healthcare facilities

Maggie Clout

Siemens

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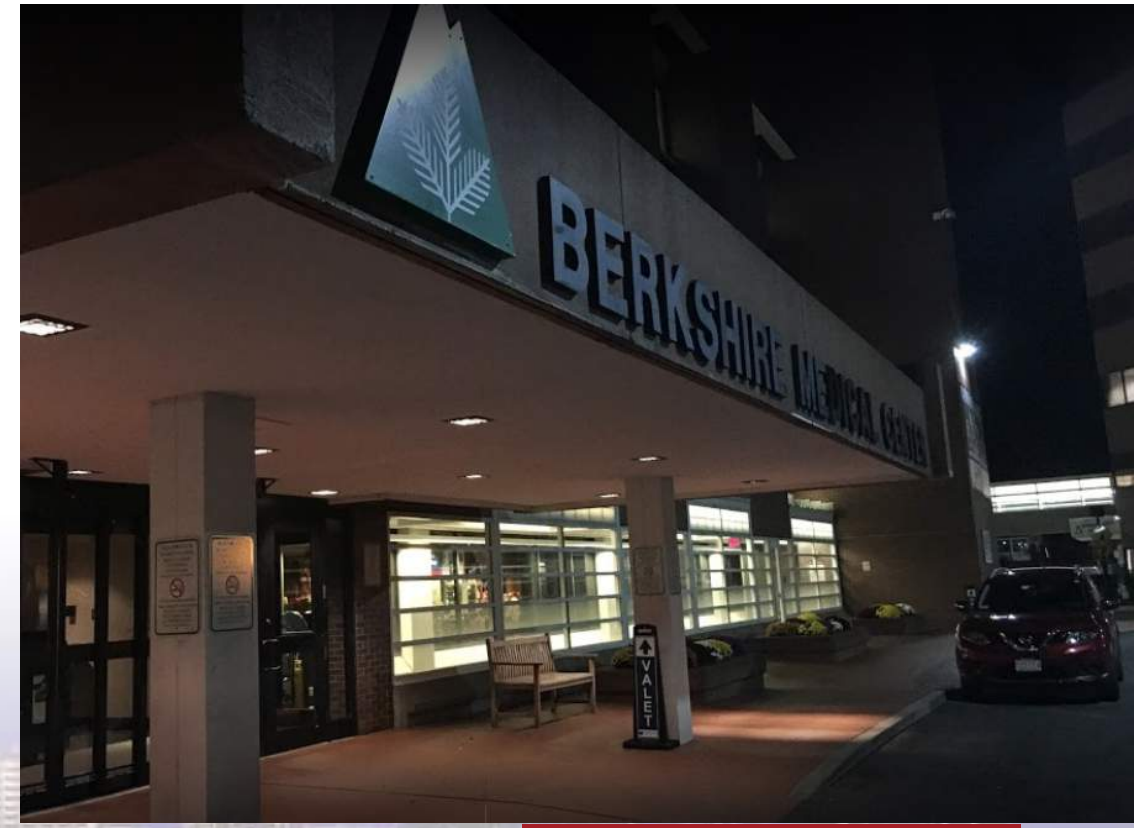
Berkshire Medical Center Overview

- Location - Pittsfield, MA
- Private, non-profit 307-bed community teaching hospital
- Rely on diesel generators for backup power
- If outage is long, or generator is down during grid outage, the hospital would have to evacuate.

BMC CHP Microgrid Objectives

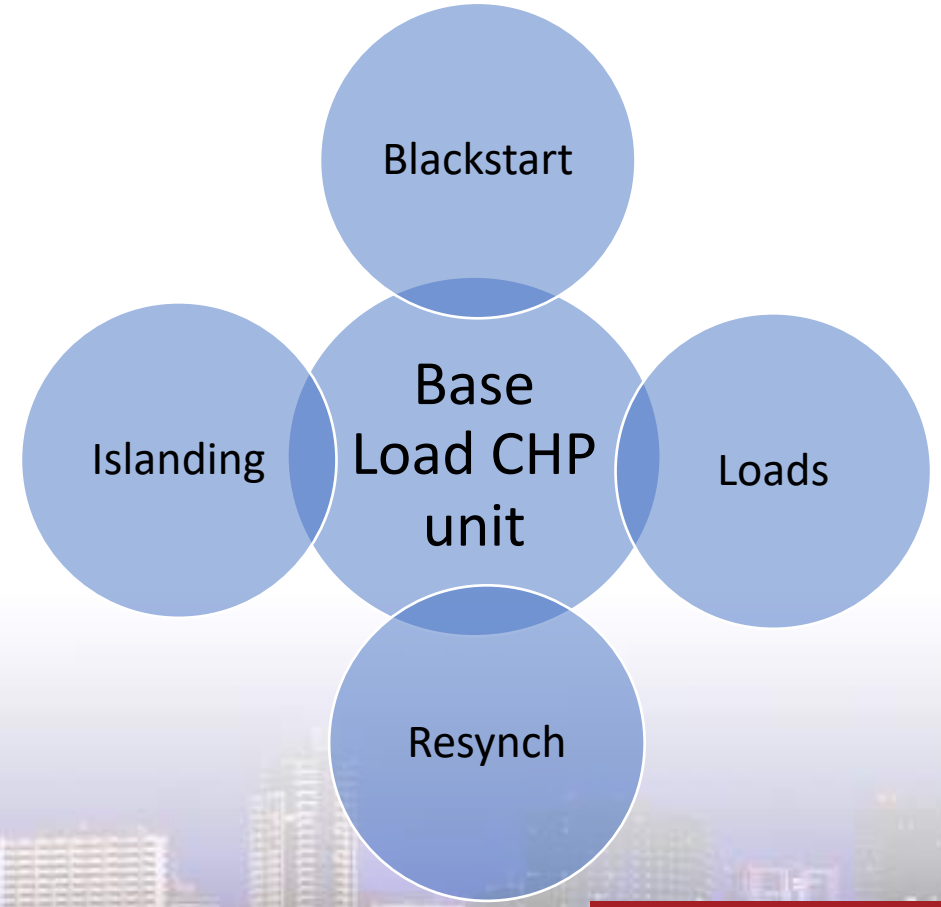
"New distributed energy system at BMC to provide continuous, affordable, and reliable on-site power during regular operations and black-outs / emergencies."

