

10 MAY 2005



**AIR NATIONAL GUARD SYSTEMS
TELECOMMUNICATIONS ENGINEERING
MANAGER - BASE LEVEL (ANG STEM-B)
PROCEDURAL GUIDANCE**

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

NOTICE: This publication is available digitally on the AFDPO WWW site at:
<http://www.e-publishing.af.mil>

OPR: ANG/SC (CMSgt M. Robinson)

Certified by: ANGRG/CV (Col S. Wassermann)

Pages: 49

Distribution: F

This Instruction implements Air Force Policy Directive (AFPD) 33-1, *Command, Control, Communications, and Computer (C4) Systems*, and is linked to AFI 33-103, *Requirements Developing and Processing*, AFI 33-104, *Base Level Planning and Implementation*, AFMCI 33-104, *Engineering Installation (EI) Procedures*. This instruction establishes policies and procedures and provides guidelines for Air National Guard (ANG) Systems Telecommunications Engineering Managers (STEM) in planning the Communication Information Systems to implement base architecture in support of planned Command, Control, Communications, Computer, Intelligence, Surveillance and Reconnaissance (C4ISR) Systems requirements. All included references to STEM are understood to refer to the ANG STEM-B unless otherwise stated. This publication applies to ANG Engineering Installation (EI) units.

| | |
|--|----------|
| Chapter 1— GENERAL INFORMATION | 4 |
| 1.1. ANG STEM Concept. | 4 |
| 1.2. Related References. | 4 |
| 1.3. Objective. | 4 |
| 1.4. Responsibilities. | 4 |
| Chapter 2— BLUEPRINT DEVELOPMENT PROCEDURES | 9 |
| 2.1. C4ISR Inforstructure Planning System (CIPS) database Base Blueprint. | 9 |
| 2.2. General Information. | 9 |
| 2.3. Continuous Review Process. | 9 |
| Figure 2.1. Determining Core Building Heirarchy | 12 |
| Table 2.1. CIPS Commodity and Subcommodity Codes | 13 |

Chapter 3— REQUIREMENTS PROCESSING 14

3.1. New Requirements. 14

3.2. Tracking. 15

3.3. Implementation. 15

Figure 3.1. ANG Communications System Requirements Development Process 17

Chapter 4— CONTRACTING 18

4.1. General Process. 18

4.2. ANG STEM Responsibility. 18

4.3. ANG/C4CE Responsibility. 19

4.4. COR Responsibilities. 19

Chapter 5— TRAINING POLICY GUIDANCE 21

5.1. General. 21

5.2. ANG/C4CE Responsibility. 21

Attachment 1— GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION 22

Attachment 2— CIPS REVIEW CRITERIA 28

Attachment 3— DISTRIBUTION SYSTEMS MINIMUM 29

Attachment 4— VOICE SWITCHING SYSTEMS MINIMUM 31

Attachment 5— DATA SYSTEMS MINIMUM 33

Attachment 6— NETWORK CONTROL CENTER MINIMUM 35

Attachment 7— FLIGHT SUPPORT SYSTEMS MINIMUM 37

Attachment 8— LONG HAUL SUSTEMS MINIMUM 39

Attachment 9— RADIO SYSTEMS MINIMUM 40

Attachment 10— VIDEO SYSTEMS MINIMUM 42

Attachment 11— SECURITY SYSTEMS MINIMUM 43

Attachment 12— OTHER SYSTEMES MINIMUM 45

Attachment 13— MISSION STATEMENT MINIMUM 46

| | |
|---|-----------|
| ANGI33-104 10 MAY 2005 | 3 |
| Attachment 14— MILITARY CONSTRUCTION/MODIFICATIONS | 47 |
| Attachment 15— DEMOGRAPHICS | 48 |
| Attachment 16— LOGICAL BAN LAYOUT MINIMUM | 49 |

Chapter 1

GENERAL INFORMATION

1.1. ANG STEM Concept. ANG STEM is responsible for providing base technical engineering planning and consulting services, broad-gauge technical solution and broad-gauge cost estimates as required to support major C4ISR systems. The ANG STEM will also collaborate with Base Communications Flight Plans and Implementation Office, Base Civil Engineering and other base agencies, in the development and maintenance of the Base C4ISR Infostructure Planning System (CIPS) Systems Blueprint. The Base CIPS Blueprint is a document that identifies the current status of the bases' C4ISR systems, lists known shortfalls, outlines a future (target architecture) configuration that will eliminate any known or anticipated shortfalls, and describes how the base can migrate to the target configuration in an affordable, incremental manner (phases). The ANG STEM assigned to support each base oversees and manages the engineering planning services provided by Air National Guard Engineering Installation Squadrons (EIS). The ANG STEM efforts concentrate on development and maintenance of the Base CIPS Blueprint. The CIPS Blueprint is the long-range communication engineering plan, focused on the economical and orderly development of an efficient, integrated Base C4ISR transport system. To ensure consistency with the ANG plans and the CIPS Blueprint guidance, the ANG STEM will be the focal point for all technical solutions impacting the Base C4ISR information transport system.

1.2. Related References. See [Attachment 1](#).

1.3. Objective. The ANG STEM will provide a responsive means of supporting customer requirements while implementing Air National Guard architectures at base level. In this context, "responsive" means better integration of CIPS requirements and implementation efforts; wiser and more efficient spending of IT dollars; more accurate requirement forecasting (budgeting); better use of engineering and installation resources; and better resolution of the customer's needs and requirements. The CIPS Blueprint will provide a transition plan, providing for the orderly modernization and implementation of a cost-effective base-wide digital information transport system to support voice, data, video, telemetry, etc., (i.e., all C4ISR needs of the present and envisioned future).

1.4. Responsibilities.

1.4.1. ANG Command, Control Communications and Computers (ANG/C4) responsibilities.

1.4.1.1. Pass information concerning downward-directed Air Force (AF) and ANG unique programs impacting the base information transport systems and phased implementation schedules to the STEMs.

1.4.1.2. Coordinate with System Program Offices (SPOs) to ensure major programs are properly documented in the Blueprint, systems integration issues are adequately addressed, and assess impact on related information transport systems and planned requirements.

1.4.1.3. Consult with the systems engineers and assess the impact of C4 acquisition programs on base information transport systems. Assessments include reviewing design specifications for compliance with the ANG CISA, identifying interface requirements, and recommending any parallel actions involving the information transport system to assure new C4 systems can be implemented.

- 1.4.1.4. Assist and support the ANG in the formulation of Program Objective Memorandum (POM) for base C4 transport systems by providing costs, technical details, technical justifications, and solutions. Any assistance in justifying a POM submittal should be limited to the technical defense of solutions and costs versus defending the requirement.
 - 1.4.1.5. Meet and coordinate with National Guard Bureau (NGB) offices, ANG Chief Information Officer (CIO) and AF to review requirements and programs for integration. Develop technical solutions, identify trends, identify funding requirements, develop funding strategies, and develop implementation schedules to be applied ANG wide.
 - 1.4.1.6. Coordinate efforts of ANG STEMs to ensure consistency in services provided to the bases and ensure the Blueprint satisfies ANG architecture and objectives. Measure quality of the Blueprints.
 - 1.4.1.7. Monitor major AF directed programs to develop impact assessments of the programs on base level infrastructure, and provide appropriate input.
 - 1.4.1.8. Accept and process only Communications Requirements Documents (also referred to as AF Information Management Tool (IMT) AF 3215, *IT/NSS Requirements Document*, Communication-Computer Systems Requirement Document (CSRDs), or any other format historically used to establish a communications requirement, reviewed and forwarded/signed by ANG STEM for ANG/C4 action.
- 1.4.2. ANG Global Communications Division, Engineering Installation Branch (ANG/C4CE).
- 1.4.2.1. Develop procedural policy, required directives, and general guidance necessary for implementing the ANG STEM program. Provide policy, planning, and funding support for the entire ANG STEM program.
 - 1.4.2.2. Research and compile information from the ANG/C4 staff, ANG STEMs, and customers to evaluate ANG STEM processes.
 - 1.4.2.3. Identify procedural changes and process improvements to improve overall STEM program performance.
 - 1.4.2.4. Serve as the ANG functional administrator for all aspects of the CIPS. These responsibilities include but are not limited to STEM/CIPS working group representative and ANG CIPS database administrator.
 - 1.4.2.5. Analyze the process used to develop and maintain Blueprints, develops improvements, and writes appropriate policy and procedures.
 - 1.4.2.6. Act as technical consultant, providing assistance to the ANG in defining and clarifying requirements.
 - 1.4.2.7. Attend NGB and AF meetings as required.
 - 1.4.2.8. Conduct a meeting at least once a year with the all STEMs.
 - 1.4.2.9. Work with the ANG representatives to identify any equipment or data that is classified or has the potential of being classified when combined with other sensitive information. Evaluate Blueprint for content and quality during production and ensure no classified information appears in the Blueprint. Review completed documents provide signature and endorsement.

1.4.2.10. Serve as consultant to the ANG STEM and ANG Bases on matters relating to obtaining or expediting Engineering Installation Squadron support services.

1.4.2.11. Oversee the ANG STEM training program and training support provided by the 38th Engineering Installation Group (EIG).

1.4.2.12. Develop and administer the ANG STEM operation/travel and training budget.

1.4.2.13. Forecast future Information Technology (IT) infrastructure work and ANG EIS engineering and installation workload using CIPS Initiatives and Blueprint Phased Implementation Directives (BPIDs).

