

13 AUGUST 1999



Operations

**MISSION NEEDS AND OPERATIONAL
REQUIREMENTS GUIDANCE AND
PROCEDURES**

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction implements AFD 10-6, Mission Needs and Operational Requirements. It provides guidance and procedures for developing and processing Air Force mission needs and operational requirements that transition into Air Force Programs. It briefly describes the Modernization Planning Process (MPP) that identifies deficiencies and the Acquisition milestones and phases. It implements Department of Defense (DoD) Directive 5000.1, DoD 5000.2-R, and CJCSI 3170.01, Requirements Generation System (formerly MOP 77) and establishes guidelines to prepare, validate, and approve Mission Need Statements (MNS), Capstone Requirements Documents (CRD), and Operational Requirements Documents (ORD) in support of the acquisition process. It is specifically designed to clarify procedures for requirements in programs of Acquisition Category (ACAT) II and III as DoD 5000.1, DoD 5000.2-R and CJCSI 3170.01 focus primarily on ACAT I requirements. To ensure a full understanding of the acquisition process and terms used, users of this instruction should familiarize themselves with the referenced DoD and Joint Staff guidance, Air Force 33- and 63-series publications, the Air Force 10- series publications on the Modernization Planning Process (MPP), the Advanced Concept Technology Demonstration (ACTD) Master Plan, and Air Force Policy Directive 10-19, Air Force Battlelab Policy. For other related publications see [Attachment 1](#). Where necessary for clarity, this document quotes portions of these publications. The Paperwork Reduction Act of 1974 as amended in 1995 affects this instruction.

PREFACE:

DoD, Congress, and the Secretary of Defense are placing increased emphasis on acquisition reform. As a result, the acquisition community's goal is to increase efficiency and acquire systems for the user in a "cheaper, better, smarter and faster" manner using capability based requirements, constraints, and risk management. Primary efforts include reducing overall cycle time and life cycle costs (LCC), implementing the Cost as an Independent Variable (CAIV) concept, as well as streamlining requirements generation and exploring ways to implement innovative ideas. Critical events in this effort include the Phase 0 activities of analysis of alternatives (AoA), well written requirements documents and an earlier involvement of the testing community.

Fundamental to this effort is the understanding that the Air Force requirements process is striving for a capabilities-based vice a systems-based approach. Fully understanding operational deficiencies across the spectrum of Air Force and Joint Warfighting Mission Areas as well as the operational objective the Air Force is trying to achieve is critical to developing effective requirements documents. Key first steps in supporting the acquisition reform effort are articulating the operational concept of employment and identifying the main operational and maintenance drivers affecting LCC. These key steps are also imperative to discussing, advocating, and competing Air Force requirements in the fiscally constrained Joint Warfighting forum.

SUMMARY OF REVISIONS

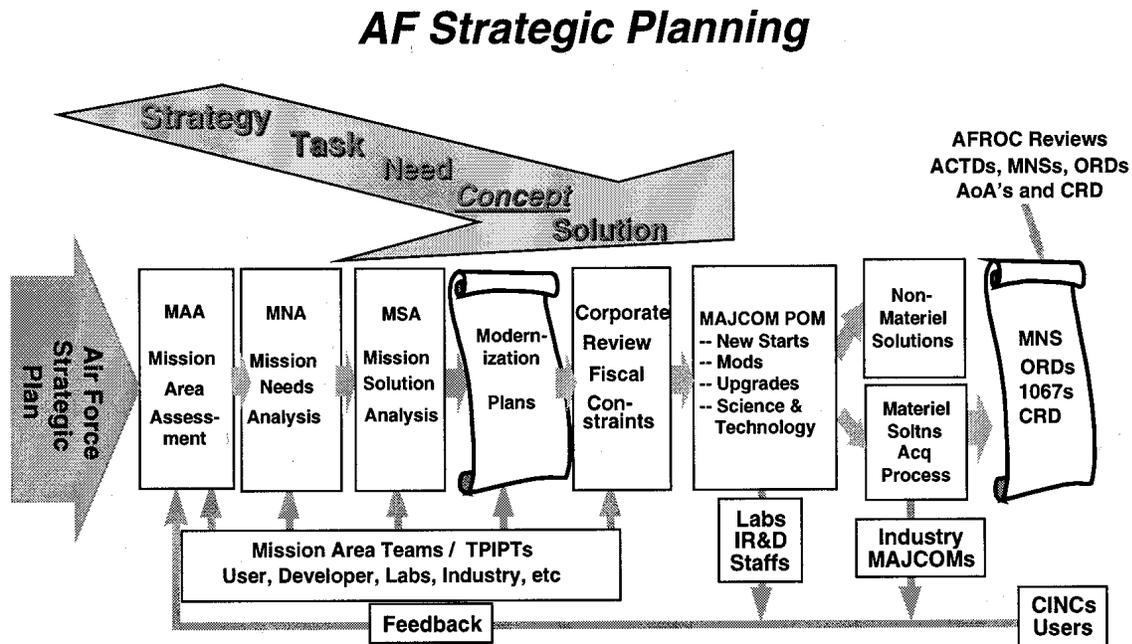
This revision incorporates IC 99-1 and provides guidance on streamlining the requirements approval process and expands the role of the Air Force Requirements Oversight Council (AFROC). In particular, it clarifies policy changes regarding mission needs (paragraph 3.2.7.), explains internal headquarters staffing process (paragraph 7.), and discusses the expanded role of the AFROC regarding the validation and approval process of Air Force requirements documents (paragraph 8.). The entire text of IC 99-1 is at **Attachment 10**. A bar (|) indicates revision from the previous edition.

1.	Requirements Origination.	2
Figure 1.	Modernization Planning Flow.	3
2.	Requirements Utilization.	5
Figure 2.	Acquisition Milestones and Phases.	5
Figure 3.	Acquisition Categories (FY 1996 Constant dollars).	8
Figure 4.	Evolutionary Acquisition Model.	10
3.	Requirements Documents.	10
Figure 5.	Inserting Demonstrated Innovative Concepts.	23
4.	Determining Initial Operational Capabilities (IOC).	23
5.	Modifications and the Requirements Process.	24
Figure 6.	Requirements Documents Necessary to Support Modifications.	24
6.	Analysis of Alternatives (AoA).	26
7.	HQ USAF Requirements Document Approval Process.	29
Figure 7.	The three phases of staffing.	29
Figure 8.	Staffing Timeline.	31
8.	Air Force Requirements Oversight Council (AFROC).	32
9.	Joint Requirements Oversight Council (JROC).	34
10.	Joint Requirements And Service Harmonization.	34
11.	Intelligence Support Plan (ISP).	36

AFI10-601 13 AUGUST 1999	3
12. Modeling and Simulation.	36
13. Process Deviation Requests.	37
Attachment 1—GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION	39
Attachment 2—HEADQUARTERS, UNITED STATES AIR FORCE (HQ USAF) RESPONSIBILITIES	57
Attachment 3—AIR FORCE MAJOR COMMAND (MAJCOM), FIELD OPERATING AGENCY (FOA), AND DIRECT REPORTING UNIT (DRU) RESPONSIBILITIES	64
Attachment 4—COVER SHEET AND TRANSMITTAL MEMORANDUM	70
Attachment 5—MISSION NEED STATEMENT (MNS) SUMMARY (PROCEDURES AND FORMAT)	73
Attachment 6—CAPSTONE REQUIREMENTS DOCUMENT (CRD) SUMMARY (PROCEDURES AND FORMAT)	76
Attachment 7—OPERATIONAL REQUIREMENTS DOCUMENT (ORD) SUMMARY (PROCEDURES AND FORMAT)	78
Attachment 8—COMBAT MISSION NEEDS STATEMENT (C-MNS) (PROCEDURES AND FORMAT)	91
Attachment 9—MNS, CRD, ORD, AND AoA DISTRIBUTION LIST	93
Attachment 10—TEXT OF IC 99-1	105

1. Requirements Origination. Requirements on occasion are “top-down” directed, but originate primarily from the Air Force Modernization Planning Process (MPP). The MPP is briefly described here so the Requirements Officer can better understand the process preceding requirements generation in the Air Force. AFPD 10-14, Modernization Planning and AFI 10-1401, Modernization Planning Documentation establish the policy, functional responsibilities, and procedures and is maintained by HQ USAF/XPX.

Figure 1. Modernization Planning Flow.



1.1. Modernization Planning Process (MPP). Guided by the Air Force Strategic Plan, the MPP is the foundation for requirements generation and the acquisition process (Figure 1). Mission area planners at the MAJCOMs, certain designated Field Operating Agencies (FOA) and Air Staff functional areas conduct the MPP through the Mission Area Assessment (MAA), Mission Need Analysis (MNA), and Mission Solution Analysis (MSA) to generate the Mission Area Plans (MAP), Mission Support Plan (MSP) and fiscally constrained investment plans. Several of these steps involve extensive analysis of plans and requirements to develop a deficiency list and the most cost effective method to overcome them. The MAPs and MSPs identify and prioritize operational deficiencies and identify potential non-materiel and materiel solutions to these deficiencies. The MPP provides investment strategies for Air Force Program Objective Memorandum (POM) development. (See AFPD 10-14 and AFI 10-1401)

1.1.1. Mission Area Assessment (MAA). The MAA is the first phase of the MPP. Mission area planners at the MAJCOMs, certain designated Field Operating Agencies (FOA), Air Staff offices and functional areas conduct MAAs to identify mission tasks. MAA provides the analytical framework within which capabilities can be analyzed during the MNA and the MSA. "Strategy-to-task" process links the tasks for certain military capabilities to the military strategy provided by the Chairman of the Joint Chiefs of Staff (CJCS). These planners review the tasks and assigned missions under broad concepts of operations for the various regional plans that assign specific military objectives. Planners, then list the tasks required to accomplish their assigned missions. MAJCOMs and Air Staff functional areas continually evaluate plans and Joint Staff guidance for changes in assigned missions and objectives that affect the tasks. They then evaluate their ability to accomplish these tasks.

1.1.2. Mission Need Analysis (MNA). The MNA is the second phase of the MPP. The MNA begins when tasks are identified during the MAA. The MNA evaluates the Air Force capability to

accomplish identified tasks and missions using current and programmed future systems. This process is called “task-to-need.” Planners may use a wide variety of analytical methods to complete the evaluation. The Air Force Studies and Analyses Agency (AFSAA), the AF Office of Aerospace Studies (OAS), Directorate of Command and Control (AF/XOC), formerly the Directorate of Modeling, Simulation, and Analysis, accomplishes applicable analyses. Other participating organizations may include the Technical Planning Integrated Product Teams (TPIPTs) from the various Air Force Materiel Command (AFMC) product centers, wargamers at Service schools, the various AF Battlelabs, and the command’s own in-house analysts. Regardless of the source of the analysis, the focus remains on the capability to accomplish the task identified during the MAA. The result of the MNA is a common list of needs/deficiencies which detail the shortfalls in mission capability.

1.1.3. Mission Solution Analysis (MSA). The MSA is the third phase of the MPP. If a shortfall in capability to accomplish a task or mission is identified, a non-materiel solution is considered (tactics, doctrine, training, strategy, etc.) to solve the deficiency. Only after these options are exhausted will organizations consider a materiel solution and develop a Mission Need Statement (MNS). The MSA effort identifies potential materiel solutions to solve the deficiencies identified during MNA, integrates those solutions, develops mixes of solutions and begins to constrain the solutions by applying various constraint factors such as cost, environmental interoperability (to include international interoperability), etc. Using this process, the mission area planners attempt to prioritize the solutions. The TPIPTs, MAJCOMs, Air Staff functional areas, and National Laboratories work together during this phase to identify a relevant set of solutions that address the needs and deficiencies from the MNA. The mission and system analyses during this phase should be conducted with a focus on both the programming horizon (i.e., Future Year Defense Plan (FYDP)) and the planning horizon.

1.1.4. Mission Area Plan (MAP). Mission Area Plans cover a period of 25 years. The MAP includes the development of a projected force structure, a technology development strategy, investment strategy options, and related infrastructure support requirements, providing a total strategies-to-task-to-capability plan. It uses the results of the MAA, MNA, and MSA processes to document the most effective means of correcting task deficiencies from several non-materiel solutions, changes in force structure, systems modifications or upgrades, science and technology applications, and new acquisitions. The MAP is a “modernization roadmap”. It provides materiel solutions and technology development efforts and outlines the mission area in terms of all the assigned force elements over the next 25 years, including new acquisitions. This leads to the development of MNS and begins the requirements process.

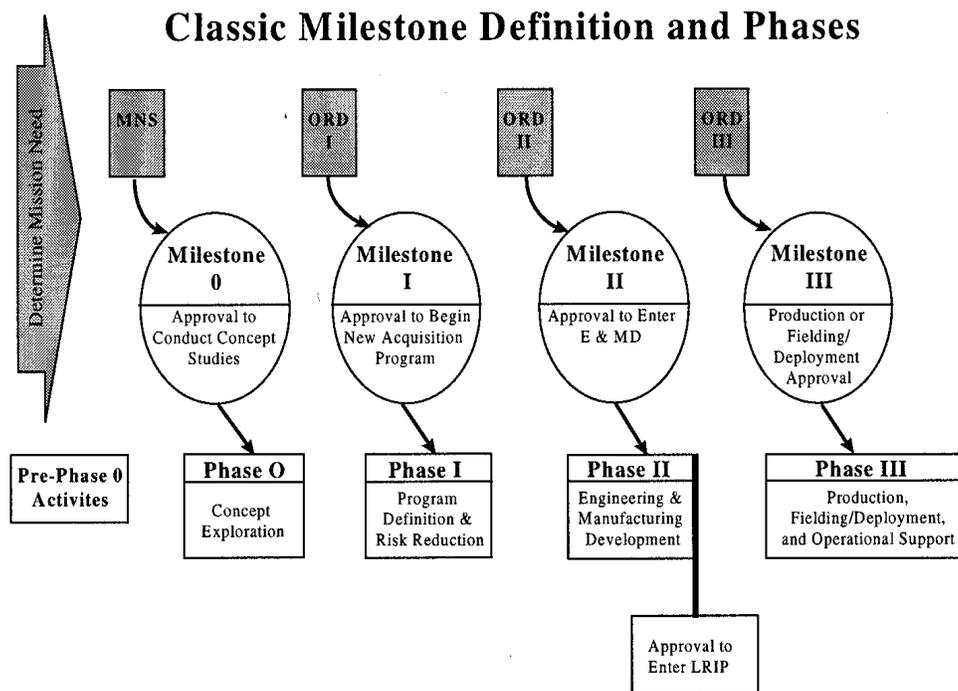
1.1.5. Mission Support Plan (MSP). Mission Support Plans (MSPs) are developed when mission area needs can be more efficiently met by investing in systems or leveraging technologies managed across multiple MAJCOMs, Services or National Agencies. MSPs are developed using the same guidance as the MAPs. The MSP identifies infrastructure needs for its functional area and investments that directly tie to successful implementation of each MSP.

1.2. Directed Programs. Higher authority may direct a MAJCOM commander to implement programs. For ACAT II and III programs, CSAF, or higher authority, written direction fulfills the requirement of AFPD 10-6 to document a mission need. However, the designated operating command is still responsible for producing the ORD. For all directed programs, paragraph 1 of the ORD will state “This is a top-down directed...” program and will identify the higher authority who directed it.

1.3. MAJCOM Requirements Generation Process. To streamline requirements generation, develop better requirements documents, and reduce staffing time, MAJCOMs should, use a team approach. The MAJCOM shall determine the appropriate players for the team. Teams should include representatives from the testing, logistics, environmental, safety, health, weather, and acquisition communities and, if possible, representatives from other MAJCOMs, supporting commands, HQ USAF, or any other agency that has a role in defining the mission deficiency or operational requirement. The AoA is a key analysis tool used by the MAJCOM to help define ACAT I operational requirements. The team approach will result in the appropriate offices becoming involved in the creation of the requirements documents, an early “buy in” to the content, and an increased understanding of the issues within the document itself. Ultimately, the team approach should lead to better written requirements documents as well as reduced staffing cycle time.

2. Requirements Utilization. The four phases of the acquisition process are depicted in **Figure 2**. All milestones preceded by a validated requirements document.

Figure 2. Acquisition Milestones and Phases.



2.1. The Acquisition Process. The acquisition process is an iterative series of activities and events performed by the DoD, SAF, HQ USAF, and many commands, agencies, and program offices. For identified material deficiencies, development of a MNS is the normal initial step. A series of event-driven phases follow each milestone. Exit criteria, as established by the Milestone Decision Authority (MDA) for each milestone, must be successfully achieved before a program enters the next phase of program development. As the user, or user’s representative, the operating command’s participation is essential in each acquisition phase and in the development and refinement of the ORD. During the formative stages of program development; i.e., phase 0, when writing the ORD, the user, tester, and logistician participation are fundamental to the process. During these early phases, important pro-

jections, assumptions, and decisions are made impacting on the success or failure of an emerging system program.

2.1.1. Pre-Milestone 0, Determining Mission Needs. The operating MAJCOM shall continually assess its mission and identify deficiencies, using the “strategy-to-task” framework. New mission needs, system obsolescence, economic benefits, new technological opportunities, changes in threat, or other considerations such as international standards may cause new programs to be initiated. If non-materiel solutions are not sufficient to meet the need, the MNS documents the materiel deficiency. The MNS must be approved prior to Milestone 0.

2.1.2. Milestone 0, Approval to Conduct Concept Studies. The MDA documents all milestone decisions in a memorandum referred to as the Acquisition Decision Memorandum (ADM). After MNS approval, for ACAT I programs, the MDA directs concept studies of alternative programs with issuance of a decision memorandum. For ACAT I and selected ACAT II or III programs, the ADM may direct the completion of an Analysis of Alternatives (AoA). The decision memorandum provides guidance on the scope and level of detail required for the AoA. For other than Major Defense Acquisition Programs (MDAP) or Major Automated Information Systems (MAIS) programs, the MDA for Milestone 0 is normally the Air Force Acquisition Executive (AFAE).

2.1.3. Milestone 0 Responsibilities. HQ USAF/XOR ensures the following Milestone 0 decision issues are addressed in the decision memorandum: (1) Has the acquisition category (ACAT) level for the potential program been identified: (2) Has the lead organization for the concept study or the AoA identified the source of funding, if required (See paragraph 7.); (3) Does the exit criteria include the minimum set of alternatives, and requirements necessary for entry into the next phase. HQ USAF/XOR will work closely with SAF/AQ and the using MAJCOM staffs to ensure these issues are addressed in the milestone decision review. A copy of the decision memorandum will be forwarded to the appropriate MAJCOM requirements principal.

2.1.4. Phase 0, Concept Exploration. After a decision memorandum is issued, HQ USAF/XOR prepares and issues a Program Management Directive (PMD) to implement the Milestone 0 decision memorandum. This initial PMD identifies the lead MAJCOM (usually the originator of the need), and establishes MAJCOM tasks and responsibilities that include providing a funding source for AoA and other required studies. The implementing command works with the lead command and SAF/AQ to develop the acquisition strategy and all other documentation required by DoD 5000.2-R for the next milestone decision.

2.1.5. Milestone I, Approval to Begin a New Acquisition Program - ORD I. The MDA approves and authorizes entry into the next phase and program initiation occurs via the decision memorandum or ADM. For ACAT I and selected ACAT II/III programs, the ADM may direct the completion of an AoA. The ADM provides guidance on the scope and level of detail required in the AoA. The appropriate SAF/AQ organization issues the PMD to implement the Milestone I decision memorandum.

2.1.6. Phase I, Program Definition and Risk Reduction. The lead MAJCOM refines and updates the information in the ORD, and coordinates on the Acquisition Program Baseline (APB). The value of a threshold or objective in the APB shall not differ from the value for a like threshold or objective in the ORD. The implementing command updates data in the appropriate acquisition documentation. It is during this phase that the PM should ensure ISA design interface is considered.

2.1.7. Milestone II, Approval to Enter Engineering and Manufacturing Development - ORD II. The MDA approves the program to enter the next phase and may authorize low-rate initial production (LRIP), if appropriate, via the ADM. If appropriate, the ADM will direct the completion of another AoA. The ADM will include guidance on the scope and level of detail required. A PMD will be issued by the appropriate SAF/AQ organization to implement the Milestone II ADM.

2.1.8. Phase II, Engineering and Manufacturing Development. The lead MAJCOM continues to update and refine the ORD, as well as coordinate on the refined APB developed by the implementing command. The value of a threshold or objective in the APB shall not differ from the value for a like threshold or objective in the ORD. The lead MAJCOM continues to update and refine the ORD while the implementing command provides pertinent information to be included in the ORD when it is updated.

2.1.9. Milestone III, Production or Fielding/Deployment Approval - ORD III. The MDA approves procurement or production of the system and authorizes entry into the production and deployment phase via the ADM. The appropriate SAF/AQ organization issues a PMD to implement the Milestone III ADM.

2.1.10. Phase III, Production, Fielding/Deployment, and Operational Support. Production, fielding/deployment, and operational support of the system begins. The user or operator receives assets according to the required assets availability (RAA) date and begins the trial period of the system which, in turn, leads to initial operational capability (IOC) declaration. Applicable documents are updated and refined on an “as required” basis.

2.1.11. Milestone Linkage to ORD. Before Milestone I of the acquisition process, the user must define the operational requirements for the system in the ORD. At subsequent milestone decision points, these requirements should be refined based on cost-schedule-performance trade-offs during the preceding phase of the acquisition process. Stated another way, as an ORD progresses from ORD I through ORD II to ORD III, the system threshold and objective values will be refined from broad operational system characteristics in ORD I, potentially To Be Determined (TBD), to greater specificity required for full production and fielding. See paragraphs 3.4.6. for additional clarification as the program matures through the acquisition process.

2.2. Acquisition Categories (ACAT). Acquisition categories are established to aid decentralized decision making and to execute and comply with congressional and DoD direction. Each ACAT has a level of review, decision authority, and applicable procedures. Program categories for systems that are not Automated Information Systems (AISs) are usually based on total research, development, test and evaluation (RDT&E) or procurement costs. Regardless of cost, may be designated by the Office of the Secretary of Defense of OSD discretion. Program costs (for systems that are AIS) are based on single year funding, total program costs, or lifecycle costs. Below is a summary chart from DoD 5000-.2-R defining ACAT.

Figure 3. Acquisition Categories (FY 1996 Constant dollars).

ACAT	
ID	Non-AIS program, more than \$355M RDT&E or more than \$2.135B Procurement/Production. (MDA is USD(A&T))
IC	Non-AIS program, more than \$355M RDT&E or more than \$2.135B Procurement/Production (MDA is DoD Component Head, or if delegated, the DoD Component Acquisition Executive (CAE))
IAM	AIS acquisition program, more than \$30M single year or more than \$120M in total program costs, or life-cycle costs more than \$360M (MDA is Chief Information Officer of DoD, ASD(C3I))
IAC	AIS acquisition program, more than \$30M single year or more than \$120M in total program costs, or life-cycle costs more than \$360M (MDA is CAE or Component CIO)
II	Non-AIS program, more than \$135M RDT&E or more than \$640M Procurement/Production or as designated by the DoD Component Head (MDA is DoD CAE)
III	Any program not meeting the criteria of ACAT I, IA, or II (MDA is designated by the CAE to the lowest appropriate level)

2.3. Evolutionary Acquisition (EA), or Spiral Development. Evolutionary acquisition is a tailored, streamlined acquisition strategy in which a core capability is fielded, and the system design has a modular structure and provisions for future upgrades and changes (follow-on increments) as requirements are refined. Per Under Secretary of Defense (Acquisition and Technology) in a memorandum dated 12 January 1995, EA is an alternative practice to be assessed by program managers (PMs) when developing the acquisition strategy for their individual programs. EA can help shorten the time between requirements genesis and system availability.

2.3.1. Why Evolutionary Acquisition. The use of conventional approaches to the acquisition of large systems can typically take from 8 to 12 years or more from program initiation to delivered capability. This extended development time can cause problems that could be mitigated with a more rapid acquisition strategy such as evolutionary acquisition. Problems of long cycle times may include high costs, technology obsolescence, evolution of the threat beyond the capabilities being procured, and corresponding evolution of user requirements. In programs with developing technology and/or the potential for changes in requirements over time, evolutionary acquisition may be particularly valuable.

2.3.2. Defining Requirements for EA Systems. Based on the size, scope, and character of the effort involved, each increment may be covered by an existing requirements document, an annex or update to an existing requirements document, or may require a new operational requirements document. The proposed approach to be used for subsequent incremental developments and coordination for evolutionary acquisition programs should be included in the original requirements document and acquisition strategy documents. ORDs with obvious evolutionary growth potential or programs for Spiral Development will describe how incremental increases in capability benefit the warfighter. EA benefits will be described in Section 1 as part of the Operational Concept of Employment. After the original requirement has been validated and approved, subsequent incremental changes to the ORD will be staffed and approved as revisions by HQ USAF/XOR (See

paragraph 3.4.8.2.), or as outlined in the original document. If validated requirements associated with future incremental delivery are anticipated, document these requirements in the original ORD. In all cases, requirements must be appropriately documented before an increment proceeds into the Engineering and Manufacturing Development (EMD) phase for that increment.

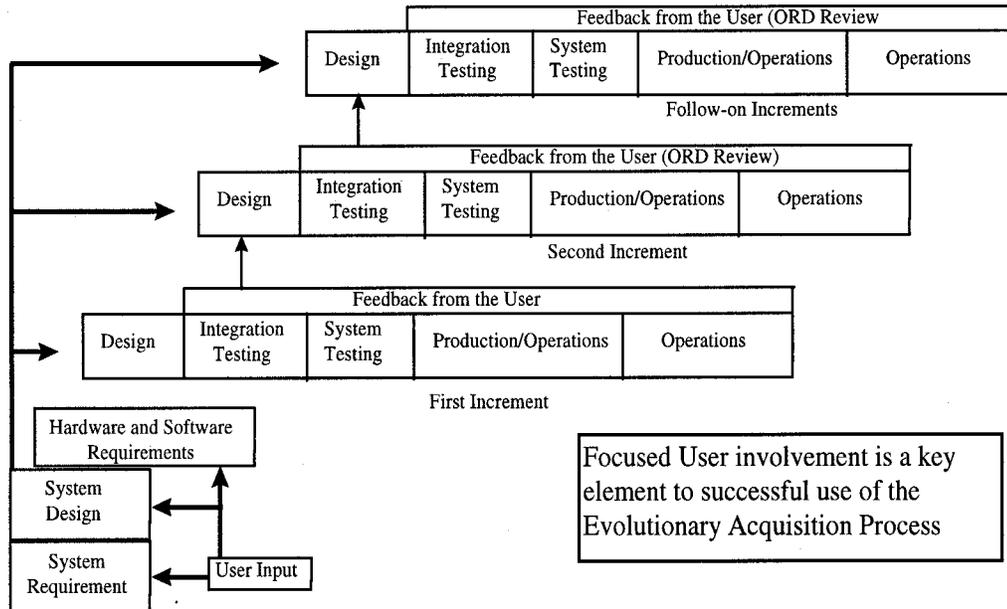
2.3.2.1. Defining the Initial Increment and Core Capability. The initial ORD must define general boundaries or scope of what the system is required to do. Specifically, the initial ORD will describe a core capability (i.e., the initial increment). Capabilities beyond the core capability may be described for follow-on increments in more general terms, although if specific requirements are known at the time, they should be documented

2.3.2.2. Updating Requirements for Increments Beyond the Core. Before an increment proceeds into EMD, users and developers will agree on and document requirements for that increment in coordination with the acquisition and operational test agencies. Additional capabilities beyond this increment may continue to be stated in general terms. Requirements for increments can be documented as indicated in the proposed approach outlined in the original requirements document and acquisition strategy documents, or through an ORD annex, an ORD revision, an ORD update, or a new ORD (see paragraph 3.4.8.). In all cases, HQ USAF/XOR will review and define the appropriate approval authority for whichever option was chosen. Deferment of significant required capability from a particular increment will be approved at the General Officer, or equivalent level.

2.3.3. Evolutionary Acquisition and the Requirements Process. Depending on the size, scope, and character of the effort involved, each increment may be covered by an existing requirement document, an annex or update to an existing requirement document, or may require a new operational requirement document. The proposed approach to be used for subsequent incremental developments and coordination for evolutionary acquisition programs should be included in the original requirements document and acquisition strategy documents. ORDs with obvious evolutionary growth potential or programs for Spiral Development will describe how incremental increases in capability benefit the warfighter. EA benefits will be described in Section 1 as part of the Operational Concept of Employment. After the original requirement has been validated and approved through the appropriate MDA, subsequent incremental changes to the ORD will be staffed and approved as revisions by HQ USAF/XOR (See paragraph 3.4.8.2.), or as outlined in the original document. If validated requirements associated with future incremental delivery are anticipated, document these requirements in the original ORD.

2.3.4. The Evolutionary Model. An EA model and its application over time is represented in the Figure 4. The model emphasizes the incremental nature of the EA approach and the essential, continual user involvement in every phase of development. Although the overall objective is identified in the original ORD, HQ USAF/XOR reviews and determines approval level of each incremental change.

Figure 4. Evolutionary Acquisition Model.



2.4. Other Methods of Initiating an Acquisition Process.

2.4.1. Rapid Requirements Process for the Warfighter. If a requirement is so urgent that the normal acquisition process is not suitable, see paragraph 3.5. If the situation meets the criteria described in AFI 63-114, Rapid Response Process (RRP), the RRP is a method to quickly provide a fieldable system to the warfighter via the C-MNS.

2.4.2. Modifications to Mature Programs. (See paragraph 5. for details)

3. Requirements Documents.

3.1. Requirements Guidance. Use these mandatory procedures to ensure programs are well defined, carefully structured to represent a judicious balance of cost, schedule, performance, available technology, and compliance with international agreements. In the process of refining requirements, key concepts that should be adhered to include:

3.1.1. Keeping all reasonable options open and facilitating trade-offs throughout the acquisition process to help ensure systems are affordable.

3.1.2. Avoiding early commitments to system-specific solutions, to include commitments to solutions which inhibit future insertion of Commercial and Non Developmental Items (CaNDI) equipment or components. (See 3.4.5.1. for CaNDI considerations)

3.1.3. Defining requirements in terms of desired operational capabilities (output-oriented) and not in terms of engineering specifications. The intent is not to relay to the PM/contractor how to design the system, but how you want that system to perform.

