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Operations

**CAPABILITIES BASED REQUIREMENTS
DEVELOPMENT**

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This Air Force Instruction (AFI) implements Air Force Policy Directive (AFPD) 10-6, *Mission Needs and Operational Requirements*, Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 3170.01, *Joint Capabilities Integration and Development System*, Chairman of the Joint Chiefs of Staff Manual (CJCSM) 3170.01, *Operation of the Joint Capabilities Integration and Development System*, and CJCSI 6212.01, *Interoperability and Supportability of Information Technology Systems and National Security Systems*. It establishes the guidelines, policies and procedures for defining, developing, documenting, validating, approving, and managing Air Force capabilities based requirements documents in support of the *Defense Acquisition Management Framework*. This AFI must be used with the policies in Department of Defense Directive (DoDD) 5000.1, *The Defense Acquisition System*, DoD Instruction (DoDI) 5000.2, *Operation of the Defense Acquisition System* (collectively called the DoD 5000-series), and National Security Space (NSS) Acquisition Policy 03-01. This AFI must be used in conjunction with AFI 63-101, *Operation of the Capabilities Based Acquisition System* and AFI 99-103, *Capabilities Based Test and Evaluation*. This AFI applies to all Air Force personnel who develop, review, approve, manage, or use documents in the Air Force Capabilities Based Requirements Development Process. Adherence is mandatory, except when statutory requirements, DoD or Joint Staff (JS) directives override. If there is any conflicting guidance between this AFI and DoD 5000-series, NSS 03-01, CJCSI 3170.01, CJCSM 3170.01, the DoD 5000-series, NSS 03-01, or CJCSI/M 3170.01 shall take precedence. Any organization may supplement this instruction. This AFI is approved for public release; distribution is unlimited. Send proposed supplements or recommended changes to this instruction to Headquarters (HQ) USAF/XOR, 1480 Air Force Pentagon, Washington, DC 20330-1480; email: <mailto:reqmnts@pentagon.af.mil>. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with AFPD 37-1, *Information Management*, and AFMAN 37-123, *Management of Records*, and disposed of in accordance with the Air Force Records Disposition Schedule (RDS) located at <https://webrims.amc.af.mil/>.

SUMMARY OF REVISIONS

Due to major changes in the DoD 5000-series, CJCSI 3170.01 and CJCSM 3170.01, this AFI is substantially revised and must be completely reviewed. Personnel familiar with the former Requirements Generation System (RGS) will notice Mission Need Statements (MNS), Operational Requirements Documents (ORDs), and Combat Mission Needs Statements (C-MNS) are no longer addressed in this AFI. An Initial Capabilities Document (ICD) at the Concept Decision replaces the MNS, a Capability Development Document (CDD) replaces the Milestone B ORD, a Capability Production Document (CPD) replaces the Milestone C ORD, and the Combat Capability Document (CCD) replaces the Combat Mission Needs Statement (C-MNS).

Chapter 1—VISION & IMPLEMENTATION CONCEPTS 6

1.1. Vision.	6
1.2. Joint Capabilities Integration and Development System (JCIDS).	6
1.3. Acquisition Category (ACAT) Levels.	6
1.4. Air Force Capabilities Based Requirements Development.	6
Figure 1.1. Contributing Elements to Air Force Capabilities Based Requirements.	7
1.5. Implementation.	8
Figure 1.2. Integration of Requirements, Acquisition, and T&E Processes.	9
1.6. Space-Related Capabilities Based Requirements.	10

Chapter 2—OVERVIEW: AIR FORCE CAPABILITIES BASED REQUIREMENTS 11

2.1. Purpose.	11
2.2. Capabilities Based Requirements Documents.	11
2.3. Capstone Requirements Document (CRD).	11
2.4. Requirements Strategy Development.	11
2.5. Air Force Requirements Strategy Review (RSR).	12
2.6. Air Force High Performance Team (HPT).	12
2.7. Document Review.	12
2.8. Validation Authority.	12
Table 2.1. Validation, Approval and Signature Authority.	13
2.9. Document Approval/Signature Authority.	13
2.10. Waiver Authority.	14
2.11. Air Force Requirements Document Library.	14
2.12. Joint Staff JCIDS Document Publication and Archival.	14

