

**Part 1 General**

**1.1 DEFINITIONS**

- .1 Acronyms and definitions: refer to Section 25 05 01 - EMCS: General Requirements.

**1.2 DESIGN REQUIREMENTS**

- .1 Preliminary Design Review: to contain following contractor and systems information.
  - .1 Names of sub-contractors and site-specific key personnel.
  - .2 Sketch of site-specific system architecture.
  - .3 Specification sheets for each item including memory provided, programming language, speed, type of data transmission.
  - .4 Descriptive brochures.
  - .5 Sample CDL and graphics (systems schematics).
  - .6 Response time for each type of command and report.
  - .7 Item-by-item statement of compliance.

**1.3 SUBMITTALS**

- .1 Submittals in accordance with Section 01 33 00 – Submittal Procedures and coordinate with requirements in this Section.
- .2 Shop Drawings to consist of 10 hard copies and 1 soft copy of design documents, shop drawings, product data and software.
- .3 Hard copy to be completely indexed and coordinated package to assure compliance with contract requirements and arranged in same sequence as specification and cross-referenced to specification section and paragraph number.
- .4 Soft copy to be in AutoCad - latest version and Microsoft Word latest version format, structured using menu format for easy loading and retrieval on OWS.

**1.4 DETAIL SHOP DRAWING REVIEW**

- .1 Submit detailed shop drawings within 60 working days after award of contract and before start of installation and include following:
  - .1 Corrected and updated versions (hard copy only) of submissions made during preliminary review.
  - .2 Wiring diagrams.
  - .3 Piping diagrams and hook-ups.
  - .4 Interface wiring diagrams showing termination connections and signal levels for equipment to be supplied by others.

- .5 Shop drawings for each input/output point, sensors, transmitters, showing information associated with each particular point including:
  - .1 Sensing element type and location.
  - .2 Transmitter type and range.
  - .3 Associated field wiring schematics, schedules and terminations.
  - .4 Complete Point Name Lists.
  - .5 Setpoints, curves or graphs and alarm limits (high and low, 3 types critical, cautionary and maintenance), signal range.
  - .6 Software and programming details associated with each point.
  - .7 Manufacturer's recommended installation instructions and procedures.
  - .8 Input and output signal levels or pressures where new system ties into existing control equipment.
- .6 Control schematics, narrative description, CDL's fully showing and describing automatic and manual procedure required to achieve proper operation of project, including under complete failure of EMCS.
- .7 Graphic system schematic displays of air and water systems with point identifiers and textual description of system, as specified.
- .8 Listing and example of specified reports.
- .9 Listing of time of day schedules.
- .10 Mark up to-scale construction drawing to detail control room showing location of equipment and operator work space.
- .11 Type and size of memory with statement of spare memory capacity.
- .12 Full description of software programs provided.

**Part 2 Products**

**2.1 NOT USED**

- .1 Not Used.

**Part 3 Execution**

**3.1 NOT USED**

- .1 Not Used.

**END OF SECTION 25 05 02**