

SECTION C
STATEMENT OF WORK

**WEDGE 2 INFORMATION TECHNOLOGY SYSTEMS AND
INFRASTRUCTURE (ITS&I)**

June 21, 2002

SECTION C TABLE OF CONTENTS

Paragraph	Title	Page No.
C.1	OBJECTIVE.....	6
C.2	BACKGROUND	6
C.3	PENTAGON ITS&I (CURRENT CONDITIONS)	9
C.3.1	Voice Services.....	9
C.3.2	Data Services	9
C.3.3	Video Services.....	9
C.4	SCOPE.....	9
C.4.1	General.....	10
C.4.2	Contractor-Furnished Items	10
C.4.3	Commercial Off-The-Shelf	10
C.4.4	Technology Refreshment	10
C.4.5	Software.....	10
C.5	SPECIFIC REQUIREMENTS.....	10
C.5.1	Design.....	10
C.5.1.1	Architecture.....	10
C.5.1.2	Overall Wedge System Design.....	11
C.5.1.3	Proof of Solution.....	11
C.5.1.4	Overall Wedge System Design Deliverables	11
C.5.1.5	System Integration.....	12
C.5.2	Tenant Fit-out.....	12
C.5.2.1	Site Surveys.....	12
C.5.2.2	Detailed Design.....	12
C.5.2.3	Tenant Fit-Out Deliverables.....	13
C.5.2.4	Tenant Move.....	13
C.5.3	System Implementation Test and Inspection.....	13
C.5.3.1	Acceptance Tests	14
C.5.3.2	Security Tests	14
C.5.3.3	Tenant Area Inspections.....	15

C.5.4	Configuration Management	15
C.5.5	Security Classification Labeling.....	15
C.5.6	Quality Control (QC) and Quality Assurance (QA)	15
C.5.6.1	Quality Control (QC)	15
C.5.6.2	Quality Assurance (QA)	15
C.5.7	Operations and Maintenance	15
C.5.7.1	Operations & Maintenance Support and Trouble Reporting.....	16
C.5.7.2	O&M Transition.....	16
C.5.8	Training.....	16
C.5.8.1	Operation and Maintenance Training.....	16
C.5.8.2	System Capability Training.....	17
C.5.8.3	Telephone Subscriber (Lead Instructor) Training.....	17
C.5.9	Program Management	17
C.6	CONTRACTOR REQUIREMENTS	17
C.6.1	Storage and Workspace	17
C.6.2	Transportation and Delivery.....	17
C.6.3	Trash Removal and Pickup.....	17
C.6.4	Building Badges.....	18
C.6.5	Permits	18
C.6.6	Safety	18
C.7	OPTIONAL REQUIREMENTS	18
C.7.1	Technology Retrofit.....	18
C.7.2	Pre-Renovated Backbone.....	18
C.7.3	Temporary Communication Air-Blown Fiber Grid (TEMPCOM ABF).....	19
C.7.4	Network System Management.....	19
C.7.5	Relocations, Upgrades, Moves	19
C.7.6	Operations & Maintenance Extension.....	19
C.8	SPECIAL CONSIDERATIONS.....	19
C.8.1	Disclaimer Statement.....	19

C.8.2 Commercial Warranty..... 19

LIST OF ILLUSTRATIONS

Figure	Title	Page No.
FIGURE 1-1.	ORIGINAL PENTAGON RENOVATION CONSTRUCTION WEDGES	8
FIGURE 1-2.	USE THE LATEST FIGURE & DEFINITIONS OF THE WEDGES FROM PENREN	8

C.1 OBJECTIVE

The renovation and restoration of the Pentagon is one of the most ambitious and complicated projects of its kind ever attempted. The construction challenge is to renovate and restore the existing building structure (including foundation, weight bearing walls and columns, roofing, electrical, heating, asbestos abatement, etc.) while maintaining the historical integrity of the original construction. This must be accomplished while the building remains occupied and vitally involved in its continuing mission of housing and servicing the Department of Defense (DoD).

Since the late sixties, automation has been continually introduced into the Pentagon in a piecemeal, ad-hoc fashion to keep up with ever expanding DoD and service requirements. Unique inter-DoD and service missions and requirements have often led to stovepipe system implementations throughout the building. The Pentagon Renovation Information Management and Telecommunications (IM&T) effort is to design, develop and implement a totally Integrated Telecommunications System and Infrastructure (ITS&I) that will do the following: provide all users within the Pentagon building and Pentagon Renovation related sites with common telecommunications services; support the distribution of both classified and unclassified voice, video, and data requirements for all Information Systems (IS) and users needs; conform to modern telecommunications practices and standards; and be scaleable to support increasing tenant requirements and flexible to allow for incorporation of foreseeable future technologies.

