

1 **GENERAL**

1.1 **SUMMARY**

- .1 Section Includes.
 - .1 Requirements and procedures for training program, instructors and training materials, for building Energy Monitoring and Control System (EMCS) Work.

1.2 **RELATED SECTIONS**

- .1 Section 01 33 00 - Submittal Procedures.
- .2 Section 25 05 01 - EMCS: General Requirements.

1.3 **DEFINITIONS**

- .1 CDL - Control Description Logic.
- .2 For additional acronyms and definitions refer to Section 25 05 01 - EMCS: General Requirements

1.4 **SUBMITTALS**

- .1 Submittals in accordance with Section 01 33 00 - Submittal Procedures and supplemented and modified by requirements of this Section.
- .2 Submit training proposal complete with hour-by-hour schedule including brief overview of content of each segment to Owner's Representative 30 days prior to anticipated date of beginning of training.
 - .1 List name of trainer, and type of visual and audio aids to be used.
 - .2 Show co-ordinated interface with other EMCS mechanical and electrical training programs.
- .3 Submit reports within one week after completion of Phase 1 and Phase 2 training program that training has been satisfactorily completed.

1.5 **QUALITY ASSURANCE**

- .1 Provide competent instructors thoroughly familiar with aspects of EMCS installed in facility.
- .2 Owner's Representative reserves right to approve instructors.

1.6 **INSTRUCTIONS**

- .1 Provide instruction to designated personnel in adjustment, operation, maintenance and pertinent safety requirements of EMCS installed.
- .2 Training to be project-specific.

1.7 **TIME FOR INSTRUCTION**

- .1 Number of days of instruction to be as specified in this section (1 day = 7 hours including two 15 minute breaks and excluding lunch time).

1.8 **TRAINING MATERIALS**

- .1 Provide equipment, visual and audio aids, and materials for classroom training.
- .2 Supply manual for each trainee, describing in detail data included in each training program.
 - .1 Review contents of manual in detail to explain aspects of operation and maintenance (O&M).

1.9 **TRAINING PROGRAM**

- .1 1/2 day program to begin at time mutually agreeable to Contractor, Owner's Representative and Commissioning Co-ordinator.
 - .1 Train O&M personnel in functional operations and procedures to be employed for system operation.
 - .2 Include overview of system architecture, communications, operation of computer and peripherals, report generation.
 - .3 Include detailed training on operator interface functions for control of mechanical systems, CDL's for each system, and elementary preventive maintenance.
 - .4 Identification of Control Components.
 - .5 Review of shop drawings for building.
 - .6 Detailed discussion of sequences of operation
 - .7 Walk through of mechanical systems.

1.10 **ADDITIONAL TRAINING**

- .1 List courses offered by name, duration and approximate cost per person per week. Note courses recommended for training supervisory personnel.

1.11 MONITORING OF TRAINING

- .1 Engineer/ Architect to monitor training program and may modify schedule and content.

2 PRODUCTS (NOT USED)

3 EXECUTION (NOT USED)

END OF SECTION