

AFSC 1D773, Craftsman
 AFSC 1D753, Journeyman
 AFSC 1D733, Apprentice
 AFSC 1D713, Helper

★ CABLE AND ANTENNAE DEFENSE OPERATIONS
(Established 31 Oct 21)

1. ★ Specialty Summary. Provides command and control (C2) capabilities through installation, maintenance, fault isolation, and reconstitution of fixed cable and wireless distribution systems, local area networks (LAN), and wide area networks (WAN) in support of tactical and strategic operations. Monitors and analyzes performance of underground, buried, and aerial cable and antenna networks. Related DoD Occupational Subgroup: 162100. Manages and performs defensive cyber operations and cyber support functions (DoDIN operations) in- garrison and at deployed locations. Surveys, secures, protects, defends, preserves, designs, builds, operates, and extends data, networks, net-centric capabilities, and other designated systems. This Air Force Specialty Code description incorporates the use of DoD Cyber Workforce Framework (DCWF) Codes to tie this specialty description to the framework. The DCWF was developed by the National Institute of Standards and Technology (NIST) and the DoD to establish a common lexicon and model for all cyber work. The DCWF will universalize training and education between academia, industry, and military. It will also enable talent management by ensuring the right Airmen, for the right assignment, at the right time.

2. ★ Duties and Responsibilities:

2.1 As part of the Cyber Operations career field family, conducts defensive cyber operations (DCO) and associated support activities to defend DoD and other friendly cyber. DCO includes passive and active cyber defense operations to preserve the ability to utilize friendly cyber capabilities and protect data, networks, net-centric capabilities and other designated systems as well as passive defense measures intended to maintain and operate the DODIN and other networks such as configuration control, patching and firewall operations. Support activities includes but not limited to maintenance of cyber weapons systems, functional mission analysis, mission mapping, tool development, stan-eval, mission planning and data analysis. [DCWF Code - 511, 521, 531, 541]

2.2. Installs, maintains, reconstitutes, removes, and modifies copper core, coaxial, waveguide, and fiber optic cable and antenna systems. Climbs antenna support structures and wooden poles to various heights for maintenance and installation actions on cable and antenna systems. Installs and maintains dedicated local area network (LAN) and wide area network (WAN) media distribution systems, including distribution system interior wiring. Installs and removes fire stopping barriers when installing interior cabling. Uses drawings, task lists, instructions, and technical data to work on copper core, coaxial, waveguide, fiber optic cable and antenna systems. Installs distribution equipment. Terminates copper core, coaxial, waveguide, and fiber optic cable on distribution frames and interface equipment. Operates and performs maintenance using tools, test equipment, auxiliary equipment, and vehicles such as backhoes, trenchers, cable trailers, cable reel trucks, and antenna construction vehicles.

2.3. Locates, repairs, and replaces faulty closures in copper core, waveguide, coaxial, and fiber optic cable systems. Performs pneumatic troubleshooting to locate faulty splice closures and seals splice closures. Excavates and backfills splice pits. Installs and maintains aerial cable support structures such as pole line and suspension strands. Installs underground cable, uses duct rods, cleans cable duct systems, prepares pulling apparatus, and pulls in and temporarily bonds cable. Installs, maintains, and marks path of buried cable systems.

2.4. Monitors, analyzes, and troubleshoots copper core, waveguide, coaxial, and fiber optic cable systems. Determines cause of signal deterioration in cable carrying audio, video, digital, and data transmission. Interprets compressor meter readings and adjusts controls. Installs, maintains, and repairs or replaces damaged pneumatic components in cable air dryers. Uses test equipment to identify copper conductors and optic fibers in cables. Locates and traces buried cable. Locates and traces leaks in pressurized cable system. Performs operational checks and preventative maintenance inspections.

2.5. Maintains communications and computer systems installation records, maintenance and inspection cable records, and technical orders.

2.6. Supervises, plans, organizes, and directs cable and antenna installation and maintenance activities. Develops and improves work methods and procedures related to installation and maintenance of all cable and antenna systems.

2.7. As part of the Cyber Operations career field family, performs IT project management duties to include; manage, supervise, and perform planning and implementation activities. Manages implementation and project installation and ensures architecture, configuration, and integration conformity. Develops, plans, and integrates base communications systems. Serves as advisor at meetings for facility design, military construction programs and minor construction planning. Evaluates base comprehensive plan and civil engineering projects. Monitors the status of cyber or communications-related base civil engineer work requests. Performs mission review with customers. Controls, manages, and monitors project milestones and funding from inception to completion. Determines adequacy and correctness of project packages and amendments. Monitors project status and completion actions. Manages and maintains system installation records, files, and indexes. Evaluates contracts, wartime, support, contingency and exercise plans to determine impact on manpower, equipment, and systems. [DCWF Code - 802]

3. ★ Specialty Qualifications:

3.1. Knowledge. Knowledge of the following is mandatory: installation and maintenance management functions; wire transmission principles; electrical and light wave communications on aerial, buried and underground cable systems; cable pressure and alarm systems; antenna and obstruction systems; antenna fundamentals, including antenna theory and principles of rotators, amplifiers and control cables; antenna installation procedures, including radio frequency cable, waveguide splicing, and repair and maintenance techniques of

radomes; operation and theory of cable pressurization, alarm systems, locating cable faults, identifying causes of deterioration in cable systems, cable testing procedures and methods of sealing cables; safety precautions related to oxygen deficiency, aid and cardiopulmonary resuscitation; use and limitations of test set operations; corrosion prevention and control procedures; and capabilities, limitations, operations and functional use of basic cable and antenna systems and associated hardware is mandatory.

3.2. Education. For entry into this specialty, completion of high school or general educational development equivalency is mandatory. Additional courses in mathematics, computer science or information technologies are desirable.

3.3. Training. For award of AFSC 1D733, completion of Cable and Antenna Systems initial skills course is mandatory.

3.4. Experience. The following experience is mandatory for the award of the AFSC indicated:

3.4.1. 1D753. Qualification in and possession of AFSC 1D733. Also, experience in functions such as installing, maintaining and repairing communications cable and antenna systems, including electrical equipment and transmission lines.

3.4.2. 1D773. Qualification in and possession of AFSC 1D753. Also, experience performing or supervising functions in areas such as project installation and maintenance actions, communications cables and antennas, and related electrical hardware.

3.5. Other. The following are mandatory as indicated:

3.5.1. For entry into this specialty:

3.5.1.1. Normal color vision as defined in AFI 48-123, *Medical Examinations and Standards*.

3.5.1.2. See attachment 4 for additional entry requirements.

3.5.2. For entry, award and retention of this AFSC:

3.5.2.1. Normal depth perception and normal gait and balance as defined in AFI 48-123.

3.5.2.2. Physical ability to perform climbing duties and freedom from fear of heights and claustrophobia.

3.5.2.3 Must attain and maintain a minimum certification IAW AFMAN 17-1303, *Cybersecurity Workforce Improvement Program* and DoD 8570.01-M, *Information Assurance Workforce Improvement Program*, as specified by AFSC shredout:

3.5.2.3.1. For 1D7X3, a minimum of position requirements.

4. ★ Specialty Shredouts:

Suffix Portion of AFS to Which Related

C Cable and Antennae Operations