1.4.2.14. Execute infrastructure upgrade and new infrastructure implementation using CIPS BPIDs.

1.4.2.15. Evaluate customer satisfaction with services provided by STEM program.

1.4.2.16. Task ANG STEM Council to conduct a complete review of the ANG STEM-B Operating Instruction Annually and submit any required changes for publication.

1.4.3. EI Unit Responsibilities to STEM Program. In the ANG the duties of the STEM are a complement to the traditional aspects of EI Squadron functions. To assist the EI unit commanders in meeting this responsibility, each unit will have not less than one full time STEM position authorized and funded for every three STEM bases assigned. It is the responsibility of the EI unit commander to ensure STEM duties are carried out and assignment of any additional duties does not detract from complete STEM duties. The ANG STEM is the engineering management and configuration control consultant for the ANG Base C4 information transport system. The primary responsibility of the ANG STEM is to act as a planner and internal technical consultant to the C4 community. The ANG STEM provides documentation of C4 information transport systems and defines information transport systems implementations/upgrades required to support base infrastructures and mission. The ANG STEM is also the base advocate in the communications arena. As a base advocate, the ANG STEM will assist in proper channeling of base requirements through ANG/C4 and the larger Air Force communications community.

1.4.4. ANG STEM Responsibilities. The ANG STEM is responsible for ensuring base requirements are appropriately and efficiently planned. As a base advocate in the communications community the ANG STEM may be required to:

1.4.4.1. Review and forward all infrastructure and networking requirements documents for compliance with ANG standard architecture.

1.4.4.2. Assist in defining, clarifying, and documenting C4 requirements.

1.4.4.3. Review base Communication Flight (CF) technical solutions and accomplish technical solutions when beyond base CF capability.

1.4.4.4. Assist in developing and maintaining elements of CIPS.

1.4.4.5. Document the C4 information transport systems. The C4 information transport system is documented in the Base C4 Systems Blueprint. The Blueprint is to include, but is not limited to, switching and transmission systems, local area networks (LAN), cabling infrastructure, Radio Frequency (RF) systems, video systems, and network management and control. Depending upon

the base mission, the Blueprint may also document flight support systems, radio systems, video systems, and security systems.

1.4.4.6. When necessary coordinate with other communications agencies to ensure that all tenant organizations are adequately addressed in the Blueprint.

1.4.4.7. ANG Units that are colocated with or are a tenant of an AF or Reserve location, the STEM will coordinate ANG CIPS Initiatives and BPIDs with the assigned 38 EIG STEM-B. The STEM will maintain the CIPS database for the the ANG unit under the ANG Major Command (MAJCOM) section. The focus of the STEM is to ensure ANG interests are represented and documented in the CIPS system.

1.4.4.8. Provide projection of information transport systems upgrades. Through the Blueprint process, the ANG STEM must ensure the base Information Transfer System (ITS) supports the future needs of the ANG as identified in the defined target architecture. The STEM will also recommend information transport system upgrades required to support standard C4 systems. ANG Global Communications Division (ANG/C4C) maintains baseline and configuration control of C4 systems; the ANG STEM ensures that the information transport system is capable of supporting the approved C4 systems.

1.4.4.9. Assist in integrating communication-computer requirements with the local Operations and Maintenance (O&M) activity to eliminate duplication of effort and minimize required resources.

1.4.4.10. Work with the base informations security manager to ensure classified information does not appear in a Blueprint. When applicable all classified material will appear in a classified supplement to the Blueprint.

1.4.4.11. Work with base Sicure Internet Protocol Routed Network (SIPRNET) management personnel and Air Forse Systems Networking (AFSN) to accomplish the SIPRNET portions of the Blueprint.

1.4.4.12. Coordinate with Plans and Implementation for endorsement and base approval of completed Blueprints.

1.4.4.13. Work closely with the ANG/C4 staff to resolve issues involving Blueprint implementation and funding.

1.4.4.14. Assist in developing cost estimates for POM submittals.

1.4.4.15. Maintain close contact with base through quarterly visits to the base, Video Teleconferencing (VTC) whenever cost effective, and frequent use of email and telephone calls. Geogrphicly Serperated Units (GSUs) will be visited annually or more often as required. In advance of travel, the STEM should contact the CF to ensure key personnel will be available, coordinate and complete an agenda in, in-brief and out-brief Comm squadron commander during visit and file a trip report detailing actions completed and suspense actions generated from the visit.

1.4.4.16. Attend Civil Engineering (CE) design reviews Site Action Task Force (SATAF) meetings, Facilities Utilization Board and other meetings as necessary. The ANG STEM serves as a technical advisor to the Communications and Information Systems Officer (CSO) and may be required to propose, defend, and negotiate changes to planned C4 and Military Construction Program (MCP) / Sustainment Repair and Manintenance (SRM) construction projects.

- 1.4.4.17. Review non-appropriated funded, SRM, and O&M projects.
- 1.4.4.18. Assist in MCP reviews and Base Comprehensive Plan development.
- 1.4.4.19. Attend military and commercial technical seminars to stay informed of advances in military and commercial communications technology improvements.
- 1.4.4.20. Attend communications conferences and symposiums to stay informed of changes in Vision and objectives of communications and operations leadership.
- 1.4.4.21. Attend technical or managerial training sessions to stay current with communications standards, advances in communications technology and improvements in methods of fielding new technologies.

Chapter 2

BLUEPRINT DEVELOPMENT PROCEDURES

2.1. C4ISR Inforstructure Planning System (CIPS) database Base Blueprint. The CIPS database Base Blueprint is considered a living document. The information is continuously available at <https://MyCIPSAf.tinker.af.mil/CIPS/my.CIPS/> and encompasses war-fighting mission changes, standardization, and technological advancements.

2.2. General Information.

2.2.1. As a collaborative effort, the STEM and Base Plans and Implementation (SCX) obtain information needed to create and maintain the CIPS database. The CIPS database documents the baseline, identifies a target base CI environment and the target information transport system. Target architecture will be provided to the STEM. Target architectures can be further validated using 38 EIG Handbook 33-06, *Base Information Transport System – Engineering Planning (BITSEP)*. The CIPS Base Blueprint also provides a time-phased, ten years (and beyond) plan that includes all required budgetary information for the POM process that summarizes the Initiatives to complete a logical transition to the target environment

2.2.2. The CIPS data set is “facility-centric” and requires facility identification to make nearly all associations between related CIPS elements. Therefore, it must be the first step in the data entry process. When entering Base information into the CIPS database, facility characteristics must be entered first. The bulk of the facility information can be obtained from the Base Civil Engineer (BCE) Real Property person or directly from the Automated CE System (ACES-RP) program. Construction information related to MCP and SRM projects will also be obtained from the BCE. Only summary data for MCP or SRM projects is entered into CIPS. The key data is the related CIPS Project Identifier. Determination and of identification of facility Core Category is a STEMs responsibility and is accomplished using the flowchart at **Figure 2.1**.

2.2.3. The CIPS Base Blueprint provides recommendations on target architectures for each Commodity that support the Department of Defense (DoD) Global Information Grid. The CIPS Blueprint summarizes a strategy to support the total force objectives of the ANG, the United States Air Force, and the DoD missions through proper alignment of current and future mission requirements with communication systems and services. The CIPS Base Blueprint provides summary information for Initiatives and Shortfalls for each Commodity area. CIPS also provides a way to associate Initiatives, Blueprint Implementation Plans (BIPs) and BPIDs dynamically allowing costs to be viewed by projected Fiscal Year (to be funded).

2.3. Continuous Review Process.

2.3.1. The STEM, must collaborate with the Base CSO and SCX to conduct a CIPS information review. The review can be conducted via phone or e-mail but in some cases requires a base visit. Re-endorsement is not required for the quarterly review.

2.3.2. Requirement Tracking. Ensure that all requirements are included in the CIPS Requirement Tracking Module (RTM) and the implementation costs are accurate.

NOTE: The STEM will ensure the base CSO understands the STEM is available for technical consultation and guidance. The STEM, CSO, and SCX relationship is the driving force in assuring complete and accurate results of the base Blueprint survey are documented and distributed.

2.3.2.1. Communications and CE, (Master Plan, MCP, SRM) Data Reviews. Base information will be sent to the STEM as it is received or as it changes. This information is commonly prepared by the base Plans and Implementation Office. Discrepancies and questions about the data should be reviewed and cleared up as soon as identified. This may involve trips to the base civil engineer or other local agencies to verify a particular construction program or required date.

2.3.2.2. Communications Data Reviews accomplished during base visit.

2.3.2.2.1. During site visits, information in CIPS will be reviewed.

2.3.2.2.2. Communications Systems Installation Record (CSIR) data will be reviewed during facility visits to synchronize with CIPS data. Updates remain a CF responsibility.

2.3.2.2.3. CIPS Initiative Review: These documents are reviewed to verify that all identified and projected Shortfalls are addressed for each Commodity. Included in this review are the associations between each Initiative and all related BPIDs and BIPs. The BPID and BIP review is to validate required funding year time phasing, scope of work covered and accuracy of costs.

2.3.2.2.4. Compare distribution cable records with CIPS data. Additional cable record information can be included in CIPS as tabular data beyond summarizing conductor counts, utilization rates, bad conductor counts and shortfalls related to each cable. Additional diagrams, sketches and other compatible files may be attached to CIPS to provide additional clarity at the discretion of the STEM.

2.3.2.2.5. Review annotated as-built drawings that show all changes to the Communications, Computer, Command, and CSIRs affected by communication personnel and contractors.

