

## SECTION 16866

### INTERFACE CRITERIA AND RESPONSIBILITIES

#### PART 1 - GENERAL DESCRIPTION

##### 1.01 SECTION DESCRIPTION AND BASIC REQUIREMENTS

- A. The Contractor shall identify all electrical, mechanical and physical interfaces associated with these Specifications. These shall include, but not be limited to, the following interfaces:
  - 1. Between the various communications systems, subsystems, equipment and materials included in these Specifications.
  - 2. Between the communications systems, subsystems, equipment and materials included in these Specifications, and existing WMATA systems, subsystems, and equipment.
  - 3. Between the Contractor-provided systems, subsystems, equipment and materials and those furnished by the Authority or other contractors (including structures, equipment, etc.).
- B. The Contractor-provided systems, subsystems, equipment and materials shall be designed to have the characteristics required to ensure that electrical, mechanical and physical interfaces achieve the specified grade of service and performance levels on a non-interfering basis with existing system and equipment functions (except as otherwise specified).
- C. The Contractor shall be fully responsible for the correct interfacing of the systems, facilities and equipment that are provided under this Contract with the existing WMATA communications systems, subsystems, facilities, and with the facilities and equipment furnished by the Authority. If any incompatibility is discovered, the Contractor shall correct the incompatibility by modifying the equipment provided and/or by providing additional required equipment and material at no additional cost to the Authority. Unless otherwise specified, modifications to the equipment of existing WMATA systems, subsystems and facilities and to equipment provided by the Authority will not be permitted.
- D. The Contractor shall be responsible for verifying product compatibility and system performance of all equipment, including equipment specified under the Major Items sections of this Contract.
- E. The Contractor shall ensure that continuing coordination is accomplished as defined. The Contractor shall submit an interface procedure which shall include the following:
  - 1. A detailed list specifically identifying each interface associated with this Contract.
  - 2. A description of the work involving interfaces to be performed by the Contractor under this Contract.
  - 3. Sketches or drawings showing details of interface points, where applicable.

##### 1.02 DEFINITION

- A. Interface Point
  - 1. An interface point is defined as the line(s) of demarcation between the various Contractor-furnished and/or installed systems, subsystems, equipment and materials, and those existing facilities including WMATA communications systems and equipment.
- B. Electrical/Mechanical Interface Compatibility

1. Electrical and mechanical interface compatibility is defined as the electrical and mechanical characteristics required to: Ensure that separate systems, subsystems, equipment and materials, and existing systems, subsystems, equipment and materials are compatible, retain their specified function, and perform a specified service in the specified manner, in conjunction with facilities to which they are connected; and that they do not impair, or have any adverse effect on, the specified operation of any system, subsystem or equipment to which they are directly or indirectly connected, or that may be influenced by them or their electromagnetic field(s).
- C. Physical Interface Compatibility
1. Physical interface compatibility is defined as the physical form and fit required to ensure that all items of equipment and materials are fully compatible with all other equipment, materials, facilities and structures with which they interface, including: Those furnished in accordance with these Specifications; and those owned or occupied by the Authority.
- D. Schedule Compatibility
1. Schedule compatibility is defined as the scheduling of contract work on the essentially non-interfering basis to WMATA. The Engineer's determination of what constitutes an "essentially non-interfering basis" shall be required whenever any degree of interference to WMATA is anticipated.

### **1.03 COMMUNICATIONS SYSTEMS/SUBSYSTEMS/FACILITIES INTERFACE**

- A. General
1. Some of the communications systems, subsystems and facilities to be furnished and installed in accordance with these Specifications are expansions and extensions of systems, subsystems and facilities furnished and installed by WMATA or local jurisdiction contracts.
  2. All systems, subsystems, equipment and materials furnished in accordance with the provisions of this Contract shall be fully compatible and operable to full specifications on an essentially non-interfering basis with all systems, subsystems, equipment and materials that are to be utilized by WMATA (including the electromagnetic compatibility of electrical, magnetic and radio frequency emissions of all types). The existing systems and facilities, and the extensions and expansions furnished in accordance with these Specifications, shall be fully compatible with each other, and each shall function as a single integrated system/facility.