DoD intends to acquire a total system performance integrator to design, build, implement and make operational a modern, totally integrated information technology solution for the tenants in the Pentagon and Pentagon Renovation related sites. The systems integrator will provide tenants with state-of-the-art technology within defined technology offerings and an established framework. The systems integrator will provide responsive, customer-focused service to the tenants so that efficient utilization of their workforce can be realized. A key performance goal for this acquisition will be providing smooth, seamless, transparent and efficient transition services for tenants.

The systems integrator will design, integrate, develop, implement, and transition to a system that satisfies operational requirements, is easily expanded to meet future needs and requirements as technology evolves, is user friendly, and is easy to maintain. The system will provide increased capability, reliability, flexibility and growth potential in a timely, economical manner. The systems integrator must provide a seamless transition for move-ins that ensures interoperability with legacy networks. In order to accomplish this, the systems integrator will be required to integrate and coordinate with ongoing activities such as construction, security, legacy networks, Mechanical Electrical and Power (MEP), space planners.

The Government intends to have the contractor implement the Pentagon ITS&I by employing an evolutionary strategy where foreseen technologies are taken advantage of and incorporated into the ITS&I (both in already renovated areas and unrenovated areas) at the time they become mature technologies, accepted as industry standards, and economically advantageous to implement. The Government requires that the contractor identify and incorporate future technologies with a well-conceived technology assessment and insertion strategy.

C.2 BACKGROUND

There are multiple deficiencies specific to the information management and telecommunications posture of the Pentagon: outdated and overworked communications systems; proliferation of user-oriented and user-unique data systems; inadequate wiring systems; obsolete and congested wire closets, risers, cable pathways, and protected distribution systems (PDSS); poor quality grounding systems; and limited cable plant access due to asbestos hazards.

The Pentagon telecommunications infrastructure has been in place since 1943. As requirements and technology changed in the succeeding years, new telecommunications systems were added in an ad hoc manner. The result is a collection of independent and largely non-interoperable systems and networks, which are poorly documented.

Renovation plans call for the complete removal and disposal of the existing telecommunications infrastructure. This creates the opportunity to implement a replacement infrastructure that will not only satisfy current needs but will allow for evolution to accommodate future needs and technologies. It also creates the opportunity to implement common user telecommunications services that conform to modern telecommunications practices and standards for both building wiring and an open systems architecture.

The original renovation schedule applies to the wedge design as shown in Figure 1-1. Wedge 1 was completed under the original construction definition and included the areas from midway between corridor 2 & 3 to midway between corridor 4 & corridor 5.

The current construction General Contractor (Hensel Phelps) has defined Wedge 2 of the Pentagon to include the areas of the Pentagon bounded by corridor 4.5 and corridor 7 (includes previous options 1 and 2 of the original definition). Corridor 4.5 is a new corridor for life safety measures, which coincides with the original Wedge 1/Wedge 2 boundary. This area includes any/all spaces on floors 1 through 5 and un-renovated portions of the basement and mezzanine. Wedges 2 through 5 boundaries may be further defined/refined by the Pentagon Renovation Program as the renovation progresses.

As construction progresses throughout the Pentagon, tenant organizations and facilities are relocated into the renovated areas. For Wedge 1 this included, but was not limited to, tenants from all Services/Agencies and special use areas, to include command centers, server farms, radio rooms.

Wedge 2 renovation includes tenants from all Services/Agencies and enhanced user space, to include but not limited to, the Navy Command Center (NCC), Marine Corps Operations Center (MCOC), National Military Command Center (NMCC), Army Operations Center (AOC), Office of the Secretary of Defense Executive Support Center (OSD ESC), the NMCC Steel Room, Press Corridor, Senior Executive Spaces, Server Farms, Radio Room, Defense Intelligence Network/Visual Recording Facility (DIN/VRF), Joint Staff Message Center, and Alternate Technical Control Facility.

Tenant organizations relocating into Wedges 2-5 will be further defined/refined by the Pentagon Renovation Program as requirements become available.

Figure 1-1 is an aerial view of the Pentagon depicting the original wedge designation used in this plan.

REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK

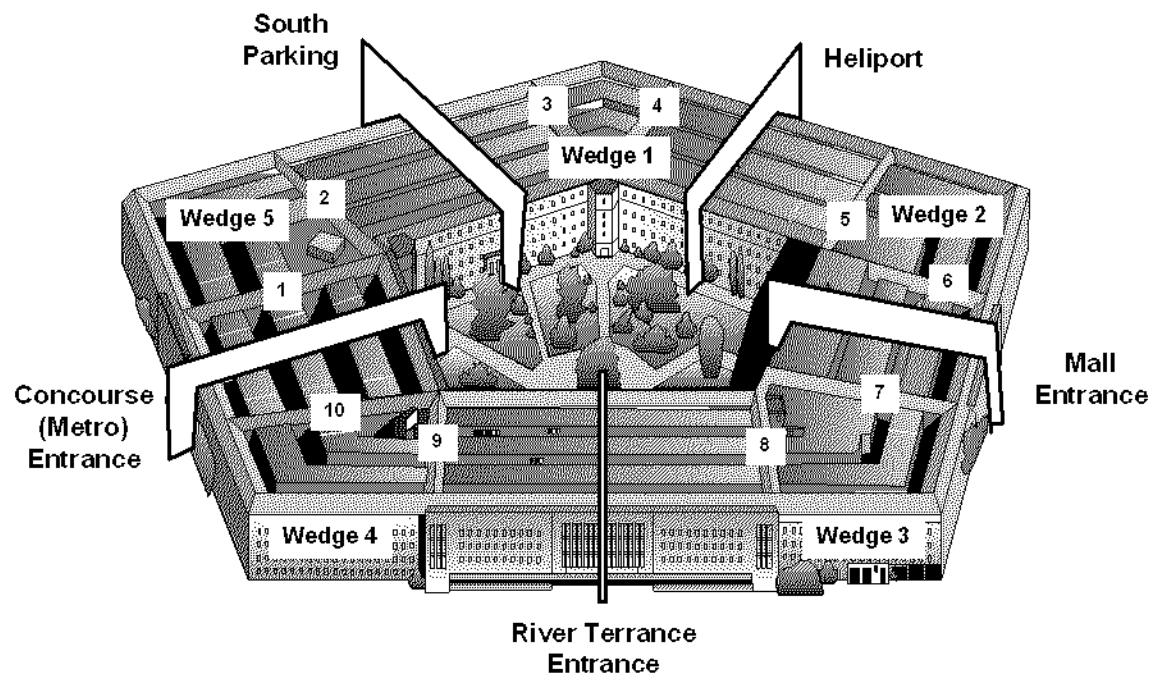


FIGURE 1-1. ORIGINAL PENTAGON RENOVATION CONSTRUCTION WEDGES

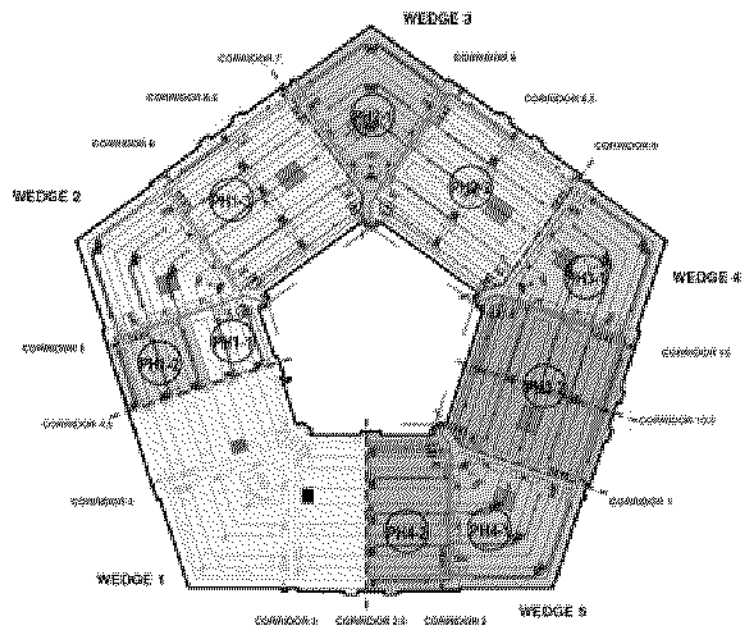


FIGURE 1-2. CURRENT PENTAGON RENOVATION CONSTRUCTION WEDGES

C.3 PENTAGON ITS&I (CURRENT CONDITIONS)

Separate voice, video, and data systems characterize the current Pentagon Information Systems Architecture.

C.3.1 Voice Services

The voice services include, but are not limited to, unclassified and classified, analog, digital, and radio frequency (RF).

C.3.2 Data Services

The existing data services include, but are not limited to, unclassified and classified, stand-alone, local area and wide area networked (LAN/WAN) systems.

C.3.3 Video Services

The video services include, but are not limited to, unclassified and classified cable television (CATV), video teleconferencing (VTC), conference room briefing and display systems, and other specialized systems.

C.4 SCOPE

The scope of this contract includes:

- Site Surveys to identify the user requirements for the Pentagon tenants;
- the engineering, furnishing, installation, and testing of the Pentagon's ITS&I to support tenants;
- the provisioning of support services and documentation to include cutover support, training plan, and equipment/software manuals;
- the integration of renovated and un-renovated networks and systems ; and
- the evolutionary and continual modernization of the Pentagon ITS&I.