2.3.2.2.6. Review all planned Communications Requirements.

2.3.2.2.7. Discuss and evaluate possible solutions to significant maintenance problems within the C4ISR systems.

2.3.2.2.8. Discuss communication requirements for tenant organizations and GSUs.

2.3.2.2.9. Review IT Assessments or data call submissions.

2.3.2.2.10. Land Mobile Radio (LMR) Management. Verify base LMR data with CIPS

2.3.2.3. Civil Engineering Data Reviews.

2.3.2.3.1. Review status of allied support for ANG EIS and contracted communications projects.

2.3.2.3.2. Review and discuss milestones for all construction and removal projects impacting the base information transport systems.

2.3.2.3.3. Review Tab M-3 (Construction). This data represents the upcoming construction programs for the next five fiscal years. Ensure all information is consistent and reasonable. The Tab M-3 is a part of the Base Master Plan which shows all future construction projects, removals, and/or changes to the base.

2.3.2.3.4. Review a copy of all CE Tab G drawings for reference in planning routes and minimizing distribution system conflicts. Tab G-6 would show supporting structures for communications utilities.

2.3.2.3.5. Review DD Forms 1391, *Military Construction Project Data*, for future construction projects, which have a potential impact on communications and/or their structures.

2.3.2.3.6. Review base (and GSU) unit relocation plans.

2.3.2.3.7. Review building removal schedule for status of base building removal plans. This schedule should align with any new construction (MCP, O&M, etc.) identified by the civil engineers.

2.3.2.3.8. Review "As Built" fundamental layout plan (normally defined as the Tab C-1, Base Layout from Civil Engineering). The Tab C-1 of the Base Master Plan will be used for familiarization with the existing condition of the base

2.3.3. CI Systems Diagramming. The STEM will develop diagrams and include them in the Blueprint to describe the current and target CI transport systems. Suggested diagrams might include:

2.3.3.1. A drawing of the current target information transport system will show all Information Transfer Node (ITN) locations, connectivity medium between ITN and End Building Node (EBN) equipment. See [Attachment 16](#).

2.3.3.2. A drawing of the proposed target information transport system will show all ITN locations, connectivity medium between ITNs, and node equipment.

2.3.3.3. A drawing of the RF Interference zones overlaid on the Base Layout.

2.3.4. CIPS Commodity Codes. See [Table 2.1](#).

Figure 2.1. Determining Core Building Heirarchy

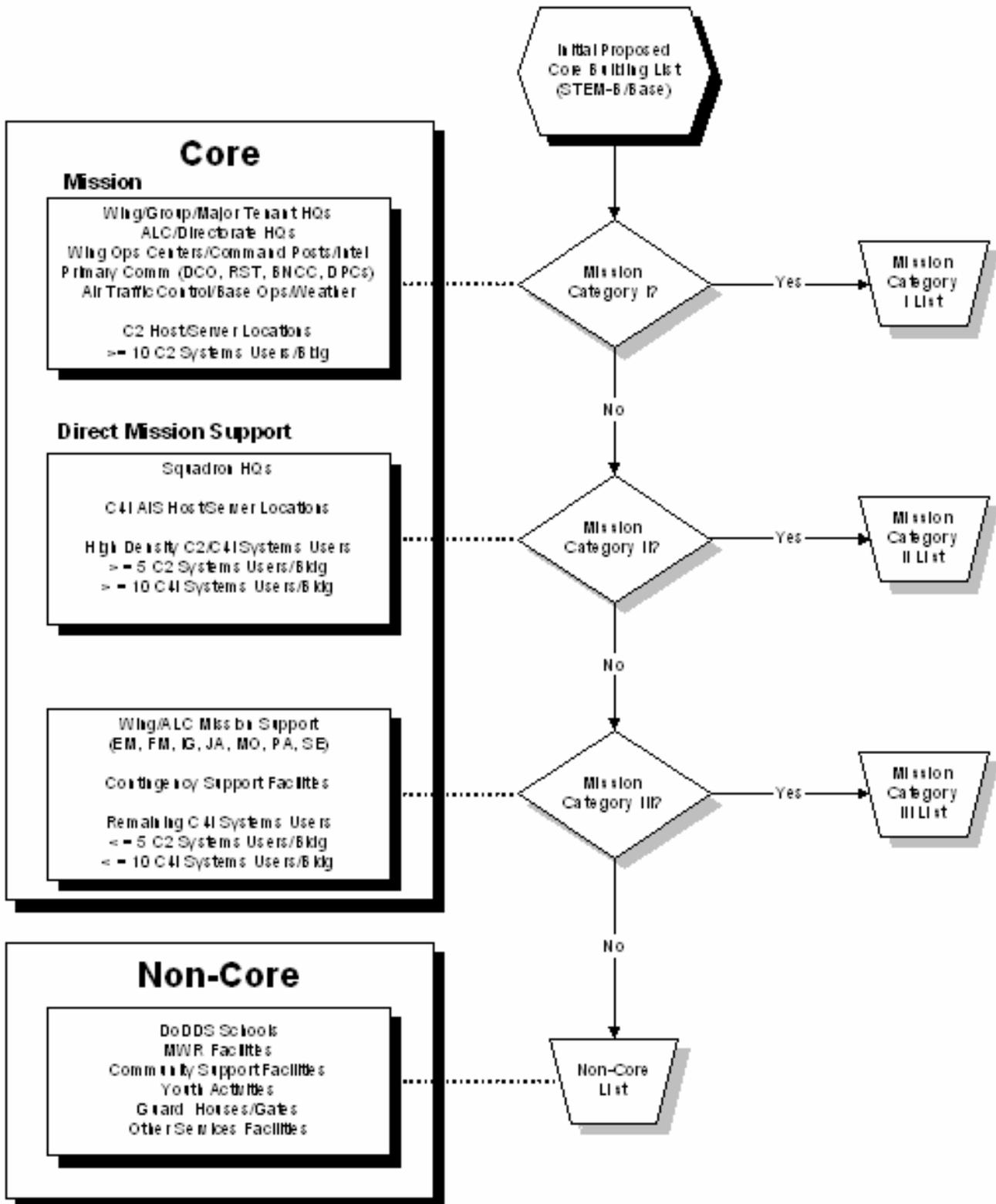


Table 2.1. CIPS Commodity and Subcommodity Codes

| Commodity | Code |
|--|-------------|
| Distribution System | DS |
| Coax Cable | COAX |
| Copper Cable | COP |
| Fiber Optic Cable | FOC |
| Maintenance Hole Duct System | MDS |
| Wireless Link | WLINK |
| Voice Switching Systems | VSS |
| Customer Premise Equipment/Phones | CPE |
| Key System | KS |
| Main Distribution Frame (MC) | MDF |
| Voice Switch | PBX |
| Remote Voice Switch | RST |
| Secure Customer Premise Equip/Phones | SCPE |
| Secure Voice Switch | SPBX |
| Flight Support Systems | FSS |
| Voice Switching System (e.g., ETVS, VCSS, STVS, J-314, DVRS) | FVSS |
| NAVAIDS (ILS, TACAN, VOR, MLS) | NAV |
| Radar (ASR, PAR, Canopy, Consoles) | RAD |
| Weather | WX |
| Data Systems | DAT |
| AIS Server | ASVR |
| BAN Equipment | BAN |
| Computers | COMP |
| LAN Equipment | LAN |
| Premise Wiring | PW |
| Secure BAN Equipment/Crypto | SBAN |
| Secure LAN Equipment/PDS | SLAN |
| Wireless LAN | WLAN |

| Commodity | Code |
|--|-------------|
| Network Control Center | NCC |
| Core Server | CSVR |
| Firewall | FW |
| Information Assurance | IA |
| Long Haul Systems | LHS |
| Dedicated Circuits | DCKT |
| Line of Sight Radios | LSR |
| NIPRNet | NIPR |
| Over the Horizon Radios | OHR |
| SCI Networks | SCINET |
| SIPRNet | SIPR |
| Technical Control Equipment | TCE |
| Radio Systems | RS |
| Ground to Air Radio System | GAR |
| Land Mobile Radio | LMR |
| Personal Wireless Communication System | PWCS |
| Video System | VS |
| Closed Circuit TV/Cable TV | CCTV |
| Secure VTC | SVTV |
| Video Teleconferencing System | VTC |
| Security Systems | SEC |
| Entry Control System | ECS |
| Intrusion Detection System | IDS |
| Monitor Control/Annunciator | MCA |
| Video Surveillance | SURV |
| Other Systems | OS |
| CSA | CSA |
| Maintenance Contract | MCON |
| O&M Contract (By C4CE) | OMC |
| Other Services | OSVS |
| Giant Voice/Public Adress | PA |

Chapter 3

REQUIREMENTS PROCESSING

3.1. New Requirements.

3.1.1. In accordance with AFI 33-101, *Communications and Information Management Guidance and Responsibilities*, Paragraph 4.2., all requirements impacting the base information transport system will be reviewed by the STEM for architecture compliance, regardless of the initial recipient's office or the type of action required. Exceptions to these requirements include manning assists, wartime requests/taskings, small adds moves or changes to the first 400 feet delivery infrastructure that do not require additional equipment, and Automated Data Processing Equipment (ADPE) requirements that meet Infostructure Technical Reference Model (iTRM) specifications or are purchased through AFWay.

3.1.2. Funding Strategies.

3.1.2.1. Periodically work with base CF to have unfunded requirements included in Base unfunded submissions.

3.1.2.2. The STEM will coordinate with ANG/C4 to ensure that requirements of Base level funded initiatives do not conflict with any known MAJCOM or ANG/C4 downward directed program initiatives before approving and returning to the Base for CF implementation.