3.1.4. Defining the requirements in measurable, testable and achievable terms.

3.1.5. Identifying and documenting service, inter-service, and international interoperability requirements.

3.2. Mission Needs—Basis for Materiel Solutions. From DoD 5000.2-R, acquisition programs are normally based on identified, documented, and validated mission needs which result from ongoing Mission Area Assessments. Continuous evaluation of AF mission needs may require commanders to pursue new operational capabilities, improve or replace an existing capabilities, and exploit opportunities to reduce costs and to enhance performance. If the mission need can be met by modifying an existing system or program, refer to paragraph 5., **Modifications and the Requirements Process**.

3.2.1. Definition and Purpose of the Mission Needs Statement (MNS). The MNS is a brief statement (no more than **five** typed pages), written by DoD Components, in broad operational terms, that succinctly define a mission deficiency or technological opportunity. Along with the mission deficiency, a MNS identifies and describes, based on the results of mission need analysis, why non-materiel changes (i.e., doctrine, tactics) are not adequate to correct the deficiency. It identifies potential materiel alternatives and describes key boundary conditions and operational environments that may preclude satisfying the need/deficiency. It describes required operational capabilities and constraints to be studied during the Concept Exploration. MNS must be **non-system specific** to allow for the broadest consideration and selection of the most cost effective solution; however, the operating MAJCOM may identify potential solutions and indicate a tentative preference. The MNS is prepared in accordance with CJCSI 3170.01, Requirements Generation System. (See Enclosure B, pages B1-B2).

3.2.2. Considerations Guiding MNS Solutions. In assessing materiel solutions, operating MAJCOMs will give priority consideration to the most cost-effective solution. Generally, the following DoD preferred hierarchy of materiel alternatives are considered in order of decreasing cost-effectiveness:

3.2.2.1. The procurement (including modification) of commercially available systems or equipment, the additional production (including modification) of commercially available systems or equipment, or Allied systems or equipment.

3.2.2.2. Cooperative development with one or more Allied Nations.

3.2.2.3. A new joint-service development program.

3.2.2.4. A new service-unique development program.

3.2.2.5. ACAT I. A deficiency that could potentially require an ACAT I solution will have a written MNS, validated and approved at the JROC (CJCSI 3170.01). The AFROC will review all ACAT I MNS and if approved, AF/XOR will sign an AFROCSM recommending the MNS be approved by CSAF to enter the JROC validation and approval process.

3.2.3. Programs that do not require MNS. The following types of programs **do not** require a MNS:

3.2.3.1. Communications and Information mission needs with a projected program cost of **≤ \$15 million** will use a Communications and Information Systems Requirements Document (CSRD) as a MNS IAW AFI 33-103, Requirements Development and Processing.

3.2.3.2. Safety of flight upgrades.

3.2.3.3. Low cost modifications (below \$65 million in FY 1996 constant dollars) that are gen-

erated by an AF Form 1067. (See paragraph 5. on modifications)

3.2.3.4. Basic (6.1), Exploratory (6.2), or Advanced Development (6.3A) RDT&E Programs. Contact SAF/AQX for information on these programs.

3.2.3.5. Advanced Concept Technology Demonstrations (ACTD) approved by the Joint Requirements Oversight Council (JROC) and that will lead directly to a capability for the warfighter and to ORD development.

3.2.3.6. Kenney Battlelab Initiatives that are approved by the AFROC and designed to improve an existing capability (for which there is a documented or implied need) or process.

3.2.3.7. Directed programs as described in paragraph 1.2.

3.2.3.8. Joint Warrior Interoperability Demonstration (JWID) Gold Nuggets that are approved by the Military Communication-Electronics Board.

3.2.3.9. ACAT II and III. A deficiency that could potentially require an ACAT II or III solution no longer requires a MNS, provided the deficiency is sufficiently documented in a mission area plan (MAP) or Mission Support Plan (MSP). The briefing to the AFROC provides all Air Force requirements personnel insight and notification of another organization's mission deficiency. The resulting AFROCSM provides documentation to the acquisition community that the Air Force deficiency is valid and provides a basis for the Service Acquisition Executive (SAE) to establish Milestone 0. AF/XOR, with a recommendation from the AFROC, will sign the AFROCSM. For potential ACAT II solutions, the AFROCSM will require AF/XO endorsement before being sent to the SAE. For potential ACAT III solutions, the AFROCSM will be sent to the SAE for action.

3.2.4. The Six Mandatory MNS Sections are:

3.2.4.1. Defense Planning Guidance Element.

3.2.4.2. Mission and Threat Analysis.

3.2.4.3. Non Materiel Alternatives (Changes in Training/Doctrine/OPS).

3.2.4.4. Potential Materiel Alternatives.

3.2.4.5. Constraints.

3.2.4.6. Joint Potential Designation.

3.2.5. Joint Potential Designator (JPD). The JPD is used to describe the expected level of joint DoD component involvement. Involvement is classified as:

3.2.5.1. Independent -- No potential for other service use of systems interface or for joint development or procurement.

3.2.5.2. Joint Interest -- Joint program management is inappropriate, but a potential for other service use or systems interface exists.

3.2.5.3. Joint -- A potential for joint program management, joint funding, and/or joint development or procurement exists (CJCSI 3170.01)

3.2.6. MNS Numbering. For directions on MNS format and numbering see Attachment [Attachment 5](#). Also refer to CJCSI 3170.01, Enclosure B, pages B-1 through B-2.

3.2.7. Policy Regarding MNS. Any deficiency that could result in a potential ACAT I, II, or III acquisition will obtain AFROC approval to begin Phase 0 activities. Send the required briefing to AF/XORD 15 days prior to the AFROC. This briefing of deficiencies that could require an ACAT II and III acquisition will ensure harmonization throughout the services (per CJCSI 3170.01). AF/XORD will forward the briefing and an invitation memorandum to the other services and the Joint Staff so they may attend the briefing to determine joint interest. AF/XOR will sign the invitation.

3.3. Capstone Requirements Document (CRD). Some mission needs are so broad that a single system is not capable of fulfilling them. Instead, the needs may necessitate development of a “family-of-systems” or “system-of-systems.” Thus, the CRD is referred to as an “umbrella document” linking the MNS to a series of ORDs that express the requirement for a family-of-systems to be integrated and operated together to effectively accomplish the overall mission. The requirements for individual systems shall support the CRD and must be documented in separate ORDs. An example of a “system-of-systems” with a CRD is the Theater Missile Defense (TMD) System which describes the Air Force’s Airborne Laser, the Army’s Theater High Altitude Air Defense (THAAD) system, and the Navy’s upper tier “Theater Wide” and lower tier “Area” systems as components that operate in concert to defeat TMD threats. In such cases, the user may choose, or the JROC directs, the development of a CRD to state the required top level capabilities that ensure interoperability across the family-of-systems. When a CRD is appropriate, the JROC, or AFROC, will identify the lead agency to best represent overarching requirements for a “family-of-systems”. See CJCSI 3170.01 paragraph 4., page 1-14 for additional information. Specific guidance for the format of a CRD is found in Enclosure C of CJCSI 3170.01.

3.3.1. CRD Numbering, Updates and Revisions. Unlike ORD numbering (See [Attachment 7](#)), attempting to tie a CRD to any particular MNS could cause confusion since a CRD will be tied to several MNS or ORDs. In order to provide linkage and traceability, the CRD title will contain the service, number of the CRD in three digits, a dash, the year assigned in two digits, and the name of the CRD. (Example: Air Force CRD 001-98, <<name>>) The CRD does not support a milestone decision and will not have reference to a milestone number. For control of numbering, contact HQ USAF/XORPD for the next number. However, a CRD may be revised as necessary and should indicate the revision number. Procedures for CRD revisions are the same as for ORD revisions. (See paragraph [3.4.8.2.](#))

3.3.2. Preparation and Submission of a CRD. If the Air Force is the lead service, preparation and submission procedures are the same as those for the ORD. The CRD need not support a milestone decision and its submission need not necessarily precede specific acquisition actions. Normally, the CRD will precede the development of the ORDs for the specific systems. The using command may be the OPR for the CRD. However, because of the overarching nature of a CRD, a Commander in Chief (CINC) of a Unified Combatant Command will usually be designated the OPR.

3.3.3. CRD Contents and Definitions. The terms and definitions for the CRD are the same as for the ORD. Due to its overarching nature, the CRD may describe parameters in terms that may not be directly testable, but must allow the derivation of thresholds and objectives in the resulting ORD. For example, the mission need of the combined capabilities of a weapon system, a command and control (C²) system, and an intelligence targeting system must be able to destroy 95% of a specific target set within three days. While not directly testable, CRD parameters allow the

derivation of operational requirements for weapon system accuracy, intelligence timeliness, and C² reliability.

3.3.4. The CRD Format:

3.3.4.1. General Description of Operational Capability

3.3.4.2. Threat

3.3.4.3. Shortcomings of Existing Systems

3.3.4.4. Capabilities Required

3.4. Operational Requirements Document (ORD). The ORD is a critical document in the requirements definition process. The using MAJCOM prepares the initial ORD during Phase 0, Concept Exploration. The first ORD is the statement of the user's requirements for the Milestone I decision. The ORD is solution-oriented and will be based on the most promising alternative determined during the concept studies or AoA accomplished during Phase 0. It documents operationally-oriented parameters with thresholds and objectives in terms of system-specific capabilities, characteristics, and other related operational variables. The testing community develops the measures of performance (MOP) and measures of effectiveness (MOE) required for successful testing of the resulting system based on the ORD thresholds and objectives. When applicable, the ORD will address modeling, simulation, and analysis requirements and the necessity to use digital systems models (DSM) during AoAs after MS I to optimize system development and sustainment. Note: See paragraph 12. for information on the use of DSMs in ORDs. Air Force ORDs will contain a mandatory attachment called the Requirements Correlation Matrix (RCM). (Paragraph 3.4.7.)

3.4.1. Purpose of the Operational Requirements Document. The purpose of the ORD is to document system capabilities, justification (threat or existing systems shortcomings), parameters, program support, and force structure required to satisfy a validated need. The ORD is a bridge that links the MNS and CRD (if applicable) to the Acquisition Program Baseline (APB) and the contractual specifications. The approved ORD serves as the foundation for testing and acquisition.

3.4.2. Authority of the ORD. The ORD is the basis for contract specifications during each acquisition phase; however, the ORD will not direct the use of system design, specifications, or compliance with policy, protocol, or agreements. Compliance with the law is understood. Similarly, the ORD does not establish or restate security policy, safety standards, environmental compliance, (e.g. it is inappropriate to state that the desired system will comply with Operational Safety and Health Administration (OSHA) Standards, or that it must comply with other laws). In addition, it does not establish acquisition policies, or direct acquisition actions or processes. Such policies and processes are governed by existing guidance and should not be repeated in the ORD. Finally, entering a contract for development requires an approved requirements document.

3.4.3. ORD Format. The mandatory format for an ORD is found in DoD 5000.2-R Appendix II, pages II-2 through II-4 and in [Attachment 7](#) of this instruction. There are seven mandatory areas that must be addressed in the ORD.

3.4.3.1. General Description of Operational Capability

3.4.3.2. Threat

3.4.3.3. Shortcomings of Existing Systems

3.4.3.4. Capabilities Required

3.4.3.5. Program Support

3.4.3.6. Force Structure

3.4.3.7. Schedule Considerations

NOTE:

It is essential that section one include a well defined Operational Concept of Employment. Parameters in section four should strive to define both threshold and objective values to aid in Cost as An Independent Variable (CAIV) execution. Parameters in section five should describe in detail the maintenance cost drivers e.g. engine fuel flow, maintenance man hours per flying hour, cost per flying hour, mean time between failure figures, maintenance footprint, two-level maintenance compliance drivers, or turn time requirements. These will act as the principal cost considerations for the program manager and industry to reduce LCC and total ownership costs (TOC).

3.4.4. Operational Concept of Employment. The development and clarification of the Operational Concept of Employment within the ORD is a critical part in the requirements process. The operational concept of employment is the user's description of how to operate and employ the system in conjunction with existing and projected, AF, Joint, or Allied systems to execute the mission. This description should be well documented in section one of the ORD. It articulates the user's intent, lays the foundation for a more complete understanding of system operation and sets the stage for parameter description later in the ORD. It also aids the test & evaluation community in developing testing MOPs and MOEs, and clarifies operations that the maintainer will have to support. The operational concept is an integral component of the ORD.

3.4.5. Requirements activities in Phase 0 (Concept Exploration). Phase 0 is a CRITICAL phase to ORD development. It is in this phase that the user, maintainer, industry, and labs address the mission need in an effort to determine the most cost-effective and prudent solution. In this phase, teamwork is imperative. Phase 0 is where CAIV and total LCC are first considered, where AoAs are conducted to refine the focus and reduce the number of potential technical solutions, and where operational concepts of employment are initially developed. In addition, it is the "de facto" phase of any innovative effort the Air Force may want to eventually accelerate to an advanced milestone in the acquisition process. **Phase 0 is fundamental in the development of a sound ORD.**

3.4.5.1. Market Analysis Supporting ORD Development. Title 10 of U.S.C §2377 (Preference for Acquisition or Commercial Items) requires researching the commercial marketplace for systems that have performance capabilities that meet the needs of the Air Force. This research is essential when building a sound set of requirements. A significant amount of research in the commercial market can be expected during Concept Exploration, Phase 0. (See 3.4.5.3) In understanding system performance requirements, Air Force users and developers assess how the desired performance characteristics of commercial items could be modified to meet Air Force needs. The results of that assessment will be included as part of the ORD, and will be translated into parameter thresholds and objectives. When documenting shortcomings of existing systems in section 3 of the ORD, the shortcomings of these commercial products will be documented. Operational requirements that are adequately met by commercial components, processes, technologies, and sources should be identified as such in section 4, capabili-

ties required. However, **the ORD should not direct acquisition actions or otherwise restrict the developers' potential solutions by directing the use of specific commercial products or systems (e.g., directing the acquisition of Commercial and Non Developmental Items (CaNDI)).** For example, the ORD might state the requirement describing the attributes or capabilities of a commercial-type system, but would be inappropriate to direct its by-name acquisition. Market analysis should also be conducted while fully cognizant of International Standards Agreements (ISAs) that describe interface considerations between the US and foreign nations systems.

3.4.5.2. Cost as an Independent Variable (CAIV) – a Key Phase 0 Activity. USD(A&T) established DoD policy to employ CAIV as a primary tool in defining and providing systems that meet warfighter needs at affordable acquisition and life cycle support costs. The objective of CAIV is to use better business practices, allow trade space for industry to meet user requirements, and consider operation and maintenance costs early in requirements definition in order to procure systems smarter. This policy mandates that **cost** be considered early in the requirements process, particularly with respect to total life-cycle costs to maintain systems. Critical to CAIV application is an integrated team approach in requirements development that must include user, acquisition, and logistics functional expertise. CAIV activities place “cost considerations” on an equal footing with performance and schedule in the search for a “best value” solution for the warfighter. CAIV has the greatest impact when it is started early in the process during the AoA or concept studies. CAIV application must continue during further requirements development (ORD Updates) and through system development, production, and sustainment. Therefore, it is important when identifying key performance parameters (KPPs) and determining parameter thresholds and objectives to keep the CAIV objective in mind. Ultimately, the Program Manager (PM), will seek “best value” for the warfighter not just considering performance. The PM will apply CAIV within the trade space (region between thresholds and objectives) while always being mindful that the “objective” is what the user desires. See DoD 5000.2-R, paragraph 3.3.3 and DoD Directive 5000.1, paragraph D(f) under Policy for additional information on CAIV.

3.4.5.3. Commercial and Non-Developmental Items. Commercial and Non-Developmental Items (CaNDI) is a way to rapidly satisfy the mission need requirement. However, the degree of design freedom for CaNDI systems may be restricted to the point that resolution of post production support problems by engineering change proposals is not a viable option. For CaNDI systems, post production support should be considered during market survey analyses and the following supply support issues need to be considered:

- 3.4.5.3.1. Are spares easily procurable?
- 3.4.5.3.2. Are the spares procurable throughout the system's life cycle?
- 3.4.5.3.3. Are there sufficient sources for spares?
- 3.4.5.3.4. Can the original contractor satisfy the delivery times?
- 3.4.5.3.5. Is the contractor in the production phase?
- 3.4.5.3.6. What is the average time between model changes and upgrades?
- 3.4.5.3.7. Does the manufacturer maintain form, fit, function with changes?
- 3.4.5.3.8. How well is the manufacturer's history of providing support?

3.4.5.3.9. Does the manufacturer commit to out-year support?

3.4.5.3.10. Does the manufacturer agree to line replaceable unit repair?

3.4.6. ORD Performance Parameters. Performance parameters are system capabilities or characteristics that describe what the user expects from the system in order to perform the mission and satisfy the mission need.

3.4.6.1. Key Performance Parameters. KPPs are those capabilities and characteristics considered most essential for successful mission accomplishment. They may include operational, logistics, and readiness parameters or other system characteristics e.g. interoperability or connectivity. As with all parameters, they are defined using threshold and objective values to describe desired performance. KPPs are parameters so significant that failure to meet their minimum values (thresholds) could be cause for program reevaluation or termination. The ORD should contain the minimum number of KPPs to adequately describe the required capability. KPPs are extracted from the ORD and included in the APB at each Milestone beginning with Milestone I. Given their importance, the user will make every effort to determine the value of KPPs vice expressing them as “TBD”.

3.4.6.1.1. Guidelines for KPPs. The following guidelines are applied when selecting KPPs. KPPs in the ORD must be measurable, achievable, and testable. The numbers and percentages documented must be supported by analysis. They must be documented in the RCM Part I with supporting rationale documented in RCM Part II or Part III as appropriate (see [Attachment 7](#)).

3.4.6.2. Parameter Thresholds. A threshold is a minimum acceptable value for a system capability or characteristic which, in the user’s judgment, is necessary to provide the operational capability that satisfies the mission need. A threshold establishes the lower limit for CAIV considerations.

3.4.6.3. Parameter Objectives. An objective is a value beyond the threshold that could have a measurable and beneficial impact on the system capability, supportability, or operational concept of employment. It is that value desired by the user and ultimately what the PM is attempting to obtain. An objective is a cost-effective increment above the threshold for each program parameter and it establishes the upper limit for CAIV considerations.

3.4.6.4. Parameters Classified as “To Be Determined”. In the early phases of acquisition, thresholds and objectives may not always be able to be determined. In these cases, particularly in consideration of CAIV principles, it is acceptable to label the value as “TBD” and be defined and specified in a later ORD update. When listing a threshold or objective as TBD, explain in Requirements Correlation Matrix (RCM) II the rationale for not stating the value for the System Program Manager.

3.4.7. Requirements Correlation Matrix (RCM) – Executive ORD Summary. The RCM is an executive summary of an Air Force ORD or an AF Form 1067 as described in paragraph 5. It is used to display and track essential user needs and requirements as they evolve through cost-performance-tradeoffs over the program. It is Air Force only document attached to all Air Force ORDs. The RCM is not required for ORDs originating outside the Air Force or special staffed documents (see paragraph 7.4.2). It also provides the means for documenting the rationale for user-stated needs and requirements in the ORD. The RCM is not a stand-alone document and must not introduce new or conflicting information not found in the ORD. See [Attachment 7](#) for addi-

tional details on RCM purpose, procedures, and format. The operating command is responsible for preparing the RCM.

3.4.7.1. Contents of a n RCM. The RCM contains system operational characteristics and capabilities quantified by thresholds and objectives as defined in the ORD. The operational characteristics and capabilities contained in the RCM serve as the foundation for developing the APB and the System Maturity Matrix (SMM), an implementing command management tool. The RCM has three parts.

3.4.7.1.1. RCM PART I—Include a tabular summary of the system parameters, included in the ORD text, expressed as thresholds and objectives that describe the user's operational, maintenance, and logistic requirements. All parameters that are key to the system success, (KPP) will be asterisked and included in the performance section of the APB.

3.4.7.1.2. RCM PART II – Explain in detail, how the threshold and objective values listed in Part I were derived. Cite specific studies, analysis, threat assessments, modeling, or other reference sources (including informed military judgments) that justify and substantiate the threshold values for each system characteristic or capability. Include any cost analysis information performed during the Phase 0 activities (AoA or concept studies) to derive CAIV objectives.

3.4.7.1.3. RCM PART III—Explain the rationale for changes to parameter threshold and objective values during ORD updates. ORD I will not have a Part III.

3.4.7.2. Use of th e RCM. As the program matures and needs evolve into firm thresholds (vice TBDs), columns in RCM, Part I, will reflect system-specific performance and support values agreed to by the using, implementing, and supporting commands. The value for each threshold must be referenced in Part II of the RCM as well as in the document, describing its relationship to mission success and how that value was derived. When a threshold changes from an earlier ORD iteration, give the rationale for the change in Part III of the RCM. All thresholds listed in the RCM must be documented in the ORD, and vice versa.

3.4.8. Changes to the ORD . As a system matures, changes may be accomplished by:

3.4.8.1. ORD Update. During the Program Definition & Risk Reduction and Engineering and Manufacturing Development phases of acquisition, prior to a Milestone decision, the ORD is updated. For example, prior to MS II, ORD II is written and staffed in the same manner as described in Section 6 and to the level required for the ACAT. Should the ACAT change as the system matures, the level of approval and validation will be consistent with DoD 5000.2-R.

3.4.8.2. ORD Revision. When it becomes necessary to change a parameter that cannot wait until the next milestone, a revision to the ORD is appropriate. Additionally, a revision to an ORD may be appropriate if significant changes to the original information or the environment occur after Milestone III. HQ USAF/XOR will review all revisions and determine the level of approval authority required for the revision.

3.4.8.3. ORD Annex. When a capability is added to a system, it may be necessary to add an annex to an approved ORD. For example, should a new sub-system or capability be added to a weapon system or the weapon system takes on a new mission, an annex to the approved ORD may be all that is necessary. It will not be necessary to rewrite the original ORD. How-

ever, the original ORD will accompany the annex during staffing. For adding an annex to a SORD, see [Attachment 6](#).

3.4.8.4. Annex Format. The annex format will be the same as for the parent ORD; however, information in the parent ORD need not be repeated in the annex. The annex need only show requirements that differ from those of the parent ORD. The annex must still identify the main paragraph numbers (as given in the DoD 5000.2-R ORD format) and state “No Change” for those paragraphs that are the same as the parent ORD. If information in the annex is supplemental to that of the parent, the annex will have the word “added or supplemental”. For example, an ORD states the requirements for a particular ground-based communications system that is still in production. The new system to be acquired is a modification of the communications system that is intended to be mounted on an airborne platform. The ORD annex for the modified system need not restate any of the requirements that exist in the parent ORD, but should establish an additional requirement that the system not interfere with avionics on the aircraft. In this case, the annex would have the words “No Change” next to all relevant numbers.

NOTE:

For staffing of ORD updates, revisions and annexes, see paragraph [7.6](#).

3.4.9. RCM Annex. The RCM format for an ORD annex will be the same as the RCM in the original ORD (see [Attachment 7](#)): however, the RCM for the annex only needs to identify the thresholds and objectives that differ from those in the original ORD.

3.4.10. System Operational Requirements Document (SORD) to ORD Conversion Policy. SORDs for existing programs must be re-accomplished in the ORD format before the next scheduled Milestone decision. If the SORD is updated or revised, the RCM must be re-accomplished to comply with the format specified in [Attachment 7](#) of this instruction. CSAF approval for SORD updates is required only for significant requirements changes (as determined by HQ USAF/XOR). See [Attachment 6](#) for guidance beyond MS III.

3.5. Tailored Approaches.

3.5.1. Rapid Response Process. The RRP is an expedited process for documenting and staffing urgent, time-sensitive combat mission requirements. The RRP is used to satisfy deficiencies that arise during combat or crisis operations. This process fields critical systems to meet theater specific wartime needs, in minimum time, that are supportable in-place, affordable and have acceptable risk. Format and procedures for initiating the RRP are found in [Attachment 8](#) and in AFI 63-114.

3.5.2. Combat Mission Need Statement (C-MNS). A combat MNS is a single document that initially satisfies the MNS and ORD requirement in a crisis situation. The warfighting commander (CINC) requests the MAJCOM submit a C-MNS to activate the Rapid Response Process (RRP). The C-MNS should not be used as a means of circumventing or accelerating the normal requirements process. Quantifiable parameters will be stated, if available, for system development, test and evaluation, and acquisition decision making purposes. The criteria and objective is to provide a readily-available, fieldable solution to the warfighter **within 60 days** from the time the Air Force Chief of Staff approves the request. The Program Management Directive (PMD) that results from an approved C-MNS will be reviewed after the crisis, but NLT one year (See AFI 63-114, paragraph 9). See attachment 8 for C-MNS format and guidance.

3.5.3. Short Method to Acquire Ready or Replacement Technologies (SMART) ORD. The SMART ORD is an abbreviated process, using a shortened format for certain ACAT III requirements. The SMART ORD could be used for items such as ACTDs (that have successfully demonstrated a proven capability), Kenney Battlelab initiatives, ACAT III requirements that support other operational Major Defense Acquisition Programs (MDAP), commercial and non-developmental items (CaNDI), modifications greater than \$65M, or technologically advanced solutions which are readily fieldable with reduced RDT&E effort. HQ USAF/XOR recommends this shortened ORD format for the user as an approach to streamlining the requirements documentation process. To become a candidate for the SMART process, the program must meet the criteria described in 3.5.3.2. The MAJCOM Requirements Principal shall forward the SMART ORD to HQ USAF/XOR attached to a transmittal memorandum identifying the intended source of funds.

3.5.3.1. SMART ORD Format Package.

3.5.3.1.1. Use the SMART ORD format described in paragraph **3.5.3.3**. It is an abbreviated version of the normal format described in **Attachment 7**.

3.5.3.1.2. RCM Part I.

3.5.3.1.3. RCM Part II as described in paragraph **3.4.7.1.2**.

3.5.3.1.4. Transmittal memorandum identifying the intended source of funds.

3.5.3.2. Criteria for using the SMART “Abbreviated” ORD. To qualify for a SMART ORD, the document must meet following criteria:

3.5.3.2.1. The SMART process is appropriate for mature solutions to ACAT III requirements that are fully funded and have the potential to be acquired and fielded quickly. In most cases, the capability and description required can be stated in a well-written Operational Concept of Employment (to include a description of the support needed for the concept) and an RCM defining the parameters. It is not appropriate for a requirement needing extensive RDT&E, having multiple options that must be evaluated for potential solutions, or whose complexity will drive normal progression through all acquisition phases. This process is similar to an ORD I/II/III accelerated requirement designed to proceed directly to MS III. Examples of requirements eligible for SMART are:

3.5.3.2.1.1. Replacements for existing or support systems. In some cases, these may be minor programs procured initially to support ACAT I systems without a formal ORD or SORD accomplished.

3.5.3.2.1.2. Approved ACTD or Kenney Battlelab initiatives that have successfully demonstrated their capability and have well-defined operational and maintenance concepts.

3.5.3.2.1.3. Minor acquisition programs defined by DoD 5000.2-R as ACAT III programs or those support systems for existing weapon systems.

3.5.3.2.1.4. CaNDI systems that are anticipated to require minimal testing, have proven their operational capability, and do not exceed ACAT III cost thresholds.

3.5.3.2.1.5. Approved Joint Warrior Interoperability Demonstrations (JWID) Gold Nuggets that have successfully demonstrated their capability and have well-defined operational and maintenance concepts.

3.5.3.3. SMART Format. When a program has the potential of being fielded quickly, it should be easy to succinctly address the necessary information in the SMART ORD format. When using the SMART process, briefly address the areas in the traditional ORD format, but focus on those items necessary to arrive at the desired solution. Expand on each specific area (threshold and objective) in the RCM. (It is desired that the following areas be described in 5 to 10 pages, with no limit on RCM Part I and Part II.)

3.5.3.3.1. General Description of Operational Capability. Describe the Operational Concept of Employment, this should receive the most emphasis. How will the system to be used? If the system is a replacement for an existing system or is intended as a replacement part for an existing system, so state. If this is a top down directed program, so state. Provide details in RCM Part II.

3.5.3.3.2. Threat . Describe any military threat to the system being procured. For replacement items, this section may not be applicable. If it is part of a larger weapon system, the threat to that weapon system has already been addressed. If this item reduces the potential threat to a weapon system, address the issue in this section.

3.5.3.3.3. Shortcomings of Existing Systems. Briefly describe deficiency or why existing systems are not capable of performing the mission.

3.5.3.3.4. Capabilities Required . Briefly describe the operational parameters. Expand in the RCM Part II on the specific capabilities needed and how the thresholds and objectives were derived.

3.5.3.3.5. Program Support. Briefly describe what maintenance drivers are associated with the program and impact on life cycle costs (if known).

3.5.3.3.6. Force Structure . Identify the number of systems necessary to meet the required capability.

3.5.3.3.7. Schedule Considerations. Briefly describe the urgency of the timing of the system being replaced or procured.

3.5.3.4. Requirements and Resource Alignment. The SMART ORD format is established to more closely align the resource allocation process for the MAJCOM Program Objective Memorandum (POM) submittal with the requirements generation process that results from the MAP. Candidates for the SMART process shall identify a source of funding for up to two years, until the program can be incorporated into the MAJCOM POM. This will minimize the number of unfunded programs and allow senior leaders to focus on a reduced number of programs competing for funding. Therefore, for the SMART process: (1) Complete the format as described in 3.5.2.1, (2) Attach an RCM as described above, and (3) Attach a transmittal memorandum identifying intended program funding source. These forms will be routed from the MAJCOM requirements principal to HQ USAF/XOR for staffing and approval by CSAF.

3.6. Innovation: Transitioning Concepts into Programs (Accelerating the Process .

3.6.1. Emerging Concepts. The Air Force is emphasizing methods to accelerate innovation and technology transfer to support the warfighter. Innovation, sometimes described using the term “emerging concept”, is generally defined by the requirements and acquisition communities as the matching of a potential military capability to a compelling operational need. Current processes designed to capitalize on innovation include Advanced Technology Demonstrations (ATD),

ACTD, Battlelab Initiatives (from the AF Battlelabs), and Spiral Development (e.g. C2 Software). Battlelab procedures and documentation are described in AFI 10-1901, Air Force Battlelab Responsibilities, Processes and Documentation, and information regarding how ACTDs are integrated into the requirements process can be found on the World Wide Web (WWW) Site at www.acq.osd.mil/at/decsript.htm.