Under this contract, the contractor shall:

- provide total project management for the Pentagon's ITS&I design, development and implementation effort;
- survey tenant telecommunications requirements;
- design, develop, and implement the ITS&I;
- engineer, furnish, install, and test the ITS &I;
- provide transition and cutover support, including but not limited to, training, spares, and documentation;
- ensure the installed ITS&I supports all user-identified requirements;
- design and install the ITS&I to facilitate connectivity between un-renovated, renovated and swing space information systems and networks (NOTE: "Swing Space" is defined as locations within, or external to, the Pentagon reservation, but within the vicinity of the Pentagon, which will house relocated Pentagon tenants; principally in Rosslyn and Crystal City);
- identify and assess the marketplace for commercial announcement of new equipment, media, and components with potential for use in the Pentagon ITS&I;
- review and update previously prepared plans, designs, and diagrams to reflect any changes, upgrades, improvements, and/or modifications that result from changing requirements or technology refreshment;
- provide network management capability for all the components including the integration with the Government's network management system;
- provide required security capabilities for the ITS&I;
- ensure interoperability with legacy and other systems within the Pentagon as required; and
- provide initial operations and maintenance of installed systems.

At the Government's request, Contractor shall provide a proposal for:

- extending the above tasks to the next wedge to be renovated.
- providing technology retrofit of previously renovated areas.
- implementing portions of the ITS&I design in un-renovated wedges.
- providing training courses.
- providing extended O&M.

C.4.1 General

The contractor shall provide necessary services, including the supply of necessary labor, materials, and equipment for the Pentagon Renovation effort.

C.4.2 Contractor-Furnished Items

All material and parts furnished by the contractor shall be new and meet requirements as set forth in this SOW. There may be conditions where the Government will provide equipment for use in execution of this contract.

C.4.3 Commercial Off-The-Shelf

The contractor shall provide commercial-off-the-shelf (COTS) material under the terms of this SOW that meet the minimum industry standards. The contractor shall furnish equipment and materials of current design and in production by a manufacturer regularly engaged in the manufacturing of information systems products. Obsolete items, or items no longer supported by the manufacturer, shall not be utilized by the contractor to fulfill the requirements of this SOW. COTS products must have passed the original equipment manufacturers (OEM) acceptance testing and be available for sale to the general public.

C.4.4 Technology Refreshment

Throughout the life of the contract, the contractor shall, at no additional proposal preparation cost to the Government, propose new or improved capability or solutions, to ensure timely technical refreshment.

C.4.5 Software

When any equipment requiring software is ordered, the latest software release suitable for ITS&I use shall be provided by the contractor. The contractor shall provide any necessary support and incremental software releases in order to make the installed system fully operational. The contractor shall install and configure network component software on the appropriate network components.

C.5 SPECIFIC REQUIREMENTS

The contractor shall provide the Government access to design documents as they are being developed. All plans required of the contractor shall be submitted to the Government for concurrence prior to implementation.

C.5.1 Design

The Pentagon Renovation Program, in coordination with IM&T, established a physical Wedge Area layout, which will include the design conforming to EIA/TIA 568B 90-meter horizontal layout (less any cable media) for all areas, unless the contractor-developed design provides a viable alternative. The contractor shall design such that equipment associated with the Pentagon ITS&I data networks shall be capable of sustaining an overall availability figure of 99.99% using the formula defined in Attachment 1 of this document. Other special command and control circuits/systems may require an availability factor of 99.9999% as defined by DoD guidelines (e.g. nuclear systems).

C.5.1.1 Architecture

The contractor shall utilize the Pentagon Architecture Document dated April 1996. The contractor shall provide input to the Pentagon Architecture Document reflecting changes in technologies implemented as part of their detailed designs.

C.5.1.2 Overall Wedge System Design

The contractor shall provide an overall wedge ITS&I design. The contractor shall coordinate design activities with appropriate other Government contractors and the Government. The contractor's design shall identify how the architecture technologies will be implemented. The design shall:

- identify the telecommunication spaces required within the wedge
- describe equipment rack layouts for telecommunications spaces
- include rack elevation drawings identifying telecommunications equipment and telecommunications media terminations
- include system drawings showing cable type and quantities, connecting users to telecommunication spaces and interconnecting telecommunication spaces
- include system drawings to detail how and where the existing networks will interface with the wedge design
- describe a classified and unclassified users connectivity to the ITS&I
- describe the distribution methods for each ITS&I service (voice, data, and video) for each classification and how they connect to other telecommunications facilities.
- design pathways to take "special circuits" (point-to-point) to other appropriate telecommunications facilities as required.
- describe how security requirements will be met
- describe how management of the ITS&I equipment will be accomplished by the Network System Management Center (NSMC)
- include a logical design describing how the ITS&I will support the various protocols, and how the ITS&I will connect to the existing networks and swing space networks
- include a design for the distribution of broadcast video to support tenant requirements
- include a design for the distribution of audio/video signals between command and control facilities

C.5.1.3 Proof of Solution

The contractor shall demonstrate all active components of the proposed solution in a laboratory.