3.1.3. Processing Technical Solutions:

3.1.3.1. For a CF provided technical solution and costing review. The STEM will ensure the technical solution and cost estimate (broad gauge) information is on any communication requirement sent to ANG/C4C for approval. The STEM updates the CIPS by creating a BIP/BPID for the requirement before forwarding to ANG/C4C.

3.1.3.2. For a CF requested technical solution and costing. The STEM will research with Functional Area Experts (FAE) to develop an appropriate technical solution and (broad gauge) cost. The technical solution and costing is returned to the CF requestor for approval. Once the communication requirement is approved by the CF, the STEM updates the CIPS by creating a BIP/BPID for the requirement before forwarding to ANG/C4C.

3.1.3.3. For a request for detailed technical solution and cost estimate (List of Materials (LOM) development and manday/manhour estimates). The STEM may choose to use either the EI support or contractor method. The EI support method will be selected whenever possible

3.1.3.3.1. The completed requirement will be reviewed to ensure all information is correct and is added to CIPS for the Base as a Broad Gauge Costing, showing the date sent out in the "Forwarded to FAE" milestone date. Any pertinent notes that the assigned engineer will need to accomplish the task in accordance with (IAW) the Base Blueprint, should also be added.

3.1.3.3.2. If EI method is selected, the requirement will be first offered to the STEM hosting EI unit and will be forwarded to Total Force Group (TFG) for EI unit selection by the TFG representative only if the hosting EI unit cannot support the requirement within required time constraints

3.1.3.3.3. When no EI unit can complete the work, then the contractor method is selected. The requirement will always be forwarded to the TFG for contractor implementation unless the the funding is executed at the base level rather than through ANG/C4CE.

3.1.3.3.4. When the technical solution and cost estimate is complete, it is returned to the STEM. The STEM reviews the information, update the CIPS (updating the appropriate milestone date) and forwards the information to the customer.

3.1.3.4. For a communications requirement documented in the CIPS and already approved for implementation (engineering and/or installation), then a BIP and BPID will be generated to the funding agency, normally the TFG or the Base CF.

3.1.3.4.1. During the engineering site survey, costs will be compared to the broad gauge costs to ensure the project(s) can be completed within the costs shown on the BPID. Funding adjustments or technical issues should be jointly worked between the C4CE, the EI unit, the STEM and the customer.

3.1.3.4.2. If the requirement is selected for ANG or 738 EIS assignment, it is an ANG/C4CE responsibility to accomplish the production-planning. If there are no issues from the initial site survey (e.g., Project Support Agreement (PSA) concurrence is not signed), the program implementation may proceed. Once funding is allocated, the project will be sent to the ANG/C4CE TFG representative for inclusion in the ANG Master Work Plan (MWP) for installation in the appropriate Fiscal Year.

3.1.3.4.3. To assure a smooth transition from planning to the implementation phase, the Base SCX office should work closely with the STEM and the ANG/C4CE TFG representative to ensure EI installation teams or contractor installers are available as the actions agreed upon in the PSA are nearing completion and project LOM delivery dates approach.

3.1.3.4.4. TFG program implementation is the responsibility of the ANG/C4CE.

3.2. Tracking.

3.2.1. The STEM will coordinate with ANG/C4C to ensure upward directed requirements are upchannelled to ANG/C4C as stipulated in AFI 33-103/ANG Sup 1, *Requirements Developing and Processing*. In addition to adding the requirements to CIPS, STEMs may also (optionally) track requirements with local tools for individual STEM suspense management.

3.2.2. The STEM will ensure that requirements affecting overall Base infrastructure that are to be funded in a future fiscal year or phased over multiple fiscal years, are entered into the CIPS as BIPS associated to BPIDs so proper POM inclusion can be carried out.

3.3. Implementation.

3.3.1. To initiate a phase or portion of a phase of a CIPS using ANG EI resources the STEM will contact the EI unit TFG representative and provide a BPID for the scope of work being initiated.

3.3.1.1. Engineering Implementation Phase. Each October, all BPID requirements for the next (not current) Fiscal Year will be submitted to the TFG to be engineered. If funds are available, the initiative is executed using TFG processes for engineering. If no organic EI engineering capability is used to implement the BPID, the ANG/C4CE will implement a solution using a contracting method. If the engineering work is contracted, the initiating STEM will be advised by ANG/C4CE

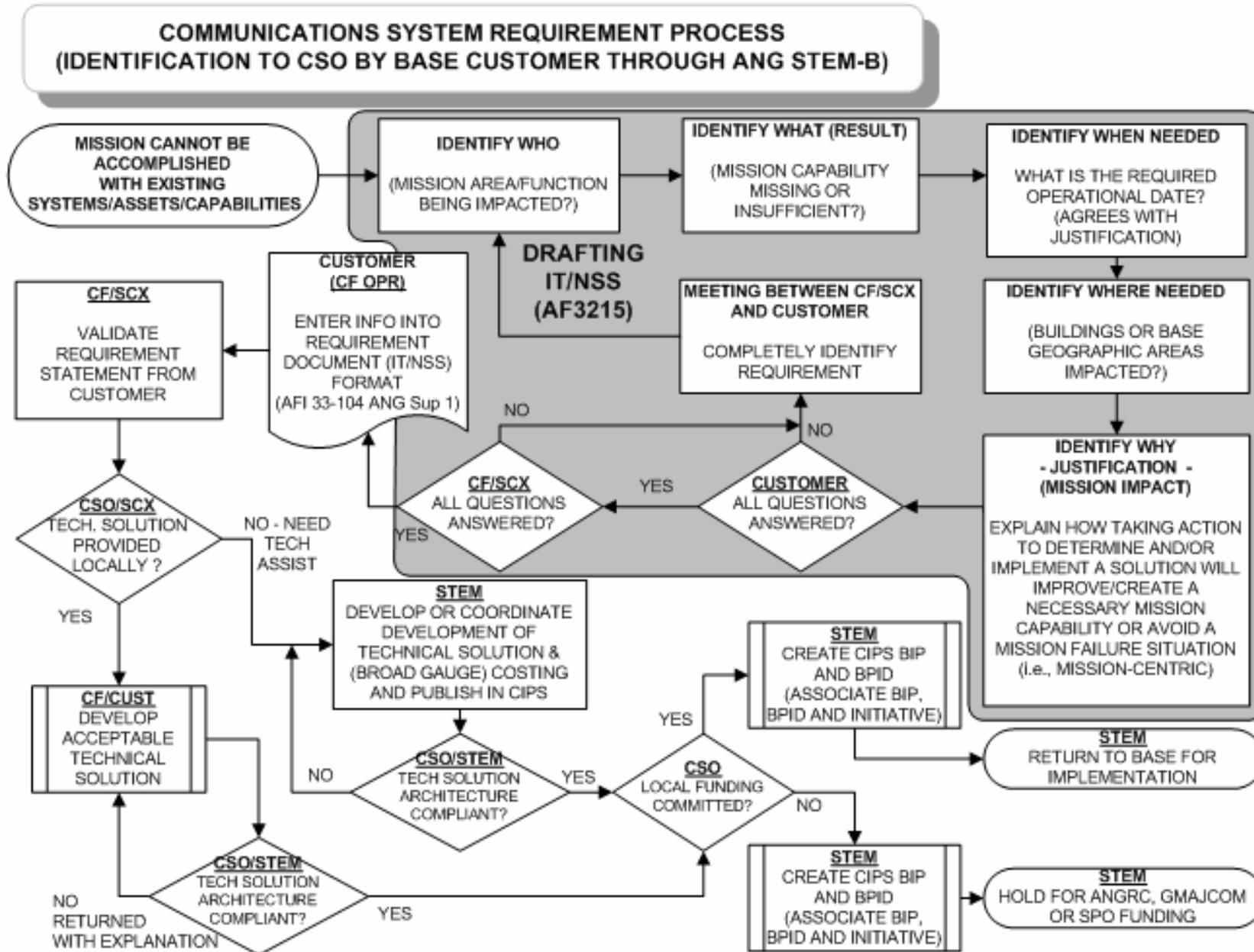
of the decision and if necessary directed to work with the Base CF to provide an engineering Statement of Work (SOW) for the BPID being processed.

3.3.1.2. Installation Implementation Phase. After engineering is complete, the STEM will resubmit BPID to TFG for installation. If funds are available, the initiative is executed through the TFG for installation. If no organic EI installation capability is used to implement the BPID, ANG/C4C may implement a solution using a contractor. If the engineering work is contracted, the initiating STEM will be advised by ANG/C4CE of the decision and if necessary directed to work with the Base CF to provide an installation SOW for the BPID being processed.

3.3.2. The STEM will maintain general oversight of requirements and on-going projects. This may include evaluating proposed contract modifications and recommending approval/disapproval to ANG/C4C or monitoring Engineering Change Request Authorization (ECRA) actions during BPID execution.

3.3.3. The STEM will also ensure CIPS Blueprint updates are accomplished as projects are completed.

Figure 3.1. ANG Communications System Requirements Development Process



Chapter 4

CONTRACTING

4.1. General Process. Anyone wishing to use, or directed by the TFG to use, contract support should contact a contracting office (IAW DoD 5500.7-R, *Joint Ethics Regulation*, and the Federal Acquisition Regulation {FAR}). You will be referred to the appropriate office where details will be outlined concerning your particular requirement. The contracting office issuing the contract may appoint a Contracting Office Representative (COR). The COR will usually be a member of the communications unit that originated the requirement or the STEM. Since the ANG uses more than one type of contract, unique reporting techniques vary from contract to contract. For Request for Proposal (RFP)/technical solution and Request for Quote (RFQ)/cost estimates, the following paragraphs provide general guidance for processing Communications Requirements

4.1.1. The STEM and base CSO decide whether technical solution and cost estimates will be accomplished and pursued in-house, by an EI engineer or by a contractor. To avoid unauthorized commitments, consult with a contracting officer (CO) to avoid any statements that may be construed by a contractor or vendor as a commitment or intention to purchase from any vendor. ANG EI resources, when applicable, shall always be considered first when an in-house solution is ruled out. Contracts are only to be used if ANG EI resources are not available.