3.6.2. Successful transition - Theory. Successful transition of emerging concepts into an acquisition program depends on **up front**, parallel planning by the user, maintainer and developer communities. Consideration of all elements in the normal requirements and acquisition processes through production and fielding must be addressed in an accelerated fashion upon approval of the emerging concept for demonstration or testing. Especially important is determining the operational concept of employment of the system, the maintenance and manpower requirements (that drive LCC), infrastructure requirements, and total system costs (versus demonstration costs). Equally important is resolving potential doctrinal disconnects that arise, particularly with concepts that have joint use. Without early consideration and resolution of these issues, along with concurrent/associated ORD development, valuable time will be lost in the effort to accelerate the innovative concept to a Milestone II or III decision point. **Figure 5.** illustrates that, depending on the maturity of the concept, the goal is to insert the resulting program as far along as possible in the acquisition process to accelerate the fielding to the benefit of the warfighter. In most cases, achieving this goal is directly attributable to identifying the required funding plus the teamwork and up-front concurrent effort to successfully develop the requirements documents necessary to enter the acquisition process.

3.6.3. Emerging Concept Transition - Mechanics. Should an ACTD, JWID Gold Nugget, Battlelab initiative, or Expeditionary Force Exercise (EFX)-type initiative prove successful and the MAJCOM determines an AF program is the desired direction, timing, program maturity, duration, and funding availability will determine the proper course of action. There are three potential courses of action:

3.6.3.1. Normal Process. The normal course of action will be the standard process of developing an ORD, gaining validation and approval for the ORD, and entering the acquisition process at a milestone commensurate with the development required and/or maturity of the concept.

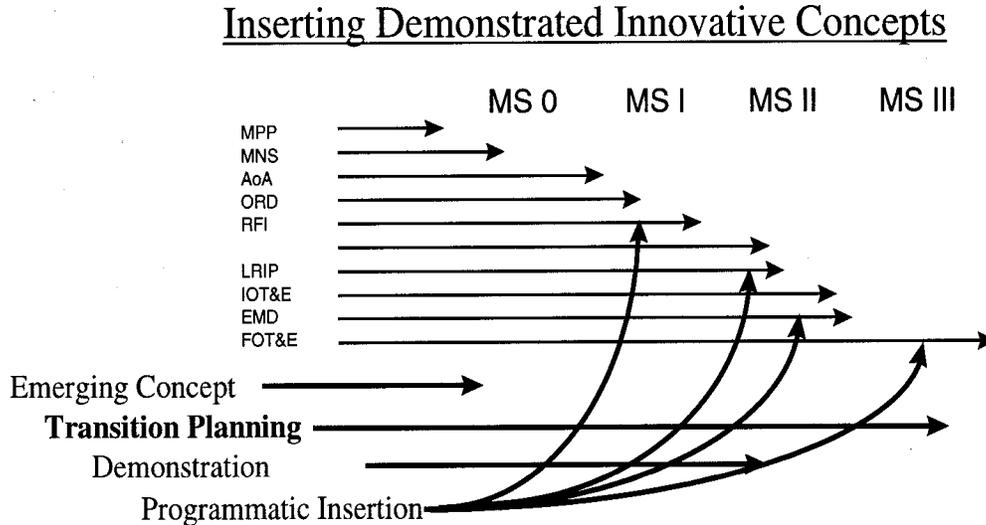
3.6.3.2. SMART ORD Process. In the event the program meets the criteria in Paragraph 3.5.3, develop a SMART ORD.

3.6.3.3. C-MNS. Accomplish a C-MNS if AFI 63-114 criteria are met. See AFI 63-114 and **Attachment 8** for procedures and format for a C-MNS.

3.6.4. Innovative Concept ORD Requirement. Regardless of process, the degree of acceleration of a mature concept depends heavily on available funding and system maturity. In an ideal situation, the MAJCOM may submit a single ORD with parameters described in sufficient enough detail to proceed directly to a Milestone III decision. With identified funding, using the SMART ORD format may be appropriate. Ultimately, Department of Defense (DoD) regulations mandate a formal ORD be approved prior to a concept proceeding to a program status. Different programs mature at various times and could enter the acquisition process at different milestones. Per **Figure 5.**, one program may need more study and evaluation and will enter at MS I with and ORD I. Another program may be fully matured and ready for full scale development. Such a program

could enter the acquisition cycle at Milestone III with an ORD written in sufficient detail to support a MS III decision.

Figure 5. Inserting Demonstrated Innovative Concepts.



4. Determining Initial Operational Capabilities (IOC). The operating MAJCOM/CC determines if, and when, to declare IOC of a new or upgraded capability. Declaring IOC is based on the system meeting the required assets available (RAA) date and successfully completing a meaningful, realistic trial period that demonstrates it can perform its assigned mission. IOC declaration is meant to be event-driven and not schedule-driven. The MAJCOM/CC may declare multiple IOCs for systems or equipment having several designed operational capabilities (DOCs).

4.1. IOC Declaration. The MAJCOM/CC declares IOC when the unit demonstrates its ability to perform its assigned mission with the new or upgraded system. IOC must be viewed as an event (rather than a date), occurring usually after the RAA date and a successful trial period. The user must be sufficiently satisfied with system performance, quantities received, level of proficiency, and support capability to declare the assets initially operational and capable of performing the assigned mission. IOC is based solely on the judgment of the using MAJCOM commander and is not to be schedule-driven in any manner. **NOTE:** As the selected alternative takes form during Phase 0 (Concept Exploration) and Phase I (Program Definition and Risk Reduction), later ORDs will amplify, refine, and confirm the RAA dates, organic support capabilities dates, trial period, and IOC event.

4.2. Organic Support Capabilities Dates. The user must identify required organic support capabilities for each level of maintenance. Dates for achieving organic support capabilities for each level of maintenance are defined during organic support planning and updated before each milestone.

4.3. RAA Date. The RAA date is a contractual date agreed to by the System Program Director (SPD) and the operating command where sufficient equipment, personnel, and logistics elements are available to the operational command to begin a trial period for equipment operation and support capability. Logistics elements include approved or operational support equipment, spares, verified

technical manuals, and training programs and courses. RAA equally applies to all levels of maintenance, to include depot level assets required by the supporting command.

4.4. Trial Period. A trial period is the time during which the operating command uses production and organic resources (additional assets can be requested). In this period, the user becomes familiar with the system, uses operational techniques and procedures, and determines the ability to employ and support the system. The desired outcome of the trial period is to demonstrate to the operational commander that the unit can perform its designated operational mission or missions with the system. The time allowed for this period depends on the complexity of the system or equipment being acquired (or modified) and ends when the MAJCOM/CC declares IOC.

5. Modifications and the Requirements Process. For policy governing the modification of specific functional components, refer to the appropriate series instruction for that system. This instruction addresses the necessary requirements documentation for the modification of an existing acquisition program or system. **Under DoD 5000.2-R, a modification that qualifies as an ACAT I or ACAT 1A program is considered a separate acquisition effort. Modifications that do not qualify as an ACAT I or IA shall be considered part of the program being modified.** In any case, from DoD 5000.2-R, all acquisition programs must be based on identified, documented, and validated mission needs. Mission needs may seek to establish a new operational capability, improve an existing capability, or exploit an opportunity to reduce costs or enhance performance. In the latter two cases, these could be classified as modifications to upgrade the capability of the weapon system. The requirements documentation and approval authority necessary is a function of the program status and procurement cost. (See Figure **Figure 6.**)

Figure 6. Requirements Documents Necessary to Support Modifications.

Production Status	Dollar Amount *	Requirements Document	Approval Authority
Pre-MS III	Any Amount	ORD Update or ORD Revision	Appropriate MDA
In-Production (Post MS III)	Any Amount	ORD Annex or Revision	Appropriate MDA
Out-of-Production	> \$65M in procure- ment OR > \$14M in RDT&E	** MNS to document new deficiency	JROC or CSAF pending potential ACAT
Out-of-Production	\$10 - \$65M in procure- ment OR \$10-\$14M in RDT&E	*** AF Form 1067 with RCM & transmittal letter	HQ USAF/XOR
Out-of-Production	< \$10M in procure- ment OR < \$10M in RDT&E	AF Form 1067	MAJCOM

* NOTE: All costs in this figure are FY96 Constant year dollars

** NOTE: Modification to an out-of-production system requires validation – DoD 5000.2-R

***NOTE: AF Form 1067 is being used in lieu of a requirements documentation as required by AFPD 10-6.

5.1. Pre-Milestone III Modification. Prior to a MS III decision, should the mission or environment change significantly such that it becomes necessary to modify a system, either a revision or an update to the ORD is required. As a result of this modification, should the ACAT change, the validation and approval level will be consistent with DoD 5000.2-R. Staffing will be per paragraph 7.

5.2. Post-Milestone III Modifications (In-production). For modifications to programs with systems still in-production, document the user's requirements by either revising the original ORD or adding an annex to the original ORD. (See paragraph 5 above for ACAT I/IA) For clarification, an in-production system refers to the entire system as an end item, not to its individual sub-systems. Modifications of in-production systems that do not qualify as ACAT I or IA shall be considered part of the system being modified. In this case, document the user's modification requirements of this magnitude by adding an annex the approved ORD for the original system. After the MDA determines the phase of acquisition the modifications will enter, write the ORD annex for the modification for that phase. Update the annex at each subsequent milestone in the same manner that the stand-alone ORD was updated. If the in-production system is in operational use, update the documentation that implemented the original program to reflect whether the operational systems will also be modified. The Program Manager will establish a plan to show the impact on systems already in operational use.

5.3. Out-of-Production Systems (Greater than \$65 million). Per DoD 5000.2-R, modifications to systems that are out-of-production with a projected cost greater than **\$65 million** in total estimated procurement costs (RDT&E, procurement, and O&M) or \$14 million in RDT&E (in FY96 constant dollars) require a validated and approved MNS for formal acquisition. (For directed programs, see paragraph 1.2.). Modifications (which may include operational capability updates or reliability, maintainability, and availability updates) to an existing system, with the exception of safety modifications, should address a deficiency within the appropriate MAJCOM Mission Area Plan(s).

5.4. Out-of-Production Systems (Less than \$65 million). For aircraft-related, missile, space, and AFMC-supported communications, electronics, and other support-system modifications to systems out-of-production, projected to have a **combined** estimated cost of more than \$10 million, but less than \$65 million in total procurement **and** RDT&E cost may use an **AF Form 1067, Modification Proposal**, to document the mission deficiency or mission need. Per coordinated HQ USAF/XOR, ILM and AQP message, the AF Form 1067 is used in lieu of a MNS and an ORD for the necessary requirements documentation. Air Staff coordination and validation is necessary to ensure proper reprogramming actions are completed. RDT&E costs cannot be more than \$14 million of the combined estimated cost. For RDT&E only, costs of more than \$10 million and less than \$14 million may also use an AF Form 1067. An RCM which defines parameters (thresholds and objectives) for the characteristics and or capabilities to be modified will be attached to the AF Form 1067 to complete the requirements documentation. The completed AF Form 1067, RCM, and a transmittal letter identifying intended program funding source must be routed from the MAJCOM requirements principal, to the system program director (SPD) for technical approval to the appropriate MAJCOM for approval. The coordinated AF Form 1067, RCM, and transmittal letter will then be forwarded to HQ USAF/XOR to initiate the headquarters review process.

5.5. Out-of-Production Systems (Less Than \$10 Million). Modification programs estimated to cost less than \$10 million (current year dollars) require an AF Form 1067 and will be approved by the MAJCOM initiating the modification.

5.6. Air Staff Coordination for Modifications. Modifications documents (annexes and revisions) projected to have an estimated to cost more than \$65M will be staffed per paragraph 7. For AF Form 1067s sent to headquarters, HQ USAF/XOR will validate the requirement and forward the package concurrently to USAF/ILM (for configuration management review) and to the appropriate Program Element Monitor (to ensure executability). After staffing is completed, the AF Form 1067 is then returned to the MAJCOM and a copy provided to SAF/AQ.

6. Analysis of Alternatives (AoA). An AoA is an analysis of the operational effectiveness and estimated life cycle costs of alternative materiel systems to meet a mission need. The AoA documents the analytical and operational rationale for choosing the preferred alternative materiel systems to meet a mission need. The AoA also provides the means to establish Measures of Effectiveness (MOEs) for the materiel system, as well as the operational requirements (thresholds and objectives) that support the MOEs. Additionally, the AoA also includes modeling and simulation inputs to the TEMP and the Single Acquisition Management Plan (SAMP). The AoA will identify models, simulations, and other analysis tools needed to complete the study. As these tools mature, they will become part of the suite of digital systems models (DSMs) required over the life of the program. In addition, the AoA provides key information to support ORD development.

6.1. Purpose of an AoA. The AoA helps decision makers select the most cost-effective alternative to satisfy a mission need. It compares alternative solutions on the basis of operational and cost effectiveness, documents the analytical and operational rationale for choosing the preferred alternative, helps to justify the need for starting or continuing an acquisition program, and serves as an important tool for developing the ORD, the concept of operational employment, and the TEMP for the preferred alternative.

6.2. Levels of AoA. The majority of AoAs are conducted during Phase 0 of the acquisition process. An AoA conducted during Phase 0 to meet Milestone I requirements is known as an AoA I. An AoA conducted during Phase I to meet Milestone II requirements is known as an AoA II. An AoA conducted during Phase II to meet Milestone III requirements is known as an AoA III.

6.2.1. AoA I. An AoA I considers a broad range of alternative concepts to satisfy a mission need. It defines the performance and operational characteristics and capabilities necessary to accomplish the mission tasks. It identifies which alternatives are clearly unacceptable and which have the potential to meet mission needs and requirements. The cost estimates are made on the basis of life cycle cost (LCC), which includes the costs of research and development (R&D) and engineering design, estimates of the costs of investment and disposal, and projections of costs for operations and support (O&S). Specialized intelligence support required for a new system should also be costed. These early cost estimates will be qualified to highlight their weaknesses and any possibility for gross errors. The AoA will identify risk uncertainties and, to the extent known, the characteristics of each concept that drive the cost estimates. AoA I implements CAIV through early cost effectiveness comparisons and provides the basis of cost objectives set by the Program Manager at Milestone I.

6.2.2. AoA II. The AoA II analyzes and evaluates a range of specific hardware alternatives and shows the cost and operational tradeoffs used to answer MDA issues raised at Milestone I. The AoA II establishes acceptable bounds for possible combinations of cost and performance using point estimates consistent with the cost-estimating techniques appropriate for the alternatives'

technical maturity. The AoA II documents CAIV objectives set at Milestone I and examines the impact of terminating the program.

6.2.3. AoA III. The AoA III, if needed, is generally very focused and used to determine a range of specific alternatives to answer MDA issues raised at Milestone II. Since the program is approaching low rate initial production (LRIP), the effort potentially could be used to determine the viability of the program.

6.2.4. Direction. The MDA makes all final program decisions. The MDA issues an Acquisition Decision Memorandum (ADM) at Milestone 0 which directs the development of AoAs for ACAT I programs and an AoA for appropriate ACAT II and III programs as he/she deems necessary. The MDA also may direct an update of the AoA for other milestones, if the threat or mission changes, or if new information on performance or cost must be considered. The AoA is subject to tailoring and streamlining based on the type and size of the program, maturity of the system concepts, and other considerations as determined by the MDA. The ADM gives guidance on the required scope and level of detail in the AoA.

6.3. AoA Reviews. The Air Force Requirements Oversight Council (AFROC) and the Air Force Council review AoA study plans, midterm status, and draft final results. Either the MAJCOM or the AFROC may request a formal technical assessment by the Technical Review Group (TRG). The AFROC may direct AoA products be presented to the Air Force Group or Board. This action would normally be accomplished to promote advocacy or enhance corporate understanding of the particular program supported by the AoA. If an AoA midterm status report is not required outside of Air Force channels and the AoA study is proceeding as originally intended in the approved study plan, the study team may request the AFROC waive the requirement to present the midterm status report. AF/XOCA will help the Study Director schedule reviews with the TRG, AFROC, and AF Council. All ACAT I and selected ACAT II study plans, midterm reviews, and final results for Air Force or Joint AoAs, for which the Air Force is the lead service, must have AF/CV approval before being briefed to the OSD working level IPT, Overarching Integrated Product Team (OIPT), or equivalent higher bodies. The AF/CV through AF/CVS is the approval authority for modifications to this review process (e.g., for special access programs).

6.3.1. Technical Review Group (TRG). The TRG assesses ACAT I and selected ACAT II AoAs for technical adequacy and completeness of the analytical approach and results when requested by the study team or the AFROC. The Air Force Operational Test and Evaluation Center (AFOTEC) is responsible for reviewing the linkage between the TEMP and ORD (as outlined in the AoA final report) and for presenting a linkage assessment to the TRG or the Office of Aerospace Studies (OAS), if a TRG is not formed. The TRG will be chaired by the Chief Scientist, HQ USAF, Director of Command and Control (AF/XOCS). In the absence of the TRG, OAS will perform technical assessments.

6.3.2. AFROC and AF Council. On occasion, the AFROC may determine it appropriate for the Air Force Council to review the study plan, midterm, or the final results. To ensure proper representation on specific issues, the AFROC, through AF/XOCA, may provide attendance recommendations to AF/CVS. The AFROC may recommend that AF/CV approve the study plan, midterm, or final results without going to the AF Council. AF/CV will make the final decision. The senior Air Force members to the OIPT should be invited to AFROC, as well as the AF Council reviews of AoAs.

6.3.3. AoA and Integrated Product Teams. DoD 5000.2-R refers to three levels of Improvement Process Teams. The Overarching IPT (OIPT) provides top-level oversight and review, adjudicates issues, and advises the MDA on acquisition issues. The Integrating IPT (IIPT) integrates critical aspects of the program. A specific Working-level IPT (WIPT), usually the Cost Performance IPT (CPIPT), works AoA issues. The WIPTs may establish working groups (WGs) to perform specific tasks, such as oversight of the study team formed to conduct the AoA

6.3.4. Air Force AoA Center of Expertise. The AFMC Office of Aerospace Studies (AFMC/OAS) is the Air Force Center of Expertise (COE) for AoAs. The AoA COE supports the MAJCOM study director in helping administer, plan, execute, and facilitate AoAs and their reviews. This role is described in the OAS AoA Handbook. OAS is responsible for the AF AoA training course and AoA Handbook which provide detailed information on how to accomplish an AoA. In cases where the MAJCOM elects not use a TRG, OAS will provide the AFROC with an assessment of the AoA product .

6.3.5. Execution of the AoA. The lead MAJCOM is responsible for executing the AoA. The MAJCOM will appoint a Study Director and assemble the AoA study team. OAS will appoint an assistant to the AoA Study Director. The MAJCOM study director is the focal point for all study activities and exercises overall responsibility for these efforts. The AoA study team is composed of members from the MAJCOM staff, Air Staff, support commands, OAS, contractors, and others as necessary. For joint programs, membership will include representatives from the appropriate services who may provide study co-leads. OSD (PA&E) participation on the AoA study team is encouraged. The Study Director is responsible for ensuring that the study team functions under the IPT process.

6.3.6. Study Plan. The AoA study team will develop a study plan of sufficient detail to address the issues established by the MDA. The study plan is intended to be a living document and should be updated periodically. The AoA study plan should follow a format similar to the final report found in the AoA Handbook which can be obtained from the OAS Web site. See paragraph **6.3.9.**

6.3.7. Final Report. The final report will be approved by the MAJCOM and forwarded to AF/CV within 90 days after approval of the final results or as directed.

6.3.8. AoA Planning. Each Fall and Spring, USAF/XOC sponsors a conference of the using commands and other appropriate agencies to discuss issues and determine AoA activities for the next two years. Information gathered at these conferences will be used for budgeting and other AoA planning efforts.

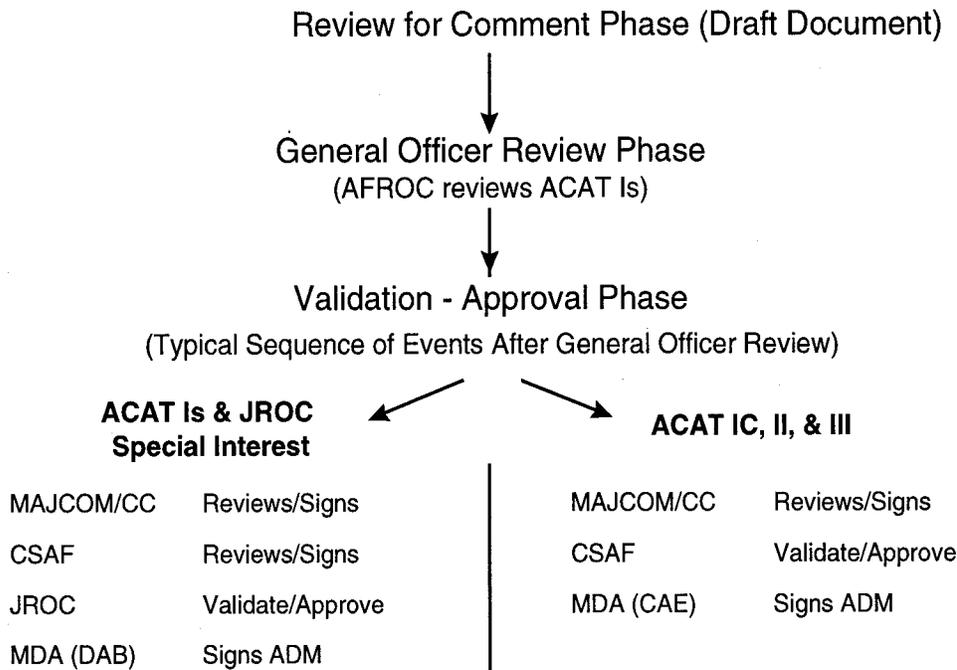
6.3.9. AoA Handbook. Additional guidance on AoA process, organization, execution, reporting, and review is available in the Air Force AoA Handbook obtained from the AFMC/OAS web site.

6.3.10. Standard Models and Methodologies. Every attempt should be made to use accepted Air Force models, simulations, data bases, and methodologies. The standard suite of analytical models in the Air Force Legacy Model Tool Kit are listed in the AoA Handbook. The standard electronic methodology for campaign worth analysis was developed through the SAF Electronic Warfare Partnership Process and is based on standard Air Force baselines that are available from the Air Force Studies and Analyses Agency. Therefore, electronic combat AoAs will include assessment of campaign level military worth developed through the SAF Partnership Process and based on the standard Air Force campaign baseline.

7. HQ USAF Requirements Document Approval Process. Accurate requirements documentation will ensure the Air Force obtains the best systems to meet the warfighter’s needs. Complete and timely staffing of a document is an essential part of the requirements process. Time lost in the staffing process could have a significant impact to the Air Force mission.

7.1. Document Review. There will normally be only one (1) “review for comment” phase at Headquarters Air Force (HAF) for all requirements documents (Mission Need Statements (MNS), Capstone Requirements Documents (CRD), Operational Requirements Documents (ORD)). All requirements documents sent to HAF will be addressed to AF/XOR. Within 45 days, HAF comments will be returned to the originator for resolution. After comment resolution, the document should be signed by the originating organization indicating it is ready for the validation and approval phase at the AFROC. The originating organization will determine the level of signature submitting the document.

Figure 7. The three phases of staffing.



7.1.1. Review and Comment. After developing the document, the originating command distributes the document, a cover sheet, and a transmittal memorandum from the MAJCOM requirements principal representative to all applicable agencies and offices, listed in attachment 9 to obtain an Air Force-wide review of the document. The transmittal memorandum should summarize the document, including relevant document information, identify the potential ACAT, distribution code, and *any other amplifying instructions* or information pertinent to the document. The HQ USAF/XOR staff distributes the document to the Air Staff, Joint Staff, the Secretariat Staff, Air National Guard, Air Force Reserves, and other service for review. HQ USAF/XOR staff will send ACAT I documents to HQ USAF/XOCD for doctrinal review and HQ USAF/XOJ for Joint

Staff review. HQ USAF/XOR staff will send ACAT II and III documents to other services directly. Distribute documents whenever possible electronically via e-mail or by utilizing the Integrated Requirements Support System (IRSS). Electronic distribution to all addressees should be used whenever possible.

7.1.2. General Officer Review Phase (Final). After all comments received during the review and comment phase are resolved, forward the document and the Requirements Principal transmittal letter to HQ USAF/XOR. Do not have the MAJCOM or using commander's sign the document at this time. The disposition of all critical and substantive comments during the review and comment phase must accompany the document. HQ USAF/XOR distributes documents for ACAT ID programs to the XOJR for Joint Staff and other Service coordination (General Officer coordination). HQ USAF/XOR obtains appropriate 2-star and 3-star general officers coordination from the Air Staff, the Secretariat Staff, Air National Guard, and Air Force Reserve coordination on the document normally within 30 days of receipt. After coordination, HQ USAF/XOR will notify the originator that the document is ready for commander's signature. Subsequently, the document enters the validation and approval phase. All documents destined for JROC review will be reviewed first by the Air Force Requirements Oversight Council (See paragraph 8.). AFROC review will normally occur during the General Officer Review Phase.

7.1.3. Validation and Approval Phase. After general officer review is complete, the ACAT of the document determines the validation and approval level required. **Figure 8.** is a typical sequence of events expected during the validation and approval phase. For specific guidance on the validation and approval path necessary for particular document, refer to CJCSI 3170.01, Requirements Generation System.

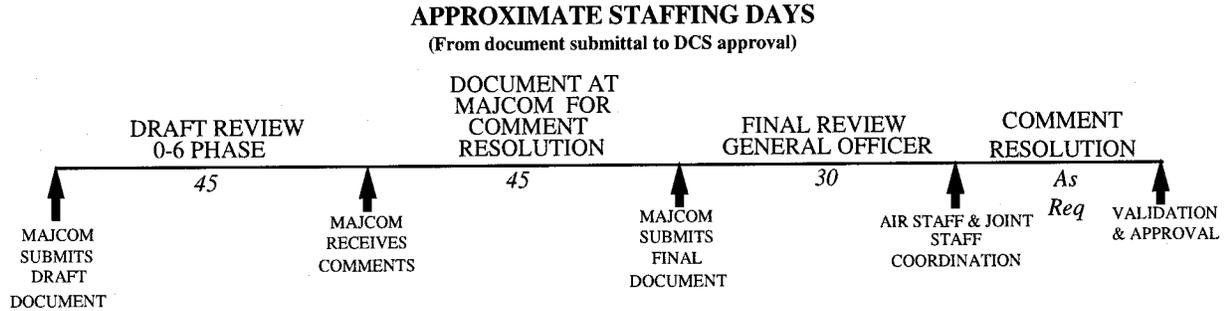
7.1.3.1. ACAT 1 or Special Interest Documents. The JROC reviews requirements for major defense acquisition programs (ACAT I) and special interest programs at the initial milestone decision. After initial program review, the JROC may delegate ORD approval authority for subsequent milestones; however, the JROC reserves the right to review any program. Prior to the JROC being briefed, the document is presented to CSAF for concurrence. When a document is ready for JROC review, contact HQ USAF/XOJR for assistance through the pre-JROC, JRB, and JROC process. The MAJCOM should contact AF/XOJR as early as possible to ensure their briefing is ready for the review process.

NOTE:

The USD(A&T) designates programs as ACAT ID or ACAT IC. For ACAT IC programs, the USD(A&T) may designate the MDA to be the Component [Air Force] Acquisition Executive (SAF/AQ).

7.1.3.2. ACAT II & III Documents. After general officer review, the ACAT II and III documents are sent to the MAJCOM commander for signature. The documents are then returned to HQ USAF/XOR, who forwards them to CSAF for validation and approval. After approval, the documents are returned to the originator and a copy is sent to the Air Force Acquisition Executive.

Figure 8. Staffing Timeline.



7.2. XOR Responsibilities. During the review and comment phase, HQ USAF/XOR will distribute all documents to Air Staff, Secretariat Staff, and other services. For ACAT I programs, HQ USAF/XOR will distribute the document to the XOJR for Joint Staff, CINC, and other Service staffing (O-6 comments) and to HQ USAF/XOCD for a doctrine review. For ACAT II and III programs, HQ USAF/XOR sends draft documents to other services directly to obtain division level (O-6) review. HQ USAF/XOR forwards documents that deal with C4I or communications and information systems to JCS/J-6 for a review of interoperability issues. The comments obtained during review and comment phase are consolidated and forwarded to the originating MAJCOM, normally within 45 days from receipt of the document. (See Figure 8.) These comments are categorized as critical, substantive, or administrative (see definitions below). Failure to address critical comments may be cause for non-concurrence on the final document. Substantive comments should be addressed, but failure to do so will not necessarily result in non-concurrence on the final document. Air Force-wide addressees will respond to the originating MAJCOM within 45 days from receipt of the document. HQ USAF/XOR will also respond to the MAJCOM within 45 days (electronically). After comment resolution, HQ USAF/XOR will obtain a General Officer Review of the final document normally within 30 days of receipt.

7.3. Comment Categories. When making comments, identify the reference paragraph and identify the significance of the comment as either “Critical”, “Substantive”, or “Administrative” using the descriptions below for reference. It is expected that the majority of comments will be received and resolved prior to the General Officer review. However, comments may be received during any phase of the staffing process.

7.3.1. Critical. Comments shall refer to performance parameters/KPP issues/concept of operational employment, etc. Convincing support for critical comments will be provided in a RATIONALE/JUSTIFICATION section. The individual making the comment and the document originator will reconcile the comment for incorporation into the final version.

7.3.2. Substantive. Comments are provided because a section in the document appears to be, or is potentially unnecessary, incorrect, misleading, confusing, or inconsistent with other sections.

7.3.3. Administrative. These comments should reference items such as typographical, format and/or grammatical errors.

7.4. Reconciling Comments. The document OPR is responsible for resolving comments. In all phases, the originator is required to resolve comments made on the document. Although time to resolve comments may vary, for planning purposes, resolution of comments between phases is

expected to be complete within 45 days. All critical and substantive comments from any agency must be addressed. Coordinate the document with all participating commands in order that comments can be addressed and resolved prior to proceeding to the validation/approval phase. (Note: Joint Staff/other service reviewing timelines are not subject to Air Force control. Therefore, some comments may be forwarded from Air Staff under separate correspondence.) **If the MAJCOM comment resolution period exceeds 120 days, documents may re-enter the "draft" review and comment phase described in paragraph 7.1.1.**

7.5. Staffing of ORD Updates, Annexes, and Revisions. The OPR may change the ORD before and, if necessary, after milestone reviews. Preparation, review, coordination, validation, and approval of subsequent changes (ORD II & III, also known as updates) and ORD revisions (documented changes in capabilities between milestones, or if necessary after MS III) will normally be the same as for the original ORD. Any change to the KPPs of ACAT I programs require MDA approval and as such are required to be staffed and briefed to the AFROC and JROC for validation and approval.

