



Sandia National Laboratories

# CHAMP Pre-Bid Visit



Casiano Armenta & Emily Kowalchuk

SNL-NM (Albuquerque), 10/19/22



Sandia National Laboratories is a multimission laboratory managed and operated by National Technology & Engineering Solutions of Sandia, LLC, a wholly owned subsidiary of Honeywell International Inc., for the U.S. Department of Energy's National Nuclear Security Administration under contract DE-NA0003525.

UUR SAND2022-12768 O

## SNL-NM Team



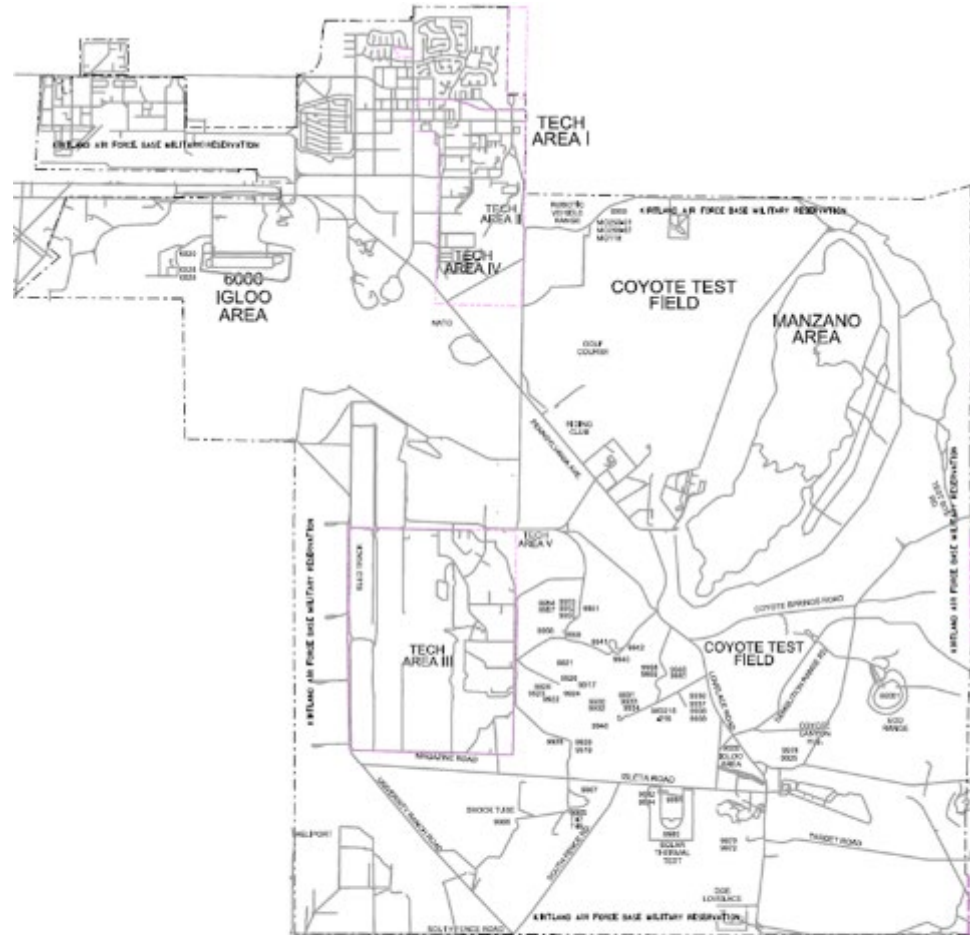
- Casiano Armenta (Project Manager for SNL-NM CHAMP)
- Emily Kowalchuk (Project Manager)
- Julie Wilson (Construction Manager)
- Nicole Manns (Construction Manager)



# Site Vicinity Map, SNL-NM



# Overall Site Map



## SNL-NM is a Campus that has:



- 
- Evaporative Cooling
  - Chiller Water Loops
  - Boiler Loops
  - Thermal Energy Storage
  - Clean Rooms
  - Office
  - Light Labs
  - Fabrication
  - Special Labs
  - Data Centers
  - Dry Rooms
  - Tight Tolerance Labs

# Project Support Team



- Facilities Area Manger (FAM) Teams
  - Mechanical
  - Facilities Controls System (FCS)
  - Electrical
  - Structural
  - Architectural
  - Fire Protection
  - Building Manager
  - Facilities Portfolio Manager
- Safety & Inspection
  - ES&H
  - Mechanical
  - Electrical
  - Architectural/Civil/Structural
  - Building Code Official
  - Permitting
- Maintenance
  - Building HVAC Operators
  - Plumbers
  - Electricians
  - Structural



# Safety, Security, Processes



- KAFB Badging Office
- Facilities Badging Office
- Escorting
- FESH: Facilities Environment, Safety, and Health
  - Specification 1065
  - CSSP: Contract Specific Safety Plan
- Permits
  - Excavation
  - Penetration
  - Hot work/Fire
  - Fire Impairment
  - Outages: 21 Advance Notice Required Days for Electrical AND Mechanical Outages



# Safety, Security, Processes Continued...



- Inspections
  - CIRs: Certified Inspection Reports—Requested by Contractor based on Inspection Specification
- NewForma
- Project Management/Construction Management
- CADD: Standards, Database, Roll-up, ProjectWise, AutoCAD, BIM