4.1.2. The assigned engineer estimates time required to perform costing RFQ and, if unable to meet the contract requirement, notifies the CO or COR to negotiate a delivery date. Only the CO or COR may negotiate with the contractor or modify the terms of the contract.

4.1.3. The STEM reviews the costing for acceptance or rework. If STEM-B determines rework is necessary, it is returned to the assigned engineer. If not required, the STEM returns costing to customer and ANG/C4CE.

NOTE: Timely and proper routing of contractor documents is very important to the success of tech solution and costing efforts (via contractor use). It is extremely important that the STEM and host contracting office closely coordinate the activities on-going in the process.

4.2. ANG STEM Responsibility. When a contractor conducts research to establish an initial costing for a CIPS BIP/BPID, it is the STEM responsibility to:

4.2.1. Update the milestone data in the CIPS.

4.2.2. Provide the ANG/C4CE with the BPID/BIP and any additional information that is necessary to complete processing.

4.2.3. Develop or review SOW.

4.2.3.1. The STEM will ensure deliverables are clearly stated and the installed product complies with established architectural standards.

4.2.3.2. It is also imperative that the deliverables include completion of Quality Assurance Evaluation (QAE), completion and documentation of all required performance testing, and documen-

tation required for CSIR program updates (IAW AFI 21-404, *Developing and Maintaining Communications and Information Systems Installation Records*).

4.2.3.3. When justified by extensive scope or complexity, Project Management should be included in the deliverables list.

4.2.3.4. Include provisions to address how to handle failure to perform to the terms of the contract, whether quality of work or timeliness of delivery related. This may take the form of fines, withholding portion of payment, legal action, etc. Contracting office will determine the appropriate language to address this issue.

4.3. ANG/C4CE Responsibility. When the STEM desires support to perform a costing, the following should be accomplished by the ANG/C4CE:

4.3.1. In coordination with the STEM, determine whether the contractor or EI method will be used when more than one option is available.

4.3.2. When the method selection is made, continue with the general procedures as outlined in Paragraph 4.1.

4.4. COR Responsibilities. In special circumstances the STEM may be designated as the COR. The COR responsibility is to ensure that the contractor is complying with the terms, conditions and specifications set out in the contract. The COR will coordinate with contractor team leader and any others necessary to ensure maximum, on-time performance.

4.4.1. The COR is responsible for evaluation of contractor performance. The COR will develop management tools (i.e., checklist) to collect and support evaluation criteria that is required by the contract. Even when not designated as the COR, the STEM participation is critical to sound contract evaluation. The STEM should coordinate closely with the COR, if required, to ensure timely reporting from the contractor team leader. The COR will meet with the contractor team leader to discuss evaluation findings.

4.4.2. The COR will develop and implement a surveillance plan for the delivery order. The surveillance plan will be tailored to support specifics of the delivery order. This will be the primary management tool.

4.4.3. The COR will develop and implement a surveillance log based on the surveillance plan for the delivery order. All contractor performance will be consolidated and maintained in this log. If required the COR will prepare monthly, quarterly and as required reports from the surveillance log.

4.4.4. The COR must be familiar with the contract terms, conditions and governing specifications. The COR must be able to apply terms, conditions and specifications to the delivery order. This is a critical element in daily delivery order management.

4.4.5. The COR must solve delivery order issues/problems by using the contractual hierarchy for the specific contract in question.

4.4.6. The COR is responsible to establish and maintain delivery order documentation and records of any meetings conducted. In the event of a discrepancy this is the only source of information.

4.4.7. The STEM will ensure that QAE is completed by qualified CF or EI personnel prior to final acceptance by the COR. Special attention will be afforded to all safety aspects (e.g., Occupational

Safety and Health Administration (OSHA), (National Electric Code (NEC), or National Electrical Safety Code (NESC) requirements) and should also include verifiable conformance with installation methods to ensure manufacturer's warranties are not invalidated. When feasible, QAE evaluators will observe contractor testing.

4.4.8. The COR may be responsible to sign final acceptance documentation.

Chapter 5

TRAINING POLICY GUIDANCE

5.1. General. The ANG STEM regional council member will act as point-of-contact to represent the group training needs, requirements, and enrollment. These same training contacts will be responsible for holding group training discussions to determine training which is required to develop and maintain the Blueprint. He/she will be required to:

5.1.1. The ANG STEM council will interact with ANG/C4CE to define the training needs of STEMs with ANG/C4CE. Identify training sources, enrollment limits, cost per student, and course duration, with topics and materials for the requested training.

5.1.2. Disseminate the results of all training interactions including, but not limited to, any results of course evaluations/surveys discussed yearly in the group.

5.2. ANG/C4CE Responsibility. ANG/C4CE will:

5.2.1. Interact with ANG STEM Council, identifying their training requirements, and giving positive feedback to additional training available.

5.2.2. Approve training directions and obtain funding for those training objectives based on data received by ANG STEM Council training representatives.

5.2.3. Schedule, project, and budget for all ANG STEM training requirements.

5.2.4. Maintain and manage the ANG STEM training process to include support of any training held at other STEM locations.

5.2.5. Continuously seek out suppliers, which will support and tailor courses to STEM needs.

5.2.6. Work with 38 EIG to obtain and schedule ANG STEM training provided by the 38 EIG under provisions of AFI 10-301.

DANIEL JAMES III, Lieutenant General, USAF
Director, Air National Guard

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFI 10-301, *Responsibilities of Air Reserve Component (ARC) Forces*

AFI 21 404, *Developing and Maintaining Communications and Information Systems Installation Records*

AFPD 33-1, *Command, Control, Communications, and Computer (C4) Systems*

AFI 33-101, *Communications and Information Management Guidance and Responsibilities*

AFI 33-103, *Requirements Developing and Processing*

AFI 33-104, *Base-Level Planning and Implementation*

AFMAN 33-105, *Engineering-Installation Services*

AFI 33-107 V1, *Strategic Automated Command Control System-Data Transmission Subsystem*

AFI 33-107 V2, *Strategic Automated Command Control System-Data Transmission Subsystem (SACCS-DTS) Network Security Program*

AFI 33-107 V3, *SACCS-DTS Network Security Plan*

AFI 33-107 V4, *SACCS-DTS AWCP MUTE BCP Operations*

AFI 33-108, *Compatibility, Interoperability, and Integration of Command, Control, Communications and Computer (C4) Systems*

AFI 33-111, *Telephone Systems Management*

AFI 33-112, *Computer Systems Management*

AFI 33-113, *Managing Air Force Messaging Centers*

AFI 33-114, *Software Management*

AFI 33-115v1, *Network Management*

AFI 33-115v2, *Licensing Network Users - Certifying Network*

AFI 33-116, *Long-Haul Telecommunications Management*

AFI 33-118, *Radio Frequency (RF) Spectrum Management*

AFMAN 33-120, *Radio Frequency (RF) Spectrum Management*

AFI 33-122, *Computer Systems Manuals*

AFI 33-124, *Enterprise Information Technology (IT) Architectures*

AFI 33-129, *Web Management and Internet Use*

AFI 33-133, *Joint Technical Architecture – Air Force (JTA-AF)*

AFI 33-202, *Network and Computer Security*

AFI 33-203, *Emission Security (EMSEC)*

AFI 33-204, *Information Assurance (IA) Awareness Program*

AFI 33-211, *Communications Security (COMSEC) User Requirements*

AFMAN 33-214 V2, *Emission Security Countermeasures Reviews*

AFI 33-219, *Telecommunications Monitoring and Assessment Program (TMAP)*

AFI 33-220, *On-Hook Telephone Security Program*

AFMAN 33-221, *Communications Security: Protected Distribution Systems (PDS)* AFI 33-230, *Information Assurance Assessment and Assistance Program*

AFMAN 33-274, *On-Hook Telephone Security Guidelines*

AFDIR 33-303, *Compendium of Communications and Information Terminology*

AFMAN 33-326, *Preparing Official Communications*

AFH 33-337, *The Tongue and Quill*

AFMCI 33-104, *Engineering Installation (EI) Procedures*

AFCA TC 03-32, *Communications Distribution Design for Military Facilities*

38 EIG Handbook 33-06, *BITSEP (Base Information Transport System – Engineering Planning)*

AF Engineering Technical Letter (ETL) 02-12, *Communications and Information System Criteria for Air Force Facilities*

ANG Engineering Technical Letter (ETL) 01-01-1, *Air National Guard Design Policy (Tab D)*

TIA/EIA-568-B.1 – *Commercial Building Telecommunications Cabling Standard – General Requirements*

TIA/EIA-568-B.2 – *Balanced Twisted Pair Cabling Components Commercial Building Telecommunications Cabling Standard – Balanced Twisted Pair Cabling Components*

TIA/EIA-568-B.3 – *Commercial Building Telecommunications Cabling Standard – Optical Fiber Cabling*

