

SPECIAL SPECIFICATION

SECTION 25120S

MAIN DISTRIBUTION FRAMES AND SERVICE ENTRANCES

Page

PART 1 - GENERAL

1.01 Description Of Work.....2

1.02 References3

1.03 Definitions4

1.04 Submittals4

1.05 Quality Assurance4

1.06 Delivery, Storage, And Handling.....4

1.07 Warranty.....5

PART 2 - PRODUCTS

2.01 General.....5

2.02 Labels5

PART 3 - EXECUTION

3.01 General.....6

3.02 Labeling6

3.03 Termination And Testing Of Intra-Building Telecommunication Cable7

SPECIAL SPECIFICATION

SECTION 25120S

MAIN DISTRIBUTION FRAMES AND SERVICE ENTRANCES

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. Section Includes: equipment installation for the support of telecommunications infrastructure in Main Distribution Rooms (MDRs) and Intermediate Distribution Rooms (IDRs) at Sandia National Laboratories, New Mexico (SNL/NM).
1. Install telecommunication design as described in Statement of Work in its entirety.
- B. Drawings shall delineate intra-building cable system by locations MDRs, IDRs, and entrance protector frame, rack frame, and cabinet locations.
- Raceway and cable routing shown on Drawings are not intended to show all support or mounting hardware, or raceway bends, kicks, offsets, and couplings.
- C. Project may contain both Red - Sandia Classified Network (SCN), and Black – Sandia Restricted Network (SRN) and Sandia Open Network (SON) systems. Special requirements are noted elsewhere in the Contract documents.
- D. Project may have Contractor-furnished material and/or Sandia-furnished material (SFM) as detailed in Statement of Work and/or elsewhere in Contract documents.
- E. All or part of Work may be included in Project, as stated in Contract documents.
- F. Related Sections: Refer to the following sections for related work.
1. Division 1, Section “Descriptive Submittals.”
 2. Division 1, Section “Environment, Safety and Health for construction and Maintenance Service Contracts.”
 3. Division 25, Section “Basic Telecommunication Requirements”
 4. Division 25, Section “Administrative Requirements”
 5. Division 25, Section “Quality Assurance and Documentation.”
 6. Division 25, Section “Interior Telecommunications Pathways”

7. Division 25, Section “Exterior Telecommunications Pathways”
8. Division 25, Section “Telecommunications Cabling”

1.02 REFERENCES

- A. Electronics Industries Association/Telecommunications Industries Association (EIA/TIA)
 - 568A Commercial Building Telecommunications Cabling Standard
 - TSB-67 Technical Service Bulletin (Cable Testing/Tester)
- B. National Fire Protection Association (NFPA)
 - 70 National Electrical Code (NEC)
- C. Occupational Safety and Health Administration (OSHA)
 - 29 CFR Part 1910 Permit-Required Confined Spaces for General Industry; Final Rule
- D. Supplementary References: Publications listed below are not referenced in this specification. Publications are listed as they contain design and technical criteria that are pertinent to Project. Commencement of work shall indicate a working familiarity on the part of the Contractor with each of these standards.
 1. Building Industry Consulting Service International (BICSI)
 - Telecommunications Distribution Methods Manual
 - LAN and Internetworking Design Manual
 - Telecommunications Cabling Installation Manual
 2. Electronics Industries Association/Telecommunications Industries Association (EIA/TIA)
 - 569-A Commercial Building Standard for Telecommunications Pathways and Spaces
 - 606 Administration Standard for the Telecommunications Infrastructure of Commercial Buildings
 - 607 Commercial Building Grounding and Bonding Requirements for Telecommunications
 3. Underwriters Laboratories, Inc. (UL)
 - 497 Protectors for Paired Conductor Communication Circuits
 - 497A Secondary Protectors for Communications Circuits

1.03 DEFINITIONS

- A. Intra-Building Cable: Network Cable within building.
- B. Inter-Building Cable: Network Cable between buildings.

1.04 SUBMITTALS

- A. General: Submit the following in accordance with conditions of Contract documents.
- B. Manufacturer's Data: Provide manufacturer's data for specified materials and all equipment not listed in Drawing TN/TJ6001STD.
- C. As-Built Drawings: Submit dated as-built drawings for review with Sandia Delegated Representative (SDR) at two-week intervals, beginning at Project start date, or as specified elsewhere in Contract documents.
 - 1. Call attention to entry by circling affected area.
 - 2. If as-built work is not complete, Contractor will be so advised by SDR, and Contractor shall complete work as required.