The contractor shall install a proof of solution system to verify the operation of hardware and software in a comparable user environment to minimize operational difficulties during tenant installation. Prior Proofs of Solution are acceptable where the design approach remains the same.

C.5.1.4 Overall Wedge System Design Deliverables

The deliverables provided by the contractor shall include:

- A Wedge System Design Engineering Package (contractor format is acceptable).
- The contractor shall provide a detailed test plan for the proposed design.
- The contractor shall furnish a recommended Tools/Test, Measurement and Diagnostic Equipment (T/TMDE) list. All requirements for T/TMDE during installation and testing shall be the responsibility of the contractor.
- The contractor shall deliver a recommended Spare Parts List. Prior to system acceptance, any spares required to complete installation and testing shall be the responsibility of the contractor.

The contractor shall identify preliminary and critical design documents to the Government for review. The Government will reply with overall design comments within 15 calendar days. The Government will acknowledge

receipt of notification within one business day and will reply with overall design comments within 15 calendar days. Comments not provided within 15-calendar days equals Government concurrence. The contractor shall schedule and conduct preliminary and critical design reviews. Schedule the preliminary and critical design reviews within one business day following the 15-day review period.

C.5.1.5 System Integration

The contractor shall be responsible for total systems engineering from the proof of solution laboratory through successful completion of total wedge integration. The contractor shall provide systems engineering support to establish the information requirements for the ITS&I. The contractor shall evaluate analytically and systematically problems of work flows, organization, and planning and develop appropriate corrective actions.

C.5.2 Tenant Fit-out

C.5.2.1 Site Surveys

The government will identify the tenant organizations relocating into the wedge six months prior to the Tenant Move-In (TMI) date. The TMI date is defined as two weeks after the joint space ready date published by the Pentagon Renovation Program.

The contractor shall identify the specific ITS &I user requirements of the tenants to occupy the wedge spaces. The contractor shall collect and determine the user's voice, video, data, and additional services required to accurately complete a detailed design. The contractor shall validate survey data by obtaining authorized tenant representative sign-off on survey details or provide notification to the government that the tenant representative refused to sign. The contractor shall provide government access to the site-survey data within five business days from the date of tenant representative signature, or notification to the government that the representative refused to sign.

C.5.2.2 Detailed Design

The contractor shall provide a detailed design describing all aspects of the ITS&I support required for the relocation of the users from their current location to their new location in the renovated wedge.

The detailed design shall include:

- a logical design describing how the ITS&I will support the tenant requirements and connect to the existing networks and swing space networks
- Detailed Design Bill of Materials (BOM)
- the telecommunication spaces required within the wedge, identified by organization
- the equipment rack layouts for telecommunications spaces
- the rack elevation drawings identifying telecommunications equipment and telecommunications media termination
- the system drawings showing cable type and quantities, connecting users to telecommunication spaces and interconnecting telecommunication spaces
- the system drawings to detail how and where existing user requirements will interface with the wedge design
- a description of the distribution methods for each ITS&I service (voice, data, and video) for each classification
- a description of how security requirements will be met
- An overall organization Move Plan/Transition Plan/Implementation & Cutover Plan (ICOP) including the timelines, events, and procedures required for the transition of an organization from their existing location to their new location in the renovated wedge for the wedge users. Additionally, the plan shall describe how each organization's circuit requirements will be met through scheduled downtime, hot cutover, or other methods.

The contractor shall conduct preliminary and critical design reviews and the contractor shall incorporate mutually agreed solutions constituting the approved Final Detailed Design Document. The Final Detailed Design Document establishes the baseline design. Subsequent changes must be approved through the Government's Change Control Process. The contractor shall schedule the preliminary and critical design reviews within one business day following the 15-day review period.

The Government will enforce its Change Control Process and the contractor shall not accept tenant change requests to the Approved Final Detailed Design without prior approval by the COR or CO.

The contractor shall continuously coordinate design activities with other government contractors, Government agencies, and identified tenants.

C.5.2.3 Tenant Fit-Out Deliverables

Required per tenant organization

Tenant Site Surveys

Tenant Detailed Designs

- Passive Design
- Active Design
- Detailed Design Bill of Materials
- Installation Schedule
- Logical Design
- Specific Quality Assurance/Quality Control Requirements
- Design Drawings
- Transition/Cutover Plan.

The Government will acknowledge receipt of the contractor's design within one business day and will reply with overall design comments within 15-calendar days. Comments not provided within 15-calendar days implies Government concurrence.

C.5.2.4 Tenant Move

The Contractor shall provide support for the movement of tenants from their present space into their renovated spaces through Decertification/Certification as identified in the surveys. This support does not include the physical relocation of tenant office contents.

C.5.3 System Implementation Test and Inspection

The Government may participate as an observer, independent verification authority, or full participant to any or all tests or inspections conducted by the contractor.