### **1.04 PUBLIC ADDRESS SYSTEM**

- A. Passenger Station Public Address System interfaces shall include, but are not limited to, the Carrier Transmission System, the Technical Control Facility, the Automatic Public Address Announcement System, the Electrical Power Distribution System, the passenger station Kiosk, and the existing Public Address System equipment in the Jackson Graham Building. Points of interface include the passenger station's Communications Equipment Room, the Jackson Graham Building, the Kiosk, and locations within the passenger stations where loudspeakers are required.

### **1.05 CLOSED CIRCUIT TELEVISION SYSTEM**

- A. The Closed Circuit Television System interfaces include, but are not limited to, the passenger station's Kiosk and the Electrical Power Distribution System. Points of interface

include the passenger station's Communications Equipment Room, the Kiosk, and locations within the passenger stations where CCTV cameras are required.

#### **1.06 FIRE AND INTRUSION ALARM SYSTEM**

- A. Passenger Station Fire and Intrusion Alarm System interfaces include, but are not limited to, the existing partial Station Fire and Intrusion System, the Technical Control Facility, the passenger station Public Address System, the Data Transmission System, the Automatic Fare Collection equipment, the elevators, and the Electrical Power Distribution System.
- B. Points of interface in the passenger stations and ancillary buildings associated with this Contract include the Communications Equipment Room, the Kiosk, elevators and the Elevator Machine Room, selected air handling equipment, escalators and areas that contain deluge valves and water flow valves, and all locations where detectors are required.

#### **1.07 CARRIER TRANSMISSION SYSTEM**

- A. .Carrier Transmission System interfaces include, but are not limited to, the Fiber Optics System, the Telephone System, the Public Address System, the Passenger Emergency Reporting System, the Data Transmission System, the Technical Control Facility, the Mobile Radio System, and the Electrical Power Distribution System. Each system/facility shall be compatible with the channel(s) of the Carrier Transmission System which it utilizes.
- B. Points of interface exist in the Communications Equipment Rooms in the passenger stations, the Jackson Graham Building, and in the Communications Equipment Rooms and designated intermediate locations along the right-of-way.
- C. Carrier Transmission Systems, in addition to interfacing with each of the systems/facilities that use it as a transmission means, shall be compatible and operable with Carrier Transmission System equipment located at the Jackson Graham Building, in Communications Equipment Rooms along the right-of-way, and/or other specified locations. Space has been allocated in the Jackson Graham Building for Carrier Transmission System equipment to be furnished and installed in accordance with these Specifications.

#### **1.08 FIBER OPTICS SYSTEM**

- A. The Fiber Optics System interfaces include, but are not limited to, the Carrier Transmission System and the Electrical Power Distribution System for the passenger stations.
- B. Points of interface exist at the passenger station Communications Equipment Room, the Jackson Graham Building, and along the right-of-way.

#### **1.09 TELEPHONE SYSTEM**

- A. Passenger Station Telephone System interfaces include, but are not limited to, the Carrier Transmission System, the existing Computerized Branch Exchange (CBX) in the Jackson Graham Building, and the Electrical Power Distribution System. Points of interface include the passenger station's Communications Equipment Room, the Jackson Graham Building, the Kiosk; and in the passenger stations, ancillary buildings, and at Emergency Trip Station (ETS) enclosures along the right-of-way where telephone instruments are required.

#### **1.10 PASSENGER EMERGENCY REPORTING SYSTEM**

- A. Passenger Emergency Reporting System interfaces include, but are not limited to, the

passenger station Kiosk, the Electrical Power Distribution System and on the passenger station's platform. Points of interface exist in the Communications Equipment Room of the passenger stations, the Kiosk, and at locations within the passenger stations where Call Station Panels are required.

#### **1.11 AUTOMATIC PUBLIC ADDRESS ANNOUNCEMENT SYSTEM**

- A. Automatic Public Address Announcement System interfaces include, but are not limited to, the Public Address System, the Fire and Intrusion Alarm System, the passenger station Kiosk, and the Electrical Power Distribution System. Points of interface exist in the Communications Equipment Room of the passenger stations and the Kiosk within the passenger stations.

