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Communications and Information

**REQUIREMENTS DEVELOPMENT AND
PROCESSING**

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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(SMSgt Dennis L. Richards)
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(G. L. Fiedler, Lt Col, USAF)
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This Air Force instruction (AFI) implements Air Force Policy Directive (AFPD) 33-1, *Command, Control, Communications, and Computer (C4) Systems*, and Department of Defense Regulation (DoDR) 5000.2, *Mandatory Procedures for Major Defense Acquisition Programs and Major Automated Information Systems*, March 15, 1996, and DoD Instruction (DoDI) 5000.2, *Defense Acquisition Management Policies and Procedures*, February 23, 1991/Air Force Supplement 1 (AFSUP1). It details a process to streamline the development of and response to C4 systems requirements. It also provides an oversight procedure to maintain the integrity of the process. The C4 systems requirement's process enables users and C4 managers to obtain new, nondevelopmental C4 capabilities with an acquisition cost of less than \$5 million and to sustain existing C4 systems. Those systems expected to cost \$5 million or more, that involve development, or require an interface to support joint operations must follow procedures outlined in AFPD 10-6, *Mission Needs and Operational Requirements*, and AFI 10-601, *Mission Needs and Operational Requirements Guidance and Procedures*. Modifications to Air Force systems must follow procedures in AFI 10-601. Provide a copy of major command (MAJCOM) and field operating agency (FOA) supplements to Headquarters, Air Force Communications Agency, Doctrine, Policy and Procedures Branch, (HQ AFCA/XPPD), 203 W. Losey Street, Room 1020, Scott AFB IL 62225-5224. Refer recommended changes and conflicts between this and other publications to HQ AFCA/XPPD, using AF Form 847, **Recommendation for Change of Publication**, with an information copy to Headquarters United States Air Force, Policy and Strategy Division (HQ USAF/SCXX), 1250 Air Force Pentagon, Washington DC 20330-1250. A glossary of references, abbreviations, acronyms, and terms is at [Attachment 1](#).

SUMMARY OF REVISIONS

This document is substantially revised and must be completely reviewed.

This revision updates the entire document. It deletes the terms "initial" and "certified technical solutions" and replaces them with "technical solution." It makes the C4 systems officer (CSO) responsible for the technical solution, though assistance may come from other activities. It describes the levels of assistance

available from those activities. The revision deletes the detailed discussion of modification procedures that is available in DoDI 5000.2/AFSUP1. It adds the CSO's responsibility to consider the impacts of the requirement on the radio frequency spectrum. It expands on the areas the CSO may consider when developing a technical solution, and provides a lease versus cost comparison guide for use when developing the technical solution. The revision states that the requester is responsible for an economic analysis, when circumstances require one, though the CSO assists. It updates organizational elements, functional address symbols, and addresses.

1. The C4 Systems Requirements Process. The C4 systems requirements process enables requesting organizations (users) to obtain new C4 capabilities, with the assistance of the CSO and their staff. The process may also be used to document C4 systems sustainment requirements. The process starts when the user identifies a mission need and requests CSO assistance in developing a technical solution for that need. The user may also request CSO assistance in implementing the technical solution. In some instances, the CSO must involve the Systems Telecommunications Engineering Manager (STEM), the lead command, frequency management and communications security (COMSEC) activities, and others to develop the technical solution.

2. Responsibilities.

2.1. The requesting organization identifies C4 systems requirements and allocates resources to satisfy those requirements. The requester prepares an economic analysis under certain circumstances, according to AFI 65-501, *Economic Analysis*. The CSO assists the user with the economic analysis.

2.2. The CSO helps users identify needs and develops, obtains, and implements technical solutions for user requirements. AFI 33-104, *Base-Level Planning and Implementation*, provides information about implementing solutions to user requirements.

2.3. MAJCOMs and other involved organizations determine documentation requirements at each step of the process.

2.4. The Air Force Frequency Management Agency (AFFMA) provides frequency guidance and assistance to requesting organizations and CSOs.