TIA/EIA-569-A – *Telecommunications Pathways and Spaces*

TIA/EIA-606-A – *Administration Standard for Telecommunications Infrastructure*

ANSI-J-STD-607-A – *Commercial Building Grounding (Earthing) and Bonding Requirements for Telecommunications*

TIA/EIA-758 – *Customer-Owned Outside Plant Cabling*

National Fire Protection Act (NFPA) 70, *National Electric Code (NEC)*

IEEE C2-2002, *National Electrical Safety Code (NESC)*

Abbreviations and Acronyms

AIS— Automated Information System

ACES-RP— Automated CE System

ADPE— Automated Data Processing Equipment

AF— Air Force

AFSN— Air Force Systems Networking

ANG— Air National Guard

ANSI— American National Standards Institute

APCO— Association of Public Safety Communications Officials

ASR— Airport Surveillance Radar

ATC— Air Traffic Control

ATCAL— Air Traffic Control and Landing Systems

BAN— Basewide Area Network

BCE— Base Civil Engineer

BIP— Blueprint Implementation Plans

BITSEP— Base Information Transport System - Engineering Planning

BPID— Blueprint Phased Implementation Directives

C4ISR— Command, Control, Communications and Computers, Intelligence, Surveillance, and Reconnaissance

CAD— Computer Aided Drafting

CATV— Community Access Television

CCTV— Closed Circuit Television

CE— Civil Engineering

CISA— Communications and Information Systems Architecture

CIO— Chief Information Officer

CIPS— Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) Infostructure Planning System

CITS— Combat Information Transport System

CF— Communications Flight

CO—Contracting Officer

COR— Contracting Office Representative

CSA— Communications Service Agreement

CSIR— Communications Systems Installation Record

CSO— Communications and Information Systems Officer

CSR— Communications-Computer Systems Requirements Document

Cu— Copper (Cable)

DoD— Department of Defense

DSN— Digital Switched Network
ECRA— Engineering Change Request Authorization
ECS— Entry Control System
EI— Engineering Installation
EIA— Electronic Industries Alliance
EIG— Engineering Installation Group
EIS— Engineering Installation Squadrons
EBN— End Building Node
FAE— Functional Area Experts
FAR— Federal Acquisition Regulation
FO— Fiber Optic (Cable)
FY— Fiscal Year
GSU— Geographically Separated Units
HF— High Frequency
IAW— In Accordance With
IDS— Intrusion Detection System
ILS— Instrument Landing System
ISDN— Integrated Services Digital Network
IT— Information Technology
iTRM— Infostructure Technology Reference Model
ITN— Information Transfer Node
ITS— Information Transfer System
LAN— Local Area Network
LMR— Land Mobile Radio
LOM— List of Materials
MAJCOM— Major Command
MCIA— MAJCOM Communications Infostructure Assessment
MCP— Military Construction Program
MDF— Main Distribution Frame
MH— Maintenance Hole (aka. Manhole)
MM— Multimode (Fiber Optic Cable)
MNS— Mass Notification System

MWP— Master Work Plan
NATO— North Atlantic Treaty Organization
NAVAIDS— Navigation Aid System
NCC— Network Control Center
NEC— National Electric Code
NESC— National Electrical Safety Code
NGB—National Guard Bureau
NIPRNET— Nonsecure Internet Protocol
NOSC— Network Operations and Security Center
NMS/BIP— Network Management System/Base Information Protection
O&M— Operations and Maintenance
OSHA— Occupational Safety and Health Administration
PA— Public Address
PAR— Precision Approach Radar
PCA— Probability of Correct Annunciation
POM— Program Objective Memorandum
PRI— Primary Rate Interface
PSA— Project Support Agreement
QAE— Quality Assurance Evaluation
RAPCON— Radar Approach Control
RF— Radio Frequency
RFP— Request for Proposal
RFQ— Request for Quote
RTM— Requirement Tracking Module
SATAF— Site Action Task Force
SATCOM— Satellite Communication
SCI— Sensitive Compartmented Information
SCX— Plans and Implementation Section
SDP— Service Delivery Point
SIPRNET— Secure Internet Protocol
SM— Singlemode (Fiber Optic Cable)
SOW— Statement of Work

SPO— System Program Offices

SRM— Sustainment Repair and Maintenance

STEM— Systems Telecommunications Engineering Manager

STEM-B— Systems Telecommunications Engineering Manager - Base Level

STEM-C— Systems Telecommunications Engineering Manager - Command Level

TACAN— Tactical Air(borne) Navigation

TFG— Total Force Group

TIA— Telecommunicaitons Industry Association

TRACON— (ATC) Terminal Radar Approach Control

UHF— Ultra High Frequency

UPS— Uninterruptable Power Supply

VPN— Virtual Private Network(ing)

VHF— Very High Frequency

VOR— VHF (Very High Frequency) Omni-directional Radio-range

VSS— Video Surveillance System

VTC— Video Teleconferencing

Attachment 2

CIPS REVIEW CRITERIA

A2.1. CIPS Review Criteria. **Figure A2.1.** is the criteria for CIPS Review.

Figure A2.1. CIPS Review Criteria.

Distribution Systems
 Voice Switching Systems
 Data Systems
 Network Control Center
 Flight Support Systems
 Long Haul Systems
 Radio Systems
 Video Systems
 Security Systems
 Other Systems
 Mission Statement
 Military Construction/Modifications
 Demographics (Building, Occupants/Users and user requirements)
 Logical BAN Layout

The criteria for determining Commodity Status in CIPS will be dictated by the ANG MAJCOM Communications Infrastructure Assessment (MCIA) tables loaded in the CIPS database for each Commodity/Sub-Commodity. There are four possible states that the tailored criteria will indicate, each associated with a color and symbol in CIPS. This result states area summarized below.

| <u>RATING</u> | <u>Symbol</u> | <u>Mission Impact</u> |
|----------------------|---|--|
| RED |  | System INOP or serious shortfalls. Expect system failure if shortfalls are not addressed |
| YELLOW |  | System Operational. Possible Mission Impact Expected. |
| GREEN |  | System Operational. No Mission Impact Expected. |
| NONE |  | Commodity Status does not apply. |

Attachment 3

DISTRIBUTION SYSTEMS MINIMUM

A3.1. Existing Conditions Summaries.

Copper Cable. Identify owner and O&M, location of DCO and cable vaults/distribution frames, number of trunk cables.

Fiber Optic Cable. Identify owner and O&M, describe fiber backbone (identify ITNs and linked by xx strand SM cable, etc.), approximate percentage of end building facilities already served by FO cable.

Maintenance Hole (MH)/Underground Conduit. General discussion of extent and serviceability of existing maintenance hole/conduit system.

NOTE: Optional drawings include existing copper and FOC distribution systems and a MH/Duct diagram overlaid on a base CAD drawing.

A3.2. Assessment Criteria.

1. Does the Existing Conditions clearly and concisely describe the installed systems?
2. Does the Shortfalls/Mission Impact paragraph clearly and concisely describe the problem areas?
3. Does the Target Architecture paragraph clearly and concisely describe the short and long-range targets?
4. Does the Transition Strategy paragraph clearly and concisely describe the plan to attain the targets?
5. Are there initiatives/projects addressing shortfalls for the short and long term?
6. Are the cost projection tables and BIP elements current?
7. Are there cost projections for each initiative/program?
8. Do all applicable tables have data and do they appear complete?
9. Are the minimum required diagrams and drawings present?

A3.3. Figures.

Existing Cable Distribution Map (map with cable plant {copper and fiber})

Existing Fiber Optic Cable Schematic (“bubble” diagram showing backbone and end building connectivity)

Existing Manhole/Conduit Systems (CAD map with manhole and duct overlay, highlight shortfall areas such as suspected collapsed duct, etc.)

A3.4. Commodities with MCIA Criteria

Distribution Method

Maintenance Hole Duct Run Availability

Copper Cable Type

Distribution Cable Usage

Feeder Cable Usage

ITN to ITN Cable Type

ITN to ITN Fiber Conductor Availability

ITN to EBN Distribution Method

ITN to EBN Fiber Availability

ITN to End Node Connectivity (Density)

Attachment 4**VOICE SWITCHING SYSTEMS MINIMUM****A4.1. Existing Conditions Summaries.**

Host Telephone Switch. Identify owner and O&M, location of Host Switch, general discussion of serviceability of switch, ISDN equipped, PRI ISDN trunking, Voice-mail and Auto-call attendant, etc.

Remote Telephone Switches. Identify owner and O&M, location of Remote Switches, general discussion of serviceability of switch, ISDN equipped, etc.

Other Telephone Switches. Identify owner and O&M, location of Other Switches, general discussion of serviceability of switch, ISDN equipped, etc.

All the items outlined in the voice switching systems summary approved by the STEM-Cs to include the data for the tables/reports.

NOTE: Optional drawings include Base Trunking Block Diagram.

A4.2. Assessment Criteria.

1. Does the Existing Conditions clearly and concisely describe the installed systems?
2. Does the Shortfalls/Mission Impact paragraph clearly and concisely describe the problem areas?
3. Does the Target Architecture paragraph clearly and concisely describe the short and long-range targets?
4. Does the Transition Strategy paragraph clearly and concisely describe the plan to attain the targets?
5. Are there initiatives/projects addressing shortfalls for the short and long term?
6. Are the cost projection tables and BIP elements current?
7. Are there cost projections for each initiative/program?
8. Do all applicable tables have data and do they appear complete?

A4.3. Figures.