#### **1.12 PASSENGER STATION KIOSKS**

- A. Passenger Station Kiosk interfaces include, but are not limited to, the passenger station Public Address System, the passenger station Telephone System, the passenger station Closed Circuit Television System, the Passenger Station Fire and Intrusion Alarm System, the Technical Control Facility, the Passenger Emergency Reporting System, the Automatic Public Address Announcement System, the Electrical Power Distribution System, the Kiosk structures, the Data Transmission System, and the escalators and elevators. Points of interface exist within the Kiosk, in the passenger station Communications Equipment Room, in the AC Switchboard Room, and at the elevators and escalators.

#### **1.13 ELECTRICAL POWER DISTRIBUTION SYSTEM**

- A. Electrical Power Distribution System interfaces for the provision of uninterruptible 120 Vac power include, but are not limited to, the passenger station Public Address System, the passenger station Closed Circuit Television System, the passenger station Fire and Intrusion Alarm System, the Carrier Transmission System, the passenger station Telephone System, the Passenger Emergency Reporting System, the Automatic Public Address Announcement System, the passenger station Kiosk and the passenger station Mobile Radio System. Points of interface include the passenger station Communications Equipment Room, the Kiosk, and the AC Switchboard Room.
- B. For the provision of -48 Vdc power, Electrical Power Distribution System interfaces include, but are not limited to, the Carrier Transmission System, the Fiber Optics System and the passenger station Telephone System. Points of interface include the passenger station Communications Equipment Room.

#### **1.14 MOBILE RADIO SYSTEM**

- A. Mobile Radio System interfaces include, but are not limited to, the existing slotted coaxial cable antenna along the right-of-way and in other areas. Points of interface may exist within the tunnel areas where the existing slotted coaxial cable antenna is terminated, at the remote ancillary building(s) and passenger station(s) where UHF Two-Way Line Driver Units may be installed, and the passenger station Communications Equipment Room where a base station shall be installed.

#### **1.15 FARE COLLECTION SYSTEM**

- A. The Contractor shall interface with the Fare Collection System to determine the availability of the Kiosk fare collection console and fare collection equipment, and to coordinate work schedules and related details.

#### **1.16 INTERFACE WITH THE AUTHORITY**

- A. WMATA is an operating rapid transit system. The Contractor shall interface with the Authority to coordinate schedules and access to areas of the system where work is to be performed. Coordination is required for physical access to Communications Equipment Rooms, tunnel areas, the Jackson Graham Building, operations rooms, Kiosks, and platform areas (other than areas within the passenger stations in this Contract).
- B. Equipment installed in the Communications Equipment Rooms and Kiosks in operational passenger stations and in the Jackson Graham Building, contain working circuits supporting transit operations. Certain work in those areas may require special coordination, in accordance with instructions furnished by the Engineer, to ensure that work can be performed on an essentially non-interfering basis.
- C. Within Communications Equipment Rooms and Kiosks in operational passenger stations and yards, Contractors' work shall be performed with a representative of the Authority present. Connections to working circuits shall be made only by the Authority or with the permission of the Authority. The Contractor shall coordinate with the Authority all other work in operational passenger stations and yards to be performed in Communications Equipment Rooms and Kiosks. The Contractor shall advise the Authority of the work to be accomplished, including wiring and cross-connections, and the scheduled beginning and completion of each task.

#### **1.17 LOCAL FIRE AUTHORITY**

- A. The Contractor shall interface with the local fire authority having jurisdiction over the various areas within the limits of the Contract work area to obtain advisory opinions concerning compliance with proprietary "Fire Protection Equipment and Life Safety Agreements" and applicable provisions of the local fire codes, and to coordinate related details when so directed by the Engineer.

**PART 2 PRODUCTS (SECTION NOT USED)**

**PART 3 EXECUTION (SECTION NOT USED)**

**END OF SECTION**