2.5. Air Force Materiel Command (AFMC):

2.5.1. The San Antonio-Air Logistics Center, Cryptologic Management Directorate (SA-ALC/LT) manages COMSEC equipment requirements for the Air Force and develops technical solutions.

2.5.2. The 38th Engineering Installation Wing (38 EIW) helps the CSO develop technical solutions and maintains the C4 Systems Blueprint. The C4 Systems Blueprint documents the current C4 systems infrastructure, identifies what's needed to satisfy present and future requirements, and provides a time-phased plan, with estimated costs, to satisfy requirements. The STEM is a part of the 38 EIW. The 38 EIW also provides program management for designated systems. See AFI 33-104 for more information about the C4 Systems Blueprint.

2.5.3. The Standard Systems Group (SSG) provides software development and program management for designated systems.

2.6. HQ AFCA, Data Support Branch, Information Transfer Division, Systems and Procedures Directorate (HQ AFCA/SYND), provides technical solutions for video teleconference (VTC) requirements and provides engineering and technical support to the Air Education and Training Command (AETC) for video teletraining requirements. See AFI 33-117, Visual Information (VI) Management, for more information.

2.7. Lead Command. The lead command for a designated multi-MAJCOM C4 system is the systems advocate that responds to issues affecting system status and use. See AFI 10-901, *Lead Operating Command--Command, Control, Communications, Computers, and Intelligence (C4I) Systems Management*, for a detailed list of lead command responsibilities and the lead command assignment list.

3. Identifying C4 Systems Requirements . The requesting organization identifies a mission need and determines if they can satisfy the need by a nonmateriel solution. Requirements arise from a deficiency in an existing operational capability, from a need for a new capability, or from an opportunity to replace or modernize an existing system with improved technology when operationally and economically practical. A nonmateriel solution includes changes in doctrine, operational concepts, tactics, training, or organization. If the user can't satisfy the need with a nonmateriel solution, they consult the CSO to obtain a technical solution. The CSO integrates requirements into the base C4 Systems Blueprint when the requester approves the technical solution.

3.1. The requesting organization provides the CSO with functional requirement information so the CSO can develop the technical solution. This includes:

3.1.1. Point of Contact. Provides sufficient information so the CSO can contact a knowledgeable individual who can provide more information about the need. The MAJCOM or wing commander defines who can submit requests.

3.1.2. Describe the Mission Deficiency or Need. In functional terms, clearly indicate what capability is necessary, rather than what equipment is required (that is, how the need must be satisfied). If you recommend specific equipment, state why you need that equipment. Identify systems the proposed capability must interface with, plus any standardization and interoperability requirements. In order to achieve interoperability, systems fielded to satisfy the requirements for this capability will conform with applicable information technology standards found in the Air Force Technical Reference Codes (TRC), *DoD Technical Architecture Framework for Information Management* (TAFIM), and standard data elements found in the *DoD Data Dictionary System* (DDDS). Identify security handling requirements or requirements for a secure capability. Include special requirements, when necessary, such as accommodations for handicapped users, special operating conditions, manpower, training, maintenance, and mobility requirements.

3.1.3. Date Needed. Identify when the requesting organization needs the service. The requester should consider funds availability and the complexity of the requirement when identifying a service need date.

3.2. The requesting organization must consider the following when developing requirements:

3.2.1. Requirements Authorizing Official. The MAJCOM or wing commander defines who will authorize implementation of the requirement and commitment of the resources.

3.2.2. Because of legal requirements, you must involve the base or MAJCOM Information Management function when preparing requirements that relate to information management systems, such as automated records, the reports control systems, the Privacy Act, or the Freedom of Infor-

mation Act. The requester should contact the information management function before submitting the C4 systems requirement to the CSO.

3.3. AF Form 3215, **C4 Systems Requirements Document**. You may use this form to submit and process requirements. **Attachment 4** contains instructions for completion of the AF Form 3215.

