

SECTION 28 08 00

SECURITY COMMISSIONING

PART 1 - GENERAL

1.1 SCOPE OF WORK

- A. General: Furnish engineering, labor, materials, apparatus, tools, equipment, and transportation required to test a completed security system installation as described in these specifications.
- B. Base Bid Work
  - 1. Full testing of a completed security system which includes:
    - a. A complete pretest of the security system
    - b. A final walk test with the Engineer and/or Owner
    - c. Test Results Record Documentation
- C. Related Sections:
  - 1. Section 28 00 00 Basic Security Requirements: for submittal format.

1.2 SUMMARY OF SYSTEM COMMISSIONING ACTIVITIES

- A. Overview
  - 1. The purpose of system commissioning is to ensure the security system operates properly when it is needed most. Security systems are very complex from both an equipment and programming standpoint, and thorough testing is necessary to ensure correct operation.
  - 2. Perform testing activities after-hours or on weekends when the system is "quiet" and the building is generally unoccupied. This will minimize the amount of irrelevant activity in the system activity reports that will be used as a record of the pre and final test results.
- B. Pre-Test
  - 1. Perform a 100% pre-test of system aspects to verify correct operation prior to scheduling the final test. The pre-test will help to make the final test run smoothly when demonstrating the system's operation to the Owner and Engineer.
  - 2. Document the results of the pre-test using the approved test forms and submit a copy to the Engineer along with the system activity reports
- C. Final Test
  - 1. Perform a final test of the system in the presence of the Engineer and/or Owner to demonstrate correct operation of the security system.

1.3 SUBMITTALS

- A. Operation and Maintenance Manuals: Submit the following for review and comment at the completion of the project:
  - 1. Functional Design Manual: Includes a detailed explanation of the operation of the system.
  - 2. Hardware Manual which includes:
    - a. Pictorial parts list and part numbers

- b. Pictorial and schematic electrical drawings of wiring systems, including devices, control panels, instrumentation and annunciators
    - c. Telephone numbers for the authorized parts and service distributors
    - d. Include service bulletins
  - 3. Software Manual which includes:
    - a. Use of system and applications software
    - b. Initialization, start-up, and shut down procedures
    - c. Alarm Reports
  - 4. Operator's Manual which fully explains procedures and instructions for the operation of the system and includes:
    - a. Computers and peripherals
    - b. System start up and shut down procedures
    - c. Use of system, command, and applications software
    - d. Recovery and restart procedures
    - e. Graphic alarm presentation
    - f. Use of report generator and generation of reports
    - g. Data entry operator commands
    - h. Alarm messages and reprinting formats
    - i. System access requirements
  - 5. Maintenance Manual which includes:
    - a. Instructions for routine maintenance listed for each component, and a multi-page summary of component's routine maintenance requirements.
    - b. Detailed instructions for repair of the security system.
    - c. A summary of the software licenses, including license numbers, quantity of clients, summary of the software options provided and database capabilities.
    - d. A summary of the TCP/IP address used and which system component they are associated with. Include the gateway address, subnet mask, DNS server, and host name information.
  - 6. Test Results Manual, which includes the document results of tests, required under this Specification, organized by System, Floor, and Door.
  - 7. Record Drawings Manual which includes 11"x17" prints of record drawings as described below.
- B. Record Drawings: Submit the following for review and comment at the completion of the project:
- 1. Drawings to fully represent installed conditions including actual locations of devices, actual cable and terminal block numbering, and correct wire sizing as well as routing. Record changes in the work during the course of construction on blue or black line prints.
  - 2. Include drawings submitted as part of the Shop Drawing package, plus additional information required to accurately document installed conditions.
  - 3. Include the following additional information:
    - a. Device addresses & IP address information.
    - b. Settings for each camera (lens specs, mm setting, auto shutter setting, and other available camera settings, etc.)
  - 4. Final acceptance will not be made until the Engineer approves the record drawings.