1.05 QUALITY ASSURANCE

- A. Material and installation shall meet requirements of NFPA 70.
- B. Material, when applicable, shall be approved by a Nationally Recognized Testing Laboratory (NRTL).
- C. Monitor and maintain quality control over manufacturers, suppliers, subcontractors, work force, site conditions, products, and services to ensure Work is of specified quality.
- D. Workmanship: Install material and equipment in neat and workmanlike manner, in accordance with NEC Section 800-6.

Specified requirements represent minimum acceptable quality for Work. Comply with industry standards except when more stringent requirements are specified herein, and tolerances indicate higher standards or more precise workmanship.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Provide equipment necessary to handle, transport, and deliver materials, including SFM, from storage site to work area.
- B. Store components in original wrappings, and protect from dirt, weather and construction work traffic.
- C. Coordinate with SDR at least three days in advance for pick up of SFM. Emergency supply situations will be handled by the SDR on a case-by-case basis.

- D. Thoroughly inspect materials for damage before taking custody, including SFM. Inform SDR within one workday if SFM are found to be damaged. Failure to do so may result in material replacement at Contractor's expense as determined by SDR.
- E. Return unused SFM with an inventory to SDR immediately after product usage is complete.

1.07 WARRANTY

Contractor shall supply a warranty as specified in Section "Quality Assurance and Documentation."

PART 2 - PRODUCTS

2.01 GENERAL

- A. Provide products that are new and currently in production.
- B. Do not use materials and equipment that have been removed from existing premises, except as specifically and expressly permitted by Contract documents or SDR.
- C. Products will be specified by industry standard names, unless specifically noted otherwise.
- D. Devices and equipment submitted for approval shall be used for the purpose intended. No deviation from SNL requirements and standards shall be permitted.
- E. EUTP Termination Frames: Specified in Drawing TN/TJ6001STD. Substitutes will not be accepted.
- F. EUTP Voice Entrance Frames and Protectors: Specified in Drawing TN/TJ6001STD. Substitutes will not be accepted.
- G. Lightguide Interconnection Unit (LIU): Specified in Drawing TN/TJ6001STD. Substitutes will not be accepted.
- H. Telecommunication Cabinet: Specified in Drawing TN/TJ6001STD. Substitutes will not be accepted.
- I. Lightguide Termination Shelf: Specified in Drawing TN/TJ6001STD. Substitutes will not be accepted.
- J. Equipment Racks: Specified in Drawing TN/TJ6001STD. Substitutes shall not be accepted.

2.02 LABELS

Labeling of protector frames, EUTP termination frames, and equipment racks shall be as described in Division 25, Section "Administrative Requirements."

PART 3 - EXECUTION

3.01 GENERAL

- A. Consult with SDR to verify areas that are confined spaces as defined in OSHA 29 CFR Parts 1910, requiring special permits for access. Comply with requirements of OSHA 29 CFR Part 1910, Section 146 when working in permit-required confined spaces.
- B. Locations of hazardous materials areas are shown on Drawings.
 - 1. Avoid disturbance of hazardous materials in making acceptable modifications of raceway routing, mounting of equipment, and other work.
 - 2. Do not mount conduit, equipment, hangers, and other accessories on surface materials known to contain asbestos or other hazardous materials without written authorization from SDR outlining method of installation.
 - 3. If hazardous materials or conditions not shown on Drawings are encountered, stop work immediately and vacate area. Take the following actions:
 - a. Immediately notify SDR of condition encountered.
 - b. Do not enter area or work in area until receiving written authorization from SDR.
- C. Do not install damaged or defective components.
 - 1. If SFM are found to be defective, immediately report problem to SDR and provide documentation with sufficient engineering data to confirm defect.
 - 2. Contractor shall receive replacement SFM materials only after defective materials have been returned to SDR and defect has been confirmed.
 - 3. If SFM are rendered unusable due to Contractor error or improper installation as determined by SDR, materials shall be replaced at Contractor's expense.
- D. Secure all racks and frames in place with positive anchorage devices, designed and sized to withstand stresses, vibration, and distortion. Refer to manufacturer's installation instructions for additional information.
- E. Prepare as-built documentation beginning at Project start date. SDR will provide assistance in obtaining one set of reference drawings, if needed, for documentation purposes.

3.02 LABELING

Labeling of protector frames, EUTP termination frames, and equipment racks shall be as described in Division 25, Section "Administrative Requirements." Missing or unclear nomenclature shall not be construed as reason for not identifying items, and shall be brought to SDR's attention.

3.03 TERMINATION AND TESTING OF INTRA-BUILDING TELECOMMUNICATION CABLE

- A. Perform test sample amount of terminations designated by SDR, prior to beginning mass cable termination. Testing shall be performed as described in Division 25, Section “Quality Assurance and Documentation.”

END OF SECTION