4. The Technical Solution. The technical solution summarizes the recommended course of action. It describes alternatives considered, if applicable, and includes any supporting information. It always considers compliance with DoD, Air Force, MAJCOM, and other C4 architectures and standards, as well as a review by applicable collateral activities. The technical solution provides more than the hardware and software required to satisfy the need. The CSO must provide the requester with sufficient information from which to make a decision to implement the decision and expend resources. This information may include recommendations about the acquisition and sustainment of the hardware and software. When necessary, compare lease and purchase costs for the hardware, the need for contractual or government services to operate and maintain the system, and supplies and training for operations and maintenance. The methodologies the CSO uses and the level of detail are determined by the requirement and the needs of the requester. Involve contracting personnel when developing solutions that involve the procurement of equipment, software, or services to ensure the provisions of Federal Information Resource Management regulations (FIRMR), Federal Acquisition regulations (FAR), and AFI 64-series are met. **Attachment 3** provides instructions for developing a lease versus purchase cost comparison.

4.1. The requester is required to complete an economic analysis in certain circumstances. This is a systematic examination of the costs, benefits, and risks of various alternatives. The economic analysis is required when a new project or program has a total investment cost over \$1 million, or annual recurring costs over \$200 thousand. If proposed changes to an on-going project push project investment costs over those levels, when no previous economic analysis was performed, an economic analysis is also required. See AFI 65-501, for more information. The requester involves the CSO when an economic analysis is required.

4.2. There may be times when the requester alters the requirements document. If this occurs after the CSO has provided the technical solution, the requester has approved the solution, or the resources have been approved, further review is necessary. If the alteration results in an increase in the cost of the requirement by 20 percent, or it impacts architectural and interoperability standards, the requirement must be reapproved by the customer and funding activity.

4.3. All technical solution developers must ensure that C4 systems configurations properly integrate with local, Air Force, and DoD architectures according to Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 6212.01, *Compatibility, Interoperability, and Integration of Command, Control, Communications, Computers, and Intelligence Systems*, the DoD TAFIM, AFI 33-102, *Command, Control, Communications, Computers, and Intelligence (C4I) Systems Capabilities Planning Process*, and Air Force Manual (AFMAN) 33-125, *Technical Reference Codes*.

5. Developing the Technical Solution. The CSO develops a technical solution when he or she receives a requirement, but may require outside assistance. This usually occurs when technical expertise is not locally available, to insure C4 systems integrate with base, MAJCOM and DoD architectures and standards, or when special outside activities must review the requirement due to their Air Force responsibilities.

5.1. The CSO will expedite the development of local solutions to routine requirements. Such routine requirements include telephone relocations or procurement of software that is commercially available and compatible with other locally used software. The CSO must keep review and oversight to the absolute minimum required to maintain standardization and interoperability of systems.

5.2. The CSO may contact the STEM for help in developing the technical solution. The STEM is an activity of the 38 EIW. The STEM serves the MAJCOMs, wing commanders, and CSOs as C4 engineering technical advisors. They define and clarify C4 systems requirements and assist in developing technical solutions. The STEM provides two levels of technical assistance. The first level provides a broad gauge estimate of costs associated with a solution, which is usually sufficient information for the user to decide to implement the solution. The STEM provides this estimate within 30 days. The second level contains detailed costs and requires more time and requester's funds to complete. Use

Attachment 2 as a guide to requesting any technical assistance. Contact the 38 EIW/EST, 4069 Hilltop Road, Suite 101, Tinker AFB OK 73145-6343, for more information regarding the request for technical assistance.

5.3. The CSO or the STEM must ensure other activities review certain requirements, as detailed below. The CSO and the STEM will obtain all necessary coordination when developing technical solutions. The CSO is ultimately responsible for ensuring the reviews are conducted.

5.3.1. Lead Command. AFI 10-901 defines the responsibilities of the lead command and identifies the C4 systems an activity is the lead command for.

5.3.1.1. When developing local technical solutions related to or interfacing with a system with a lead command, the CSO should contact the lead command to obtain guidance and concurrence with the proposed solution.