7.5.1. ORD Revision. For revisions to ACAT II and III documents (and for revisions not pertaining to KPPs), HQ USAF/XOR determines the approval level based on the magnitude of the change. **Any revision to an approved ORD and RCM must be resubmitted for Air Staff review and validation prior to approval.**

7.5.2. ORD Annex. Annexes normally address increased capability or a different mission. The approval level for the ORD annex is normally the same as for the parent ORD and will be staffed pending the ACAT level. The parent ORD must accompany the annex during the staffing process.

7.6. Staffing of Non-Air Force Requirements Documents. Staffing of documents that do not originate within the Air Force (Other services, NATO, NORAD, etc.) or documents that are written as a joint effort such as Joint Service Integration Group (JSIG) will receive tailored staffing. In these situations, the staffing process described here may be modified to accommodate unique circumstances. In such cases, HQ USAF/XOR determines the required offices and approval level necessary to satisfactorily staff the document.

8. Air Force Requirements Oversight Council (AFROC). The AFROC assists AF/XO, AF/CV and CSAF in their responsibilities to assess Air Force operational requirements.

8.1. The AFROC reviews MNS, AoA Results, CRDs, and ORDs to:

8.1.1. Ensure clear articulation of needs and requirements for Deputy Chief of Staff coordination, CSAF, or designated representative approval, and, if applicable, Joint Requirements Oversight Council (JROC) approval

8.1.2. Ensure MNS and KPPs of ORDs are developed to DoD 5000 Series, AFI 10-601, and JROC standards

8.1.3. Ensure cost as an independent variable (CAIV) principles are addressed in the ORD

8.1.4. Ensure modeling & simulation requirements, if appropriate, are included in the ORD.

8.1.5. Facilitate timely finalizing of MAJCOM requirements documents, Secretariat and Air Staff coordination, and CSAF approval.

8.1.6. Provide direction to resolve cross-service issues, in the case of joint requirements.

8.1.7. Review all warfighting deficiencies that may necessitate acquisition programs and validate that such deficiencies cannot be satisfied by non-materiel means.

8.1.8. Ensure requirements documents also address cross-servicing of equipment with NATO and other allied nations for interoperability.

8.1.9. Ensure LCC and maintenance drivers are included in the sustainment concepts. Identify interface areas for cross-service, NATO & Allied interests are addressed in the ORD parameters.

8.1.10. Policy Regarding ORD's and CRD's:

8.1.10.1. ACAT I. Guidance for documentation, validation and approval of ACAT I programs is IAW CJCSI 3170.01. The AFROC principals will determine if the document requires HAF 2-ltr review prior to being sent forward. AF/XOR, with the recommendation of the AFROC, will sign an AFROCSM recommending approval to CSAF. CSAF approval is required for the document to enter the JROC validation/approval process.

8.1.10.1.1. Since CRDs are anticipated to be have ACAT I or JROC Special Interest status, Joint Staff guidance in CJCSI 3170.01 will be followed. During the process, if it is determined the CRD is not an ACAT I, or have JROC Special Interest status, it can be approved at the appropriate level (ie, AF/XO for ACAT II, or AF/XOR for ACAT III).

8.1.10.2. ACAT II. The AFROC principals will determine if the document requires HAF 2-ltr review prior to being sent to AF/XO for approval. AF/XOR, with recommendation from the AFROC, will sign an AFROCSM recommending AF/XO sign the document.

8.1.10.3. ACAT III. AF/XOR, with recommendation from the AFROC, will sign the cover of the document indicating final approval. Any outstanding actions or recommended changes will be documented in an AFROCSM signed by AF/XOR.

8.2. AFROC Membership. The AFROC chairperson is the Director of Operational Requirements (AF/XOR). The AFROC permanent members are the MAJCOM Requirements principal O-7/O-8 or civilian equivalent, representatives from SAF/AQ (appropriate directorate), SAF/FM (FMB for funding and FMC for cost issues), the Air Force agency whose need or requirement is under AFROC consideration, AFOTEC, AF/XOI, AF/IL (ILM or ILS as appropriate), AF/XP, AF/TE and AF/XOC. Ad hoc members participants are based on topics under review. They include: functional expert representatives from AF/SC, AF/SG, and AF/SP (representatives are not limited to O-7s/O-8s or their civilian equivalents). Other service representatives may be present when joint needs or requirements are considered.

8.3. Role of the Air Force Requirements Oversight Council (AFROC). The AFROC will review MNS, ORD's, and CRD's for all ACAT's that are ready to enter the validation and approval process. AFROC decisions and recommendations will be documented on an AFROC staffing memorandum (AFROCSM) signed by AF/XOR.

8.3.1. All requirements documents briefed to the AFROC will follow standardized briefing formats. These formats are derived from Joint Requirements Oversight Council (JROC) guidance and can be found on the AF/XORD web site. In order to ensure each AFROC principal is adequately prepared for any briefing, the originating organization will forward the final document and the briefing to AF/XORD NLT 15 days prior to the AFROC.

9. Joint Requirements Oversight Council (JROC). The JROC is responsible to the CJCS and the SECDEF for review and validation of all mission needs having the potential to become ACAT I programs or requiring DAB review. CJCSI 3170.01, Requirements Generation System is the authority for the JROC. The Vice Chairman of the Joint Chiefs of Staff is the JROC chairperson. He is the principal military advisor for requirements to the CJCS. Other JROC permanent members are the Vice Chiefs of Staff for the Air Force and Army, the Vice Chief of Naval Operations, and the Assistant Commandant of the Marine Corps. HQ USAF/XOJ is the Air Force Secretariat for JROC matters. DoD 5000.2-R and CJCSI 3170.01 contain JROC guidance and procedures; however, CJCSI 5123.01, Charter of the Joint Requirements Oversight Council details more complete information on JROC responsibilities.

9.1. JROC Responsibilities. The JROC assists the Chairman, Joint Chiefs of Staff, assess military requirements for major defense acquisition programs (MDAP) and acts as spokesman for commanders of Unified Commands (CINC) on operational requirements; assists the Vice Chairman, Joint Chiefs of Staff carry out his duties as Vice Chairman of the DAB; reviews all warfighting deficiencies that may necessitate MDAPs for consideration by the DAB and validates that such deficiencies cannot be satisfied by non-materiel means (changes in doctrine, tactics, training, or organization). This validation includes special access programs unless otherwise directed by the SECDEF. In lieu of validation, the JROC may refer the need to the CJCS for a decision, direct further refinement or analysis of the need, or withhold validation and return the need to the applicable service or CINC. The JROC validates system KPPs identified for inclusion in the acquisition program baseline (APB) for all MDAPs prior to any milestone consideration by the DAB. The JROC identifies, evaluates, and recommends candidate programs for joint development and acquisition. The JROC resolves cross-Service requirements and management issues. In its review of military needs and acquisition programs, the JROC emphasizes interoperability among the services, NATO and other allied nations, elimination of unnecessary duplication in programs, and promotes economies of scale. The JROC responsibilities are described in CJCSI 5123.01, Charter of the Joint Requirements Oversight Council.

9.2. JROC Briefing Procedures. HQ USAF/XOR, through the AFROC, reviews Air Force programs and determine which organizations will brief programs to the JROC. HQ USAF/XOJ is the Air Force JROC Secretariat. He assists the tasked organization with the JROC briefing format and guidelines. **NOTE:** See the JROC Administrative Instruction for JROC briefing formats and procedures available through the Air Force JROC Secretariat.

10. Joint Requirements And Service Harmonization.

10.1. CINC-Level Needs and Process. CINC-level needs may be submitted under several different processes, depending on subject matter, DoD mission area, and magnitude of effort. Potential ACAT I MNS are submitted to the JROC for validation and designation of lead service, after service and Joint Staff review. **NOTE:** The JROC mailing address is Director, Operational Plans and Interoperability, Joint Staff, Attn.: JROC Secretary, Washington DC 20318-7000. The JROC message address is JOINT STAFF WASHINGTON DC//J-8/JROC//. CJCSI 3170.01, Requirements Generation System, governs this process. CINCs may validate and approve their own headquarters generated MNS that would result in potential ACAT II and III programs. However, the preferred method is for the CINCs to identify their mission needs to the responsible service component commander. The component commander will then process the need through that service's requirements process and keep the CINCs apprised of the MNS status.

10.2. Identification of Joint Needs and Requirements. Joint needs are identified in four primary ways: By a unified command; by the JROC identifying joint potential; by another service co-authoring or cosponsoring a MNS before initial staffing of the draft MNS; or by another service indicating a Joint Potential of “Joint” during the initial staffing of the draft MNS. Originators will indicate the potential to satisfy joint needs in the draft MNS, if known, or as a result of the Joint Service harmonization process discussed below. This requirement applies to program solutions for all potential acquisition categories. Procedures for staffing and approval of joint MNS are given in paragraph 7., HQ USAF Requirements approval process.

10.2.1. North American Aerospace Defense Command (NORAD) Mission Need Statement (N-MNS). NORAD is a binational command composed of the United States and Canada. Identifying and validating mission needs and developing operational requirements is a binational process that requires the direct involvement of the Joint Staff, the Air Staff, the Canadian Air Command, and the Canada-United States Military Cooperation Committee (MCC). NORAD will submit their requirements through the Joint Staff or Air Force Space Command depending upon the issue.

10.2.2. North Atlantic Treaty Organization Staff Requirement (NSR). When more than one NATO country share an operational need, a NATO Project Group composed of military representatives from each participating nation will develop a NSR. This NATO document will be submitted through the Joint Staff for service harmonization. HQ USAF/XO will validate a NATO requirement as a MNS-equivalent document when the Air Force takes part in developing the document and will share in the costs of the R&D program. Validating the NSR denotes MS 0 and official Air Force participation in the program. HQ USAF representatives from the Project Group will help develop the ORD prepared by the designated lead service. The implementing PMD provides direction on the timing of the ORD process before the next program milestone. Only one set of requirements can exist for a program; therefore, disconnects between the NSR, MNS, ORD, and other documents must be resolved to reflect the agreed upon requirements.

10.3. Joint Service Harmonization of Mission Needs and Other Service Documents. CJCSI 3170.01, requires DoD components assess the joint potential of their MNS as part of the validation process by coordinating the MNS with other services staffs and the Joint Staff. The sponsoring service component assigns a Joint Potential Designator (JPD) of “Independent,” “Joint Interest,” or “Joint” (as defined in [Attachment 1](#)) based on the services and Joint Staff coordination. HQ USAF/XOR is the Air Force focal point for harmonizing Air Force and other services’ mission needs and requirements documents.

10.3.1. Harmonizing Air Force Documents . HQ USAF/XOR distributes Air Force documents to other services staffs and the Joint Staff for review, comment, and assessment of Joint Potential (assignment of a JPD). ACAT I documents are sent to XOJR for harmonization. ACAT II and III documents will be forwarded directly to the individual services for harmonization. The results of this harmonization effort will be forwarded to the originating Air Force MAJCOM for inclusion of the JPD in the MNS ([Attachment 5](#)) and ORD ([Attachment 7](#)). Until changed, the JPD in the MNS will be carried forward to the ORD.

10.3.2. Harmonization of Other Service Documents. HQ USAF/XOR will forward other services’ documents to functional Secretariat and Air Staff offices for review and assessment. During the “for comment phase”, other services’ requirements documents will be forwarded to the appropriate MAJCOMs and FOAs for JPD recommendation or sponsorship. Documents that have

received “Joint Interest” will be returned to that MAJCOM or FOA during the “Flag Level review”. Documents receiving a designation of “Joint” will be staffed as an Air Force document requiring CSAF review. All ACAT I documents will be forwarded to HQ USAF/XOCD for a mission area and doctrine review.

10.4. Joint ORD Development. The ORD should be developed with cooperation of the supporting, implementing, and participating commands as well as the designated test agency. These agencies help ensure the requirements are achievable, affordable, and can be tested to verify that they meet the users’ needs. ORDs for programs designated as Joint must be drafted with the cooperation of the participating services.

11. Intelligence Support Plan (ISP). The ISP is the authoritative reference for intelligence support to a specific weapon system, or class of systems, and documents intelligence support requirements, deficiencies, solutions, and costs. The ISP primarily supports the systems program manager, the operating commands, and the intelligence community.

11.1. General. AFI 14-111, Intelligence Support to the Air Force Acquisition Process guides ISP development. The ISP is the authoritative document for identifying, planning, and monitoring implementation of the intelligence support to a weapon system. Designed as a plan to support major weapon systems while under development, the ISP facilitates and documents interactions and agreements between those responsible for intelligence support to acquisition and operational employment. This development process includes all phases of testing, training, and those responsible for providing the weapon system’s extended operational support. The ISP is a life cycle plan to ensure that intelligence people systems, procedures, and products are in place when required to support the program. The PMD direct ISP development. Unique intelligence information requirements, including intelligence interfaces, communications, and data base support pertaining to target and mission planning activities, threat data, etc., are documented in the ORD. The ISP, when required, complements the ORD.

11.2. Purpose. The ISP documents: intelligence support requirements; the intelligence infrastructure (people, systems, procedures, products, etc.) needed to satisfy the requirements; any gaps or shortfalls between the required infrastructure and the current/planned infrastructure; and time-phased courses of action necessary to ensure these shortfalls are resolved prior to system need dates. The ISP provides decision makers with the information needed to make informed choices among the various intelligence support options available and includes an estimate of the cost associated with different options/proposed solutions. At a minimum, the ISP addresses all intelligence requirements for the specific weapon system support related to: collection management; tailored threat production; collection, exploitation, and production of multi-disciplined, fused intelligence; intelligence dissemination; intelligence manpower and training; targeting intelligence; Geospatial Information and Services (GI&S); combat intelligence data; modeling and simulation; foreign materiel exploitation; and foreign military sales. The ISP also documents interaction among members of the Intelligence Support Working Group (ISWG). The ISP process serves the weapons development community and program managers by integrating intelligence support requirements into the overall weapon system acquisition process. It also provides additional data on weapon system supportability, and provides weapon development teams with information to help them during their design trade-off process. Information contained in the plan may in some cases can be used as a discriminating factor in the contract down-select process.

12. Modeling and Simulation. Modeling and Simulation (M&S) help verify operational requirements and identify possible solutions, and shall be used as a major tool in concept studies, AoAs, and ORDs.

Both cost and performance models of varying complexity and functionalities are available based on the operational concept, threat, and objectives. Due to the enduring value of the analysis and tools to the system's development, testing, operations, and sustainment, use of contractor proprietary models or databases is discouraged. All contractor model development, improvements, and data bases generated under Air Force funded analysis will revert to the Air Force at the conclusion of the study. Models, simulations, and databases generated under Air Force funded analysis should strive to be joint, interoperable, reusable and compatible with the Air Force goal of Joint Synthetic Battlespace.

12.1. Role of M&S in Acquisition. M&S policy provided in DoDD 5000.1 requires that "models and simulations shall be used to reduce the time, resources, and risks of the acquisition process and to increase the quality of the systems being acquired." DoD 5000.2-R further states that "accredited modeling and simulation shall be applied, as appropriate, throughout the system life-cycle in support of the various acquisition activities: requirements definition; program management; design and engineering; efficient test planning; results prediction; and to supplement actual test and evaluation; manufacturing; and logistics support." Per SAF/AQ Policy 97A-004, the role of M&S is to make the Air Force acquisition process more efficient and effective. M&S must become a standard part of doing business. Such standardization includes the development and use of models and simulations that are interoperable, compatible, and reusable. The vision for the use of M&S in acquisition can be accomplished ideally in an acquisition process where minimum hardware prototyping is done between Phase 0, Concept Exploration, and Phase II, Engineering and Manufacturing Development. Design and prototyping are accomplished using M&S to the maximum extent practicable prior to "bending metal." In addition, high-fidelity DIA-validated threat models should be used throughout the acquisition process, particularly during test and evaluation, to improve system performance.

12.2. Digital System Models (DSM). A DSM is a software representation of a system, used to characterize the expected effects of changes in assumptions, design, tactics, or doctrine. DSMs embody system requirements and characteristics such that they can be actively evaluated in a common digital environment starting with concept exploration and progressing throughout the system life-cycle including analysis, design, test, training, logistics, operations, sustainment, and life cycle costs. User requirements should specify the DSM level of detail and simulation system compatibility. Funding for new DSMs shall be included as part of the initial POM for the weapon system and where applicable, the DSM should be specified as contract deliverables.

12.3. Digital Systems Models in the ORD. When feasible, users shall coordinate with the Program Managers during ORD preparation to ensure that:

12.3.1. Users identify those M&S applications, DSMs, and databases developed by contractors that the Air Force should own or retain access to for later use.

12.3.2. Interoperability and compatibility requirements (with other DoD models, simulations, and databases) are clearly stated. Models, simulations, and databases should strive to be joint, interoperable, reusable, and compatible with the Air Force goal of a Joint Synthetic Battlespace.

12.3.3. The requirement for development, update, delivery, and maintenance of DSMs may be included in the ORD, if applicable.

13. Process Deviation Requests. Requests to modify or tailor the requirements process as previously described are considered on a case by case basis. Requests should be submitted by General Officer from the MAJCOM (or agency sponsoring the draft document) to HQ USAF/XOR. Such a request shall contain a compelling justification on why the specific deviation to the requirements process is necessary.

MARVIN R. ESMOND, Lt. General, USAF
DCS/Plans and Operations

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

Joint Pub 1-02, Department of Defense Dictionary of Military and Associated Terms

AFPD 10-14, Modernization Planning,

AFI 10-1401, Modernization Planning Documentation

AFPD 10-19, Air Force Battlelab Policy

AFI 10-1901, Air Force Battlelab Responsibilities, Processes, and Documentation

AFPD 10-6, Mission Needs and Operational Requirements

AFI 10-602, Determining Logistics Supportability and Readiness Requirements,

AFPD 10-9, Lead Operating Command Weapon System Management

AFI 14-111, Intelligence Support to the Air Force Acquisition Process

AFI 21-101, Maintenance Management of Aircraft

CJCSI 3170.01, Requirements Generation System, (Formerly CJCS MOP 77)

CJCSI 5123.01, Charter for the Joint Requirements Oversight Council

AFI 32-7086, Hazardous Materials Management

AFI 33-102, Command, Control, Communications, Computers and Intelligence Capabilities Planning Process

AFPD 33-1, Communications and Information Systems

AFPD 33-2, Information Protection

AFI 33-103, Communications and Information System Requirements Development and Processing

AFH 33-337, The Tongue and Quill

AFI 33-360, The Air Force Publication Management Program

AFI, 38-201, Determining Manpower Requirements

DoD D, 5000.1, Defense Acquisition

DoD 5000.2-R, Mandatory Procedures for Major Defense Acquisition Programs and Major Automated Information Systems

DoD D 5000.35, Defense Acquisition Regulation (DAR) Management

DoD D 5000.63, Defense Acquisition Regulations (DAR) System

AFPD 61-2, Dissemination of Scientific and Technical Information

AFI 61-204, Dissemination of Scientific and Technical Information

AFPD 63-1, Acquisition System

AFI 63-101, Acquisition System

AFI 63-114, Rapid Response Process

AFI 90-202, Acquisition Oversight Coordination Board (AOCB)

AFPD 99-1, Test and Evaluation Policy

AFI 99-101, Developmental Test and Evaluation

AFI 99-102, Operational Test and Evaluation

HOI 800-2, Policy and Guidance for Preparing Program Management Directive)

NOTE:

The user of this instruction is responsible for verifying the currency of the cited documents.

Abbreviations and Acronyms

ACAT—acquisition category

ACTD—advanced concept technology demonstration

ADM—Acquisition Decision Memorandum

AFAE—Air Force Acquisition Executive

AETC—Air Education Training Command

AFIFIO—Air Force Information for Industry Offices

AFMC—Air Force Materiel Command

AFOTEC—Air Force Operational Test and Evaluation Center

AFROC—Air Force Requirements Oversight Council

AFSAA—Air Force Studies and Analysis Agency

AIA—Air Force Intelligence Agency

AIS—Automated Information System

AoA—analysis of alternatives

APB—Acquisition Program Baseline

ASP—Acquisition Strategy Panel

ASC2A—Air and Space Command and Control Agency

ATD—advanced technology demonstration

BPPBS—Bi-Annual Planning Program Budget System

CAE—Component Acquisition Executive

CAF—Combat Air Forces

CAIG—Cost Analysis Improvement Group

CAIV—cost as an independent variable

CALS—continuous acquisition life-cycle support
CaNDI—commercial and non developmental items
CINC—Commander in Chief
CJCS—Chairman, Joint Chiefs of Staff
CJCSI—Chairman, Joint Chief of Staff Instruction
C-MNS—Combat Mission Need Statement
COEA—Cost and Operational Effectiveness Analysis
CONOPS—Concept of Operations or Concept of Operational Employment
COTS—Commercial-Off-the-Shelf
CRD—Capstone Requirements Document
CSAF—Chief of Staff of the United States Air Force
DAB—Defense Acquisition Board
DAC—Designated Acquisition Commander
DAE—Defense Acquisition Executive
DCS—Deputy Chief of Staff
DIA—Defense Intelligence Agency
DoD—Department of Defense
DPG—Defense Planning Guidance
DRU—Direct Reporting Unit
DSM—Digital System Model
DSN—Defense Switched Network
DT&E—development test and evaluation
EA—evolutionary acquisition
ECCM—electronic counter-countermeasures
E3—electromagnetic environmental effects
ERD—Evolutionarily Requirements Document
FCT—Foreign Comparative Test
FOA—Field Operating Agency
FOC—full operational capability
FY—Fiscal Year
FYDP—Future Years Defense Program
HSI—Human Systems Integration

HSIP—Human Systems Integration Programs

HQ AFOTEC—Headquarters, Air Force Operational Test and Evaluation Center

HQ USAF—Headquarters, United States Air Force

ICE—Independent Cost Estimate

IOC—initial operational capability

ICRD&A—International Cooperative Research, Development, and Acquisition

IPS—Integrated Program Summary

IPT—Integrated Product Team

ISP—Intelligence Support Plan

JCS—Joint Chiefs of Staff

JCSP—Joint Strategic Capabilities Plan

JPD—Joint Potential Designator

JROC—Joint Requirements Oversight Council

JTA—Joint Technical Architecture

KPP—Key Performance Parameter

KBI—Kenney Battlelab initiatives

LCC—life cycle cost

LRIP—low-rate initial production

MAA—Mission Area Assessment

MAD—Mission Area Director

MAIS—Major Automated Information Systems

MAISRC—Major Automated Information Systems Review Council

MAJCOM—Major Command

MAP—Mission Area Plan

MBI—Mitchell Battlelab initiative

MCC—Military Cooperation Committee

MC&G—Mapping, Charting, and Geodesy

MDA—Milestone Decision Authority

MDAP—Major Defense Acquisition Program

MER—Manpower Estimate Report

MNA—Mission Needs Analysis

MNS—Mission Needs Statement

MOE—measure of effectiveness
MOP—measure of performance
MPT—Manpower, Personnel, and Training
MPP—Modernization Planning Process
M&S—Modeling and Simulation
MS—milestone
MSA—Mission Solution Analysis
MSP—Mission Support Plan
NATO—North Atlantic Treaty Organization
NBC—nuclear, biological, and chemical
NBCC—nuclear, biological, and chemical contamination
NDI—non-developmental items
NORAD—North American Aerospace Defense Command
NSR—NATO staff requirement
NST—NATO staff target
OAS—Office of Aerospace Studies
OIPT—Overarching Integrated Process Team
OPSEC—Operational Security
ORD—Operational Requirements Document
OPR—office of primary responsibility
OSD—Office of the Secretary of Defense
OTA—Operational Test Agency
OT&E—operational test and evaluation
PEO—Program Executive Officer
PB—President’s Budget
PD—Program Director
PM—Program Manager
PMD—Program Management Directive
POC—Point of Contact
POM—Program Objective Memorandum
PSA—Principal Staff Assistant
RAA—required assets available

RCM—requirements correlation matrix

R&D—research and development

RDT&E—research, development, test and evaluation

RFP—request for proposal

R&M—reliability and maintainability

SAF—Secretary of the Air Force

SAMP—Single Acquisition Management Plan

SAR—special access required

SCI—Special Compartmented Information

SE—SEEK EAGLE

SECDEF—Secretary of Defense

SMART—short method to acquire ready or replacement technologies

SMM—system maturity matrix

SPO—System Program Office

SORD—System Operational Requirements Document

SSEM—system security engineering manager

S&T—science and technology

STA—system threat assessment

STAR—system threat assessment report

T&E—test and evaluation

TED—threat environment description

TEMP—Test and Evaluation Master Plan

TRG—Technical Review Group

TPIPT—Technical Planning Integrated Product Team

USD(A&T)—Under Secretary of Defense (Acquisition and Technology)

VCJCS—Vice Chairman of the Joint Chiefs of Staff

VV&A—verification, validation, and accreditation

WARM—wartime reserve modes

WIPT—Working Integrated Process Team

Terms

Acquisition Decision Memorandum (ADM)—A memorandum signed by the milestone decision authority that documents the decisions made and the exit criteria established as the result of a milestone decision review or in-process review.

Acquisition Program—A directed, funded effort that is designed to provide a new, improved, or continuing system or automated information system (AIS) capability in response to a approved operational need.

Acquisition Program Baseline (APB)—The APB documents the most important cost, schedule, and performance parameters identified in the ORD/RCM, and performance requirements for each phase of the program. It is coordinated with the user and approved by the Milestone Decision Authority. DT&E personnel must be cognizant of the information documented in the APB because it acts as the "contract" between the SM and the MDA.

advanced concept technology demonstration (ACTD)—A joint effort by the acquisition and operational (warfighter) communities within the DoD, the primary object of which is to provide the decision makers with an opportunity to fully understand the operational potential offered by a given advanced concept and/or technology/system to meet an urgent military operational need prior to an acquisition decision. (An ACTD is the application of a mature technology to address a critical military need. Mature technology implies it is not 6.1 or 6.2 research and critical military needs is an approved requirement by the JROC.)

advanced technology demonstration (ATD)—A vital part of the S&T program, ATDs help speed the maturation of advanced technologies needed to upgrade existing systems and enable development of next generation and future systems, allow experimentation with technology-driven operational issues, and are intended to result in a more informed requirements document prior to Milestone I decisions.

Air Force Requirements Oversight Council (AFROC)—The AFROC assists AF/XO, VCSAF and CSAF in their responsibilities to assess Air Force operational requirements. The AFROC chairperson is the Director of Operational Requirements (AF/XOR). The AFROC permanent members are the MAJCOM requirements principals and representatives from SAF/AQ (appropriate directorate), SAF/FM (FMB for funding and FMC for cost issues), AFOTEC, AF/XOI, AF/IL (ILM or ILS as appropriate), AF/XP, AF/TE, AF/XOC. Ad hoc members, based on topics reviewed, include: functional experts from AFCIC, AF/SG, and AF/SP (representatives are not limited to 0-7s/0-8s or their civilian equivalents), and other Service representatives when joint needs or requirements are considered.

analysis of alternatives (AoA)—The AoA assists decision makers in selecting the most cost-effective materiel alternative to satisfy a mission need. It compares alternative solutions on the basis of cost and operational effectiveness, documents the analytical and operational rationale for choosing the preferred alternative, helps to justify the need for starting or continuing an acquisition program, and serves as an important tool for developing requirements and assists in developing the concept of operational employment for the preferred alternative.

Automated Information System (AIS)—A combination of computer hardware and software, data, or telecommunications that performs functions such as collecting, processing, transmitting, and displaying information. Excluded are computer resources, both hardware and software, that are physically part of, dedicated to, or essential in real time to the mission performance of systems.

availability—Capability to bring about a desired end.

Capstone Requirements Document (CRD)—An optional document that describes the requirements for a family-of-systems or a complex "system-of-systems" in order to satisfy broad mission needs. It is not part of the formal acquisition process (i.e. not an official acquisition document) and need not be system-specific. The CRD is normally developed after the MNS is validated. It normally precedes concept studies leading to one or more ORDs. It follows the format in CJCSI 3170.01, 13 Jun 97,

Enclosure C, Pages C-1 and C-2.

Combat Mission Need Statement (C-MNS) Process—An expedited process for documenting and staffing urgent, time-sensitive requirement. It is used to document deficiencies that arise during combat or crisis operations. The C-MNS is described in Rapid Response Process (AFI 63-114) that has established criteria when a combat need is determined. The C-MNS substitutes for both MNS and ORD documentation requirements.

commercial and non-developmental items (CaNDI)—Term applied when referencing both commercial and Non-developmental items. See COTS and NDI.

commercial-off-the-shelf (COTS)—Commercial items that require little or no unique government modifications or maintenance over the life-cycle of the product to meet the needs of the using command. Any item, other than real property, that is of a type customarily used by the general public or by non-governmental entities for purposes other than governmental. (See FAR Part 201 for a complete definition)

compatibility—The capability of two or more items or components of equipment or material to exist or operate near or with other systems and not being affected by those systems or affecting those systems.

Concept of Operations (CONOPS)—See **Operational Concept of Employment**.

cost as an independent variable (CAIV)—The process of using better business practices, allowing trade space for industry to meet user requirements, and considering operation and maintenance costs early in requirements definition in order to procure systems smarter and more efficiently.

cost estimate—A product of an estimating procedure that specifies the expected dollar cost to perform a stipulated task or to acquire an item. It may be stated as a single value or a range of values.

Defense Acquisition Board (DAB)—The Department of Defense corporate body for system acquisition providing advice and assistance to the Secretary of Defense normally chaired by the Under Secretary of Defense (Acquisition and Technology).

Designated Acquisition Commander (DAC)—The individual who functions as the system acquisition decision maker on programs that are not assigned to a PEO. The commanders of product divisions and air logistic centers act in this capacity. DACs, like PEOs, are accountable to the Air Force Acquisition Executive (AFAE).