Base Trunking Block Diagram (Powerpoint or Visio diagram)

A4.4. Commodities with MCIA Criteria

Voice Switch Expandability

Voice Switch Hardware/Software Supportability

Voice Switch ISDN Capability

Remote Voice Switch Expandability

Remote Voice Switch Hardware/Software Supportability

Remote Voice Switch ISDN Capability

Attachment 5**DATA SYSTEMS MINIMUM****A5.1. Existing Conditions Summaries.**

Unclassified Network. Number of ITNs, backbone speed, transport mechanism, approximate number of users.

Classified Network. Number of ITNs, backbone speed, transport mechanism, approximate number of users.

Other Networks. Include what is not in the previous two paragraphs. For instance foreign national networks, NATO networks, Services networks, Public domain networks, CE networks, etc.

All items outlined in the data system summary approved by the STEM-Cs to include the data for the tables/reports. Also, the minimum includes the following logical diagrams of the BAN:

ITN-ITN connectivity.

ITN-EBN connectivity (each ITN on a separate diagram).

All core 1 buildings should be shown as red circles.

All core 2 buildings should be shown as yellow circles.

All core 3 buildings should be shown as green circles.

All non-core buildings should be shown as white circles.

Logical diagram that depicts the classified network using the same symbology.

A5.2. Assessment Criteria (Classified and Unclassified Networks).

1. Does the Existing Conditions clearly and concisely describe the installed systems?
2. Does the Shortfalls/Mission Impact paragraph clearly and concisely describe the problem areas?
3. Does the Target Architecture paragraph clearly and concisely describe the short and long-range targets?
4. Does the Transition Strategy paragraph clearly and concisely describe the plan to attain the targets?
5. Are there initiatives/projects addressing shortfalls for the short and long term?
6. Are the cost projection tables and BIP elements current?
7. Are there cost projections for each initiative/program?
8. Do all applicable tables have data and do they appear complete?
9. Are the minimum required diagrams and drawings present?

A5.3. Commodities with MCIA Criteria

Premise Wiring Coverage
Premise Wiring Management
Premise Wiring Media
LAN Equipment Technology
LAN Equipment Redundancy
LAN Equipment Coverage
BAN Equipment Technology

BAN Equipment Configuration Backup
BAN Equipment Backup Backbone
BAN Equipment Logical Connection to ITNs
BAN Equipment Router Redundancy
AIS Server Coverage
AIS Server Port Speed
AIS Server Technology

Attachment 6

NETWORK CONTROL CENTER MINIMUM

A6.1. Existing Conditions Summaries

General. Provide a one or two sentence description of the base's Network Control Center and its associated systems - macro overview. Include the Phase of CITS NMS/BIP that is installed.

Base Information Protection System. Identify systems (firewalls, proxies, Virtual Private Networks (VPN), network equipment, Security Management System, etc), locations, and provide a (very) brief description.

Network Management Systems. Identify systems (HP OpenView, Cisco Works, etc), locations, and provide a brief description.

Configuration Management Systems. Identify systems (IPMS, HP OpenView, etc), locations, and provide a brief description.

Fault Management Systems. Identify systems (Remedy, etc), locations, and provide a brief description.

Remote Access System(s). Identify systems, locations, and provide a brief description.

Other Systems. Identify systems (such as TMS), locations, and provide a brief description.

All the items outlined in the NCC summary approved by the STEM-Cs to include the data for the table/report.

NOTE: Requiring the inclusion of a layout drawing is currently at the discretion of the individual STEM. However, it is fully anticipated that the inclusion of the layout drawing will become a standard requirement.

A6.2. Assessment Criteria.

1. Does the Existing Conditions clearly and concisely describe the installed systems?
2. Does the Shortfalls/Mission Impact paragraph clearly and concisely describe the problem areas?
3. Does the Target Architecture paragraph clearly and concisely describe the short and long-range targets?
4. Does the Transition Strategy paragraph clearly and concisely describe the plan to attain the targets?
5. Are there initiatives/projects addressing shortfalls for the short and long term?
6. Are the cost projection tables and BIP elements current?
7. Are there cost projections for each initiative/program?
8. Do all applicable tables have data and do they appear complete?

A6.3. Figures.

Existing BAN Layout (Diagram showing the network between the internal router that feeds the BAN and the Service Delivery Point (SDP); it will include firewalls, proxies, IDS, Load Balancers, network equipment, etc that make up the Barrier between the SDP and the base network).

A6.4. Commodities with MCIA Criteria

| | |
|---------------------------------------|---|
| Core Server Software/Security Patches | Firewall Throughput |
| Core Server Operating System | Firewall UPS Backup |
| Core Server Connection | Firewall VPN Capability |
| Core Server Hardware | Information Assurance Coverage |
| Core Server UPS Backup | Information Assurance Software |
| Core Server Recovery and Backup | Information Assurance NOSC/NCC Connection |
| Firewall Coverage | Information Assurance UPS Backup |
| Firewall Software | Information Assurance Hardware |

Attachment 7**FLIGHT SUPPORT SYSTEMS MINIMUM****A7.1. Existing Conditions Summaries.**

General. Provide a two or three sentence description of the base's air traffic control and meteorological systems - macro overview. Note the number of runways, whether there is instrumentation, and whether there is local radar approach control (RAPCON) or remote approach (TRACON).

ATCALs Radar Equipment. Identify systems, locations, and provide a (very) brief description.

Navigational Aids/Landing Systems. Identify systems, locations, runway coverage (ILS), and provide a brief description.

Meteorological Systems. Identify systems, locations, runway coverage (if applicable), and provide a brief description.

Voice Communications and Radio Switching Systems. Identify systems, locations, and provide a brief description.

All the items outlined in the flight support systems summary approved up by the STEM-Cs to include the data for the tables/reports.

NOTE: The Navigational Aids/Landing Systems and Meteorological Systems figures are optional at this time

A7.2. Assessment Criteria.

1. Does the Existing Conditions clearly and concisely describe the installed systems?
2. Does the Shortfalls/Mission Impact paragraph clearly and concisely describe the problem areas?
3. Does the Target Architecture paragraph clearly and concisely describe the short and long-range targets?
4. Does the Transition Strategy paragraph clearly and concisely describe the plan to attain the targets?
5. Are there initiatives/projects addressing shortfalls for the short and long term?
6. Are the cost projection tables and BIP elements current?
7. Are there cost projections for each initiative/program?
8. Do all applicable tables have data and do they appear complete?

A7.3. Figures.

Navigational Aids/Landing Systems (Airfield layout depicting ILS systems, TACAN and VOR).

Meteorological Systems (Airfield layout depicting Weather Systems).

A7.4. Commodities with MCIA Criteria

| | |
|--|--|
| Flight Support Switching System ATC Operability | ASR Coverage |
| Flight Support Switching System Supportability | PAR Supportability |
| Flight Support Switching System Expandability | PAR Coverage |
| NAVAIDS ILS Coverage | Weather Wind Measuring System Coverage |
| NAVAIDS ILS Localizer Coverage | Weather Transmissometer Coverage |
| NAVAIDS ILS Localizer Supportability | Weather Transmissometer Supportability |
| ILS Supportability | Weather Radar Processor/Display Supportability |
| VOR Coverage | Weather Runway Visual Range (RVR) Coverage |
| VOR Supportability | Weather Runway Visual Range (RVR) Supportability |
| VORTAC Coverage | Weather Barometer Altimeter Setting Indicator (DBASI) Coverage |
| VORTAC Coverage | Weather Barometer Altimeter Setting Indicator (DBASI) Supportability |
| TACAN Supportability | Weather Radar Coverage |
| TACAN Coverage | Weather Radar Supportability |
| Radar Automation Processing and Display Expandability | Weather Temperature and Dewpoint Set Coverage |
| Radar Automation Processing and Display Operability | Weather Temperature and Dewpoint Set Supportability |
| Radar Automation Processing and Display Supportability | Weather Sensor Coverage |
| Control Tower Radar Display Supportability | Weather Sensor Supportability |
| ASR Supportability | |

Attachment 8

LONG HAUL SUSTEMS MINIMUM

A8.1. Existing Conditions Summaries.

NIPRNET. (Speed, SDP, far end) Optional - vendor

SIPRNET. (Speed, SDP, far end) Optional - vendor

Multiplexers. Type and location. Describe # of circuits provided

Microwave. System location

SATCOM. System location

DSN. (Number and Type of trunks, far-end) Optional – vendor

FTS-2001. (Number and Type of trunks, far-end) Optional – vendor

A8.2. Assessment Criteria.

1. Does the Existing Conditions clearly and concisely describe the installed systems?
2. Does the Shortfalls/Mission Impact paragraph clearly and concisely describe the problem areas?
3. Does the Target Architecture paragraph clearly and concisely describe the short and long-range targets?
4. Does the Transition Strategy paragraph clearly and concisely describe the plan to attain the targets?
5. Are there initiatives/projects addressing shortfalls for the short and long term?
6. Are the cost projection tables and BIP elements current?
7. Are there cost projections for each initiative/program (NIPRNET, SIPRNET, DSN, FTS, etc.)?
8. Do all applicable tables have data and do they appear complete?

A8.3. Commodities with MCIA Criteria

SCI Networks Test Equipment

Tech Control Facilities Battery Age

Tech Control Facilities Battery Backup

Tech Control Facilities Backup Generators

NIPRNET Quality of Service

Dedicated Circuits MDF

Dedicated Circuits Secondary Crash Conference System

Dedicated Circuits Infrastructures

Attachment 9

RADIO SYSTEMS MINIMUM

A9.1. Existing Conditions Summaries

HF Radios. General discussion of HF radios networks operating at the base and missions they support.