5.3.1.2. When developing more complex solutions, or when the lead command determines, the CSO or STEM must forward the requirements document to the lead command for coordination and concurrence with the proposed solution. The lead command concurs with the solution or provides an alternative and returns the requirements document to the CSO or STEM.

5.3.2. COMSEC. The CSO involves the unit or MAJCOM COMSEC manager and submits the requirement to the Cryptologic Management Directorate, Logistics Management Division of the San Antonio Air Logistics Center, SA-ALC/LTM, 230 Hall Blvd. Ste 114, Kelly AFB TX 78243-7056. The STEM, when assisting with the proposed solution, will submit the requirement to SA-ALC/LTM. They review the requirement and return it to the STEM or CSO, based on established procedures.

5.3.3. Frequency Management. If the technical solution recommends a C4 system that involves the transmission or receipt of electromagnetic energy, the CSO must contact the unit or MAJCOM frequency manager for guidance. The CSO, with assistance from the frequency manager, will ensure recommended C4 systems are compatible with existing equipment and will not negatively impact the frequency spectrum. See AFI 33-118, *Radio Frequency Spectrum Management*, for more information.

5.3.4. VTC and Video Teletraining (VTT) Requirements. The CSO reviews AFI 33-117 and the VTC Implementers Guide when processing VTC and VTT requirements. The CSO will identify any changes to the base C4 infrastructure as a result of the requirement. Keep the STEM-Base Level (STEM-B) apprised of the technical solution and impact to the C4 infrastructure.

5.3.5. The STEM coordinates applicable requirements with SSG, Maxwell AFB, Gunter Annex AL 36114-3004.

5.4. The CSO should refer to AFI 33-116, *Long-Haul Telecommunications Management*, for further assistance on acquiring, processing, and managing long-haul telecommunications.

6. Allocating Resources. . The requesting organization follows established local, MAJCOM, and Air Force procedures to obtain resources to implement and sustain the technical solution. In some instances, the CSO will assist the requester to obtain the resources, especially when the CSO's communications activity will provide manpower to operate or maintain C4 systems. See AFI 65-601, Vol 1, *Budget Guidance and Procedures*, AFI 38-201, *Determining Manpower Requirements*, and AFI 38-204, *Programming USAF Manpower*, for budget and manpower information.

7. Implementing the Requirement. Implementation begins when the requester obtains funds and other resources. The requester may ask for CSO assistance to implement the requirement. The CSO will develop an implementation plan with the concurrence of the requester. AFI 33-104 outlines base and MAJCOM implementation procedures.

8. Prescribed Form. AF Form 3215, **C4 Systems Requirements Document**.

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Attachment 1**GLOSSARY OF REFERENCES, ABBREVIATIONS, ACRONYMS, AND TERMS*****References***

CJCSI 6212.01, *Compatibility, Interoperability, and Integration of Command, Control, Communications, Computers, and Intelligence Systems*.

DoDI 5000.2, *Defense Acquisition Management Policies and Procedures*, February 23, 1991/Air Force Supplement 1.

DoDR 5000.2, *Mandatory Procedures for Major Defense Acquisition Programs and Major Automated Information Systems*, March 15, 1996.

DoD Data Dictionary System (DDDS).

DoD Technical Architecture Framework for Information Management (TAFIM).

AFPD 10-6, *Mission Needs and Operational Requirements*.

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

AFPD 33-2, *C4 Systems Security*. (will change to *Information Protection*).

AFI 10-601, *Mission Needs and Operational Requirements Guidance and Procedures*.

AFI 10-901, *Lead Operating Command--Command, Control, Communications, Computers, and Intelligence (C4I) Systems Management*.

AFI 33-102, *Command, Control, Communications, Computers, and Intelligence (C4I) Capabilities Planning Process*.

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

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

AFI 33-117, *Visual Information (VI) Management*.

AFI 33-118, *Radio Frequency Spectrum Management*.

AFI 37-131, *Freedom of Information Act Program*.

AFI 37-132, *Air Force Privacy Act Program*.

