

**DIVISION 40 - PROCESS INTEGRATION**  
**SECTION 40 61 13 – PROCESS CONTROL SYSTEM GENERAL PROVISIONS**

**PART 1 - GENERAL**

**1.01 SUMMARY**

- A. The scope of work under this Section includes but is not limited to:
1. All investigation work required to establish the use and configuration of the as-found hardware and software of each control signal affected under this contract.
  2. Document all changes to the plant's control system, including the updating of the plant's existing control system documentation to reflect changes made during construction and discrepancies found during the investigation work.
  3. Furnish, install, connect, configure and test PLC hardware, and software products and related items.
  4. Coordinate with the Authority for communication requirements.
  5. Furnish and install all equipment enclosures, power supplies, interconnecting cables, and support software and equipment required for a complete and functional system.
  6. Furnish and install all conduit, conductors, terminal boxes, and appurtenant equipment shown on the Contract Drawings, hereinafter specified, and/or required for a complete and fully functional installation to the satisfaction of the Engineer.
  7. Configure all equipment to operate satisfactorily and demonstrate that the system is properly operating.
  8. Provide training on the OIT hardware and software supplied and implemented under this contract.
  9. Provide additional services from the System Integrator, as requested, for additional training, configuration and programming services, troubleshooting, and related activities.
- B. This section outlines procedures and requirements that will assure a timely installation with minimal disruption to the operation of the facility. Any requirements listed in this section are in addition to requirements listed in other sections.

**1.02 DISCONNECTION AND IDENTIFICATION**

- A. All power, control and instrumentation wiring associated with equipment, panels, devices, etc. to be removed and replaced shall be identified, marked and then disconnected in order to make the equipment safe. Refer to any applicable demolition drawings for more details.
- B. Notify the Authority prior to disconnection of any existing equipment.

### **1.03 SEQUENCE OF CONSTRUCTION**

#### **A. General**

1. The contractor shall begin the submittal process within two weeks after notice to proceed by submitting the name of the proposed System Integrator along with all information required to determine the adequacy of the proposed System Integrator.
2. Within one month after approval of the System Integrator, all hardware and software product submittals shall be delivered to the Authority.
3. Within two months after approval of the System Integrator, detailed installation submittals shall be delivered to the Engineer.
4. All work shall be coordinated with plant maintenance personnel and approved by plant operations personnel prior to beginning any work.
5. Written consent from the Authority must be obtained not less than one week prior to carrying out any portion of the work which requires interruption of service.
6. Plant operations shall be notified no less than 24 hours prior to beginning any work that requires disruption of plant operation.
7. Complete any work that can be performed without interference to the existing operation of the plant control system, such as conduit and cable installations, prior to disconnecting any existing control equipment.
8. Provide and implement a workaround to address any Plant control or monitoring process that is affected by temporary or permanent work being performed under this contract. Submit this plan to the Authority for review.
9. Train operators in the functional operation of the new equipment.
10. Demonstrate that the new and existing equipment is properly configured and operating by displaying process data at the local workstation and at other workstations on the existing SCADA system and verifying the accuracy of the displayed data.

### **1.04 SPECIAL NOTICES TO CONTRACTOR**

- A. Unavoidable interruption of service must be confined to the daytime. The Authority will not be responsible for overtime, should this become necessary to insure continued service.
- B. In connection with all of the foregoing, Contractor must have on the construction site, all materials, equipment, construction facilities, adequate supervision and a sufficient number of qualified workmen to insure carrying out all of the above work in the shortest possible time.

### **1.05 INSUFFICIENT INSTRUCTION**

- A. The Contractor shall furnish and install all materials and equipment which are reasonably inferable to be part of the complete installation.

- B. If, in the opinion of the Contractor, any work shown on details or called for under these Specifications is insufficiently specified or specified in such a manner as to make it impossible for him to produce first-class work which will meet the approval of the Authority, he shall notify the Authority before proceeding with the work and, if he fails to refer such instances to the Authority, no excuse for poor workmanship will be entertained.

**1.06 FIELD ENGINEERING**

- A. Where dimensions are shown or indicated, the information given is approximate only, and is not warranted by the Authority to be either complete or correct. The Contractor shall verify actual existing conditions and dimensions in the field before ordering materials or starting construction.
- B. The Authority's details indicate the general location and arrangement of conduit, wiring devices, equipment, and other products. The Contractor shall adjust the indicated locations (subject to approval in the field) as necessary to:
1. Comply with all applicable code requirements.
  2. Permit access for construction, inspection, testing, operation, and maintenance.
  3. Avoid conflict with pipes, mechanical equipment, structural openings (e.g., doors), and other obstructions, as built, whether or not as shown on the Contract Drawings.
  4. Produce a neat, workmanlike arrangement.
- C. The Contractor shall determine the proper connection points for all power, control, and signal wiring, regardless of whether the connection points are in equipment furnished under this Contract, in equipment furnished by others, or in existing equipment.
- D. The Authority will make available to the Contractor any reference drawings it may have. However, the Authority does not guarantee the correctness, completeness, or availability of reference drawings. Should the Contractor choose to rely upon the reference drawings, he does so at his own risk.
- E. The Contractor shall coordinate the making and sealing of all holes through structures to accommodate electrical conduits and supports for electrical equipment, and shall submit working drawings thereof for the Authority's approval.
- F. The Contractor shall ensure that proper service is provided to all mechanical equipment requiring electricity for power or control.

**PART 2 - PRODUCTS**     Not Used

**PART 3 - EXECUTION**     Not Used

**END OF SECTION**