Development Plans (DP)—Development Plans (DPs) identify potential materiel solutions to the MAJCOM's identified needs, along with potential revolutionary approaches to solving long-term needs. The DP documents the potential contribution of each concept to the MAJCOM's needs, along with available technical risk, costs, and schedule information associated with the concepts.

Digital System Model (DSM)—Software representation of a system used to dynamically characterize the expected effects of changes in assumptions, design, tactics, or doctrine.

directed program—A program mandated by higher authority.

DoD Components—The Office of the Secretary of Defense; the Military Departments; the Chairman, Joint Chiefs of Staff and Joint Staff; the Unified and Specified Commands; the Defense Agencies; and DoD Field Activities.

exit criteria—Program specific accomplishments that must be satisfactorily demonstrated before an effort or program can progress further in the current acquisition phase or transition to the next acquisition

phase. The exit criteria will serve as gates that, when successfully passed or exited, demonstrate that the program is on track to achieve its final program goals and should be allowed to continue with additional activities within an acquisition phase or be considered for continuation into the next acquisition phase. Exit criteria may include such factors as critical test issues, the attainment of projected growth curves and baseline parameters, and the results of risk reduction efforts deemed critical to the decision to proceed further. Exit criteria supplement minimum required accomplishments and are specific to each acquisition phase. The MDA approves the exit criteria.

full operational capability (FOC)—The full attainment of the capability to effectively employ a weapon system, item of equipment, or system-of-approved specific characteristics, which is manned and operated by a trained, equipped, and supported military unit or force. FOC is not necessarily a date but is the criteria necessary to declared full operational capability.

full rate production.—Production of economic quantities following stabilization of the system design and prove-out of the production process.

Future Years Defense Program (FYDP)—The official service plan, effective with the submission of the annual Biennial Planning, Programming, and Budgeting System (BPPBS) cycle, that summarizes Secretary of Defense-approved programs for the Department of Defense (DoD). The FYDP projects detailed resource requirements. During the BPPBS process, the FYDP goes through two refinements until the DoD budget is submitted as the President budget (PB). Those refinements are the Service's Program Objective Memorandum (POM) and the Service's budget estimate submission (BES).

harmonization—The process and results of adjusting differences or inconsistencies to bring significant features into agreement. (Joint Publication 1-02) As part of the requirements validation process, it also refers to the process in which services assess the joint potential of the Mission Need Statements by coordinating the document with the other Services. (CJCSI 3170.01)

highly sensitive classified program—An acquisition special access program established in accordance with DoD 5200.1-R, Information Security Program Regulation, and managed in accordance with DoD Directive 5205.7, Special Access Program Policy.

human systems integration (HSI)—A disciplined, unified, and interactive approach to integrate human considerations into system design to improve total system performance and reduce cost of ownership. The major elements of HSI are manpower, personnel, training, human factors safety, health hazards and personnel survivability.

implementing command—The command or agency designated by the Air Force Acquisition Executive to manage an acquisition program.

information security—The result of any system-of-policies and procedures for identifying, controlling, and protecting information from unauthorized disclosure, whose protection is authorized by executive order or statute.

initial operational capability (IOC)—That first attainment of the capability to effectively employ a weapon, item of equipment, or system of approved specific characteristics with the appropriate number, type, and mix of trained and equipped personnel necessary to operate, maintain, and support the system. It is normally identified in the ORD. **NOTE: IOC should be event-driven and not tied to a specific future date.**

innovation—Taking advanced technologies and putting them into the hands of the warfighter faster. Referred to as an “emerging concept” matched to a compelling military capability to an operational need.

Current vehicles of innovation include Advanced Technology Demonstrations (ATD), Advanced Concept Technology Demonstrations (ACTD), Battlelab Initiatives (from the six AF Battlelabs), and Spiral Development.

in-production system—System for which the Air Force is still accepting deliveries. (For example, the Air Force is still accepting Block 50 F-16 aircraft, they are in-production. Not true the Block 30 F-16, this system is out of production, even though they are both F-16 aircraft. A modification on the Block 50 could be done at the factory which will require an assembly line change. There is no opportunity to change the assembly line of the block 30.)

Integrated Product Team (IPT)—Teams composed of representatives from appropriate functional disciplines working together with a team leader to build successful and balanced programs, identify and resolve issues, and make sound and timely recommendations to facilitate decision-making. There are four types of IPTs: Overarching IPTs focus on strategic guidance, program assessment, and issue resolution. Integrating IPTs integrate critical aspects of the program and coordinate working level IPTs which identify and resolve program issues, determine program status, and seek opportunities for acquisition reform. Program IPTs that focus on program execution, and may include representatives from both government, and after contract award, industry.

intelligence report—A report provided by the appropriate intelligence agency/command to the milestone decision authority prior to each milestone review. For Milestone 0, the report will confirm the validity of the threat described in the MNS. For later milestones, the report will confirm the validation of the system threat assessment used in support of the program, and will address any threat issues or unresolved threat concerns affecting the program.

Intelligence Support Plan (ISP)—The authoritative reference document for identifying, planning, and monitoring implementation of intelligence infrastructure requirements for a system from need definition through system retirement.

interoperability—The ability of systems, units, or forces to work in conjunction with other systems and provide services to or accept services from other systems, units, or forces and to use the services so exchanged to operate effectively together. (CJCSI 6212.01A)

Joint Potential Designator (JPD)—Used to describe the expected level of joint DoD component involvement, expressed as:

Independent. No potential for other service use of systems interface or for joint development or procurement.

Joint Interest. Joint program management is inappropriate, but a potential for other service use or systems interface exists.

Joint. A potential for joint program management, joint funding, and joint development or procurement exists. (CJCSI 3170.01)

joint program—Any Defense acquisition system, subsystem, component, or technology program that involves formal management or funding by more than one DoD component during any phase of a system's life-cycle.

Joint Requirements Oversight Council (JROC)—The Joint Requirements Oversight Council is responsible to the Chairman of the Joint Chiefs of Staff for assessing military requirements in support of the system acquisition process. The Vice Chairman of the Joint Chiefs of Staff chairs the Council and

decides all matters before the Council. The permanent members include the Vice Chiefs of the Army and Air Force, the Vice Chief of Naval Operations, and the Assistant Commandant of the Marine Corps. The Council directly support the Defense Acquisition Board through the review, validation, and approval of military requirements at the start of the acquisition process, prior to each milestone review, or as requested by the Under Secretary of Defense for Acquisition. (See CJCSI 5123.01)

Kenney Battlelab initiatives (KBI)—KBIs are 1) Innovative 2) relatively straight forward to plan and execute; and 3) funded within programmed levels. Initiatives must meet all of these criteria to be considered a KBI. KBIs are normally executed by a single Battlelab, but may involve more than one. The sponsoring Battlelab will execute KBIs which are approved by the appropriate MAJCOMs or FOAs.

key performance parameter (KPP)—Capabilities and characteristics so significant that failure to meet the threshold value is cause for the concept or system selection to be reevaluated and the program be reassessed or terminated. Key performance parameters are extracted from the Operational Requirements Document (ORD) and included in the Acquisition Program Baseline (APB) at each milestone.

lead command—The command that serves as operators interface with the Single Manager for a weapon system as defined by AFPD 10-9, not to be confused with that MAJCOM designate by HQ USAF/XOR as OPR for authoring a requirements document. Although, in most cases, the MAJCOM designated by HQ USAF/XOR to sponsor a requirement will become the “lead command” for a weapon system. (See AFPD 10-9)

logistics support analysis—The selective application of scientific and engineering efforts undertaken during the acquisition process. As part of the systems engineering process, logistics support analysis assists in: causing support considerations to influence design; defining support requirements that are related optimally to design and to each other; acquiring the required support; and providing the required support during the operational phase at minimum cost.

low-rate initial production (LRIP)—The production of a system in limited quantity to provide articles for operational test and evaluation, to establish an initial production base, and to permit an orderly increase in the production rate sufficient to lead to full-rate production on successful completion of operational testing.

major defense acquisition program—As currently defined in DoD 5000.2-R, an MDAP is an acquisition program that is not a highly sensitive classified program and is: (1) designated by the Under Secretary of Defense (Acquisition and Technology) (USD(A&T)), or (2) estimated by the USD(A&T) to require an eventual total expenditure for research, development, test and evaluation of more than \$355 million in fiscal year (FY) 1996 constant dollars or, for procurement, of more than \$2.135 billion in FY 1996 constant dollars

major system—A combination of elements that will function together to produce the capabilities required to fulfill a mission need, including hardware, equipment, software, or any combination thereof, but excluding construction or other improvements to real property. A system shall be considered a major system if it is estimated by the USD (A&T) to require an eventual total expenditure for RDT&E of more than 75 million in FY 1980 constant dollars (approximately 140 million in FY 1996 constant dollars), or for procurement of more than 300 million in FY 1980 constant dollars (approximately 645 million in FY 1996 constant dollars). (DoD 5000.2-R, References, B., page 3)

manpower and personnel—The identification and acquisition of military and civilian personnel with the skills and grades required to operate and support a materiel system over its lifetime at peacetime and wartime rates.

measure of effectiveness (MOE)—A qualitative or quantitative measure of a system's performance or a characteristic that indicates the degree to which it performs the task or meets a requirement under specified conditions. MOEs should be established to measure the system's capability to produce or accomplish the desired result.

measure of performance (MOP)—A quantitative measurement of the system's capability to accomplish a task. Typically in the area of physical performance (e.g., range, velocity, throughput, payload.).

milestones (0 through III)—Major management decision points in the system acquisition decision process requiring Office of the Secretary of Defense and (or) DoD component program review. Milestones include both Defense Acquisition Board (DAB) and DoD component-equivalent program reviews. Milestones are:

0 - Concept Studies Approval.

I - Approval to Begin a New Acquisition Program.

II - Approval to Enter Engineering and Manufacturing Development.

III - Production or Fielding/Deployment Approval.

Milestone Decision Authority (MDA)—The individual designated in accordance with criteria established by the Under Secretary of Defense for Acquisition, or by the ASD(C3I) for AIS acquisition programs, to approve entry of an acquisition program into the next phase.

Mission Area—A segment of the defense mission defined by the Office of the Under Secretary of Defense for Acquisition and Technology (OUSD(A&T)).

Mission Area Assessment (MAA)—The first phase of the MPP. A MAA process enhances Air Force warfighting capabilities by identifying military objectives in the Defense Planning Guidance (DPG), the Joint Strategic Capabilities Plan (JSCP), Air Force guidance, and regional operations Orders and operations plans. MAA uses a "strategy-to-task" methodology to identify the operational and support tasks needed to achieve military objectives.

Mission Area Director (MAD)—The MADs are the AFAE's acquisition staff. Their staffs are arranged by functional specialties to perform the functions of post-MS I PMD preparation, acquisition focal points, acquisition inputs to the BPPBS, and program budget development.

Mission Area Plans (MAP)—MAPs are the summation of the studies/analyses (MAA, MNA, and MSA) and identify the investment strategy for a specific mission area. The MAP identifies the most cost effective materiel and non-materiel solutions, changes in force structure, systems modifications, science and technology applications, and new acquisitions. Additionally, each MAP must include mission support needs and investments that directly contribute to the success of its operations and are unique to that particular mission area. Covers a period of 25 years and documents deficiencies and the most cost effective means of correcting task from among non-materiel solutions, changes in force structure, systems modifications or upgrades, science and technology applications, and new acquisitions.

mission deficiency—The inability to accomplish an operational or support task required to achieve a military objective.

Mission Needs Analysis (MNA)—The second phase of the MPP. The MNA assesses the Air Force's ability to accomplish the tasks identified during Mission Area Assessment (MAA). MNA uses a

task-to-need methodology to identify mission needs. MNA can also highlight technological opportunities and identify reliability and maintainability improvements which can also enhance warfighting capabilities.

Mission Need Statement (MNS)—A brief statement (no more than **five** typed pages) prepared by the CINCs, HQ USAF, or operating MAJCOMs to document mission needs that require a materiel solution. MNS are a formatted non-system-specific statement that contains operational capability needs, written in broad operational terms, and does not identify a program or specific solution. MNS describe required operational capabilities and constraints to be studied during the Concept Exploration and Definition Phase.

Mission Planning Process (MPP)—Done in three phases, the MPP is conducted through a series of assessments which determines what operational objectives and tasks a nation's military forces must be prepared to perform, evaluates and documents the requirements and needs to accomplish those tasks, and identifies the potential solutions, both materiel and non-materiel, to address those needs.

Mission Solution Analysis—The third phase of the three phase the MPP. The MSA identifies potential materiel solutions to solve the deficiencies/needs identified during MNA, integrates those solutions, and develops mixes of solutions within each MAJCOM. It attempts to prioritize the solutions. The TPIPTs, MAJCOMs, and National Laboratories work together during this phase to identify a relevant set of solutions which address the needs and deficiencies from the MNA

Mitchell Battlelab initiative (MBI)—MBIs are: 1) revolutionary in nature, or 2) complex to plan and execute, or 3) significantly cut across Battlelabs' areas of responsibility. Initiatives need only meet one of these criteria to be considered an MBI. Task Force Directors will execute MBIs approved by the Air Force Board of Directors, under the guidance of the sponsoring Battlelab and MAJCOM/FOA.

modification—An alteration to a produced material item applicable to aircraft, missiles, support equipment, trainers, etc. As a minimum, the alteration changes the fit or function of the item.

need.—The identification of a mission deficiency satisfied by a materiel or non-materiel solution. If a materiel solution is envisioned, it is normally documented in a Mission Need Statement (MNS).

non-developmental item (NDI)—NDIs are:

Any item commercially available in the market place

Any previously developed item of that is in use by a department or agency of the United States, a state or local government, or a foreign government with which the United States has a mutual defense cooperation agreement

Any of the above items that requires only minor modifications to meet the requirements of the procuring agency

Any of the above items of supply that is currently being produced but is not yet in use or is not yet available in the commercial marketplace

Any commercial-off-the-shelf (COTS) item

North American Air Defense Command (NORAD) Mission Need Statement (N-MNS)—A bi-national document identifying US and Canadian needs.

objective—The objective is that value desired by the user which could potentially have a measurable increase in performance over the threshold. The objective value could represent an operationally

meaningful, time critical, and cost-effective increment above the threshold for each program parameter. Objectives may be refined based on the results of the preceding program phases(s). (DoD 5000.2-R, Part 2, page 3, paragraph 2.3)

operating command—The command primarily operating a system, subsystem, or item of equipment. Generally applies to those operational commands or organizations designated by Headquarters, US Air Force to conduct or participate in operations or operational testing. Interchangeable with the term "Using Command" or "user".

operational assessment—An analysis of potential operational effectiveness and operational suitability made by an independent operational test activity, with user support as required, on other than production systems. The focus of an operational assessment is on significant trends noted in development efforts, programmatic voids, areas of risk, adequacy of requirements, and the ability of the program to support adequate operational testing. Operational assessments may be made at any time using technology demonstrators, prototypes, mock-ups, engineering development models, or simulations but will not substitute for the independent operational test and evaluation necessary to support full production decisions.

operational concept of employment—As an integral component of the acquisition process, the operational concept of employment is the user's description of how the warfighter intends to operate and employ the system in conjunction with other existing and projected systems to execute the mission. This description should be well documented in section one of the ORD to articulate the user's intent and aid the T&E community in testing solutions. (Not to be confused with the concept of operations)

operational effectiveness—The overall degree of mission accomplishment of a system used by representative personnel in the environment planned or expected (e.g., natural, electronic, threat, etc.) for operational employment of the system which considers organization, doctrine, tactics, survivability, vulnerability, and threat (including countermeasures, initial nuclear weapons effects, nuclear, biological, and chemical contamination [NBCC] threats).

operational reliability and maintainability value—Any measure of reliability or maintainability that includes the combined effects of item design, quality, installation, environment, operation, maintenance, and repair.

Operational Requirements Document (ORD)—A document prepared by the respective using command that describes pertinent quantitative and qualitative performance, operation, and support parameters, characteristics, and requirements for a specific candidate weapon system describing that system necessary to fulfill the mission deficiency. Air Force ORDs have a mandatory attachment called the requirements correlation matrix (RCM).

operational suitability—The degree to which a system can be placed in field use satisfactorily with consideration given to availability, compatibility, transportability, interoperability, reliability, wartime usage rates, maintainability, safety, human factors, manpower and, logistics supportability, natural environmental effects and impacts documentation, and training requirements.

originating command—The Air Staff office, major command, or field operating agency that prepares a document in compliance with this instruction.

participating command—A command or agency designated by the Air Force Acquisition Executive to advise the program manager and to take an active part in developing a new system. The supporting command is also a participating command.

performance—Those operational and support characteristics of the system that allow it to perform its assigned mission over time effectively and efficiently. The support characteristics of the system include both supportability aspects of the design and the support elements necessary for system operation.

personnel—Those individuals required in either a military or civilian capacity to accomplish the assigned mission.

phases (0 through III)—Acquisition phases provide a logical means of progressively translating broadly stated mission needs into well-defined system-specific requirements:

Phase 0—Concept Exploration

Phase 1—Program Definition and Risk Reduction

Phase 2—Engineering and Manufacturing Development

Phase 3—Production Fielding/Deployment, and Operational Support

Program Executive Officer (PEO)—A military or civilian official who has primary responsibility for oversight of several ACAT I programs, and for assigned ACAT II and III programs. A PEO has no other command or staff responsibilities within the Component, and only reports to and receives guidance and direction from the DoD Component Acquisition Executive.

program cost—The total of all expenditures, in any appropriation or fund, directly related to the AIS definition, design, development, and deployment, and incurred from the beginning of the “Concept Exploration” phase through deployment at each separate site. For incremental and evolutionary program strategies, program cost includes all increments. Program cost does not include operations and support costs incurred at an individual site after operational cut over of any increment at that site, even though other sites may exist that have not yet completed deployment.

Program Management Directive (PMD)—The official Air Force document used to direct acquisition or modification responsibilities to appropriate Air Force MAJCOMs for the development, acquisition, modification or sustainment of a specific weapon system, subsystem, or piece of equipment. It is used throughout the acquisition cycle to terminate, initiate, or direct research for development, for production, or modifications for which sufficient resources have been identified. States program unique requirements, goals, and objectives, especially those to be met at each acquisition milestone or program review. (See HOI 800-2, Policy and Guidance for Preparing Program Management Directive)

Program Manager (PM)—A military or civilian official responsible for managing an acquisition program. Also known as a single manager (SM) or a system program director (SPD)

required assets available (RAA) date—A date agreed to by Headquarters, Air Force Material Command and the using command where sufficient equipment, personnel, and logistics elements are available to the operational command to begin a trial period for equipment operation and support capability before initial operational capability declaration. Logistics elements include approved operational support equipment, critical spares, verified technical manuals, and training programs and courses.

requirement—A recommended solution to a mission deficiency that when validated and approved justifies the timely allocation of resources to achieve a capability to accomplish military objectives, missions, or tasks.

requirements correlation matrix (RCM)—A three-part document, specific to Air Force ORDs, which

provide a system audit trail of the capabilities and characteristics identified in the Operational Requirements Document. RCMs list user-identified system capabilities and characteristics with accompanying thresholds and objectives; identify user recommended key performance parameters; provide supporting rationale justifying each threshold obtained from the AoA or concept studies; and rationale for changes in requirements as the system matures.

SEEK EAGLE (SE)—The Air Force certification program for determining safe carriage, employment and jettison limits, safe escape, and ballistics accuracy, when applicable, for all stores in specified loading configurations on United States Air Force and Foreign Military Sales (FMS) aircraft. SE includes compatibility analyses for fit, function, electromagnetic interface, flutter, loads, stability and control, and separation; stores loading procedures; ground and wind tunnel tests; and flight tests. The end product is source data for flight, delivery, loading manuals, and the weapon ballistics portion of the aircraft operational flight program.

Single Acquisition Management Plan (SAMP)—A SAMP is required by SAF/AQ for all ACAT I and II programs, and is optional for ACAT III programs. The SAMP is a comprehensive, integrated document which discusses all relevant aspects of a program in support of a MS decision. As a program management strategy document, it consolidates required documentation and is tailored for the specific needs of the program. The SAMP is structured to streamline the oversight and statutory requirements contained in all other management plans for all levels above the PEO or DAC.

short method to acquire ready or replacement technologies (SMART)—An tailored ORD using a shortened format for certain ACAT III requirements. See paragraph 3.5.3. for SMART ORD format guidance and specifics.

supporting command—The command (usually Air Force Materiel Command) responsible for providing logistics support for a system and assuming program management responsibility from the implementing command.

survivability—The capability of a system to avoid or withstand man-made hostile environments without suffering an abortive impairment of its ability to accomplish its designated mission. Survivability may be achieved by avoidance, hardness, proliferation, or reconstitution (or a combination). Its components are susceptibility and vulnerability.

system acquisition process—A sequence of specified decision events and phases directed to achieve program objectives and acquire systems. It extends from validating a requirement through deploying the system, or terminating the program.

system capabilities—Measures of performance (such as range, lethality, maneuverability, etc.) for a system to accomplish approved military objectives, missions, or tasks.

system characteristics—Design features (such as weight, size, shape, etc.) needed for a system to accomplish approved military objectives, missions, or tasks. The ORD documents a special category of characteristics that are called “**Other System Characteristics.**” They tend to be design, cost, and risk drivers and include electromagnetic pulse hardening, transportability, interoperability, electronic counter-countermeasures, etc. These characteristics require early identification for cost-performance tradeoffs via the IPT. (DoD 5000.2-R, Appendix 2, page II-2, paragraph 4c.)

system maturity matrix (SMM)—The SMM links user requirements, "allocated" requirements, and system specifications to expected test results to be achieved over time. It lists critical technical and operational characteristics of a system that will be assessed at major decision or event milestones. All

acquisition programs, with the exception of programs in production that have met all of their user requirements, require an SMM. The SMM is a management tool, not a requirements document. It can be event driven.

system threat assessment (STA)—The basic authoritative threat assessment tailored for and focused on ACAT II and III program. The STA describes the threat to be countered and the projected threat environment. The STA may be a stand-alone document or the threat assessment contained in the Operational Requirements Document. The threat information is based on Defense Intelligence Agency validated documents.

system threat assessment report (STAR)—A DIA intelligence document that serves as the single authoritative reference for threat data regarding weapon system acquisition program. The STAR contains the lethal and non-lethal threats against the proposed US system and the threat environment in which the system will operate.

technical data—Scientific or technical information recorded in any form or medium (such as manuals and drawings). Computer programs and related software are not technical data; documentation of computer programs and related software are. Also excluded are financial data or other information related to contract administration.

Technical Planning Integrated Process Teams (TPIPT)—TPIPTs are responsible for identifying and addressing customer technology needs with an optimized and integrated AFMC response. The TPIPT serves as the primary interface between the MAJCOM and AFMC to ensure that the MAP and the related TMP budgets and schedules are fully integrated and mutually supporting. The TPIPTs consist of a team of users, development planners, systems engineers, scientists, logisticians, and test engineers that tap all AFMC organizations and expertise to respond to customer needs. The TPIPT provides support to the Mission Area Planning process during all phases from MAA through development of the MAP.

Technical Review Group (TRG)—The TRG assesses ACAT I and selected ACAT II AoAs for technical adequacy and completeness of the analytical approach and results when requested by the study team or the AFROC.

Test and Evaluation Master Plan (TEMP)—The TEMP correlates and integrates T&E with the overall acquisition program strategy, schedule, and other program documentation, and defines the critical path for completing test and evaluation. The TEMP will place the most emphasis on the next phase of system development rather than provide a historical account of program progress. Update the TEMP prior to major milestones, program baseline changes, and when there have been significant changes to the program.

threshold—The threshold value is the minimum acceptable value that, in the user's judgment, is necessary to satisfy the need. (DoD 5000.2-R, Part 2, page 3, paragraph 2.3)

using command—Also known as the operating command, operator, or user. Typically, the ultimate operators of a system. There are some exceptions (i.e., Headquarters, Air Combat Command) which can be the using command for a reconnaissance satellite for which Air Force Space Command is the operating command.

validation—1. A process normally associated with the collection of intelligence that provides official status to an identified requirement and confirms that the requirement is appropriate for a given collector and has not been previously satisfied. 2. In computer modeling and simulation, the process of determining the degree of which a model or simulation is an accurate representation of the real world

from the perspective of the intended uses of the model or simulation.

validation authority—Someone or agency, other than the user, that gives official confirmation that the system will produce the desired result.

verification, validation, and accreditation (VV&A)—The means by which a decision maker's confidence is established and maintained in digital modeling and simulation results by investigation, documentation, and accreditation of databases, software, hardware, and analysts.

- a. Verification is the process of determining that a model implementation accurately represents the developer's conceptual description and specifications
- b. Validation is the process of determining (a) the manner and degree to which a model is an accurate representation of the real-world from the perspective of the intended uses of the model and (b) the confidence that should be placed on this assessment.
- c. Accreditation is the official certification that a model or simulation is acceptable for use for a specific purpose.

weapon(s) system.—A combination of one or more weapons with all related equipment, materials, services personnel and means of delivery, and deployment (if applicable) required for self-sufficiency. Items that can be used directly by the armed forces to carry out combat missions.

NOTE: The purpose of this glossary is to help the reader understand the terms listed as used in this publication. It is not intended to encompass all pertinent terms. Joint Publication 1-02, Department of Defense Dictionary of Military and Associated Terms, 23 March 1994, and AFM 11-1, Air Force Glossary of Standardized Terms, contain standardized terms and definitions for Department of Defense and Air Force use.

Attachment 2**HEADQUARTERS, UNITED STATES AIR FORCE (HQ USAF) RESPONSIBILITIES*****Section A2A— Office of the Secretary of the Air Force (SAF):*****A2.1. Chief Information Officer (CIO) (SAF/AQ, Deputy-HQ USAF/SC)**

A2.1.1. Responsible for all aspects of Air Force information management and application of information technology to support mission goals.

A2.1.2. Fulfills the Paperwork Reduction Act requirements. The CIO:

A2.1.2.1. Ensures that information technology is acquired and information resources are managed in a manner that implements the policies and procedures of the Information Technology Management Reform Act.

A2.1.2.2. Develops, maintains, and facilitates the implementation of a sound and integrated information technology architecture.

A2.1.2.3. Promotes the effective and efficient design and operation of all major information resources management processes, including improvements to work processes.

A2.2. SAF/AQX:

A2.2.1. Develops Air Force acquisition system directives, policies, and procedures, including the 63-series.

A2.2.2. Serves as acquisition focal point for requirements process.

A2.2.3. Serves as representative on the Air Force Board and Group under the Resource Allocation Process. Develops policy and processes for Program Management Directives (PMD), Acquisition Program Baselines (APB), Acquisition Decision Memorandums (ADM), and International Cooperative Research, Development, and Acquisition (ICRD&A) activities.

A2.2.4. Assists HQ USAF/XOR with the required direction, funding, and tasking necessary for concept studies.

A2.2.5. Co-chairs the Rapid Response Process Assessment Committee. Functions as the Executive Secretary for the Rapid Response Process Council.

A2.2.6. Evaluates the impact of programmatic and policy changes on Air Force investment programs.

A2.2.7. Chairs the RDT&E Resource Allocation Panel responsible for programming S&T, T&E infrastructure and Defense Wide Support activities.

A2.3. Applicable SAF/AQ Mission Area Directors:

A2.3.1. Develop acquisition programs to meet mission needs and operational requirements defined by the user.

A2.3.2. Prepare position on unfunded requirements and identifies funding sources.

A2.3.3. Advise on all conventional issues involving bomber assets and programs.

A2.3.4. Advise on all issues involving fighter assets and programs.

A2.3.5. Provide a Quick Reaction Capability office for programs as required in AFI 63-114, Rapid Response Process.

A2.3.6. Manage, monitor, and provide direction to field commands' theater air defense, battle management, chem/bio defense, aero-medical, and air base operability programs from inception through production.

A2.3.7. Interface directly with using, operating, implementing, and supporting commands in managing the acquisition program and in issuing and coordinating the implementing PMD that follows MS I and PPBS actions.

A2.3.8. Direct and monitor acquisition programs through program element monitors (PEM).

A2.3.9. Coordinate with Air Staff and other agencies to resolve mission needs and operational requirements as well as programmatic aspects of all programs, including special access programs.

A2.3.10. Responsible for the development and acquisition of systems in the areas of space control, intelligence dissemination, ballistic missile tactical warning/characterization, and attack assessment.

A2.3.11. Plan and schedule Requirements and Acquisition Program Reviews between Milestones I and II, and II and III, as required.

A2.3.12. Work with HQ USAF/XOR and operating commands to develop all pre-MS I acquisition related documentation, including the MS 0 ADM.

A2.3.13. Support HQ USAF/XOR and the operating commands in analysis of alternatives (AoA) activities.

A2.4. SAF/AQR:

A2.4.1. Directs and monitors science and technology as well as acquisition programs through program element monitors (PEM).

A2.4.2. Ensures developing technology is effectively focused on mission needs and operational requirements identified by the operating commands and HQ USAF/XO.

A2.4.3. Is the Air Force member on OSD Defense S&T Advisory Group and ACTD Breakfast Club, Air Force representative to committees supporting the Defense Manufacturing Council, the National Science and Technology Council, etc.

A2.4.4. Is the Air Force Executive for Standardization. Serves as the Air Force's Non-Developmental Item Advocate and as the Air Forces Executive Office for Air Force Departmental Standardization Office and the Military Specification and Standards Reform Program.

A2.4.5. Develops acquisition environment, safety, and health directives, policies, and procedures.

A2.5. SAF/FMC:

A2.5.1. Reviews cost estimates, as required.

A2.5.2. Convenes the Air Force Cost Analysis Improvement Group (AFCAIG), as required. The AFCAIG will review all cost documentation before MS I review.

*Section A2B—Air Staff Responsibilities***A2.6. HQ USAF/XOR:**

A2.6.1. Chairs the Air Force Requirements Oversight Council (AFROC). Develops and coordinates agendas with members, organizes work, and assures prompt prosecution of AFROC business.

A2.6.2. Is the executive agent for the Deputy Chief of Staff, Plans and Operations (HQ USAF/XO) for managing Air Force-wide mission needs and operational requirements that may result in research, development, test, and evaluation (RDT&E), and procurement appropriations. Provides advocacy for needs resulting from mission deficiencies identified at the operating commands.