AFI 38-201, *Determining Manpower Requirements*.

AFI 38-204, *Programming USAF Manpower*.

AFI 65-501, *Economic Analysis*.

AFI 65-601, Vol 1, *Budget Guidance and Procedures*.

AFMAN 33-125, *Technical Reference Codes*.

Abbreviations and Acronyms

AETC—Air Education and Training Command

AFI—Air Force Instruction

AFDD—Air Force Doctrine Document

AFFMA—Air Force Frequency Management Agency

AFMAN—Air Force Manual

AFMC—Air Force Materiel Command

AFPD—Air Force Policy Directive

C4—Command, Control, Communications, and Computers

C4I Intelligence—Command, Control, Communications, Computers, and

COMSEC—Communications Security

CSO—C4 Systems Officer

DDDS—*DoD Data Dictionary System*

DoD—Department of Defense

DoDI—Department of Defense Instruction

FAR—Federal Acquisition Regulations

FIRMR—Federal Information Resource Management Regulation

FOA—Field Operating Agency

GSA—General Services Administration

HQ AFCA—Headquarters, Air Force Communications Agency

HQ 38 EIW—Headquarters, 38th Engineering Installation Wing

LOC—Lines of Code

MAJCOM—Major Command

SSG—Standard Systems Group

STEM—Systems Telecommunications Engineering Manager

TAFIM Management—Technical Architecture Framework for Information

TRC—Technical Reference Codes

VTC—Video Teleconference

VTT—Video Teletraining

Terms

Base-Level C4 Infrastructure—Both host and tenant organizations use the base-level C4 systems infrastructure. The infrastructure includes all aspects of C4 systems (voice, data, video transmission, switching, processing, system control and network management systems, equipment and facilities).

C4 System—An integrated combination of doctrine, procedures, organizational structures, personnel, equipment, facilities, and communications designed to support a commander's exercise of command and control through all operational phases. It includes base visual information support systems.

C4 Systems Blueprint—Document that provides the engineering plan to modernize the base-level infrastructure with cost-effective, base-wide C4 capability to support digital transmission of voice, data, video, imagery, and telemetry needs. It documents the baseline, identifies a target base configuration to support present and future requirements, and provides a time-phased plan and estimated costs for logical transition. The C4 Systems Blueprint is sometimes referred to as the "Base Blueprint" or the "Blueprint."

C4 Systems Officer (CSO)—Identifies the supporting C4 systems officer at all levels. At base-level, this is the commander of the communications unit responsible for carrying out base C4 systems responsibilities. At MAJCOM, and other activities responsible for large quantities of C4 systems, it is the person designated by the commander as responsible for overall management of C4 systems budgeted and funded by the MAJCOM or activity. The CSO function uses the office symbol "SC" and expands it to three and four letters to identify specific functional areas. CSOs are the accountable officer for all automated data processing equipment in their inventory.

C4 Systems Requirement—Identifies a C4 systems mission shortfall or system need to the CSO. A C4 systems requirement arises when an organization cannot accomplish its current or new mission; can increase operational efficiency or cut operational costs by using advances in technologies; or can modernize an existing C4 system by applying modern technology to satisfy evolving C4 systems requirements, improve mission performance, and reduce current or future operation and support costs.

Lead Command—The MAJCOM or FOA assigned as the systems advocate and oversight authority.

Major Command (MAJCOM)—A major subdivision of the Air Force that is assigned a major part of the Air Force mission. MAJCOMs report directly to HQ USAF.

Modification—A temporary or permanent change to a system that is still being produced. The purpose of the modification is to correct deficiencies, improve reliability and maintainability, or to improve capabilities.

Nondevelopmental—Any project to procure primarily in-being products, where the total software developmental effort is realistically estimated as less than 1040 man-hours. As an alternative, use a threshold of less than 700 lines of code (LOC). If any hardware development is planned, the effort is not nondevelopmental.

Nonmaterial Solution—Includes changes in doctrine, operational concepts, tactics, training, or organization.