VHF Radios. General discussion of VHF radios networks operating at the base and missions they support.

UHF Radios. General discussion of HF radios networks operating at the base and missions they support.

LMR Systems. General discussion of the base LMR system, i.e. whether is conventional or trunking, digital or non-digital, narrow band or non-narrow band, whether system is APCO Project 25 compliant, and number of users.

NOTE: The Radio Systems, LMR Systems, and Antenna Field figures are optional.

A9.2. Assessment Criteria.

1. Does the Existing Conditions clearly and concisely describe the installed systems?
2. Does the Shortfalls/Mission Impact paragraph clearly and concisely describe the problem areas?
3. Does the Target Architecture paragraph clearly and concisely describe the short and long-range targets?
4. Does the Transition Strategy paragraph clearly and concisely describe the plan to attain the targets?
5. Are there initiatives/projects addressing shortfalls for the short and long term?
6. Are the cost projection tables and BIP elements current?
7. Are there cost projections for each initiative/program (HF, VHF, UHF, and LMR)?
8. Do all applicable tables have data and do they appear complete?

A9.3. Figures.

Radio Systems (Block diagrams showing HF/VHF/UHF connectivity).

LMR Systems (Block diagrams showing net layouts or trunking system diagrams).

Antenna Fields (CAD map for buildings with antenna fields placed around them showing cable runs from the buildings to antennas.).

A9.4. Commodities with MCIA Criteria

Ground to Air System Range Coverage
Ground to Air System Expandability Facilities
Ground to Air System Frequency Allocation
Ground to Air System Tactical Secure Voice
Ground to Air System Airfield Coverage
Ground to Air System Logistical Supportability
Ground to Air System Telecom Expandability

Ground to Air System Audio Quality
LMR Coverage
LMR Expandability
LMR Frequency/Audio Quality
LMR Technology
LMR Supportability

Attachment 10**VIDEO SYSTEMS MINIMUM****A10.1. Existing Conditions Summaries**

VTC. Identify systems & location, plus brief description.

Secure VTC. Identify systems & location, classification, plus brief description.

Cable TV. Identify systems & location, plus brief description.

Video Phones. Identify systems & location, classification, plus brief description.

All the items outlined in the video systems summary approved by the STEM-Cs to include the data for the table/report.

A10.2. Assessment Criteria.

1. Does the Existing Conditions clearly and concisely describe the installed systems?
2. Does the Shortfalls/Mission Impact paragraph clearly and concisely describe the problem areas?
3. Does the Target Architecture paragraph clearly and concisely describe the short and long-range targets?
4. Does the Transition Strategy paragraph clearly and concisely describe the plan to attain the targets?
5. Are there initiatives/projects addressing shortfalls for the short and long term?
6. Are the cost projection tables and BIP elements current?
7. Are there cost projections for each initiative/program (VTC, Secure VTC, CATV, CCTV, Video Phones)?
8. Do all applicable tables have data and do they appear complete?

A10.3. Commodities with MCIA Criteria

Video Teleconferencing Quality of Service

Video Teleconferencing Technology

Attachment 11**SECURITY SYSTEMS MINIMUM****A11.1. Existing Conditions Summaries**

Annunciator Systems. Provide a short general description. (Identify owner/operator; resources protected including priority; relate master to slave, remote, and backup system(s) - if any, etc.).

Entry Control Systems (ECS). Provide a short description. (Identify owner/operator, resources protected including priority; relate master to slave, remote, and backup system(s) - if any, etc.).

Video Surveillance Systems (VSS). Provide a short description. (Identify owner/operator, resources protected including priority; relate master to slave, remote, and backup system(s) - if any, etc.).

All the items outlined in the security systems summary approved by the STEM-Cs to include the data for the tables/reports.

NOTE: The Security Systems Schematic, ECS Schematic, VSS Layout figures are optional.

A11.2. Assessment Criteria.

1. Does the Existing Conditions clearly and concisely describe the installed systems?
2. Does the Shortfalls/Mission Impact paragraph clearly and concisely describe the problem areas?
3. Does the Target Architecture paragraph clearly and concisely describe the short and long-range targets?
4. Does the Transition Strategy paragraph clearly and concisely describe the plan to attain the targets?
5. Are there initiatives/projects addressing shortfalls for the short and long term?
6. Are the cost projection tables and BIP elements current?
7. Are there cost projections for each initiative/program?
8. Do all applicable tables have data and do they appear complete?

A11.3. Figures.

Security Systems Schematic (OPTIONAL – Relate operator monitor/control console(s) to major components, zones of protection, sensor types, interconnections, etc.).

ECS Schematic (OPTIONAL – Relate operator monitor/control console(s) to major components, portals, zones of protection, interconnections, etc.).

VSS Layout (OPTIONAL – For complex systems, provide a schematic relating operator monitor/control console(s) to surveillance zones).

A11.4. Commodities with MCIA Criteria

| | |
|---|--|
| Entry Control System UPS | Monitor Control/Enunciator Probability of Correct Annunciation (PCA) |
| Entry Control System Electrical Grounding | Monitor Control/Enunciator UPS |
| Entry Control System Supportability | Video Surveillance System Coverage |
| Intrusion Detection System Coverage | Video Surveillance System Hardware/Software Supportability |
| Intrusion Detection System UPS | Video Surveillance System Lighting |
| Intrusion Detection System Supportability | Video Surveillance System Video Assessment Zone Coverage |
| Intrusion Detection System Intrusion Detection Capability | Video Surveillance System UPS |
| Intrusion Detection System Invalid Systems | |
| Monitor Control/Enunciator Redundancy | |
| Monitor Control/Enunciator Hardware/Software Supportability | |

Attachment 12**OTHER SYSTEMS MINIMUM**

A12.1. Other Systems Minimum. All the items outlined in the other systems summary approved by the STEM-Cs to include the data for the tables/reports.

NOTES:

1. The Mass Notification System (also referred to as Giant Voice/Public Address) Schematic figure is optional.
2. The Contract Maintenance, O&M Contract and CSA Sub-Commodities are optional for the ANG.

A12.2. Assessment Criteria.

1. Does the Existing Conditions clearly and concisely describe the installed systems?
2. Does the Shortfalls/Mission Impact paragraph clearly and concisely describe the problem areas?
3. Does the Target Architecture paragraph clearly and concisely describe the short and long-range targets?
4. Does the Transition Strategy paragraph clearly and concisely describe the plan to attain the targets?
5. Are there initiatives/projects addressing shortfalls for the short and long term?
6. Are the cost projection tables and BIP elements current?
7. Are there cost projections for each initiative/program?
8. Do all applicable tables have data and do they appear complete?

A12.3. Figures.

Mass Notification System (MNS) Schematic (OPTIONAL – Relate operator monitor/control console(s) to major components, zones of announcement, interconnections, etc.).

A12.4. Commodities with MCIA Criteria

Mass Notification System Coverage
Mass Notification System Quality of Service
Mass Notification System Technology
Mass Notification System Supportability

Attachment 13**MISSION STATEMENT MINIMUM**

A13.1. Mission Statement Minimum. This attachment contains concise descriptions for each major unit located at the base. (Minimum required is the base mission statement. Unit and Tenant Mission Statements are optional {dependent on base/MAJCOM}.)

A13.2. Assessment Criteria.

1. Is there a clear and concise mission statement for the base?
2. Is there a mission statement for each major unit and tenant unit located on the base?

Attachment 14

MILITARY CONSTRUCTION/MODIFICATIONS

A14.1. MCPs and Modifications. The table is filled out for base MCPs and Modifications.

A14.2. Assessment Criteria.

1. Is the table filled in and complete (Project Number, Project Title, FY, Budget, Internal/ External Comm Equip, Internal/External Comm Cable, External MH-Duct, Total Comm Cost, Test Start/Finish Date)?
2. Has the table been updated to reflect the current FY?

Attachment 15**DEMOGRAPHICS**

A15.1. Demographics. Buildings, Occupants/Users and user requirements info as a minimum

A15.2. Assessment Criteria

1. Are the tables filled in and complete?

Building (or facility)

1. Number
2. Description
3. Core (mission) category (data is 1, 2, 3, or Non-Core/4)

Building Occupants/Users

1. Organization (example 94AW)
2. Office Symbol (example LGM) (pick primary office, don't list all)

User Requirements

1. Existing number of drops (LAN ports with Cat-5e wire to an outlet)
2. Additional, forecasted number of drops
3. Existing systems supported (link to 2nd level report for that bldg only)
4. Proposed systems (those coming in the near term, 1-2 years)

Primary Bldg Network Switch/Uplink

1. Existing fiber cable type and number of strands
2. Uplink Speed
3. Uplink technology (can link from speed if presentation space is needed)
4. Switch model number

LAN Switch/Hub (2nd level report items - future addition to web blueprint)

1. Number of ports used
2. Number of ports equipped
3. Switch vendor name
4. Switch model number

Attachment 16**LOGICAL BAN LAYOUT MINIMUM**

A16.1. Logical BAN Layout. Diagram of ITN to ITN connectivity (with and without FO/Cu) and NIPR-NET/SIPRNET SDP connectivity as a minimum

A16.2. Assessment Criteria

Are the diagrams complete and use prescribed symbology?

- Show all ITN to EBN FO\Cu cabling (strands and type)
 - Red Solid = SM FOC
 - Red Dashed = MM FOC
 - Blue = Copper
- Standard Symbology for EBNs (all w/ bldg # inside)
 - Red circle for CORE 1
 - Yellow circle for CORE 2
 - Green circle for CORE 3
 - White circle for NON-CORE