A2.6.3. Is the OPR for AFRD 10-6 and this instruction.

A2.6.4. Manages the HQ USAF MNS, CRD, and ORD processes which are governed by the DoD 5000-series publications and implemented by this instruction.

A2.6.5. Is the HQ USAF/XO focal point for Requirements and Acquisition Program Reviews.

A2.6.6. Assigns a HQ USAF OPR (maybe outside of XO/XOR) for each draft MNS and ORD undergoing review, comment, or validation and approval. Assists in the formal transfer of mission need responsibility to SAF/AQ or an Air Staff directorate for program development and procurement.

A2.6.7. Controls and issues document numbers for HQ USAF-developed MNS and all Air Force CRDs.

A2.6.8. Prepares and issues the PMD for potential acquisition programs for implementing the Milestone 0 ADM which directs the start of concept studies and for AoA (if required). Regarding the AoAs, the PMD:

A2.6.8.1. Designates the lead MAJCOM.

A2.6.8.2. Identifies and directs all participating organizations.

A2.6.8.3. Identifies the MAJCOM responsible for establishing the study team (if required) and for leading the concept studies.

A2.6.8.4. Briefly addresses the purpose, study requirements, required documentation, and schedule considerations for the MS I decision.

A2.6.8.5. Establishes Air Staff, SAF, Joint Staff, and OSD review and coordination procedures for a MS I decision.

A2.6.9. Reviews and provides adequate staffing coordination for all requirements-related documents (i.e., MNS, CRDs, ORDs) before a MS decision

A2.6.10. Conducts an annual status review of MNS and ORDs.

A2.6.11. Prepares and distributes a status report Air Force-wide.

A2.6.12. Harmonizes Air Force needs with other services to exploit common areas of interest and to prevent duplication of effort.

A2.6.13. Ensures other services' requirements documents receive applicable Air Force functional review.

A2.6.14. Coordinates with other Air Staff and SAF/AQ directorates to resolve requirements and programmatic issues for all programs, including special access programs.

A2.6.15. Is the HQ USAF/XO focal point for special access program acquisition as well as science and technology activities.

A2.7. HQ USAF/XOC:

A2.7.1. Develops policy and processes for Air Force modeling, simulation, and analysis.

A2.7.2. Assists the appropriate SAF/AQ and HQ USAF/XOR organizations to determine the necessity for an AoA or concept study.

A2.7.3. Identifies the issues and alternatives to be analyzed, and assists the MAJCOMs in identifying the source and amount of funding for AoAs.

A2.7.4. Determines standards for computer model verification, validation, and accreditation (VV&A). Certifies that models and databases used in the AoA compliant with AF VV&A policy.

A2.7.5. Serves as liaison office for operational analysis issues.

A2.7.6. Conducts mission area and doctrine review of other service "Joint Interest" or "Joint" MNS, CRDs, and ORDs.

A2.8. HQ USAF/XOI:

A2.8.1. Ensures requirements documentation adequately addresses the integration of intelligence, surveillance, reconnaissance, and information warfare support (to include electronic warfare) requirements.

A2.8.2. Ensures Air Force and DoD intelligence, surveillance, reconnaissance, and information warfare (to include electronic warfare) is, or will be, available to support systems acquisition documentation.

A2.8.3. Coordinates with Air Staff, SAF/AQ directorates, operating and implementing commands, and DoD agencies to resolve intelligence, surveillance, reconnaissance and information warfare support (to include electronic warfare) requirements and programmatic issues of all programs, including special access programs.

A2.8.4. Evaluates intelligence, surveillance, reconnaissance and information warfare support (to include electronic warfare) requirements for their contribution to overall Air Force warfighting capabilities for use in the PPBS process.

A2.8.5. Contributes to development of acquisition programs to meet intelligence, surveillance, reconnaissance and information warfare support (to include electronic warfare) requirements defined by the operating commands.

A2.8.6. Assists HQ USAF/XOR in identifying required organizations for pre-MS 1 tasking.

A2.9. HQ USAF/IL:

A2.9.1. Guides all proposed modifications to existing systems and equipment, except for medical equipment.

A2.9.2. Ensures depot maintenance and materiel support requirements are coordinated early with the user to verify timely accomplishment of requirements identification and required programming actions.

A2.9.3. Assesses the technical feasibility and cost effectiveness of proposed modifications to existing weapon systems and equipment.

A2.9.4. Reviews and programs logistics requirements (such as spares, technical orders, support equipment to support operational requirements).

A2.9.5. Assists HQ USAF/XOR in identifying required organizations for pre-MS I tasking.

A2.9.6. Reviews all ORDs to assist in identification of maintenance cost drivers and projected maintenance life cycle costs of a proposed program.

A2.10. HQ USAF/XP:

A2.10.1. Is the focal point for Air Force Mission Area Assessment and Mission Needs Analysis policies.

A2.10.2. Ensures program documentation adequately addresses HSI.

A2.10.3. Ensures the Manpower Estimate Report (MER) is accomplished and coordinated within congressionally mandated guidelines.

A2.10.4. Directs and assists using commands in preparing Human Systems Integration Programs (HSIP) and MERs.

A2.10.5. Assists HQ USAF/XOR in identifying required organizations for pre MS I tasking.

A2.10.6. Reviews MNS and ORDs for consistency with the Air Force Long Range Plan.

A2.11. HQ USAF/RE:

A2.11.1. Assists HQ USAF/XOR in identifying required organizations for tasking.

A2.11.2. Reviews appropriate documents before the MS I decision.

A2.12. HQ USAF/SC

A2.12.1. Establishes policy on developing and processing requirements and procurement of communications and information systems with an estimated acquisition cost of less than \$15 million dollars. (AFI 33-103, Communications and Information Systems Requirements, Development and Processing.)

A2.12.2. Selects the lead agency that will work with the lead using command or Air Staff functional area for communications and information initiatives.

A2.12.3. Reviews MNS, CRDs, ORDs, and AoAs to ensure communications and information requirements are adequately addressed.

A2.12.4. Assists HQ USAF/XOR in identifying required organizations for pre-MS 1 tasking.

A2.13. HQ USAF/SG:

A2.13.1. Assists HQ USAF/XOR in identifying required organizations for tasking.

A2.13.2. Reviews appropriate documents before the MS I decision.

A2.13.3. Evaluates the appropriate requirements documentation for the modification or upgrade or acquisition of medical equipment.

A2.14. HQ USAF/SF:

A2.14.1. Ensures physical security, resources protection, and base defense requirements are adequately addressed throughout the acquisition process.

A2.14.2. Evaluates the adequacy of current and projected security support programs to satisfy and support employment concepts.

A2.14.3. Provides policy guidance on product security needs for Air Force assets in production, maintenance, or undergoing modifications.

A2.14.4. Assists the system security engineering manager (SSEM) within the operating, implementing, and supporting commands in developing the acquisition security plans.

A2.14.5. Provides policy guidance on industrial security measures.

A2.14.6. Reviews AoAs, MNSs, CRDs, ORDs, and TEMPs for protective countermeasure issues.

A2.14.7. Approves requests for designating security priorities for newly developed resources.

A2.14.8. Monitors new security technologies for integration into newly developed systems and retrofit of existing systems.

A2.14.9. Coordinates with the Air Force Office of Special Investigations, HQ USAF/XOI, and operating, implementing, and supporting commands on threat and vulnerability issues.

A2.14.10. Assists HQ USAF/XOR in identifying required organizations for pre MS I tasking.

A2.15. HQ USAF/TE:

A2.15.1. Provides overall Air Force test and evaluation (T&E) policy and oversees the T&E process throughout the Air Force.

A2.15.2. Reviews all AoAs, CRDs, and ORDs for T&E issues. Emphasis is placed on ensuring all requirements are clear, operational, testable and measurable.

A2.15.3. Ensures linkage between the ORD and the TEMP throughout the acquisition process.

A2.16. Participates in requirements and acquisition program reviews.

A2.17. HQ USAF /XOW:

A2.17.1. Reviews MNS and ORDs to ensure weather sensitivities and aerospace environmental support are adequately addressed.

A2.17.2. In coordination with Air Force Weather Agency (AFWA), develops HQ USAF MNS and ORDs for new and upgraded aerospace environmental support systems.

A2.17.3. Assumes the role of the "operating command" for actions associated with new and upgraded aerospace environmental support systems.

A2.18. ANG/AQ:

A2.18.1. Assists HQ USAF/XOR in identifying required organizations for tasking.

A2.18.2. Review MNS, CRDs, ORDs, and TEMPs.

A2.18.3. Harmonizes ANG needs with other components and services to exploit common areas of interest and to prevent duplication of effort.

A2.18.4. Serves as the ANG focal point for requirements and acquisition program reviews.

A2.18.5. Manages the ANG MNS, CRD, and ORD processes governed by the DoD-series.

A2.18.6. Point of contact for the ANG for the annual reviews of applicable MNS, ORDs, and CRDs

A2.18.7. Coordinates with other Air National Guard, Reserve, Air Staff, and SAF/AQ directorates to resolve requirements and programmatic issues of all applicable programs.

Attachment 3

AIR FORCE MAJOR COMMAND (MAJCOM), FIELD OPERATING AGENCY (FOA), AND DIRECT REPORTING UNIT (DRU) RESPONSIBILITIES

A3.1. Designated Lead Command (if more than one Operating Command) regarding origination of requirements documents:

A3.1.1. Determines the membership and convenes a study team to manage concept studies and Analyses of Alternatives (if required).

A3.1.2. Prepares and submits the MNS to HQ USAF/XOR for CSAF or JROC approval.

A3.1.3. Coordinates the document with all participating commands and services during MNS development and resolution of comments.

A3.1.4. Prepares and submits the ORD to HQ USAF/XOR for CSAF approval and JROC review/approval of Key Performance Parameters. Tasks associated with preparation of the ORD include:

A3.1.4.1. Coordinates with the implementing command to conduct a market survey.

A3.1.4.2. Establishes and or participate on integrated product teams (IPT) for the ORD.

A3.1.4.3. Coordinates documents with all participating commands and services during ORD development and resolution of comments.

A3.1.5. When directed, briefs command requirements to the AFROC and JROC during deliberations on major decision points, or at scheduled program reviews. If a presentation to the JROC or DAB is required at MS 0, prepares and presents the briefing with assistance from HQ USAF and SAF staffs, as required.

A3.2. Operating (or Using) Command:

A3.2.1. Develops supporting directives to implement this instruction.

A3.2.2. Establishes command focal point to develop or review AoAs and MNS, CRD and ORD documents.

A3.2.3. Coordinates draft MNS, CRDs and ORDs with applicable commands and agencies, maintaining a record file on the disposition of comments. When designated by HQ USAF/XOR, serves as lead command for multi-command or joint service mission needs and operational requirements. Updates ORDs as required to ensure consistency with the approved, funded program.

A3.2.4. Coordinates with SAF/AQ, Air Staff, AFOTEC, implementing, supporting, and other participating commands and agencies (normally via the IPT) while formally developing ORDs during system development.

A3.2.5. Develops the RCM as a mandatory Air Force attachment to the ORD.

A3.2.6. Submits the semi-annual command MNS/CRD/ORD Certification List to HQ USAF/XOR **not later than 1 July and 1 January each calendar year.**

A3.2.7. Commencing with the first ORD draft, works with the Air Staff, AFOTEC, implementing, supporting, and other participating commands to develop operational test criteria, system performance capabilities, and system performance and design characteristics.

A3.2.8. Notifies applicable Air Staff, SAF/AQ staff, and the implementing and supporting commands when proposed systems do not meet operational requirements.

A3.2.9. Serves as lead command or agency for concept studies conducted during the Concept Exploration Phase, when designated.

A3.2.10. Coordinates with the implementing, supporting, and training commands to ensure training resources are identified for training-related support during the system life cycle.

A3.2.11. Ensures the Communications-Computer System Integration (CSI) function reviews the MNS, CRD and ORD for communications-computer support requirements.

A3.2.12. Develops the operational concept of employment in sufficient time to support the implementing command and the agencies directed to test the system.

A3.2.13. Ensures requirements documents address compliance with the Joint Technical Architecture (JTA) and the Common Operating Environment (COE). Ensures compatibility, interoperability, and integration (CII) requirements are stated, if required.

A3.2.14. Provides command assessment of the developing system's expected capabilities against the evolving threat identified in the ORD, STAR, or STA for use at program reviews. Addresses those threats that could adversely affect the developing system's effectiveness.

A3.2.15. Participates in developing and coordinating the System Maturity Matrix (SMM). Supports the effort with analyses and studies, if required.

A3.2.16. Identifies and documents, as early as possible, all SEEK EAGLE requirements for aircraft-stores programs under development or undergoing modification.

A3.2.17. Ensures data and information management needs are identified.

A3.2.18. Develops the Intelligence Support Plan according to AFI 14-111, Intelligence Support to the Air Force Acquisition Process, when directed in the program PMD.

A3.2.19. Submits a three-year funding forecast for pre-MS 0 and pre-MS I studies annually (1 February) to HQ USAF/XOC.

A3.3. Implementing Command (specific responsibilities as required):

A3.3.1. Provides preliminary cost and schedule estimates on request.

A3.3.2. Verifies the operating command's cost and programmatic data.

A3.3.3. As a study team member, assists the operating command in developing and preparing the AoA (if required) and performs or contracts for concept studies. Assists the lead command in developing MOEs from the ORD, as applicable.

A3.3.4. Reviews MNS and ORDs. Coordinates with operating and supporting commands on MNS and ORDs. Develops STAR or stand-alone STA and coordinates the draft with applicable commands and agencies.

A3.3.5. Conducts concept exploration, development planning, and technology development to support MNS and ORD preparation by the operating command.

A3.3.6. Identifies high-risk areas and potential problems for the operating and supporting command's use in the ORD.

A3.3.7. After Milestone I, leads the IPT to evaluate proposed systems identify tradeoffs that relate to system performance, cost, interoperability, schedule, reliability, maintainability, environmental sensitivities, human factors, engineering, manpower personnel and training (MPT), survivability, producibility, supportability, frequency allocations and assignments, electromagnetic compatibility, environmental impacts, system safety, OPSEC, and integrated logistics support (ILS) elements, including intelligence and geo-spatial information and services support. Ensures the operating command concurs with tradeoffs.

A3.3.8. Develops the SMM with operating command and AFOTEC assistance.

A3.3.9. Ensures the capability under development meets the operational and support needs addressed in the MNS and ORD. Ensures system characteristics and capabilities values are traceable to the AoA, RCM, TEMP, and RFP. Immediately advises other participants of requirement or program disconnects.

A3.3.10. Ensures pertinent information in the MNS and ORD is accurately included in applicable acquisition documents.

A3.3.11. Assigns an SSEM to the program as soon as possible after MS 0.

A3.3.12. Coordinates applicable acquisition program documentation (e.g., APB and TEMP) with the user. After an Air Force position is established, submits required acquisition program documents to the applicable SAF/AQ mission area director for AFAE approval.

A3.3.13. Delivers operational and support systems to using and supporting commands by specified need dates.

A3.3.14. Ensures computer resources, software and hardware support capabilities, and facilities will be available by IOC declaration.

A3.3.15. Develops the acquisition strategy with the operating command in Phase 0 to be prepared for the MS I review. This responsibility is formally transferred to the program manager after MS I.

A3.3.16. Ensures depot support will be available by IOC declaration.

A3.4. HQ Air Intelligence Agency (AIA):

A3.4.1. Assists commands in concept development of Air Force MNS, CRDs, ORDs, AoA, TEMPs, and PMDs, to include identification of required life cycle intelligence support and MOEs for multi-disciplined intelligence collection systems and electronic combat systems.

A3.4.2. Provides operating and implementing commands assessments of foreign aerospace threats, foreign aerospace weapon systems capabilities and vulnerabilities, and foreign technological developments applicable to aerospace weapons research and development.

A3.4.3. Provides analytic expertise to assist implementing commands in conducting feasibility studies of US conceptual systems and predicting their impact on future foreign weapon systems research and development.

A3.4.4. Ensures DoD standard Geospatial Information & Services (GI&S) products are used when possible, and obtains authorization for required exceptions from the Assistant Secretary of Defense (C³I).

A3.4.5. Assists in developing required threat documents (e.g., STAR, intelligence reports), including threat assessment portions of the MNS and the ORD, and provides threat support to the SAF/AQ, and HQ USAF/XO.

A3.4.6. Approves STARs (ACAT I) and STAs (ACAT II and III). Coordinates with DIA to validate STARs for ACAT ID programs. Approves Intelligence Support Plans (ISPs)

A3.4.7. Provides analysis of the susceptibilities and vulnerabilities of current and planned US systems to foreign systems in the areas of communications security (COMSEC), to include emanations security (EMSEC), electronics security (ELSEC), and operations security (OPSEC).

A3.4.8. Provides analysis of the susceptibilities and vulnerabilities of current and planned US systems to foreign active and passive electronic warfare systems.

A3.4.9. Assesses Information Warfare threats and electronic warfare susceptibilities and vulnerabilities to enhance survivability over the entire spectrum of conflict. Vulnerability includes active and passive systems and evaluation of electronic counter-countermeasures (ECCM) effectiveness.

A3.4.10. Informs implementing and using commands of program disconnects or inconsistencies which may preclude HQ AIA from providing the required support. Identifies disconnects to HQ USAF for resolution.

A3.4.11. Informs HQ USAF and MAJCOMs of future intelligence and electronic combat capabilities, equipment, and technologies which are needed to support implementing and using commands.

A3.5. Air Force Communications Agency (AFCA):

A3.5.1. Assesses proposed communications and computer resources to ensure proper consideration of communications and information operations; reliability and maintainability (R&M); manpower, personnel, and training; Information protection and systems security, integration, etc., are addressed. Assesses the adequacy of existing or proposed networking concepts to support Air Force requirements.

A3.5.2. Identifies alternative communications-computer systems that support or interface with the proposed system or related systems.

A3.5.3. Proposes modifications to existing systems, and identifies requirements for new communications-computer systems to meet the requirements specified in the ORDs.

A3.5.4. Works with the lead using command or HQ USAF functional office to develop alternative solutions for communications and information resources.

A3.5.5. Identifies programs or existing systems (Air Force standard or MAJCOM unique) that duplicate or are similar to those proposed as alternative system solutions.

A3.5.6. Reviews programs that involve command and control (C²) requirements (Air Force standard or MAJCOM unique). Assesses proposed C² alternative system solutions to ensure integration and interoperability requirements resources. **NOTE:** Contact HQ USAF/XOC to resolve conflicts that deal with communications and information support.

A3.5.7. Ensures requirements documents address compliance with the Joint Technical Architecture (JTA) and the common operating environment (COE).

A3.5.8. Ensures Information Protection (IP) is applied to new systems and system modifications and provides IP awareness, training, and education.

A3.6. Air Force Operational Test and Evaluation Center (AFOTEC):

A3.6.1. Manages Air Force Operational Test and Evaluation (OT&E) by developing detailed OT&E policy and procedures.

A3.6.2. Reviews all AoAs, MNS, CRDs, ORDs, and operational concepts of employment for OT&E issues. Emphasis is placed on ensuring all requirements are clear, operationally oriented, performance based, testable, and measurable. Assists the lead command in developing the MOEs from the ORD thresholds and objectives, as applicable.

A3.6.3. Ensures linkage between the AoA, the ORD and the TEMP using the strategies-to-task framework throughout the acquisition process.

A3.6.4. Uses the MNS, AoA, and ORD as a basis for planning, conducting, and reporting the operational test and evaluation (OT&E) of systems under consideration according to this instruction and AFI 99-102, Operational Test and Evaluation. Provides OT&E input to the TEMP and other acquisition documents, as required. Reviews the ORD and TEMP before all MS reviews.

A3.6.5. Participates in Requirements and Acquisition Program Reviews.

A3.6.6. Assists with tradeoff studies to ensure potential aerospace environmental limitations are identified and understood.

A3.6.7. Evaluates and reports on the operational effectiveness and operational suitability of systems based on the users' requirements stated in the ORD.

A3.7. Air Force Studies and Analysis Agency (AFSAA):

A3.7.1. Evaluates MNS, CRD and ORD documents as requested by HQ USAF/XOR or participating MAJCOMs and agencies.

A3.7.2. Assists the lead command or agency responsible for developing the Analysis of Alternatives as requested. Participates as a member of the study team when directed by the PMD or when requested by the operating command.

A3.7.3. Performs an independent assessment of the alternatives, when CSAF deems appropriate.

A3.7.4. Assists with tradeoff studies to ensure potential aerospace environmental limitations are identified and understood.

A3.8. Air Force Weather Agency (AFWA):

A3.8.1. Arranges aerospace environmental support for those operating and implementing commands supported by AFWA subordinate units.

A3.8.2. Assesses the adequacy of current and proposed aerospace environmental support capabilities for supporting new systems. Ensures the operating command MNS and ORDs document aerospace environmental support requirements and environmental sensitivities of new systems.

A3.8.3. Assists the implementing command in evaluating the aerospace environmental sensitivities and support requirements for new systems. Assists with tradeoff studies to ensure potential aerospace

environmental limitations are identified and understood. Provides information concerning the expected aerospace environment in which new systems will operate so realistic testing can be conducted.

A3.8.4. Collects requirements from MAJCOMs, MACOMs and subordinate weather units for new and upgraded aerospace environmental support.

A3.8.5. Works with HQ USAF/XOW to draft MNS, CRDs and ORDs for new and upgraded aerospace environmental support systems. Sends draft aerospace environmental support MNS and ORDs to HQ USAF/XOW where they are finalized as HQ USAF MNS, CRDs, and ORDs.

A3.9. Air and Space Command and Control Agency (ASC2A)

A3.9.1. Reviews all MNS, ORDs, and CRDs involving command and control issues.

A3.9.2. Works with HQ USAF/XOC regarding issues of command and control.

A3.9.3. Provides input to the AFROC regarding command and control issues.

Attachment 4

COVER SHEET AND TRANSMITTAL MEMORANDUM

A4.1. Instructions

A4.2. Transmittal Memorandum. A transmittal memorandum is required when a MNS, CRD, or ORD is submitted to the Air Staff requesting action, see A4.2.2. The transmittal memorandum provides instructions about the required action. The MAJCOM requirements principal or his representative signs the transmittal memorandum accompanying the draft document. Similarly, for documents requesting General Officer review or CSAF approval, the MAJCOM Requirements Principal signs the transmittal memorandum. In neither case is the document cover sheet signed until Air Staff validation is complete. The transmittal memorandum should contain a three to four line unclassified summary of the mission need or the operational requirement. HQ USAF/XOR will make this summary available to various DoD components as well as to contractors via the “CSAF’s Industry Access List of Approved MNS and ORDs.” Electronically transfer the transmittal memorandum using the procedures in Attachment 9, whenever possible.

A4.2.1. The MAJCOM/CC* signature on the **COVER SHEET** of a MNS, CRD, or ORD signifies the Air Force review process is complete.

A4.2.2. During the staffing and validation process, who will sign the **TRANSMITTAL MEMORANDUM** is determined by what is being requested:

Who will sign	Requesting
Requirements Principal or Representative*	Draft Review - For Comments
MAJCOM Requirements Principal*	General Officer Review - For Validation
MAJCOM Requirements Principal*	CSAF Recommendation to JROC for ACAT I or CSAF approval for ACAT II/III

A4.3. After Air Force validation is complete, the MAJCOM/CC* will sign the **COVER SHEET of the Document. The MAJCOM requirements principal signs** the transmittal memorandum indicating the MAJCOM per A4.2.2.

***Note:** For organizations other than MAJCOMs forwarding requirements documents, such as FOAs, the equivalent representative at each level should sign the document.

A4.4. Distribution Statement. Ensure that the validated MNS and ORD cover sheet contains a distribution code in accordance with AFI 61-204, Dissemination of Scientific and Technical Information and AFI 33-360, The Air Force Publications Management Program. See AFI 33-360 for Distribution Code information and guidance.

Figure A4.1. Cover Sheet for Draft Command Document.

COVER SHEET FOR DRAFT COMMAND DOCUMENTS

Draft Documents

DATE:<<date>>

(Information on this page is used for example purposes only)

DRAFT

Mission Need Statement

<<MNS, CRD, or ORD as appropriate>>

<<MAJCOM>> 001-9X

<<Command number>>

AIRLIFT WIDGET

<<Title of the MNS, CRD, or ORD as appropriate>>

ACAT X

<<ACAT I, II, or III>>

OPR: (Office Symbol)

Phone: (DSN & Comm.)

(Include Distribution Code, e.g. "Distribution C")

Figure A4.2. Cover Sheet for Final Command Document.**COVER SHEET FOR FINAL COMMAND DOCUMENTS**

Final Documents

<<date>>

<<Date of Transmittal Letter>>

<<Information on this page is used for example purposes only>>

FINAL

Mission Need Statement

<<MNS, CRD, or ORD as appropriate>>

<<MAJCOM>> 001-9X

<<Command number>>

AIRLIFT WIDGET

<<Title of the MNS, CRD, or ORD as appropriate>>

ACAT X

<<ACAT I, II, or III>>

<<Final Approval Signature>>

MAJCOM/CC or Equivalent (MAJCOM/CV if delegated by MAJCOM/CC)

<<Co-Signature as appropriate>>

MAJCOM/CC or Equivalent (or MAJCOM/CV if delegated by MAJCOM/CC)

(Additional signature block applies only if additional MAJCOMs are sponsoring the document)

OPR: (Office Symbol)**Phone: (DSN & Comm.)**_____
(Include Distribution Code, e.g. "Distribution C")

Attachment 5

MISSION NEED STATEMENT (MNS) SUMMARY (PROCEDURES AND FORMAT)

A5.1. MNS Procedures.

A5.2. Purpose of a MNS. Through the MPP, MAJCOMs identify mission deficiencies and document them in a MNS. A MNS document is a generic statement of a lack of capability. It does not exceed five pages, and is **non-system specific** to allow selection of the most cost effective solution; however, the operating MAJCOM may identify “potential” solutions and indicate a tentative preference. The MNS identifies and describes the mission deficiency; discusses the results of mission area analysis; describes why non-materiel changes (i.e., doctrine, tactics) are not adequate to correct the deficiency; identifies potential materiel alternatives; and describes any key boundary conditions and operational environments that may impact satisfying the need. The MNS should state a mission deficiency or technological opportunity succinctly.

A5.3. Preparing a MNS:

A5.3.1. Numbering of a MNS. Originators will use the following sequential control numbers and title system for a new MNS as described below. Specific guidance for what should be included in a MNS is found in CJCSI 3170.01. The title page and signature requirements are described in [Attachment 4](#). The MNS will be titled, numbered, and include six sections. These sections and what should be included are in Section B of this Attachment and paragraph [3.2.4](#) of the main document.

A5.3.1.1. Single Command MNS. Use the command's abbreviation, a space, followed by a zero and the command's consecutive two-digit number, a dash, the last two digits of the calendar year, a comma, a space, followed by the program title. (Example: ATC 007-99, Mission Need Statement for a Follow-on Trainer). Air Combat Command (ACC) will replace the zero with a three in the first digit and will use the command abbreviation of Combat Air Forces (CAF) to show the involvement of three commands, ACC, USAFE, and PACAF. (Example: CAF 301-92, Mission Need Statement for a Follow-on Multi-Role System.). Other than using this number three, the CAF is considered a single command for MNS purposes.

A5.3.1.2. Multi-Command MNS. Same as A5.2.1.1, but replace the first-digit zero with the number of Air Force commands that take part. The first abbreviation will be that of the command originating the document. Include "multi-command" in the title. (Example: AETC 205-99, AETC-CAF Multi-Command Mission Need Statement for a Follow-on Multi-Role Fighter/Attack Capability). The cover sheet for a multi-command MNS must have signature blocks for the MAJCOM commanders of all participating commands. See [Attachment 4](#).

A5.3.1.3. Joint Service MNS. Same as A5.2.1.1, but use the originating command's abbreviation. The first digit will still reflect the number of Air Force commands that participate or zero if it is a single command. In the title, use the word “Joint” and specify other participants only if agreed upon by the participating Service(s). (Example: CAF 304-99, Joint CAF-USMC Mission Need Statement for a Follow-on Multi-Role Fighter/Attack Capability). Because of differences in staffing procedures and approval level between services, the cover sheet of the MNS may vary. Signature blocks for Air Force sponsored MNS will be per [Attachment 4](#)

A5.3.2. HQ USAF MNS. Contact HQ USAF/XORPD to assign a Headquarters Air Force MNS number.

A5.4. Review and Staffing. Air Staff review and staffing will be as described in Paragraph 7.1., HQ USAF Requirements Approval Process.

A5.5. Validation and Approval. Validation and approval is described in Paragraph 7.13 of the main document.

A5.6. MNS Exclusions. For situations that do not require a MNS, see Paragraph 3.2.3 of the main document.

A5.7. Combat-Mission Need Statement - See Paragraph 3.5.2 for criteria of a C-MNS as other acquisition processes and **Attachment 8** for format and instructions. See also AFI 63-114, Rapid Response Process.

Figure A5.1. MNS Format.

MISSION NEED STATEMENT FORMAT (TITLE AND NUMBER OF NEED)

1. Defense Planning Guidance Element. Identify the major program planning objective or section of the Defense Planning Guidance to which this need responds. Also reference the Joint Intelligence Guidance and DoD or Military Department long-range investment plans, if applicable.
2. Mission and Threat Analyses. Identify and describe the mission need or deficiency. Define the need in terms of mission, objectives, and general capabilities. Do not discuss the need in terms of equipment or system-specific performance characteristics. Discuss the Defense Intelligence Agency (DIA)-validated threat to be countered as well as the projected threat environment and the shortfalls of existing capabilities or systems in meeting these threats. (Added: This information can be found in the appropriate National Air Intelligence Center produced Threat Environment Description (TED). Include the TED as a reference for this section.) Comment on the timing of the need and the general priority of this need relative to others in this mission area. (Added: Threats to automated systems are discussed in the Information Warfare Threats to Automated Information System Threat Environment Description. If appropriate, reference this document in this section.)
3. Non-materiel Alternatives. Discuss the results of the mission area analysis. Identify any changes in US or allied doctrine, operational concepts, tactics, organization, and training that were considered in the context of satisfying the deficiency. Describe why such changes were judged to be inadequate.
4. Potential Materiel Alternatives. Identify known systems or programs addressing similar needs that are deployed or are in development or production by any of the Services or allied nations. Discuss the potential for inter-Service or allied cooperation. Indicate potential areas of study for concept exploration including the use of existing US or allied military or commercial systems or product improvements of existing systems. Do not evaluate these alternatives.
5. Constraints. Describe, as applicable, key boundary conditions related to infrastructure support that may impact on satisfying the need: logistics support; transportation; global geo-spatial information and services support; manpower, personnel, and training constraints; command, control, communications, and

intelligence interfaces; security; and standardization or interoperability within DOD components, NATO, and other allies and friendly nations. Address the operational environments (including conventional; initial nuclear weapon effects; nuclear, biological, and chemical contamination (NBCC); electronic; and natural) in which the mission is expected to be accomplished. Define the level of desired mission capability in these environments.