Requirements Process—This three-step process identifies C4 systems requirements, develops a technical solution, and allocates resources.

Software Development—That portion of an effort that creates new product. Developmental costs do not include the cost of in-being products that are being augmented or modified. An effort is not considered to "involve development" if the total software development involves less than 1040 man-hours of effort. (see "nondevelopmental").

System Security—1. A condition resulting from the timely application of system security management and engineering principles throughout all phases of a system's life cycle. It can be measured in terms of relative probability; i.e., that under a known set of circumstances (vulnerability versus countermeasures), the probability that acts of illicit interference against a system could achieve a specific objective without an effective preemptive response by the operating command. (AFM 11-1, *Air Force Glossary of Standardized Terms*, to be replaced by Air Force Doctrine Document [AFDD] 100) 2. Involves applying and managing computer security, communications security, and emanations security to protect C4

resources from denial-of-service attacks. Security ensures the integrity of C4 resources and prevents exploitation of sensitive information.

Systems Telecommunications Engineering Manager—A C4 systems engineer who provides technical engineering planning services in support of C4 systems and base infrastructures. The Base-Level STEM (STEM-B) has technical responsibility for engineering management and assists the base CSO in system engineering and configuration control. The Command-Level STEM (STEM-C) provides technical assistance to the MAJCOM and coordinates with STEM-Bs on future MAJCOM mission changes, programs and efforts at the MAJCOM-level. The Joint STEM (STEM-J) is assigned to Commander's in Chief, Joint Staff and the Defense Information Systems Agency to promote interoperability by providing an interface between those activities and the Air Force MAJCOMs and bases. The Telecommunications Manager (STEM-TM) assists the STEM-B and C.

Technical Architecture Framework for Information Management (TAFIM)—DISA publication that provides guidance for the evolution of the DoD technical infrastructure. It does not provide a specific system architecture. Rather, it provides the services, standards, design concepts, components, and configurations that can be used to guide the development of technical architectures that meet specific mission requirements. The TAFIM applies to information system technical architectures at all DoD organizational levels and environments (e.g., tactical, strategic, sustaining base, interfaces to weapon systems). The TAFIM, Version 2.0 consists of eight volumes: (1) Overview; (2) Technical Reference Model; (3) Architecture Concepts and Design Guidance; (4) DoD Standards-Based Architecture Planning Guide; (5) Support Plan; (6) DoD Goal Security Architecture; (7) Information Technology Standards Guidance; and (8) DoD Human Computer Interface (HCI) Style Guide.

Technical Solution—This detailed description of the C4 systems solution uses the base infrastructure and complies with downward-directed architectures and standards. It identifies recommended acquisition methods and strategies, estimates one-time and recurring costs, and identifies manpower impacts.

Video Teleconferencing— (VTC)--A two-way, electronic form of communications that permits two or more people in different locations to engage in face-to-face audio and visual communications for the purpose of conducting meetings, seminars, and conferences. A VTC system typically includes a telecommunications system; video compression equipment; and video, audio, and graphics components. DoD VTC equipment must conform to standards in the Corporation for Open Systems International VTC profile that incorporates international standards for VTC.

Video Teletraining (VTT)—An electronic form of communication that uses high quality video, audio, and graphics equipment for the purpose of conducting training and education programs for students that are geographically separated from the instructor. The Air Technology Network is the Air Force standard VTT network.

Attachment 2

REQUEST FOR TECHNICAL SOLUTION

A2.1. **Date of Request.** The date the C4 systems officer submits the request.

A2.2. **Control Number.** The C4 systems officer assigns the control number based on the information below to track the request. The C4 systems officer must maintain the integrity of this number through the implementation phase:

A2.3.

Example:	AETC	RANDOLPH	E	94	0001
	1	2	3	4	5

1 - Requiring Command. The name of the MAJCOM that has the requirement and may implement the technical solution. For modifications to an Air Force-wide system, use "AF" instead of the MAJCOM designator.

