

SECTION 270010 - SUPPLEMENTAL REQUIREMENTS FOR COMMUNICATIONS

1.1 SUMMARY

A. Section Includes:

1. Supplemental requirements generally applicable to the Work specified in Division 27.

B. Related Requirements:

1. Section 013100 "Project Management and Coordination" for preinstallation conference procedures.
2. Work specified in the following Division 26 sections are related to Work specified in Division 27:
 - a. Section 260010 "Supplemental Requirements for Electrical" for abbreviations and acronyms for electrical terms and units of measure, abbreviations and acronyms for electrical raceway types, abbreviations and acronyms for electrical cable types, definitions, and additional coordination drawing submittal requirements.
 - b. Section 260011 "Facility Performance Requirements for Electrical" for seismic-load, wind-load, acoustic, and other field conditions applicable to Work.
 - c. Section 260548 "Vibration and Seismic Controls for Electrical Systems" for seismic controls for communications systems.

1.2 COORDINATION

- A. Interruption of Existing Telephone Service: Do not interrupt telephone service to facilities occupied by Owner or others unless permitted under the following conditions:
 1. Notify Owner no fewer than seven days in advance of proposed interruption of telephone service.
 2. Do not proceed with interruption of telephone service without Owner's written permission.
- B. Interruption of Existing Internet Service: Do not interrupt internet service to facilities occupied by Owner or others unless permitted under the following conditions:
 1. Notify Owner no fewer than seven days in advance of proposed interruption of internet service.
 2. Do not proceed with interruption of internet service without Owner's written permission.

1.3 PREINSTALLATION MEETINGS

- A. Communications Preconstruction Conference: Schedule conference with Architect and Owner not later than 10 days after notice to proceed.

1.4 ACTION SUBMITTALS

- A. Coordination drawings.

1.5 INFORMATIONAL SUBMITTALS

- A. Installation schedule for communications systems.
- B. Qualification statements.
- C. Welding certificates.
- D. Seismic-load performance certificates.

1.6 CLOSEOUT SUBMITTALS

- A. Operation and maintenance data.
- B. Software and firmware operational documentation.
- C. Software.

1.7 QUALITY ASSURANCE

- A. Qualifications:
 1. Qualified regional manufacturer.
 2. Structural professional engineer.
 3. Communications design professional.
 4. Welder.
 5. Communications cable installer.
 6. Communications cable testing agency.
 7. Structural testing and inspecting agency.

1.8 FIELD CONDITIONS

- A. Modeling, analysis, product selection, installation, and quality control for Work specified in Division 27 must comply with requirements specified in Section 260011 "Facility Performance Requirements for Electrical."

1.9 SUBSTITUTION LIMITATIONS FOR COMMUNICATIONS EQUIPMENT

A. Substitution requests for communications equipment will be entertained under the following conditions:

1. Notification of Contractor's intent to request substitutions for convenience must be declared during the Communications Preconstruction Conference so potential risks to system performance and construction schedule may be identified for Contractor's response in submission of the substitution request. Submission of requests for substitutions for convenience must meet the conditions and deadline specified in Section 012500 "Substitution Procedures" to receive approval.
2. For communications equipment and systems, substitutions for cause are considered major construction risks. If it is possible that Contractor may need to request substitutions for cause because of equipment unavailability, or inability to meet construction schedule because of lead time, Contractor must declare the possibility during the Communications Preconstruction Conference to permit establishing a mitigation plan for minimizing risks to system performance and construction schedule.