## 1.4 QUALITY ASSURANCE

- A. Provide a project manager to coordinate the security system commissioning work with other trades.

## PART 2 - PRODUCTS

### 2.1 NOT USED

## PART 3 - EXECUTION

### 3.1 SCHEDULING

- A. Coordinate security commissioning with the General Contractor, and provide specific information on pre-test and final-testing activities to be entered into the overall project construction schedule.

### 3.2 TESTING REQUIREMENTS

#### A. Site Tests

1. Perform a 100% pretest of the system prior to final testing by the Engineer. Provide the Engineer with a minimum of a 5 day notice prior to scheduling testing.
2. At the conclusion of the work on a floor, test the system on that floor to verify proper operation and reporting of devices.
3. Work with the door hardware supplier to resolve electric hardware failures and door alignment/closure problems.
4. At the completion of the work, test the entire system to verify proper operation. At a minimum, include these tests:
  - a. Building Perimeter Test: Test doors, cameras, and devices related to securing the perimeter of the building.
  - b. Department Perimeter Test: Test doors, cameras, and devices related to securing the perimeter of each department/area.
  - c. MDF/IDF Test: Test devices related to securing the MDF and IDFs. Inspect system panels, power supplies, and other related security equipment located in these areas.
  - d. Access Control System Test: Test the software for correct programming and setup. Verify correct integration with the IDS and Video Surveillance System.
  - e. CCTV Recording System Test: Test the recording system for correct programming, alarm recording, and event retrieval. Test the switch for correct programming, operation, and alarm call-up. Verify correct integration with the ACAMS and IDS system for alarm call-up. Test and verify CCTV system viewable from workstations.
  - f. CCTV Camera Test: Review cameras for proper coverage, quality of video, etc.
  - g. Entry Telephone System Test: Test entry telephone for proper communication, interface with door & gate systems, primary phone numbers, backup phone numbers, and alarm call-up.
  - h. Other Readers/Door Test: Test remaining card readers and doors not included in the above tests.

- i. Battery and UPS Load Test: Disconnect AC power to security system equipment to verify battery operation functions and system remains fully operational.

B. Test Preparation

1. Provide device identification numbers that differ from or were not included on the original contract drawing set.
2. Provide a complete systems point list.
3. Provide paper and toner for the printer so that an event log can be printed out and attached to the test reports as verification of test sequence and systems response.
4. During testing, provide a minimum of three technicians familiar with the installation to assist with the test. Stage the technicians as follows: one at the host, one at the device being tested, and one runner responsible to furnishing tools, step ladders, etc.
5. Provide radios for use by the Engineer and Owner during testing.
6. Provide pre-programmed access cards for use during testing. Provide one card for each access level.

3.3 TEST PROCEDURES

- A. Refer to the test forms for testing procedures for each type of device/system.

3.4 DOCUMENTATION

- A. Provide a full-sized blueline drawing containing a detailed wiring diagram (layout of equipment/elevation, complete parts list, and a complete wiring diagram for each ACU & I/O Board) for each SEC. Fold the diagram and place it inside a clear plastic pocket affixed to the inside door of the SEC.
- B. Provide a service log on the inside door of each SEC. Include columns for the following information: date of service, description of work performed, service technician(s), service company in the service log. Place the service log inside a separate clear plastic pocket affixed to the inside door of the SEC.

3.5 DEMONSTRATION

- A. On completion of the acceptance test, instruct the owner's representatives, at a time convenient to them, in the operation and testing of the system.
- B. Utilize the database for the project during training to give the users a project specific example to learn from.
- C. Provide a minimum of 40 hours of on-site training by a factory trained representatives. Maintain a sign in sheet with names and dates of persons trained and forwarded to owner upon completion of training.
- D. Provide for two Owner's representatives to attend factory certification training (off-site) for both the following systems:
  1. Access Control System
  2. CCTV Network Recording System

END OF SECTION