2 - Originating Base. The name of the originating base. Use only the MAJCOM designator if more than one base.

3 - Alpha Functional Area Designator Code (*Optional*). Designators are listed in the *Air Force Data Dictionary*.

4 - Fiscal Year. The fiscal year in which an organization initiates a request.

5 - Sequence Number. A four-digit sequence number and optional alpha code designate amendments. The sequence number begins at "0001" at the beginning of each fiscal year.

A2.4. **Project Title.** A brief descriptive title identifying the requirement.

A2.5. **Description of Mission Deficiency or Need.** A description, expressed in functional terms, of what is needed. Provide sufficient information to clearly indicate what type of support you need rather than what kind of equipment you want. If the project is in support of a downward-directed program, include a statement to that effect.

A2.6. **Point of Contact.** The name, rank, title, office symbol, and telephone number of the individual who can provide additional information during technical solution development.

A2.7. Service Need Date. The date when the requesting organization needs to implement the solution, depending on the specific need and availability of funds.

A2.8. Date Technical Solution Needed. The CSO or requesting organization indicates the date the STEM needs to complete and deliver the technical solution.

A2.9. Processes Classified Data. Indicates whether the system processes classified information. See AFPD 33-2, *C4 Systems Security* (will change to *Information Protection*), for more information. If the system processes classified information, identify the levels of security classification.

A2.10. Processes Sensitive Unclassified Data. Indicates whether the system processes sensitive unclassified information. Such information may be subject to the Privacy Act and Freedom of Information Act. (See AFIs 37-131, *Freedom of Information Act Program*, and 37-132, *Air Force Privacy Act Program*, for more information). If the system processes sensitive unclassified information, identify the types of information.

A2.11. Additional technical information. Include additional information needed to complete the technical solution, such as a building diagram or a listing of interfacing computers.

Attachment 3**LEASE VERSUS PURCHASE ANALYSIS**

A3.1. The lease versus purchase analysis shows whether the lease or purchase of C4 equipment gives the most savings to the Air Force. The procedures below identify what information to collect and how to compute the costs associated with the lease and purchase of equipment.

A3.2. Data Required and Terms Explained. Collect the following information and use the computations in paragraph A3.3.

A3.2.1. Monthly Discount Factor. Get this by contacting the base or MAJCOM financial and cost analysis office. If they do not have the information, call the Director of Economics and Business Management, Economics Division, Office of the Assistant Secretary (Financial Management and Comptroller) (SAF/FMCEE), DSN 223-9346. Ask for the cumulative monthly discount factor for a lease versus purchase analysis for C4 equipment. *Note: Know the period of the lease and purchase.*

A3.2.2. Estimated System Life. An estimate, in years, of useful life of the system. Use it when developing the lease versus purchase analysis. If an established life cycle is not provided by the manufacturer nor AFMC, use 5 years.

A3.2.3. Contract Purchase Price. The cost to purchase the equipment. Get prices from existing local, MAJCOM, or General Services Administration (GSA) contracts, or from inventories of like items. Involve your contracting office if you need to contact commercial vendors for price quotes.

A3.2.4. Purchase Option Credits. Include rental or special credits, payment discounts, etc., received when purchasing the equipment. These credits may become evident when researching the contract purchase price.

A3.2.5. Monthly Maintenance Purchase Cost. The cost to receive maintenance, on a monthly basis, when you purchase the equipment. Get these prices from existing local, MAJCOM, or GSA contracts. Involve your contracting office if you need to contact commercial vendors for price quotes.

A3.2.6. Monthly Rental Cost. The cost per month to rent the equipment. Get these prices from existing local, MAJCOM, or GSA contracts. Involve your contracting office if you need to contact commercial vendors for price quotes.

A3.2.7. Monthly Maintenance Lease Cost. The cost to receive maintenance, on a monthly basis, when leasing equipment. Get these prices from existing local, MAJCOM, or GSA contracts. Involve your contracting office if you need to contact commercial vendors for price quotes.