6. Joint Potential Designator. Indicate the Joint Potential Designator established through the validation process.

For MAIS programs, the following additional information should be incorporated in the MNS format:

Defense Planning Guidance Element: Describe how the mission need relates to the OSD Principal Staff Assistant's (PSA), DoD Chief Information Officer's, and the DoD component's strategic planning.

Mission and Threat Analyses: Describe the functional area or activity the MNS supports, and the functional area or activity's current organization and operational environment, with emphasis on existing functional processes, including the concept of operation of the existing functional processes, procedures, and capabilities. Describe the shortfalls of existing capabilities.

Constraints: Identify the classification level(s) and level of assurance required for the system. Describe the anticipated system security, systems interface(s), and interoperability requirements, if known. Include information warfare in the discussion of operational environments in which the mission is expected to be accomplished.

Attachment 6

CAPSTONE REQUIREMENTS DOCUMENT (CRD) SUMMARY (PROCEDURES AND FORMAT)

A6.1. Purpose of a Capstone Requirements Document. A Capstone Requirements Document (CRD) is used to identify overarching requirements for a system, or several systems since some mission needs cannot be addressed by a single system concept. Instead, requirements must be addressed by a family-of-systems functioning together as a higher order “system-of-systems.” A CRD is appropriate when the mission area requires more than one ORD, especially when these systems are developed by more than one service. The JROC will designate the lead agency to best represent overarching requirements for a “system-of-systems” CRD. The CRD serves as a guide for future ORD development and a vehicle for program oversight. The approved CRD documents the user’s operational requirements for such a family-of-systems. The CRD is not normally appropriate or adequate to support the acquisition process, but is useful for describing the higher level requirements for a family-of-systems. The CRD documents the high-level requirements for a family-of-systems when there are multiple users, perhaps in different MAJ-COMs or Services. Requirements for individual systems should support the CRD requirements and must be documented in a separate ORD for each system.

A6.2. CRD Contents and Definitions. The terms and definitions for the CRD are the same as for the ORD. Because of its broad, overarching nature, the CRD may describe the thresholds in terms that may not be directly testable, but must allow the derivation of thresholds and objectives for the ORD. For example, the combined capabilities of a weapon system, a command and control (C²) system, and an intelligence targeting system may be to destroy 95% of a specific target set within 3 days. While not directly testable, such a threshold in the CRD allows the derivation of operational requirements for weapon system accuracy, intelligence timeliness, and C² reliability (in terms of thresholds and objectives) that support the CRD threshold. The CRD permits tradeoffs between requirements in the system-level ORDs. These system-level requirements are subject to further cost-performance-schedule tradeoffs in the IPTs for the specific systems.

A6.3. CRD Numbering and Updates. A CRD will be tied to several MNS or ORDs. Attempting to tie a CRD to any particular MNS could cause confusion. The CRD title will contain the service, number of the CRD in 3 digits, a dash, the year assigned in 2 digits, and the name of the CRD in order to provide linkage and traceability. (Example: Air Force CRD 001-98, <<name>>). The CRD does not support a milestone decision and will not have reference to a milestone number. However, a CRD may be revised as necessary and should indicate the revision number. Procedures for CRD updates are the same as for ORD updates.

A6.4. CRD Format. The format for a CRD is described in CJCSI 3170.01, Enclosure C, page C1-C2 in more detail. The format of the CRD is similar in scope to that of the ORD.

A6.5. Preparation and Submission of a CRD. The using command may be the OPR for the CRD, but the broad, overarching nature of the CRD makes it more likely that the CINC of a Unified Combatant Command is the OPR. If the Air Force is the lead service, preparation and submission procedures are the same as those for the ORD. The CRD need not support a Milestone decision and its submission need not

necessarily precede specific acquisition actions. Normally, the CRD will precede the development of the ORDs for the specific systems.

Figure A6.1. Capstone Requirements Document Format.

**CAPSTONE REQUIREMENTS DOCUMENT
FOR
(PROGRAM TITLE)**

(Mandatory Format Extracted from CJCSI 3170.01)

1. **General Description of Operational Capability.** Describe the overall mission area, the type of system proposed, and the anticipated operational and support concepts in sufficient detail for program, logistics, and other support planning. Include a brief summary of the mission need. If a documented mission need did not precede the Capstone Requirements Document, explain the process that investigated alternatives for satisfying the mission need and developing operational requirements.
2. **Threat.** Summarize the threat to be countered and the projected threat environment. This threat information should reference Defense Intelligence Agency (DIA)-or Service Technical Intelligence Center-approved documents and be validated by the Service Intelligence Director. For major defense acquisition programs (ACAT I), reference the DIA validated threat assessment. In some non-warfighting systems, the threat may be listed as not applicable. (Added: This information can be found in the appropriate National Air Intelligence Center-produced Threat Environment Description (TED). Include the TED as a reference for this section. Alternatively, threat-driven ACAT I and II programs should have either a System Threat Assessment Report (STAR) or a System Threat Assessment (STA) These threat documents should also be referenced in this section.)
3. **Shortcomings of Existing Systems.** Describe why existing systems cannot meet current or projected requirements (do not describe a proposed system).
4. **Capabilities Required.** Identify operational performance parameters (capabilities and characteristics) required. Articulate requirements in operational, results-oriented, and measurable terms. Specify each performance parameter in terms of a minimum acceptable value (threshold) required to satisfy the mission need. Objectives, if stated, should represent a measurable, beneficial increase in capability or operations and support above the threshold. If an objective is not stated, it is assumed to be the same as the threshold.
 - a. **System Performance.** Describe mission scenarios (wartime and peacetime, if different) in terms of mission profiles, employment tactics, countermeasures, and environmental conditions (all inclusive: natural and man-made, e.g., weather, ocean acoustics, information warfare).
 - b. Identify system performance parameters such as range, accuracy, payload, speed, mission reliability, etc. Recommend which parameters should be considered KPPs.

Attachment 7**OPERATIONAL REQUIREMENTS DOCUMENT (ORD) SUMMARY
(PROCEDURES AND FORMAT)****A7.1. ORD Procedures**

A7.2. Procedures for Preparing an ORD. Prepare the ORD during Phase 0. The first ORD is required for a MS I decision, likewise, ORD II is required for a MS II decision. etc. An approved ORD is a pre-requisite for entrance into the next phase. Very significant in the development of a well written ORD is preparation of the operational concept of employment as described in Paragraph 3.4.4 of this document. Describe the established performance and maintenance parameters contained in the ORD are described using objective and threshold values which ultimately determine the system capabilities and characteristics of the proposed solution. Used guidance in DoD 5000.2-R and CJCSI 3170.01 to prepare an ORD. Information contained in an ORD will vary based on specific subject matter and maturity of a system. An ORD I, for example, could contain only basic, limited information required for a MS I decision. Later ORDs will need a much higher level of fidelity as system-specific information becomes known. An RCM **is a mandatory** attachment to all Air Force and Air Force-lead ORDs and is used to document the evolution of the program.

A7.3. Old System Operational Requirements Documents (SORD) for existing programs must be re-accomplished in the ORD format before the next scheduled milestone decision, program review, or when changes are made to the basic document. SORDs approaching a MS III decision must convert to an ORD to comply with the format in Section B of this attachment. For SORDs beyond MS III, it is only necessary to re-accomplish the RCM to comply with the ORD format for programs less than ACAT I. To add a new mission to a weapon system, an annex to a SORD may be necessary. If a modification to an existing weapon system is appropriate, see paragraph 5 or consider the SMART ORD format as described in paragraph 3.5.3 of the main document. Otherwise, it will be necessary to re-accomplish the ORD since referencing each paragraph of the "approved SORD" will lead to confusion. (see paragraph 3.4.8.3 for ORD annex).

A7.4. The testing community develops MOEs by using the parameter threshold and objective values in the ORD. Establish thresholds and objectives in the ORD based on performance and operational parameters established during the AoA. Develop them to quantify how successful alternatives satisfy the operational need described in the MNS. MOEs play a vital part in linking the AoA, APB, ORD, TEMP and the SAMP. Testers establish the MOEs and their relationship to corresponding measures of performance (MOP). During the AoA, the user describes the thresholds and objectives in terms of system-specific capabilities, characteristics and other related operational terms and annotates these characteristics in the RCM Part II or Part III (see 7C and 7D in attachment). MOEs shall be described as necessary in the text of the ORD.

A7.5. Each required capability proposed at MS I will receive continued evaluation during Phase I, Program Definition and Risk Reduction and will be described in the ORD in performance based terms that define the system needed to satisfy the users deficiency. Developing the parameter threshold and objective values using the following definitions:

A7.5.1. The ORD shall describe the capability required of the system (e.g., satellite, aircraft, missile, weapon). It shall also reflect system-level performance characteristics and mission-level performance-based capabilities. Identify applicable environmental conditions.

A7.5.1.1. Describe performance based system capabilities in terms of range, lethality, maneuverability, etc.

A7.5.1.2. Describe design features system characteristics in terms of weight, size, shape, etc.

A7.5.1.3. Other system characteristics are a special category of characteristics that include energy efficiency, transportability, interoperability, electronic counter-countermeasures (ECCM), etc. Other system characteristics are historically design, cost, and risk drivers; and therefore, they require early identification for cost-performance tradeoffs. (See DoD 5000.2-R, Appendix II, Paragraph. 4c.)

A7.5.1.4. Life-Cycle-Cost Parameter considerations should not be limited to just Section 5 of the ORD, but considered during sections 4, 5, 6 and 7.

A7.5.2. For explanations of Thresholds, Objectives and Key Performance Parameters, see paragraph 3.4.6 of the basic document.

NOTE:

Establish an objective and threshold whenever possible in order to successfully apply CAIV.. (see CAIV explanation in paragraph 3.4.5.2)

A7.5.2.1. A threshold can be listed as “to be determined” (TBD). ORDs involved with innovative technology, performance and operational parameters in the ORD cannot always be determined during Phase 0. In such cases, particularly in consideration of CAIV principles, it is acceptable to label the value as TBD. When listing a threshold as TBD, rationale and justification shall be provided in the document and explained in RCM II and III, as appropriate. This will provide the necessary information to the program manager and some insight to the tester when developing the TEMP. In such cases, a well written Operational Concept of Employment section in the ORD helps the user explain his intended requirements.

A7.5.2.2. Extract KPPs from the ORD and include them in the APB at each milestone. See paragraph 3.4.6.1 of the basic document for an explanation of KPPs.

A7.5.3. Update ORDs prior to MS II (ORD II). The update shall refine the system characteristics and capabilities and define the performance parameters (thresholds and objectives) in more detailed based on the results of any tradeoff studies and testing conducted during Phase I, Program Definition and Risk Reduction. Subsequent ORDs will be written and submitted using the same procedures as for ORD I.

A7.5.4. Prior to Milestone III, the ORD will be revised, if required. For programs after MS III, see paragraph 3.4.8. Thresholds listed as TBD are inappropriate at MS III, since the user is indicating the system is fully developed and ready for full rate production.

A7.6. ORD Submission.

A7.6.1. The using command, or originating command, is the OPR for the ORD. If there is more than one using command, the HQ USAF/XOR designated lead MAJCOM is OPR. The OPR will prepare

the first ORD (consistent with developments in AoA) during Phase 0, Concept Exploration, for one or more preferred concepts to be proposed at MS I. The OPR will work with the OCRs at the supporting, implementing, and participating commands as well as designated test agencies to produce the ORD.

A7.6.2. After the OPR completes the draft ORD (see signature requirements and ORD cover sheet format at [Attachment 4](#)), and the MAJCOM distributes it for review and comment. (See the distribution list at [Attachment 9](#) and paragraph 7 of the basic text.)

A7.6.3. HQ USAF/XORPD provides draft ORD coordination for the Air Staff, harmonizes the document with the other services as required depending on ACAT level, sends the document for Air Force Secretariat review and comment, and provides a corporate Air Force position to the OPR within 45 days.

A7.6.4. The OPR will resolve all critical and substantive comments to finalize the ORD, submit the ORD with MAJCOM Deputy Chiefs of Staff signature (see signature requirements and ORD format at [Attachment 4](#)), and forward to HQ USAF/XOR for Air Staff validation/review.

A7.6.5. HQ USAF/XOR will obtain final ORD coordination at the Air Staff, send the document for Air Force Secretariat final review, and provide a corporate Air Force General Officer review to the OPR within 30 days.

A7.7. Validation and Approval. The validation authority for ORDs is dependent on ACAT level and/or if a program is of special interest. Approval is a formal sanction that the validation process is complete and the identified need or operational capabilities described in the documentation are valid.

A7.7.1. Validation and Approval Authority.

ACAT Level	Validation Authority	Approval Authority
ACAT I and Special interest	ACAT I programs are validated by the JROC	MDA (DAB) approves ACAT ID, for acquisition Category IC programs, the JROC will designate the approval authority or the ORD
ACAT II/III	CSAF	CSAF, after originating MAJCOM Commander signature

A7.7.2. After JROC validation (ACAT I), forward the ORD to HQ USAF/XOR with the Commander's signature as prescribed in [Attachment 4](#). HQ USAF/XORPD will submit the ORD for CSAF approval, normally obtained within 15 days from receipt of the MAJCOM signature on the document. HQ USAF/XOR will then forward a copy of the CSAF approved document and approval memorandum to the ORD originator. For ACAT II/III, after validation, the document will be returned to the OPR to obtain MAJCOM/CC. The MAJCOM will then forward the document to HQ USAF/XOR to be forwarded to CSAF for signature.

A7.7.3. ORD originators will send CSAF approved and published ORDs to the applicable organizations listed at [Attachment 9](#). After publication, the OPR will not change the ORD without coordinating with the applicable OCRs. **NOTE:** Any changes to an approved ORD and RCM must be resubmitted for HQ USAF/XOR review and may require CSAF approval (dependent on the level or impact of the change).

A7.7.4. Preparation, review, coordination, and approval for ORD updates will normally be the same as for the first ORD. The OPR will update the ORD before and after Milestone per instructions found in the main document.

A7.7.5. **Attachment 2** and **Attachment 3** explain HQ USAF and Air Force organizational responsibilities and provide POCs.

A7.8. ORD Numbering . In order to provide linkage and traceability, the ORD title will contain the same number as assigned to the MNS to which it responds, with the addition of the Milestone number for which the ORD is being prepared. (Example: CAF MNS 001-XX requires a CAF ORD 001-XX-I for a MS I decision. Subsequent ORDs prepared for Milestones II and III would be numbered CAF ORD 001-XX-II and CAF ORD 001-XX-III, respectively. If there are several different projects or programs generated from the same MNS, initiators will identify the subsequent requirements documents as described above with the addition of the suffixes A, B, etc., to separate each project (CAF ORD 001-XX-IA and CAF ORD 001-XX-IIB). Documents being revised between Milestone decisions should be identified as CAF ORD 001-XX-I (Revision 1, 19 January 199X). If the initial ORD is being prepared for a program going directly from a MS 0 to MS II or III, the ORD should be numbered CAF ORD 001-XX-I/II for a MS II decision or CAF ORD 001-XX-I/II/III for a MS III decision.

A7.9. ORD Formatting. The ORD will use the numbering system for easy in reference to paragraphs and sub-paragraphs. Sub-paragraphs will follow the same number system as it parent paragraph. (e.g. Sub-paragraphs to paragraph 1 will be 1.1, 1.2, 1.3. Similarly, sub-paragraphs to sub-paragraph 1.1 will be 1.1.1, 1.1.2, 1.1.3.). This document follows the described numbering system.

Figure A7.1. ORD Format.

OPERATIONAL REQUIREMENTS DOCUMENT (MANDATORY FORMAT Extracted from DoD 5000.2-R)

1. **General Description of Operational Capability**. Describe the overall mission area, the type of system proposed, and the anticipated operational and support concepts in sufficient detail for program and logistics support planning. Include a brief summary of the mission need. If a documented mission need did not precede the Operational Requirements Document, explain the process that investigated alternatives for satisfying the mission need and developing operational requirements. (Describe in sufficient detail the operational concept of employment (see paragraph 3.4.4) such that the testing and evaluation of proposed systems will be able to determine if the user's desired performance outcome is achieved. The operational concept of employment should receive the most emphasis. How will the system to be used? How is the proposed system expected to be integrated with existing system?)

2. **Threat**. Summarize the threat to be countered and the projected threat environment. This threat information should reference Defense Intelligence Agency or Service Technical Intelligence Center-approved documents and be validated by the Service Intelligence Director. For major defense acquisition programs (ACAT I), reference the Defense Intelligence Agency (DIA)-validated threat assessment. In some non-warfighting systems, the threat may be listed as not applicable. (Added: This information can be found in the appropriate National Air Intelligence Center-produced Threat Environment Description (TED). Include the TED as a reference for this section. Alternatively, threat-driven ACAT I and II pro-

grams should have either a System Threat Assessment Report (STAR) or a System Threat Assessment (STA) These threat documents should also be referenced in this section.)

3. Shortcomings of Existing Systems. Describe why existing systems cannot meet current or projected requirements (do not describe a proposed system).

4. Capabilities Required. Identify operational performance parameters (capabilities and characteristics) required. Articulate requirements in operational, output-oriented, and measurable terms. Specify each performance parameter in terms of a minimum acceptable value (threshold) required to satisfy the mission need. Objectives, if stated, should represent a measurable, beneficial increase in capability or operations and support above the threshold.

4.1. System Performance. Describe mission scenarios (wartime and peacetime, if different) in terms of mission profiles, employment tactics, countermeasures, and environmental conditions (all inclusive: natural and man-made, e.g., weather, ocean acoustics, information warfare). Identify system performance parameters such as range, accuracy, payload, speed, mission reliability. Recommend which parameter should be considered a KPPs by marking with an asterisk (*).

4.2. Logistics and Readiness. Include measures for mission-capable rate, operational availability, frequency and duration of preventive or scheduled maintenance actions, etc. Describe in terms of mission requirements considering both wartime and peacetime logistics operations. Identify combat support requirements including battle damage repair capability, mobility requirements, expected maintenance levels, and surge and mobilization objectives and capabilities.

4.3. Other System Characteristics. A special category of characteristics that tend to be design, cost and risk drivers. Address electronic counter-countermeasures (ECCM) and Wartime Reserve Modes (WARM) requirements; conventional, initial nuclear weapons effects, and nuclear, biological, and chemical contamination (NBCC) survivability; natural environmental factors (such as climatic, terrain, and oceanographic factors); unplanned stimuli (such as fast cook-off, bullet impact, and sympathetic detonation); and electromagnetic environmental effects (E3) and spectrum certification and supportability for systems and equipment. Identify characteristics (confidentiality, integrity, accuracy, timeliness, and availability) to defend against and survive information warfare attack. Define the expected mission capability (e.g., full, percent degraded) in the various environments. Include applicable safety parameters such as those related to system, nuclear, explosive, and flight safety. Identify communications, information, and physical and operational security needs.

5. Program Support. Establish support objectives for initial and full operational capability. Discuss interfacing systems (at the system/subsystem, platform, and force levels), specifically those related to communications and information, transportation and basing, and standardization and interoperability. Identify companion ORDs and other services that may have similar requirements. Assign a joint potential designation (joint, joint interest, or independent).

5.1. Maintenance Planning. Identify maintenance tasks to be accomplished and time phasing for all levels of maintenance. Include programmed maintenance and surveillance inspections such as nuclear hardness and structural integrity. Describe the envisioned planning approach for contract versus organic repair. (Ensure the impact of life cycle costs are fully considered.)

5.2. Support Equipment. Define the standard support equipment to be used by the system. Describe the test and fault isolation capabilities desired of automatic test equipment at all levels, expressed in terms of realistic and affordable probabilities and confidence levels.

5.3. Human Systems Integration. Address HSI domains to include: Establish broad manpower constraints for operators, maintainers, and support personnel. Identify requirements for manpower factors that impact system design (utilization rates, pilot-to-seat ratios, maintenance ratios). Establish broad cognitive, physical, and sensory requirements for the operators, maintainers, or support personnel that contribute to, or constrain, total system performance. Establish requirements for human performance that will achieve effective human-system interfaces. Identify requirements for combining, modifying, or establishing new military occupational specialties. Broadly describe the training concept to include requirements for simulators, training devices, embedded training, and training logistics. Include safety or health and critical errors that reduce job performance or system effectiveness given the operational environment. Determine objectives and thresholds for the above requirements, as appropriate.

5.4. Computer Resources. Identify computer resource constraints (eg, language, computer, data base, architecture, or interoperability constraints). Address all mission critical and support computer resources, including automated test equipment. Describe the capabilities desired for integrated computer resources support. Identify any unique user interface requirements, documentation needs, and special software certifications.

5.5. Other Logistics Considerations. Describe the provisioning strategy for the system. Specify any unique facility, shelter or environmental compliance requirements. Identify special packaging, handling, and transportation considerations. Define unique data requirements such as engineering data for depot support and technical orders for the system and depot.

5.6. Command, Control, Communications, Computers, and Intelligence. Describe how the system will be integrated into the CI architecture that is forecast to exist at the time the system will be fielded. Include data and data fusion requirements (data, voice, video), computer network support, and anti-jam requirements. Identify unique intelligence information requirements, including intelligence interfaces, communications, and data base support pertaining to target and mission planning activities, threat data, etc. (Regarding System Security Engineering: A system security assessment must provide the Operational Risk Management for Information Protection of communications and information systems and identify system security requirements, vulnerabilities, countermeasures and solutions.)

5.7. Transportation and Basing. Describe how the system will be moved either to or within the theater. Identify any lift constraints. Detail the basing requirements (main and forward operating bases) and associated facilities needed for training.

5.8. Standardization, Interoperability, and Commonality. Describe considerations for joint use, NATO cross-servicing, etc. Identify procedural and technical interfaces, and communications, protocols, and standards required to be incorporated to ensure compatibility and interoperability with other Service, joint Service, and Allied systems. Address energy standardization and efficiency needs for both fuels and electrical power as applicable.

5.9. Mapping, Charting, and Geodesy Support. Identify cartographic materials, digital topographic data, and geodetic data needed for system employment. Where possible, National Imagery and Mapping Agency standard military data will be used.

5.10. Environmental Support. Identify the standard and unique weather, oceanographic, and astro-geophysical support required. Include data accuracy and forecast requirements.

6. Force Structure. Estimate the number of systems or subsystems needed, including spares and training units. Identify units or platforms and quantities of these platforms (including other Services' or Govern-

ment agencies' if appropriate) that will employ the systems or subsystems being developed and procured to satisfy this ORD.

7. Schedule Considerations. Define what actions, when complete, will constitute attainment of Initial and Full Operational Capability (leave flexible for these to be revised as the program is progressively defined and trade-off studies are completed). Clearly specify the operational capability or level of performance necessary to declare Initial and Full Operational Capability. Include the number of operational systems, operational and support personnel, facilities, and organizational, intermediate, and depot support elements that must be in place. If availability in a specific time frame is important, specify an objective for initial operational capability. Describe the impact if this objective is not achieved and identify a window of acceptability, if appropriate.

A7.10. Requirements Correlation Matrix (RCM) Summary (Procedures and For mat).

A7.10.1. The Requirements Correlation Matrix (RCM) is a mandatory attachment to all Air Force ORDs. The operating command is responsible for preparing the RCM. **NOTE:** It is critical that the definitions listed in Attachment 7 (ORD Procedures) be thoroughly reviewed before developing the RCM.

A7.11. The RCM:

A7.11.1. Provides Air Force senior leadership a summary of the user's operational requirements and the supporting rationale.

A7.11.2. Documents the evolution of the user's operational requirements as the system matures and the rationale for any changes.

A7.11.3. Provides a tool to identify user-nominated key performance parameters for inclusion in the performance section of the Acquisition Program Baseline (APB)

A7.12. Contains system operational characteristics and capabilities quantified by thresholds, as appropriate, and desired objectives as defined in the ORD. RCMs are not to be used or viewed as stand-alone documents. The operational characteristics and capabilities contained in the RCM serve as the foundation for developing the System Maturity Matrix (SMM) by the implementing command and the APB.

A7.13. Consists of a three-part attachment as follows: Requirements Correlation Matrix, Part I; a Supporting Rationale for System Characteristics and Capabilities Sheet, Part II; and a Rationale and Needs/Requirements Change Sheet, Part III.

A7.13.1. RCM Part I, Requirements Correlation Matrix (Figure A7.1). The RCM Part I will include:

A7.13.1.1. A tabular summary of the operational requirements included in paragraph 4 of the ORD text (i.e., the capabilities and characteristics for system performance, logistics and readiness, and critical system characteristics, with their associated thresholds and objectives)

A7.13.1.2. Other quantifiable, operationally significant, requirements (not specifications) from elsewhere in the ORD that help define the system, as deemed appropriate by the user; and,

A7.13.1.3. All KPPs recommended by the user for inclusion in the performance section of the APB. The definitions for a key performance parameter, threshold, and objective are given in Paragraph 3.4.6. A definition of each column follows:

A7.13.1.4. System Capabilities and Characteristics Column. List the system's general operational characteristics and capabilities outlined in the ORD, consistent with paragraph A7.3.1 above, that are realistic, meaningful, and germane to the mission need, including mission planning requirements. Adjacent to each capability and characteristic, reference the paragraph in the ORD text from which it came. Characteristics and capabilities will vary depending on the type of system being described; they should generally include, but are not limited to, areas such as speed, range, accuracy, payload, probability of kill, capacity, survivability, reliability and maintainability, mission capable rates, frequency and duration of preventative or scheduled maintenance action, operational effectiveness, and suitability. They should be necessary for successful operational mission accomplishment.

A7.13.1.5. Thresholds and Objectives Columns Supporting Milestones I Through III.

Include the threshold and objective values for each of the characteristics and capabilities listed in the System Capabilities and Characteristics Column. In the ORD for Milestone I, many of these values may be "To Be Determined" (TBD). As the program matures and needs evolve into firm thresholds and objectives (vice TBDs), these columns will reflect system-specific performance and support values agreed to by the using, implementing, and supporting commands. In some cases, the threshold will not be a numeric value, but will be some intrinsic capability (e.g., the ability to pass data to another system). In these cases, the column should contain a short summary of the capability. This column should not use the word "YES" to state the threshold. The value for each threshold must be referenced in Part II, describing its relationship to mission success and how that value was derived. When a threshold or objective changes from the previous ORD iteration, explain and give the rationale for the change in Part III of the RCM.

A7.13.1.6. Key Performance Parameters. Any characteristic or capability with an associated threshold is a candidate for a key parameter and inclusion in the APB. The operating command should recommend key performance parameters for inclusion in the APB by marking the specific capability and (or) characteristic with an asterisk (*) as indicated in Figure A7.1. Key performance parameters must have threshold and objective values (objectives may be the same as the thresholds when an operationally significant increment above the threshold is not identifiable or useful). **Note:** According to the DoD 5000 series directives, the MDA approves the APB and may, therefore, add additional key parameters to the APB during the milestone decision process.

A7.13.2. RCM Part II, Supporting Rationale for System Characteristics and Capabilities Sheet (Figure A7.2). Cite specific studies, analysis, threat assessments, modeling, or other reference sources (including informed military judgments) that justify and substantiate thresholds for each system characteristic or capability. Every entry in RCM Part I will have a corresponding entry in RCM Part II to justify the entry. Cite what justification or concept study was done for each threshold and objective (e.g., If a performance characteristic has a threshold of .9, explain why less than .9 is not acceptable).

A7.13.3. RCM Part III, Rationale and Needs/Requirements Change Sheet (Figure A7.3). Show the rationale for changes in system characteristics, performance, and supporting parameters, etc. As appropriate, cite the report title, document number, supporting analysis, get-well date, and schedules,

etc. (Example shows the evolutionary process of refining characteristics and capabilities. Every entry in RCM Part II does not need a corresponding entry, only the ones which have changed)

Figure A7.2. RCM Part I Format.

(EXAMPLE)

Requirements Correlation Matrix - Part I
 <<Document Name>>
 AS OF DATE: <<dd/mm/yy>>

System Capabilities and Characteristics Parameters	ORD I <i>(used only this column for ORD I)</i>		ORD II <i>(Add this column for ORD II)</i>		ORD III <i>(Add this column for ORD III)</i>	
	Thresholds	Objectives	Thresholds	Objectives	Thresholds	Objectives
1. Identify the page, paragraph and subject for which the threshold and objective are listed in the ORD.	If the threshold value is TBD , be specific in RCM Part II.	If the objective value is TBD , be specific in RCM Part II.				
2. Each line is for a different system characteristic or capability.	When listing thresholds, they must be measurable					
3. Identify a KPP with asterisks, they will be in the APB.		If a threshold is not listed, the objective becomes the threshold.				
4. Every threshold and objective entered in the ORD must be addressed in RCM Part I with a corresponding entry and explanation in Part II.						
5. If a system capability or characteristic threshold or objective value changes, the specific item that changed will be explained in RCM Part III.						
<p>Note 1: Values of system capabilities, system characteristics and critical system characteristics may change as the system matures.</p> <p>Note 2: If a threshold is listed for an item, it is a candidate for listing as a key parameter in the APB.</p> <p>Note 3: An * denotes an item to be placed in the APB as a key parameter.</p>						

Users are strongly encouraged to provide a threshold and objective to provide program managers trade space.

Figure A7.3. RCM Part II Format.

(EXAMPLE)
REQUIREMENTS CORRELATION MATRIX
Part II
<<Document Name>>

(Supporting Rationale for System Characteristics and Capabilities)

AS OF DATE: <<dd/mm/yy>>

1—Each entry in Part I will have a corresponding entry in Part II addressing that specific parameter. By addressing the detailed information in RCM Part II, a reduction in the amount of information in the basic ORD could result. Cite any specific study by number and name to support the threshold value listed.