1.10 PREPARATION

A. Installation Schedule for Communications Systems: At preconstruction meeting, and periodically thereafter as dates change, provide schedule for installation of communications Work to Owner and Architect including, but not limited to, milestone dates for the following activities:

1. Submission of specified coordination drawings.
2. Submission of action submittals specified in Division 27.
3. Orders placed for major equipment.
4. Arrival of major equipment on-site.
5. Preinstallation meetings specified in Division 27.
6. Telephone and internet service outages.
7. Telephone and internet service inspection and activation.
8. Mockup reviews.
9. Closing of walls and ceilings containing communications Work.
10. System startup, testing, and commissioning activities for communications equipment.
11. System startup, testing, and commissioning activities for Work specified in other divisions that depend on Work specified in Division 27.
12. System startup, testing, and commissioning activities for automation systems (for example, SCADA, BMS, lighting, HVAC, fire alarm, fire pump).
13. Requests for special inspections.
14. Requests for inspections by authorities having jurisdiction.

1.11 INSTALLATION OF COMMUNICATIONS WORK

A. Unless more stringent requirements are specified in the Contract Documents or manufacturers' instructions, comply with NFPA 70, NECA NEIS 1, and BICSI N1 for

installation of Work specified in Division 27. Consult Architect for resolution of conflicting requirements.

1.12 FIELD QUALITY CONTROL

A. Administration for Communications Tests and Inspections:

1. Owner will engage qualified communications cable testing and inspecting agency to administer and perform tests and inspections.
2. Engage qualified communications cable testing and inspecting agency to administer and perform tests and inspections.
3. Engage factory-authorized service representatives to administer and perform tests and inspections on components, assemblies, and equipment installations, including connections.
4. Administer and perform tests and inspections with assistance of factory-authorized service representative.

B. Administrator for Structural Tests and Inspections:

1. Owner will engage qualified structural testing and inspecting agency to administer and perform tests and inspections.
2. Engage qualified structural testing and inspecting agency to administer and perform tests and inspections.
3. Engage factory-authorized service representatives to administer and perform tests and inspections on components, assemblies, and equipment installations, including connections.
4. Administer and perform tests and inspections with assistance of factory-authorized service representative.

1.13 CLOSEOUT ACTIVITIES

A. Development of Facility EPM Program: Include operation and maintenance data for communications systems in NFPA 70B Facility EPM Program analysis and documentation specified in Section 260010 "Supplemental Requirements for Electrical."

B. Operation and maintenance data.

C. Software and firmware operational documentation.

D. Software:

1. Program Software Backup: Provide username and password for approved online or cloud solution and USB media that is clearly and permanently labeled with attached placard on lanyard to prevent misplacement.
2. Provide to Owner upgrades and unrestricted licenses for installed and backup software, including operating systems and programming tools required for operation and maintenance.

E. Demonstration:

1. With assistance from factory-authorized service representatives, demonstrate to Owner's maintenance and clerical personnel and building occupants how to operate the following systems and equipment:
 - a. Nurse-call equipment specified in Section 275223 "Nurse Call/Code Blue Systems."

F. Training:

1. With assistance from factory-authorized service representatives, train Owner's maintenance personnel on the following topics:
 - a. How to adjust, operate, and maintain MATV equipment specified in Section 274133 "Master Antenna Television System."
 - b. How to adjust, operate, and maintain public address system equipment specified in Section 275116 "Public Address System."
 - c. How to adjust, operate, and maintain sound masking system equipment specified in Section 275119 "Sound Masking Systems."
 - d. How to adjust, operate, and maintain intercommunications and program system equipment specified in Section 275123.20 "Commercial Intercommunications and Program Systems," including programming equipment for starting up and shutting down, troubleshooting, servicing, and maintaining the system and equipment.
 - e. How to adjust, operate, and maintain intercommunications and program system equipment specified in Section 275123.50 "Educational Intercommunications and Program Systems," including programming equipment for starting up and shutting down, troubleshooting, servicing, and maintaining the system and equipment.
 - f. How to adjust, operate, and maintain nurse-call equipment specified in Section 275223 "Nurse Call/Code Blue Systems."
 - g. How to adjust, operate, and maintain clock and program-control system components specified in Section 275313 "Clock Systems."

END OF SECTION 270010