The contractor shall conduct vendor selection testing of commercial off-the-shelf equipment prior to beginning the active design and implementation of the Pentagon ITS&I. The contractor shall conduct vendor selection for data network and point-point circuit components.

The contractor shall install, configure, and test all aspects of the Pentagon ITS&I. Tests and inspections of the Pentagon ITS &I fall into three categories, these are Acceptance Tests; Security Tests; and Tenant Area Inspections.

The contractor shall compete active equipment items as stated in H-13.7.

C.5.3.1 Acceptance Tests

Acceptance testing is required when formal test criteria and procedures must be followed. In most cases, this applies to circuit cutover or transition. The contractor shall develop system, unit, and acceptance Test Plans. The contractor shall deliver each Test Plan a minimum of 30 calendar days prior to the start of testing as defined by an overall milestone schedule. The government will respond in writing within 15 calendar days. Comments not provided within 15-calendar days imply Government concurrence. The contractor shall revise the Test Plan to incorporate coordinated Government recommendations. Test criteria shall comply with applicable DoD and Industry standards.

The contractor shall notify the Government when testing will take place and schedule a Test Readiness Review (TRR) a minimum of 5 calendar days prior to the test event. Government and Contractor Representatives will jointly chair the TRRs. During the TRR, the contractor shall address the following items at a minimum:

- review of test procedures
- complete documentation
- availability of test equipment
- overall readiness to begin testing

Upon TRR declaration of test readiness, testing will commence. Government representation during test events is at the Government's discretion.

The contractor shall perform all testing in accordance with approved Test Plans prior to system cutover to operational service. The contractor shall record and document all test data, test results, and test discrepancies. The contractor shall make available to the Government the detailed test results and test documentation.

The contractor shall coordinate circuit cutovers with appropriate Government agencies and perform circuit cutovers in accordance with standard cutover procedures.

C.5.3.2 Security Tests

The contractor shall coordinate the Security Test and Evaluation (ST&E) of new data network components and systems, services, and/or wide area network (WAN) devices as part of an overall test effort. The contractor shall perform an ST&E on a non-production test network. The test network shall include an audit server, management station, and protocol analyzer (e.g. Network General Sniffer).

The contractor shall demonstrate device security features and functionality to include:

- device access controls
- network service controls
- router access control lists
- data filtering and filter management
- secure protocol configuration management
- accounting/audit controls
- network monitoring
- reports management

The contractor shall deliver the ST&E Test Plan a minimum of 30 calendar days prior to the start of testing as defined by an overall milestone schedule. The government will respond in writing within 15 calendar days. Comments not provided within 15-calendar days imply Government concurrence.

C.5.3.3 Tenant Area Inspections

Formal acceptance testing in accordance with the above parameters of each tenant area network is not required. The contractor shall perform component level testing and system level inspections for each tenant area prior to the tenant's scheduled move-in (TMI).

Component test and inspection criteria shall conform to DoD and Industry standards and meet applicable, tenant specific design criteria. All active and passive systems, inclusive of all unused fiber (dark fiber) and copper, shall be tested and documented to verify compliance with its intended use.

The contractor shall perform tenant area inspections to verify that all passive components are properly installed and labeled. The contractor shall perform system tests to verify the operational capability and data network connectivity from a user faceplate/jack location to the tenant service/agency default router.

The contractor shall, upon completion of tenant move-in, furnish the government with the as-built drawings, cable records, logical design, rack layout and rack elevations.

C.5.4 Configuration Management

The contractor shall develop a Configuration Management Plan (CMP) and deliver it to the Government within 90 days after exercise of option. The contractor shall maintain and execute in accordance with the approved CMP. The configuration management data shall identify all cable plant, hardware, software, media, firmware, and associated documentation of systems and procedures. The contractor shall use the data to manage the configuration of the system to facilitate transition and O&M. Configuration Management Data, including as-builts will be delivered to the Government 30 days after cut-over/tenant move-in (TMI).

C.5.5 Security Classification Labeling

The contractor shall label each rack row in the telecommunication spaces with the security classification of the row prior to installation of cabling and equipment.

The contractor shall mark, tag, or label all communication cables with a cable identification in accordance with applicable standards. The contractor shall label the cable when it is installed.

C.5.6 Quality Control (QC) and Quality Assurance (QA)

C.5.6.1 Quality Control (QC)

The contractor shall develop a Quality Control Plan (QCP) and deliver it to the Government within 30 calendar days after exercise of option. The QCP shall define quality goals, activities, resources, processes, responsibilities and procedures. The contractor shall adhere to the QCP during performance of the contract.

C.5.6.2 Quality Assurance (QA)

The Government will provide the contractor standardized QA checklists for reference. The Government will use the QA checklists during inspections to note and report deficiencies. The Government will record deficiencies in a QA Inspection Report, which will be provided to the contractor. The contractor shall correct deficiencies within fourteen (14) calendar days after receipt of the QA Inspection Report.