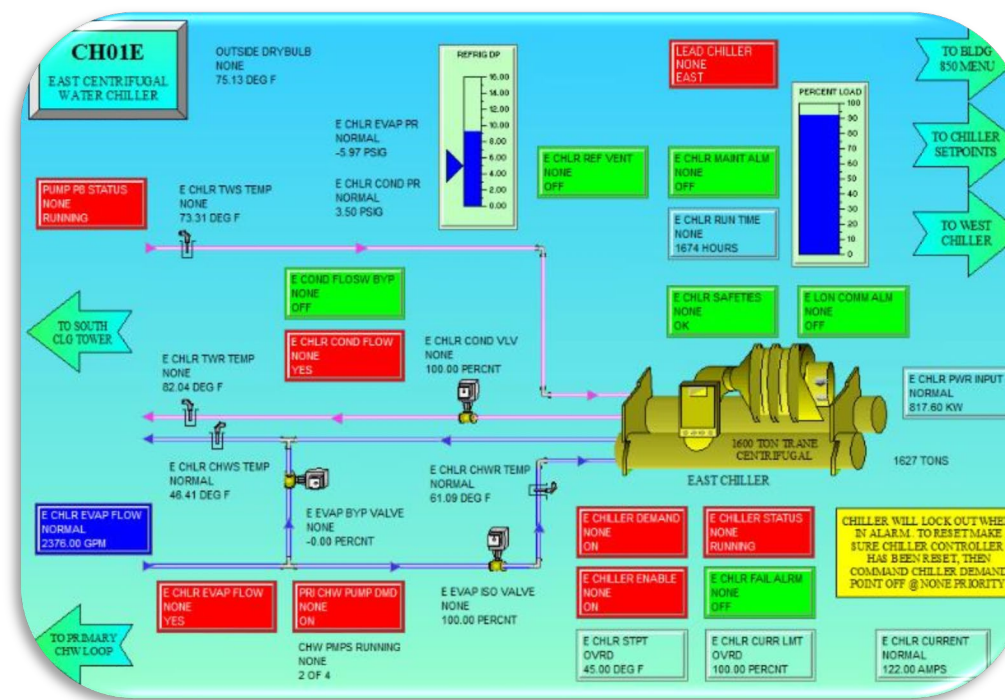
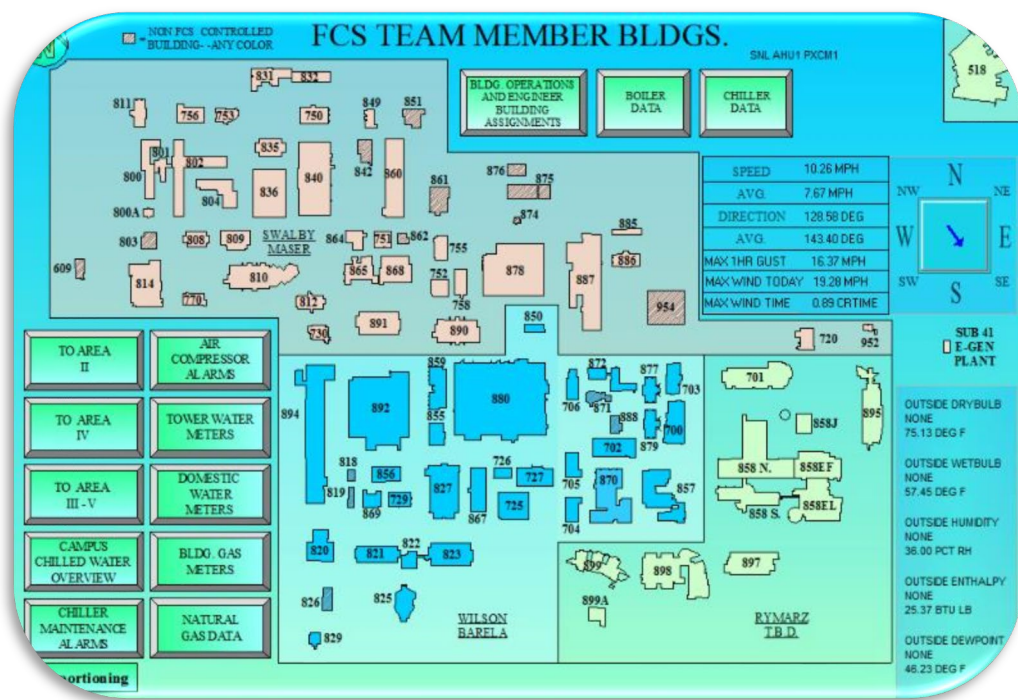




# Facilities Control System (FCS)



- Siemens Apogee → Desigo
- Controls Drawings as part of Design, use SNL Standards
- Design needs to have a sequence of operation
- SNL-FCS group will do the programming after point-to-point verification.



# Passed CHAMP Projects

962

- Replaced three Cooling Towers with four
- Installed a second sump
- Improved redundancy
- Eliminated future outages for maintenance activity



# Passed CHAMP Projects Continued...

6585

- Replace three chillers with two
- Replaced all supporting pumps with new VFDs
- Reconfigured "Free Cooling" heat exchanger piping for 100% backflush which will greatly reduce maintenance costs



# Passed CHAMP Projects Continued...



960

- Replaced two boilers
- Replaced all supporting pumps with VFDs



# Lessons Learned/ Best Practices



- Vetting Contractor's Safety
- Standard Hour Work
- SNL Design Manual, Specifications, and Standard Details
- FCS
- Communication... Communication...Communication





**Comments/Questions?**