2—Discuss any acquisition and life cycle cost analysis and cost drivers that will affect the program for all entries to include maintenance parameters or supportability issues, to the best extent possible. As addressed in DoD 5000.2-R, paragraph 3.3.3, in order to obtain better and more cost effective, affordable DoD system, the user should attempt to set aggressive, achievable cost objectives. Cost objectives are set to balance mission needs with projected out-year resources, taking into account anticipated process improvements in both DoD and defense industries. To ensure thresholds and objectives are justifiable, provide the analysis in order that they can be substantiated. Each threshold and objective established by the user will be used to assist in development of the SAMP and the TEMP.

3—The MDA will determine if the results of Phase 0 activities warrant establishing a new acquisition program and will review the program for approval to enter into Phase I, Program Definition and Risk Reduction. Independent of other exit criteria established by the MDA, approval of ORD I is a prerequisite to begin Phase 1. During Phase 0 activities, enter into Part II of the RCM sufficient, significant and detailed documentation in order that the MDA and PM will have the necessary data to make informed decisions.

4—If thresholds and objectives cannot be determined due to whatever reason and they must be identified as “TBD”, justification must be entered to explain why this program should continue even though the parameters cannot be determined. A significant number of “TBD” situations are due to developing technology and will be refined in ORD II. TBDs for ORD III are inappropriate as the user is indicating the system is ready for full rate production.

Figure A7.4. - RCM Part III Format.

(EXAMPLE)
REQUIREMENTS CORRELATION MATRIX
RCM Part III
<<Document Name>>
(Rationale & Needs/Requirements Changes)

AS OF DATE: <<dd/mm/yy>>

If parameter "X" as identified in RCM Part I/II has changed, it must be documented in RCM Part III. There will be no RCM Part III for the first ORD (ORD I or ORD I/II, etc) as there are no changes, only the established baseline. However, in an ORD update or revision, the RCM Part III is appropriate for changes. Identify only those parameters in Part III that have changed except TBDs. **Do not list all the parameters in Part II.** Any parameter that was previously identified as **TBD and still remains TBD** should be addressed and update why they are not identifiable. Similarly, any parameter that is upgraded from TBD to a specified value, should be addressed with justification and rationale in Part II.

Figure A7.5. - AF Form 1067, Modification Proposal (Example Typical).

MODIFICATION PROPOSAL				DATE 26 Sep 96		PAGE 1 OF 1 PAGES	
THRU: SA-ALC/LDP 500 Perrin, STE 101 Kelly AFB TX 78241		TO: HQ ACC/LGF15 130 Douglas Street Langley AFB VA 23665		FROM: (Organization location address and ZIP Code) Warren Wilkens, GS-12, SA-ALC/LDPS, Kelly AFB, TX 78241			
1. TITLE F-15 Secondary Power System (SPS) Upgrade							
2. PROPOSED CLASS				3. TYPE PROPOSAL			
T-1		T-2		PERMANENT (P)		SAFETY	
				X		NEW PROPOSAL	
4. UNIT CONTROL NO SADPS950002		5. MAJCOM AF CONTROL NO. ACC97-009		6. TCIC NO Several (See Attached)		7. MP NO MIP SADPS950002	
8. ECP NO ECP PS0037		9. MOD NO T06106		10. MANUFACTURER Allied Signal Engines Phoenix, AZ		11. OTHER IDENTIFIER/ SUGGESTION NO	
12. AFFECTED CONFIGURATION ITEM				13. ALSO AFFECTS			
MS/MS F-15E				YES NO YES NO			
NON Secondary Power System (SPS)				SUPPORT EQUIPMENT		X	
NSN See Attached				AIRCREW TRAINING DEVICES		X	
WLC 2400 (See Attached)				MAINTENANCE TRAINING DEVICES/ASUAL AIDS		X	
SRD CODE SP6, RWF, L/RXG, R/RXF				OTHER		X	
14. ACTION OFFICER (Name grade military address and DSN number)				AC			
ORIGINATING UNIT Warren Wilkens, GS-12, SA-ALC/LDPS, Kelly AFB, TX 78241		MAJCOM Capt Beers, HQ ACC/LGF15 Langley AFB, VA 23665, 547-4910		SA-ALC/LDP Kelly AFB TX 78241			
15. PURPOSE (State the need or deficiency to be corrected and include past defaults.) The Secondary Power System (SPS) upgrade will increase the reliability and maintainability of The F-15 Start System. The current configuration is responsible for 16% of all ground aborts with 34,000 man-hours per 100K flight hours being expended for Unscheduled Maintenance. System failures cause 12,000 hours of F-15 downtime per 100K flight hours.							
16. IMPACT (Urgency of need and impact if not satisfied) The low reliability of The F-15 hinders operational readiness. The inability to consistently start The F-15's engines degrades the warfighter's capability to respond when called upon.							
17. PROPOSED SOLUTION A \$7M Component Improvement Program (CIP) effort has been accomplished. Upgrades for The Jet Fuel Starter (JFS) Central Gearbox (CGB), and Airframe Mounted Accessory Drive (AMAD) have been developed and an Engineering Change Proposal accepted from The Original Equipment manufacturer (OEM).							

Figure A7.5 is a typical example of a Form 1067 as described of the main document. Most significant are the entries made in blocks 15-17 and costing data on page 2. Per paragraph 5 of the main document, along with the transmittal memo, send this form and the RCM described in previous sections of this attachment.

Attachment 8

**COMBAT MISSION NEEDS STATEMENT (C-MNS)
(PROCEDURES AND FORMAT)**

A8.1. A combat MNS is a single requirements document that satisfies both the MNS and ORD criteria. If in a conflict or crisis situation, and an immediate need “loss of life” situation develops, the CINC may request the MAJCOM submit a C-MNS in order to activate the Rapid Response Process (RRP).

A8.2. The RRP criteria and objective is to provide a readily-available fielded solution to the warfighter normally **within 60 days** from the time the Air Force Chief of Staff approves the request. The RRP does not replace normal acquisition procedures, but rather speeds up the process of fielding readily available systems to satisfy wartime needs.

A8.2.1. For specific guidance on the RRP, refer to AFI 63-114, Rapid Response Process.

A8.2.2. The RRP starts when HQ USAF, MAJCOM, and warfighting CINCs issue an urgent, time-sensitive C-MNS. The C-MNS, format message and direction as described below, is validated by the MAJCOM and sent to the Deputy Chief of Staff for Plans and Operations, Directorate of Operational Requirements (HQ USAF/XOR) for action. Within 48 hours, HQ USAF/XOR presents the C-MNS to the Air Force Chief of Staff (CSAF) for approval.

A8.2.3. Upon approval of the C-MNS by the CSAF, the Rapid Response Assessment Committee (RRAC) assesses whether the RRP criteria are satisfied. (See AFI 63-114 for RRAC membership)

A8.2.3.1. Quickly fielded (normally within 60 days from authorization)

A8.2.3.2. Supportable in-place

A8.2.3.3. Affordable

A8.2.3.4. Acceptable risk

A8.2.4. RRP Project Funding. The MAJCOM will identify a potential source of funding when submitting the C-MNS. If the MAJCOM is unable to identify funding, the MAJCOM will work with SAF/AQ, HQ USAF/IL, SAF/FM, and HQ USAF/XO to find a funding source within the same MAJCOM appropriations.

A8.2.5. RRP Duration. The PMD implementing the RRP project should be reviewed after the crisis or combat operation or 1 year after PMD issuance, whichever occurs first. If appropriate, the RRP project should be converted into the normal acquisition cycle by identifying funding in the President's Budget and Future Years Defense Plan.

A8.3. Combat Mission Need Statement (C-MNS) Format. Use the following message format to submit a C-MNS. **Mandatory information is in boldface type.**

Precedence: **IMMEDIATE**

Action: **HQ USAF WASH DC//XOR//**

Info: **SAF/AQX, HQ AFMC/XR and others deemed appropriate (i.e., HQ USAF/IL, HQ USAF/SC, etc.).**

Classification: As required.

Subj: **COMBAT MISSION NEED STATEMENT (C-MNS) FOR A
(title and number of mission deficiency)**

**MESSAGE CENTER PASS TO HQ USAF/XOR IMMEDIATELY UPON RECEIPT DURING
THE DUTY DAY OR PRIOR TO 0800 THE NEXT DUTY DAY**

- 1. General Description:** Identify the general mission area where the operational deficiency exists (i.e., electronic combat, aircrew chemical defense, improved system reliability and maintainability, weapons certification).
 - 2. Mission And Threat Analysis:** Describe in operational terms the mission deficiency; (i.e., what is the problem?) Indicate the initial operational capability (IOC) date desired and any impacts to safety, survivability, personnel, training, logistics, communications, etc. (Added: Reference the appropriate National Air Intelligence Center-produced Threat Environment Description (TED) in this section.)
 - 3. Non-materiel Alternatives:** Discuss the non-materiel options and alternatives that were considered as potential solutions. As a minimum, these should include changes in US or Allied doctrine, concepts of operations, tactics, strategy, organization, training, and revisions to the existing war plan. Explain why these options are unacceptable.
 - 4. Potential Materiel Alternatives:** Identify and discuss short-term, viable solutions, if known. Alternatives may include specific solutions now available, other service or Allied capabilities, non-developmental items (NDI), etc.
 - 5. Constraints:** Identify constraints, qualifications, or circumstances that could impact on satisfying the mission deficiency, including (but not be limited to) mission planning needs; arms control treaties; logistics support; transportation; mapping, charting, and geodesy support; manpower; personnel; training; command, control, communications, and intelligence support; and standardization and interoperability issues. Other constraints might address timing, potential nonmilitary sensitivities, etc. In addition, discuss the operational environment envisioned (biological, chemical, electromagnetic, weather, etc.) and the level of desired mission capability, if appropriate. Indicate any prior initiatives or ongoing program efforts to acquire the capability. If known, reference previous draft or validated requirements documents, etc.
 - 6. Funding:** The MAJCOM will identify a potential source of funding or offset when submitting a C-MNS. If funding or offset is not available, MAJCOMs will state so in this paragraph. If a command source funds cannot be found, HQ USAF will integrate the need with other unfunded requirements to compete for funds from other sources.
- A8.4. Point of Contact (POC):** Identify at least one POC familiar with the C-MNS. Provide grade, name, office symbol, Defense Switched Network (DSN) number and fax number, if applicable.

Attachment 9**MNS, CRD, ORD, AND AOA DISTRIBUTION LIST**

A9.1. Originating commands or agencies send MNSs, CRDs, and ORDs to the appropriate commands and agencies listed as addressees. Each addressee must meet a suspense of 45 days from receipt established for reviewing draft documents. If additional time is required, the addressee should contact the originating command focal point to request an extension. MAJCOMs may tailor the addressee list.

A9.2. Air Force Information for Industry Offices (AFIFIO) and liaison offices are to receive CSAF approved, sanitized MNS only. Operating commands **must sanitize** all copies according to AFI 61-204, Disseminating Scientific And Technical Information and AFPD 61-2, Management of Scientific and Technical Information before sending them to AFIFIO and the Liaison Offices. No WNINTEL or CLASSIFIED documents are to be sent to AFIFIO.

A9.3. Guidance on Electronic Transfer of Requirements Documents. Transfer all documents electronically that require staffing in HQ USAF. Unclassified MNS/CRDs/ORDs should be electronically transferred to HQ USAF/XORPD via the e-mail addresses provided herein. HQ USAF/XORPD will electronic transfer unclassified documents to other offices to aid in staffing, to the maximum extent possible. E-mails for the principal AFROC requirements offices are provided. Transfer classified documents to HQ AF/XORPD via STU-III and an appropriately classified computer. Contact HQ USAF/XORPD for specific instructions prior to transfer.

A9.4. Electronic Transmittal Memorandum and MNS/CRD/ORD Format. For **other than the prescribed document format per Attachment 5, 6, and 7**, the following guidelines define in more detail the formats for electronic file transfer, font size, type of font, etc.

A9.4.1. Wordprocessor Format - Microsoft Word for Windows; files classified as Top Secret (TS), Special Access Required (SAR), or Special Compartmented Information (SCI) may also use Microsoft Word.

A9.4.1.1. Font - Courier, Times New Roman (preferred), or New Century Schoolbook, either size 10 or 12 are acceptable.

A9.4.1.2. Date - Include the date the transmittal memorandum or cover sheet was signed.

A9.4.1.3. Signature Block - Include who signed the transmittal memorandum or cover sheet. A signature is indicated by either the symbol //SIGNED// or the signatory's graphic signature.

A9.4.2. Compressed Format - To aid in transfer of information, files greater than 100,000 bytes should be compressed. PKZIP or Winzip are acceptable.

A9.4.3. File Format - The requirements document (text, and RCM Parts I, II, and III) and cover sheet must be a single, intact file. The transmittal memorandum may be a separate file.

A9.4.4. Procedures. For unclassified e-mail, HQ USAF/XORPD will send electronic confirmation to the MAJCOM indicating the MNS, CRD, or ORD was received. Contact HQ USAF/XORPD for detailed information about classified file transfers. Information concerning the status of document and POC in the Pentagon working the document will be available on the HQ USAF/XORPD Web Page. HQ USAF/XORPD Web site is <http://www.afreqs@hq.af.mil>.

NOTES:

1. HQ USAF/XOR will make SAF and HQ USAF distribution for MNS, CRDs and ORDs. (HQ USAF/XORPD will distribute potential ACAT I MNS via HQ USAF/XOJR to the JROC Secretariat for Joint Staff and CINC reviews.
2. HQ USAF/XORPD will distribute potential ACAT II and III MNS direct to the other services and to J-6 when a C4I or communications and information review is required.)
3. HQ USAF/XORPD requires only draft and final coordination documents in the number indicated below. DO NOT SEND CSAF-APPROVED DOCUMENTS TO THIS ADDRESS.
4. An asterisk denotes an action addressee and requires a mandatory reply to the originator.
5. The originator is responsible for ensuring distribution to the appropriate addressees.
6. A depicted quantity separated by a slash mark (/) indicates the number of copies required is different for draft and final approved documents (i.e., number of draft copies/number of final CSAF-approved copies).
7. This list will be updated on a semiannual basis and copies will be provided to all addressees. Send changes or comments to HQ USAF/XORPD, 1480 Air Force Pentagon, Washington DC 20330-1480.

ADDRESSEE	DISTRIBUTION	
	MNS ORD/CRD	
*HQ USAF/XORPD (See NOTES 1 & 2) 1480 Air Force Pentagon Washington DC 20330-1480 reqmnts@af.pentagon.mil	1	1
HQ ACC/DRM 204 Dodd Blvd, Ste 226 Langley AFB VA 23665-2777 acc.drmm@langley.af.mil	1	1
HQ USAFE/DOQ Unit 3050 Box 15 APO AE 09094-5015	1	1
HQ PACAF/DOQ 25 E St Ste I232 Hickam AFB HI 96853-5462	1	1

ADDRESSEE	DISTRIBUTION	
HQ AFSPC/DRR 150 Vandenberg Street Ste 1105 Peterson AFB CO 80914-4660 afspc/drr@spacecom.af.mil	1	1
HQ AFOSI IOC/DFO 226 Duncan Ave Ste 2100 Bolling AFB DC 20332-0001	1	
HQ AMC/XPR 402 Scott Dr. Unit 3L3 Scott AFB IL 62225-5307	1	1
*HQ AFMC/DRIX 4375 Childlaw Street Suite 6 WPAFB OH 45433-5006	1	1
HQ AFWA/XPPP 102 W. Losey St., Room 105 Scott AFB IL 62225-5206 xppp@afwa.af.mil	1	1
HQ AFDC/DO/DR 155 Twining Street Maxwell AFB AL 36112-6112 issues@hqafdc.maxwell.af.mil	1	1
*HQ AETC/XPRO 244 F Street, Suite 2 Randolph AFB TX 78150-4321 hopkinsj@rndgate1.aetc.af.mil	1	1
HQ AFCA/XPXX 203 W. Losey St, Room 1060	1	1

ADDRESSEE**DISTRIBUTION**

Scott AFB IL 62225-52433
afca-xpax@scott.af.mil

ASC2A/C2XA 1 1
56 Willow St., Suite 300
Langley AFB VA 23665
leonard.mitchner@langley.af.mil

HQ AIA/XRRV 1 1
2 Hall Blvd Ste 210
San Antonio TX 78243-7010
reuhl@mail.aia.af.mil

*System Program Office (SPO) 1 1
(for specified system TBD)

HQ AFRC/XPR 1 1
155 Second Street
Robins AFB GA 31098-1635

ASC/SMAP (only documents involving avionics) 1 1
1895 5th Street
Wright-Patterson AFB OH 45433-7200

Det 63/CC 1 1
2008 Stumpneck RD
Indian Head MD 20640-5099
(Only documents relating to aircraft and ordnance weapons systems and explosive ordnance disposal information)

ASC/XRS 1 1
2100 3rd Street, Ste 2
Wright-Patterson AFB OH 45433-7016

NAIC/POC 1 1

ADDRESSEE	DISTRIBUTION	
4115 Hebble Creek Rd, Suite 23 Wright-Patterson AFB OH 45433-5627		
ESC/XRX 50 Griffiss Street Hanscom AFB MA 01731-5000	1	1
AFRL/MN 101 W. Eglin Blvd Ste 384 Eglin AFB FL 32542-5499	1	1
AFRL/VSSW BLD 1102E Room 139 29 Randolph Rd Hanscom AFB MA 01731	1	1
HSC/XRC 2510 Kennedy Dr, Ste 220 Brooks AFB TX 78235-5120 hsio@brooks.af.mil	1	1
HSC/YA 2510 Kennedy Dr, Ste 220 Brooks AFB TX 78235-5120	1	1
SMC/XRER 2420 Vela Way, Ste 1467-A2 Los Angeles AFB CA 90245-4659	1	1
SMC/CUC 160 Skynet Street, Ste 1536A Los Angeles CA 90245-4683 (Space documents only)	1	1
HQ AFSOC/DOX	1	1

ADDRESSEE**DISTRIBUTION**

100 Bartley Street Suite 153W
 Hurlburt Field, FL 32544-5273
 spenced@hqafsoc.hurlburt.af.mil

OC-ALC/FMP	1	1
3001 Staff Dr 1 AG 75A		
Tinker AFB OK 73145-3056		

OO-ALC/FMP	1	1
7981 Georgia St		
Hill AFB UT 84056-5824		

SA-ALC/FMPF, Bldg 1623	1	1
204 South Luke Dr, Ste 1		
Kelly AFB TX 78241-5635		

SM-ALC/FMP	1	1
3237 Peacekeeper Way, Ste 6		
McClellan AFB CA 95652-1049		

WR-ALC/FMP	1	1
480 Second Street, Ste 200		
Robins AFB GA 31098-1640		

*HQ AFOTEC/XR	1	1
8500 Gibson Blvd. S. E.		
Kirtland AFB NM 87117-5558		
underwom@afotec.af.mil		

HQ AFSPA/SPR	1	1
8601 F Ave SE		
Kirtland AFB NM 87117-5516		

PL/XPX	1	1
3550 Aberdeen Ave S.E.		

ADDRESSEE	DISTRIBUTION	
Kirtland AFB NM 87117-5776		
HQ AFSA/SENA/SESS 9700 Ave G, SE Kirtland AFB NM 87117-5670	1	1
HQ AFPC/DPMYF 550 C Street West, Ste 38 Randolph AFB TX 78150-4740	1	1
USAF IFC/CC 431 I Street East, Ste 2 Randolph AFB TX 78150-4334 (only documents relating to avionics, cockpit displays, airfield/approach lighting and instrument flying, or aeronautical information handling).	1	1
AGMC/XPR Newark AFB OH 43057-5105 DSN 580-5630	1	1
Electronic Compatibility Analysis Center ECAC/CF North Severn Annapolis MD 21402-1187	1	1
Rome Laboratories AFRL/CD 26 Electronic Pky Rome NY 13441-4514 weedenv@rl.af.mil	1	1
AFRL/HE 2509 Kennedy Cir Brooks AFB TX 78235-5118	1	1

ADDRESSEE**DISTRIBUTION**

AFWL/XPR, Bldg 45 2130 Eighth St Ste 1 Wright-Patterson AFB OH 45433-7542	1	1
AFWL/XPI, Bldg 45 2130 Eighth St, Ste 1 Wright-Patterson AFB OH 45433-7542	1	1
AFWL/AAOR, Bldg 22 2960 C St, Ste 3 Wright-Patterson AFB OH 45433-7410	1	1
AFWL/ELEO, Bldg 620 2241 Avionics Cir, Ste 29 Wright-Patterson AFB OH 45433-7331	1	1
AFRL/VA 2130 Eighth St, Ste 1 Wright-Patterson AFB OH 45433-7542	1	1
AFWL/MNPX 101 W. Eglin Blvd, Ste 143 Eglin AFB FL 32942-6810	1	1
AFWL/MTX, Bldg 653 2977 P St, Ste 6 Wright-Patterson AFB OH 45433-7739	1	1
AFRL/MLQ 139 Barnes Dr., Suite 2 Tyndall AFB, FL 32403	1	1
AFWL/POMX, Bldg 18 1950 Fifth St	1	1

ADDRESSEE	DISTRIBUTION	
Wright-Patterson AFB OH 45433-7251		
Det 3 AFFTC PO 19070 1900 E Flamingo Rd, Ste 266 Las Vegas NV 89119-5116	1	1
413 Flt Test Sq/DOO 95 E North Base Rd. Edwards AFB CA 93524-8370	1	1
AF Frequency Management Agency/SC 4040 N. Fairfax Dr, Ste 204 Washington DC 20330-6340	1	1
OAS/XR 3550 Aberdeen Ave S.E. Office of Aerospace Studies Kirtland AFB NM 87117-5776	1	1
AFSFC/SFOR 1720 PATRICK STREET LACKLAND AFB, TX 98236-5226 email: respresa@smtp.lak.aetc.af.mil	1	1
AFFTC/XPS 195 South Popson Ave. Edward AFB CA 93524-6842 (Aircraft propulsion-Avionics documents only)	1	1
AFDTC/DRC 101 West D Ave, Ste 125 Eglin AFB FL 32542-5495 email: atkinsow@eglin.af.mil (Communications and Information and Munitions)	1	1

ADDRESSEE**DISTRIBUTION**

AFRL/DE
3550 Aberdeen Ave S.E.
Office of Aerospace Studies
Kirtland AFB NM 87117-5776

1 1

AFRL/PRR
4 Draco Dr.
Edwards AFB CA 93524-7160

1 1

AIR FORCE INFORMATION FOR INDUSTRY OFFICE (AFIFIO)

AFIFIO
WL/DOA, Bldg 22
2690 C St, Ste 4
Wright-Patterson AFB OH 45433-7411

1 (Approved, sanitized documents only;
No WNINTEL or SECRET)

OVERSEAS LIAISON OFFICES

USAF R&D Liaison Office/RDLL
PSC 802, Box 19
FPO AE 09499-0100

1 (Approved, Sanitized MNS Only)

European Office of Aerospace Research and
Development (EOARD)
Box 14
APO AE 09510

1 (Approved, Sanitized MNS Only)

USAF R&D Liaison Office/RDLO
Box 410
APO AE 09080

1 (Approved, Sanitized MNS Only)

US Research and Development Coordinator
(USRADCO-STC)
PCS 71, Box 57
APO AE 09715

1 (Approved, Sanitized MNS Only)

US Mission NATO
PO Box 57 APO AE 09667

1 (Approved, Sanitized MNS Only)

ODC American Embassy Unit 21551 APO AE 09777	1	(Approved, Sanitized MNS Only)
HQ JUSMAG-K Unit # 15339 APO AP 96203-0187	1	(Approved, Sanitized MNS Only)
MDAO-Japan US Embassy ATTN: Program Manager Unit 45004, Box 225 APO AP 96337-0005	1	(Approved, Sanitized MNS Only)
USDAO Tel Aviv PSC 98, Box 100 APO New York 09672-9700	1	(Approved, Sanitized MNS Only)
Chief, Military Liaison Office MLO Brasilia APO Miami 34030-5000	1	(Approved, Sanitized MNS Only)
Chief, Foreign Military Sales USDAO Canberra Unit 11006 APO AP 96549-5000	1	(Approved, Sanitized MNS Only)
American Embassy Rome PSC 59, Box 100/ODC APO AE 09624	1	(Approved, Sanitized MNS Only)
ODC United Kingdom PSC 801, Box 54 FPO AE 09498-4054	1	(Approved, Sanitized MNS Only)
ODC Norway PSC 69, Box 1000 APO AE 09707-5360	1	(Approved, Sanitized MNS Only)
ODC American Embassy Unit 6857 APO AE 09724-1012	1	(Approved, Sanitized MNS Only)

JUSMMAT ATTN: Air Force Section Unit 7025 APO AE 09822	1	0	(Approved, Sanitized MNS Only)
ODC Germany American Embassy Bonn Unit 21710, Box 340 APO AE 09080	1	0	(Approved, Sanitized MNS Only)
HQ AFMC Liaison Office Suite 202 110 O'Connor St Ottawa, Ontario, Canada K1P5M9	1		(Approved Sanitized MNS Only)

Attachment 10

TEXT OF IC 99-1

SUMMARY OF REVISIONS

This change provides guidance on streamlining the requirements approval process and expands the role of the Air Force Requirements Oversight Council (AFROC). In particular, it clarifies policy changes regarding mission needs (paragraph 3.2.7), explains internal headquarters staffing process (paragraph 7), and discusses the expanded role of the AFROC regarding the validation and approval process of Air Force requirements documents (paragraph 8).

3.2.2.5. AFCAT I. A deficiency that could potentially require an ACAT I solution will have a written MNS, validated and approved at the JROC (CJCSI 3170.01). The AFROC will review all ACAT I MNS and if approved, AF/XOR will sign an AFROCSM recommending the MNS be approved by CSAF to enter the JROC validation and approval process.

3.2.3.9. AFCAT II and III. A deficiency that could potentially require an ACAT II or III solution no longer requires a MNS, provided the deficiency is sufficiently documented in a mission area plan (MAP) or Mission Support Plan (MSP). The briefing to the AFROC provides all Air Force requirements personnel insight and notification of another organization's mission deficiency. The resulting AFROCSM provides documentation to the acquisition community that the Air Force deficiency is valid and provides a basis for the Service Acquisition Executive (SAE) to establish Milestone 0. AF/XOR, with a recommendation from the AFROC, will sign the AFROCSM. For potential ACAT II solutions, the AFROCSM will require AF/XO endorsement before being sent to the SAE. For potential ACAT III solutions, the AFROCSM will be sent to the SAE for action.

3.2.7. Policy Regarding MNS. Any deficiency that could result in a potential ACAT I, II, or III acquisition will obtain AFROC approval to begin Phase 0 activities. Send the required briefing to AF/XORD 15 days prior to the AFROC. This briefing of deficiencies that could require an ACAT II and III acquisition will ensure harmonization throughout the services (per CJCSI 3170.01). AF/XORD will forward the briefing and an invitation memorandum to the other services and the Joint Staff so they may attend the briefing to determine joint interest. AF/XOR will sign the invitation.

7.1. Document Review. There will normally be only one (1) "review for comment" phase at Headquarters Air Force (HAF) for all requirements documents (Mission Need Statements (MNS), Capstone Requirements Documents (CRD), Operational Requirements Documents (ORD)). All requirements documents sent to HAF will be addressed to AF/XOR. Within 45 days, HAF comments will be returned to the originator for resolution. After comment resolution, the document should be signed by the originating organization indicating it is ready for the validation and approval phase at the AFROC. The originating organization will determine the level of signature submitting the document.

7.1.1. Review and Comment. After developing the document, the originating command distributes the document, a cover sheet, and a transmittal memorandum from the MAJCOM requirements principal representative to all applicable agencies and offices, listed in attachment 9 to obtain an Air Force-wide review of the document. The transmittal memorandum should summarize the document, including relevant document information, identify the potential ACAT, distribution code, and *any other amplifying instructions* or information pertinent to the document. The HQ USAF/XOR staff distributes the document to the Air Staff, Joint Staff, the Secretariat Staff, Air National Guard, Air Force Reserves, and other ser-

vice for review. HQ USAF/XOR staff will send ACAT I documents to HQ USAF/XOCD for doctrinal review and HQ USAF/XOJ for Joint Staff review. HQ USAF/XOR staff will send ACAT II and III documents to other services directly. Distribute documents whenever possible electronically via e-mail or by utilizing the Integrated Requirements Support System (IRSS). Electronic distribution to all addressees should be used whenever possible.

8.1.10. Policy Regarding ORD's and CRD's:

8.1.10.1. ACAT I. Guidance for documentation, validation and approval of ACAT I programs is IAW CJCSI 3170.01. The AFROC principals will determine if the document requires HAF 2-ltr review prior to being sent forward. AF/XOR, with the recommendation of the AFROC, will sign an AFROCSM recommending approval to CSAF. CSAF approval is required for the document to enter the JROC validation/approval process.

8.1.10.1.1. Since CRDs are anticipated to be have ACAT I or JROC Special Interest status, Joint Staff guidance in CJCSI 3170.01 will be followed. During the process, if it is determined the CRD is not an ACAT I, or have JROC Special Interest status, it can be approved at the appropriate level (ie, AF/XO for ACAT II, or AF/XOR for ACAT III).

8.1.10.2. ACAT II. The AFROC principals will determine if the document requires HAF 2-ltr review prior to being sent to AF/XO for approval. AF/XOR, with recommendation from the AFROC, will sign an AFROCSM recommending AF/XO sign the document.

8.1.10.3. ACAT III. AF/XOR, with recommendation from the AFROC, will sign the cover of the document indicating final approval. Any outstanding actions or recommended changes will be documented in an AFROCSM signed by AF/XOR.

8.3. Role of the Air Force Requirements Oversight Council (AFROC). The AFROC will review MNS, ORD's, and CRD's for all ACAT's that are ready to enter the validation and approval process. AFROC decisions and recommendations will be documented on an AFROC staffing memorandum (AFROCSM) signed by AF/XOR.

8.3.1. All requirements documents briefed to the AFROC will follow standardized briefing formats. These formats are derived from Joint Requirements Oversight Council (JROC) guidance and can be found on the AF/XORD web site. In order to ensure each AFROC principal is adequately prepared for any briefing, the originating organization will forward the final document and the briefing to AF/XORD NLT 15 days prior to the AFROC.