C.5.7 Operations and Maintenance

The contractor shall O&M the ITS&I prior to transition to the O&M agency for up to 90 days after tenant move in.

C.5.7.1 Operations & Maintenance Support and Trouble Reporting

The contractor shall respond to network troubles that may be identified via the contractor's own proactive network monitoring, or via customer generated trouble reports. The customer may generate trouble reports directly into the Pentagon Renovation Help Desk and/or the ODOT&C NSMC Help Desk.

The contractor shall respond to trouble reports identified as affecting a group of individuals that is greater than, or equal to 25, or affects a General Officer (or equivalent) within two hours of notification. The contractor shall commence troubleshooting/repair actions and work continuously until the problem is resolved.

The contractor shall respond to trouble reports identified as affecting an individual or group of individuals that is less than 25, within the next business day of notification. The contractor shall commence troubleshooting/repair actions and work continuously until the problem is resolved.

The contractor shall place trouble tickets in a deferred status in the event that the customer is not available to participate in joint resolution of the trouble.

The contractor shall be available to respond to emergency Government help requests on a 24-hour basis.

C.5.7.2 O&M Transition

The contractor shall deliver an O&M Transition plan that provides a schedule, identifies resources, documentation, support and training necessary to implement transfer of operation and maintenance from the contractor to the government. Topics covered by the plan include:

- As-installed configuration data
- enhanced product support for required components
- maintenance training for components that are new additions to the existing Pentagon architecture configuration
- necessary Test/Tools Measurement and Diagnostic Equipment (TMDE) and initial spares for support of the installed system

The O&M transition plan is provided to the Government 180 days prior to first scheduled transition. Once the government approves the plan, the contractor shall provide the identified transition plan elements.

The contractor shall provide documentation to prepare Government personnel and/or Government contractors for system operator and maintenance responsibilities at "system" acceptance. The documentation shall also serve as the information baseline for life-cycle operation and maintenance responsibilities. Equipment/software manuals that are commercially provided with equipment/software being installed under this effort shall be provided. Documentation may be provided in hardcopy or softcopy.

C.5.8 Training

The contractor shall provide a training plan that details the contractor's approach to providing the training described in the following paragraphs. The recommended training shall be commercially offered training with only minor modification to include ITS&I-specific training material.

C.5.8.1 Operation and Maintenance Training

The Operation and Maintenance (O&M) training shall enable Government and/or third party contractor personnel to perform remote and/or on-site operation and maintenance of the system (active and passive equipment) to be installed.

C.5.8.2 System Capability Training

The system capability training shall describe the capabilities of the ITS&I from the perspective of the end-user and the necessary steps an organization must take to achieve those capabilities.

C.5.8.3 Telephone Subscriber (Lead Instructor) Training

The telephone subscriber training shall cover all features/functions to include each type of telephone/data instrument that is provided under this contract.

C.5.9 Program Management

The contractor shall provide personnel resources, management systems, and facilities to successfully plan, organize, staff, direct, and control the implementation of the contract.

The contractor shall provide program- and project-level data with regard to contract expenditures, problems in delivery, major milestones, and scheduling of work. Monthly reports are submitted within 10 calendar days following the end of the month via transmittal letter.

- **Subcontractor Management.** If subcontractors are used, the contractor shall integrate subcontractor performance into overall program/project accomplishment.
- **Agendas and Minutes.** The contractor shall prepare agendas, as well as minutes for design reviews, technical interchange meetings, status reviews, and other formal reviews/meetings for Government approval.
- **Reviews and Meetings.** The contractor shall conduct the following reviews and meetings:
- **Program Status Review.** The contractor shall conduct and participate in monthly (or as-required) reviews of the overall program. These reviews shall be conducted at Government facilities at no additional cost to the Government. These reviews shall be coordinated with the COR and/or the Contracting Officer.

C.6 CONTRACTOR REQUIREMENTS

C.6.1 Storage and Workspace

The contractor shall provide storage facilities off the Government site for installation materials, test tools, and equipment. The contractor shall not store supplies or equipment on the Government site unless they are being used or scheduled for installation within 1 week.

The Government will provide space for contractor-provided office trailer(s). Utilities, including telephone, are the responsibility of the contractor.

C.6.2 Transportation and Delivery

The contractor shall be responsible for all transportation of materials from vendors to storage facilities, from storage facilities to the Government site, and materials returned from either the Government site or the storage facilities to the vendor. The contractor shall make all necessary arrangements for admittance to the Pentagon reservation in accordance with Pentagon policy.