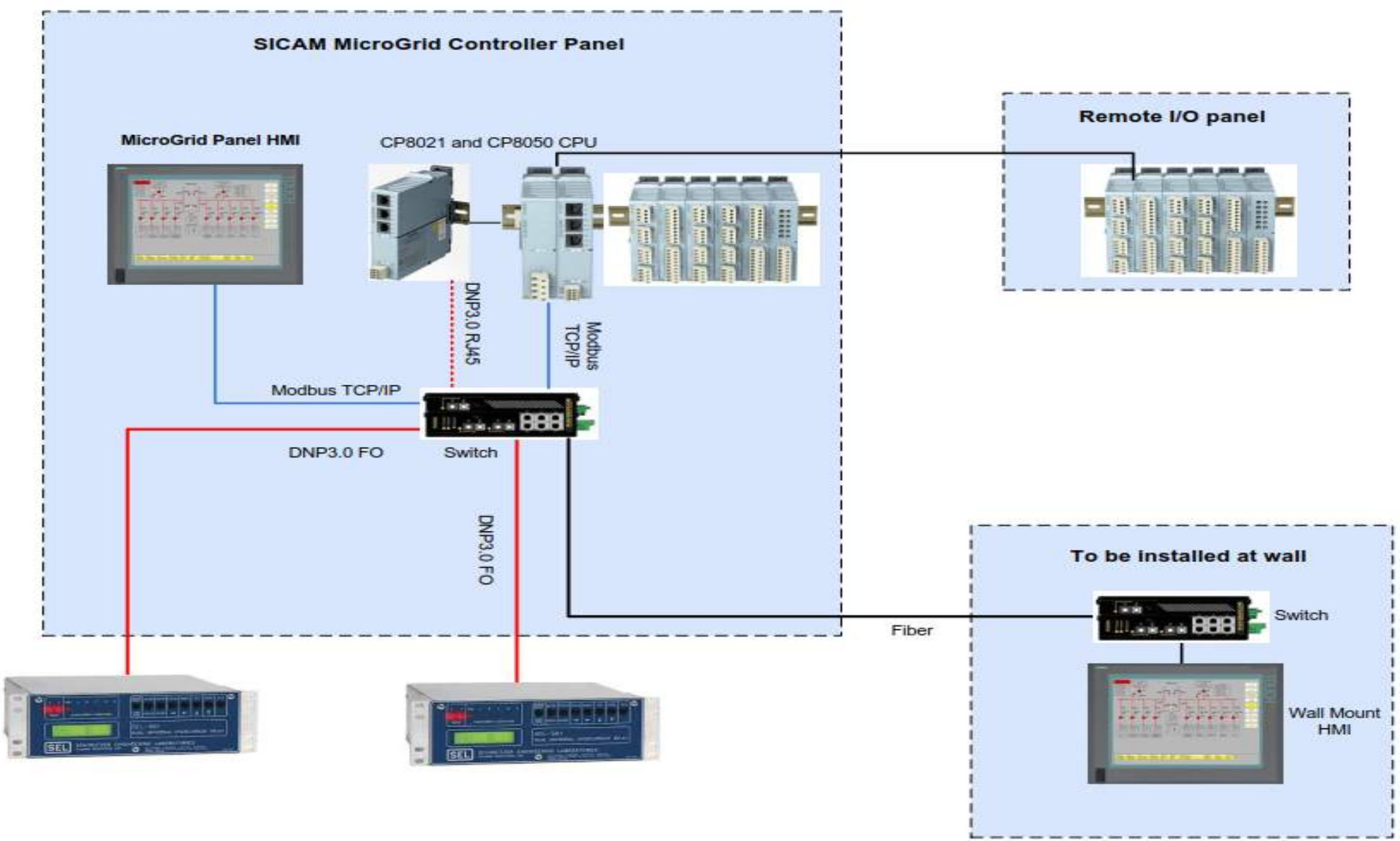
- Continuously provide medical services through long-duration electricity outages by using clean energy technologies.
- Reduce overall energy, both electrical and thermal, costs -- $500,000 expected reduction in annual energy costs.
- Reduce the dependency of diesel backups.



BMC CHP Microgrid Project Overview

- Project Team Members:
  - Berkshire Medical Center
  - AZ Corp
  - Siemens
  - Martin Energy
  - Mass Department of Energy Resources
- Project Main Scope:
  - Design, Engineering, Construction, Commissioning and Start up
  - 725kW Siemens Guascor Engine
  - Siemens SiCAM Microgrid Controller




SICAM MicroGrid Controller Panel
MicroGrid Panel HMI
CP8021 and CP8050 CPU
Remote I/O panel
DNP3.0 RJ45
Modbus TCP/IP
Modbus TCP/IP
DNP3.0 FO
Switch
DNP3.0 FO
Fiber
To be installed at wall
Switch
Wall Mount HMI

Summary and Lessons Learned

- Strong leadership both at hospital and state level
- EPC with similar project experience
- Major component (such as microgrid controller, generation asset) vendors with proven technology and project experience
- 3 C's: Committed, Collaboration & Communication
- Nothing is too small for a microgrid
- KIS (Keep it Simple) to start with
- It takes a village!