

## **HVAC Controls Upgrades: Facility Guide Outline (6-19-17)**

Facility guide must be presented in written and electronic form. These must be in one document that is easy to navigate. The electronic document must be available from the front end of the controls GUI.

1. Outline of the Guide
2. Written Description of Systems and Operation
  - a. HVAC overview
  - b. Sequence of Operations
  - c. Ventilation amount and control
  - d. How systems (Ex: AHU & VAV boxes) are zoned and how the zones are controlled
  - e. Key items to monitor to maintain efficiency. For example: Schedules, ventilation, setpoints, calibration of OA and CO2 (example provided by PSE)
  - f. Unique challenges of building
3. DDC Graphics/Screenshots of each major system, representative VAV boxes, floor plans and VAV box list (note: these will have operational /graphical use interface information required by the program)
4. Final setpoints and schedules and unique facility requirements like ventilation or room pressure (in table format)
5. Energy Use: pre, post and savings needed to get maximum grant (provided by PSE)
6. Basics instructions on how to work with the controls graphical interface
7. Controls As-Built Drawings: Sequences of Operations, wiring and components
8. Equipment As-Builts and O&M information
9. List of controls that need to be calibrated and how to calibrate them (example: CO2 and OA sensor calibration procedures)
10. Test and Balance report (TAB required by PSE for the controls features installed)
11. Functional Performance Tests & Start-up (PSE required tests)
  - a. Completed (with trend graphs)
  - b. Blank
12. Training Provided – who, what and when