A3.3. Methodology. Make the following computations in the sequence listed below:

A3.3.1. Contract purchase price minus the purchase option credits equals the purchase price.

A3.3.2. Monthly maintenance purchase cost times the monthly discount factor equals the life maintenance cost.

A3.3.3. Purchase price plus the life maintenance cost equals the purchase cost.

A3.3.4. Monthly rental cost plus the monthly leased maintenance cost equals the monthly leased cost.

A3.3.5. Monthly leased cost times the cumulative monthly discount factor equals the lease cost.

A3.4. Example: You must decide to purchase or lease a facsimile machine. The contract purchase price is \$4,000, but the vendor will give you a \$500 discount for immediate purchase. The monthly maintenance cost is \$100. You can lease the facsimile for \$100 a month, and must also pay a \$100 monthly for maintenance. The economic life of the machine is 5 years. Using the methodology to solve the problem is easy using the relevant facts from the example.

PURCHASE:

Contract purchase price (\$4,000) minus purchase option credit (\$500) equals purchase price (\$3,500)

Monthly maintenance purchase cost (\$100) times monthly discount factor (29.503*) equals life maintenance cost (\$2,950)

Purchase price (\$3500) plus life maintenance cost (\$2950) equals the purchase cost (\$6,450)

LEASE:

Monthly rental cost (\$100) plus monthly leased maintenance cost (\$100) equals monthly leased cost (\$200)

Monthly leased cost (\$200) times monthly discount factor (29.503*) equals lease cost (\$5,901)

*The monthly discount factor may change. Do not use the factor in this example for your computations; consult your financial and cost analysis office or SAF/FMCEE.

NOTE: Compare the purchase cost option to the lease cost option. Select the lowest cost option in determining cost effectiveness. In the example above, the lease cost option is preferred.

A3.5. Format. Equipment:

Vendor:

Location:

Date of Analysis:

Installation Date:

Projected Purchase Date:

Projected Termination Date:

Remaining System Life:

Computation Specifics:

Decision:

Attachment 4**INSTRUCTIONS FOR COMPLETING AF FORM 3215**

- 1. Date:** Enter the date the form is prepared or submitted.

- 2. CSO Control Number:** Completed by the CSO.

- 3. Requirement Title:** Include a title that briefly describes the requirement.

- 4. Date Needed:** Enter the date the service is required.

- 5. Mission or System Supported:** Identify the major C4 system or mission that the requirement relates to.

- 6. Requesting Agency Point of Contact:** Identify who can knowledgeably discuss the requirement.

- 7. Requirement:** State the need in functional terms. Tell what capabilities you need, don't just state what specific equipment you need. Recommend equipment if necessary. If specific equipment is recommended, state why. The focus of the requirement should be on describing the capabilities you need. Identify any security handling requirements, and indicate when a secure capability is required. When necessary, include special requirements, such as accommodations for handicapped users, special operating conditions, manpower, training, and maintenance.

- 8. Justification:** Tell why you need it. The justification may be useful after the technical solution is provided. It can help prioritize resource allocation and project implementation.

9. CSO's Proposed Solution/Alternatives: Completed by the CSO, possibly with assistance from others, may require additional pages.

10. Technical Solution Authority: Identify who certifies the solution, meets architectural and interoperability standards, and what references were used. The CSO ensures completion, though other activities may certify.

11. Records Management Approval Authority: Involve the information management function when preparing requests that use information management systems, such as the records management and reports control systems and the Privacy and Freedom of Information Acts.

12. Requester Approval Authority: Completed after the technical solution is provided. Requester indicates what to do with the technical solution. Can approve or disapprove. User also identifies if funds are available for implementation. **NOTE:** Local or MAJCOM procedures may dictate specified dollar amount or types of requirements that require approval levels beyond that of user.

13. Host Base Approval Authority: This section is available if it is necessary to forward to another level for review or action according to local and MAJCOM guidelines.

14. MAJCOM Approval Authority: This section is available if it is necessary to forward the form to the MAJCOM for review or action according to MAJCOM guidance.