C.6.3 Trash Removal and Pickup

The contractor shall be responsible for pickup and removal of all debris (trash, boxes, packing materials, etc., and any excess materials resulting from installation of the ITS&I) on a daily basis. The contractor shall ensure that trash and excess materials are promptly removed from the work areas so that they do not become a fire or safety hazard. All debris shall be removed from the Pentagon Reservation at the expense of the contractor. The use of Government or other contractor trash receptacles is prohibited unless expressly authorized. The Government may require the ITS&I contractor either to provide personnel for the general contractor's daily cleanup crew or to accept back charges from the general contractor for cleanup if the ITS&I contractor fails to keep his debris cleaned up daily.

C.6.4 Building Badges

The contractor shall be responsible for completing the necessary applications required to acquire a Pentagon building badge for any contractor personnel assigned to this project.

C.6.5 Permits

The contractor shall obtain all necessary licenses and permits.

C.6.6 Safety

The contractor shall comply with the Occupational Safety and Health Act (OSHA) Standards as well as the most recent Corps of Engineers Safety and Health Requirements Manual (EM 385-1-1), available in the technical library. EM 385-1-1 with applicable addenda and the OSHA Standards are hereby incorporated by reference. Special facilities, devices, equipment, clothing and similar items used by the contractor in the execution of work shall comply with the applicable regulations.

C.7 OPTIONAL REQUIREMENTS

The contractor, upon written request by the Contracting Officer, shall prepare a technical proposal and a cost proposal to provide Technology Retrofit, Operations & Maintenance, and/or pre-renovated ITS&I upgrades, including but not limited to NSMC upgrades.

The contractor's technical proposal shall provide a detailed design plan for upgrading the technology in identified renovated areas to that of the current wedge architecture and design in accordance with this SOW. The Technology Retrofit proposal shall include any passive and active components required to implement the upgrade as well as integration support.

The cost proposal shall include the cost of design, integration, implementation, and equipment. The contractor shall provide quantity discounts, if available. Upon acceptance of the proposals, revised as necessary, the Contracting Officer shall modify the contract to exercise the options and to incorporate the proposals.

C.7.1 Technology Retrofit

As an option, the contractor shall provide detailed design, integration and implementation support to IM&T and/or the ODOT&C for ITS &I technology retrofit within previously renovated, un-renovated, and Pentagon Renovation related sites. Technology retrofit will include, but is not limited to, upgrading or replacing the ITS &I in the previously renovated areas to upgrade the technology to the current technology being implemented in the wedge under going renovation.

C.7.2 Pre-Renovated Backbone

As an option, the contractor shall furnish an overall design plan and a detailed design plan for implementing ITS&I connectivity to the main telecommunications space on each floor of the unrenovated wedges based on the current

wedge architecture and design. The pre-renovated backbone design shall be of the same level of detail and follow the same guidance as the overall wedge design. The Pre-renovated Backbone will include the passive and active components required to implement the ITS&I architecture in the unrenovated wedges. Upon Government acceptance of the design plans, the contractor shall implement the design in the unrenovated wedges.

C.7.3 Temporary Communication Air-Blown Fiber Grid (TEMPCOM ABF)

As an option, the contractor shall provide detailed designs and installation of TEMPCOM ABF throughout the Pentagon reservation and related sites to support network reach-back to un-renovated spaces.

C.7.4 Network System Management

As an option, the contractor shall furnish an overall design plan and a detailed design plan to replace the existing Network System Management Center (NSMC) to incorporate state-of-the-art technology. The new NSMC would be required to fully replace all functions and capabilities of the existing NSMC. The new NSMC must be fully integrated with the infrastructure in all previously renovated areas of the Pentagon. The NSMC design will include the passive and active components required to implement the new system. Upon Government acceptance of the design plan, the contractor shall implement the design.

C.7.5 Relocations, Upgrades, Moves

As an option, the contractor shall furnish a detailed design for tenant implementations to support relocations, upgrades, or moves of tenant organizations to Swing-Space locations either within, or external to, the Pentagon reservation. Upon Government acceptance of the detailed design, the contractor shall implement the design.

C.7.6 Operations & Maintenance Extension

As an option, the contractor shall provide full-time O&M support to include, but not limited to, Network Systems Management, Level II, and Level III support for a base period of one year with six one year options.

C.8 SPECIAL CONSIDERATIONS

C.8.1 Disclaimer Statement

All reports resulting from this effort shall contain the following disclaimer statement on the cover of such reports:

“The views, opinions, and findings contained in this report are those of the author(s) and should not be construed as an official Department of the Army or Pentagon Renovation Program position or decision, unless so designated by other official documentation.”

C.8.2 Commercial Warranty

The contractor agrees that supplies and/or services furnished under this contract shall be covered by the same standard warranties the contractor gives to any customer for such supplies and/or services; and the rights and remedies provided herein are in addition to and do not limit any rights afforded the Government by any other clause of this contract. Warranty shall begin at the start of the 30-day continuous operation period prior to Government acceptance, as described in this SOW.