SCADA Integration Policy

Any project that has SCADA integration or deals, touches, impacts SCADA, PLC or any component or instrument tied to the SCADA systems at any Plant, collection or distribution system shall follow these guidelines.

Project SCOPE

In the project scope,

- All SCADA integration must be defined.
- All SCADA systems to be manipulated must be defined.
- All PLCs to be manipulated must be defined
- All logic and process change must be clearly written down and validated by SCADA integration team.

INTEGRATION SUBMITTAL PLAN

- **Must be submitted with every project or integration effort performed on County SCADA**
- **Upon completion of Integration work, the 'As Built' SCADA information must be finalized and the Integration Plan updated accordingly**
- **SCADA is comprised of three groupings of systems:**
  - **FIELD**
  - **NETWORK**
  - **HOST**
- **Each system must be specifically represented in the Integration Plan provided**

FIELD (PLC, Instrumentation, Wiring, Panels, UPS)

Instrumentation/Hardware to be added/replaced

- Process variable list for each instrument (spreadsheet form) must be provided including:
  - Point Tag name
  - Data type
  - Scale range

SCADA integrator must provide a complete list all PLCs that will be touched and changes made and documented with the following information (spreadsheet form):

- SCADA System
- PLC Name
- PLC tag names
  - Instrumentation Tags
  - Pseudo (Calculations) Tags
- PLC processes

SCADA PLC Hardware Modifications

- PLC I/O Active – complete list of all active I/O
- PLC I/O Available – hardware address of all available I/O (chassis, slot, card, point)
- PLC Panel I/O requirements – PID Drawing from Design

SCADA Network (Communications Infrastructure, Switch, UPS)

- Network Hardware to be added/replaced
    - Provide configuration
    - Firmware revision level
    - Contact information
        - Service Provider
        - Contract Information
        - Licensing Information
        - Software required
- SCADA Network connectivity available
    - Fiber Optic
    - Switch Port Density
    - Radio frequency – azimuth required
- SCADA Network connectivity required
    - Fiber Optic
    - Switch Port Density
    - Radio frequency – azimuth required

SCADA Host (Server, Workstations, WebSpace, Hardware/Software, UPS)

Host Hardware to be added/replaced

- Hardware physical requirements
- Hardware technical requirements
- Hardware location

Host Software to be added/replacing

- Software technical requirements

SCADA integrator must provide a complete list of operator interface screens that will be touched and suggested changes made.

- SCADA Server Name
- SCADA machine name
- SCADA Historian

- SCADA WebSpace name
- Touchscreen names

SCADA integrator must provide a list of anticipated HOST database points to be:

- Modified
- Added
- Deleted

SCADA integrator must provide a list of anticipated Historian database points to be:

- Modified
- Added
- Deleted

Before beginning work

SCADA integrator must review an Architectural Diagram of the SCADA system on which the work is to be performed.

SCADA integrator must receive a handbook of policies and procedures and Standards of how the specific SCADA system is networked, the application version that is running, the database structure and location of all files used to perform its normal operations.

SCADA integrator must have knowledge of existing CC PUD SCADA platforms (HOST, NETWORK, and FIELD).

SCADA integrator must receive a plant tour and pertinent contact sheets of persons who will allow access to the existing SCADA system, including login and password.

SCADA integrator must perform a complete system DB backup, PLC system backup, network infrastructure system backup,

SCADA integrator must provide a schedule of all integration services to be performed broken out by functionality in:

- FIELD
- NETWORK
- HOST

Onsite

SCADA integrator must perform a complete system DB backup, PLC system backup, network infrastructure system backup.

SCADA integration must be planned accordingly and provided on the schedule.

SCADA integrator must coordinate all work with SCADA integration team. As well as system and plant operations personnel.

SCADA integrator must **NOT** be completed on Fridays of any schedule.

SCADA integrator must provide a detailed scope of functionality to achieve each day, which supports a Roll Back Plan.

Testing

SCADA Integration test plans must be provided for all additions, deletions or modifications in each of the three specific groupings of functionality:

- FIELD
- NETWORK
- HOST

SCADA integration must be tested thoroughly before placed into a live Production environment in the control process.

SCADA integration test plans must be approved by the SCADA integration team or a designee thereof.

Close Out

SCADA Integrator must provide a complete list of database points added, modified, deleted to each system:

- SCADA
- HISTORIAN
- WebSpace
- PLC
    - Instrumentation PV
    - Pseudo (Calculation)

SCADA integrator must provide a complete list of operator interface screens that were touched and changes made.

SCADA integrator must prove to PUD PM, PUD SCADA Team and plant operations the documentation of each new point added, modified, deleted and its validation of accuracy and effectiveness in the integration.

SCADA integrator must provide a SOP type document of how the process was altered and how the operators will now manage the process.

Back Out (Roll Back) Plan

Operations must be able to control, in an automated fashion, the functionality of the station each night, unless other provisions are discussed, documented and confirmed with operations.

Each integration plan must be documented to support overnight automated functionality.

Each integration plan must have a roll back plan that ensures the existing system can be brought back on line and ensure original functionality in a reasonable amount of time.

Each day, in the midafternoon, operations and integration staff will confirm with integrator that the progress made is acceptable and whether or not the roll back plan will be implemented in support of regaining automated control.