Chapter 3—ROLES AND RESPONSIBILITIES	15
3.1. Purpose.	15
3.2. Authority.	15
3.3. Roles and Responsibilities.	15
3.4. Air Force Requirements for Operational Capabilities Council (AFROCC).	21
3.5. Functional Capabilities Boards (FCBs).	21
3.6. Joint Requirements Oversight Council (JROC).	21
 Chapter 4—REQUIREMENTS ACTIVITIES TO SUPPORT MILESTONE A ACQUISITION DECISION	 22
4.1. Purpose.	22
Figure 4.1. Activities to Support Milestone A Acquisition Decision.	22
4.2. ICD Stage I.	22
Table 4.1. ICD Stage I Strategy Review Information.	24
Table 4.2. ICD Stage I HPT Considerations.	24
Figure 4.2. ICD Stage I Review Flow.	25
4.3. ICD Stage II.	25
Figure 4.3. ICD Stage I & Stage II Development Flow.	25
Table 4.3. Stage II ICD Requirements Strategy Review Information.	26
Table 4.4. ICD Stage II HPT Considerations.	27
Figure 4.4. ICD Stage II Review Flow (JPD: JROC Interest).	27
4.4. Post-ICD Activities.	27
4.5. Changes to the ICD.	28
 Chapter 5—REQUIREMENTS ACTIVITIES TO SUPPORT MILESTONE B ACQUISITION DECISION	 29
5.1. Purpose.	29
Figure 5.1. Activities to Support Milestone B Acquisition Decision.	29
5.2. Requirements Strategy Development.	29
5.3. Requirements Strategy Review.	30
Table 5.1. CDD Requirements Strategy Review Information.	30
5.4. HPT Planning.	31
Table 5.2. CDD HPT Considerations.	31

5.5.	CDD Guidelines.	31
5.6.	CDD Requirements Correlation Table (RCT).	31
Table 5.3.	CDD RCT Format.	33
5.7.	CDD Processing.	33
Figure 5.2.	CDD Review Flow (JPD: JROC Interest).	33
5.8.	Post-CDD Activities.	33
5.9.	Changes to the CDD.	33
Chapter 6—REQUIREMENTS ACTIVITIES TO SUPPORT MILESTONE C ACQUISITION DECISION		35
6.1.	Purpose.	35
Figure 6.1.	Activities to Support Milestone C Acquisition Decision.	35
6.2.	Requirement Strategy Development.	35
6.3.	Requirements Strategy Review.	35
Table 6.1.	CPD Requirements Strategy Review Information.	36
6.4.	HPT Planning.	36
Table 6.2.	CPD HPT Considerations.	37
6.5.	CPD Guidelines.	37
6.6.	CPD Requirements Correlation Table (RCT).	37
Table 6.3.	CPD RCT Format.	39
6.7.	CPD Processing.	39
Figure 6.2.	CPD Review Flow (JPD: JROC Interest).	39
6.8.	Post-CPD Activities.	39
6.9.	Changes to the CPD.	39
Chapter 7—REQUIREMENTS ACTIVITIES TO SUPPORT MODIFICATIONS		40
7.1.	Purpose.	40
Figure 7.1.	Activities to Support Modifications.	40
7.2.	Modifications.	40
Table 7.1.	Modification (\$) Thresholds (non NR-KPP initiatives).	41
7.3.	Forms Adopted.	42
Attachment 1—GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION		43

AFI10-601 30 JULY 2004

5

Attachment 2—DOCUMENT REVIEW

57

Attachment 3—RESPONDING TO WARFIGHTER URGENT CAPABILITY NEEDS

61

Chapter 1

VISION & IMPLEMENTATION CONCEPTS

1.1. Vision. The intent of this instruction is to facilitate rapid development and fielding of affordable and sustainable operational capabilities needed by the combatant commander. The primary goal is to fulfill stated defense strategy needs with effects based, capabilities focused materiel and non-materiel solutions. The overarching strategic guidance detailed in the National Security Strategy (NSS), coupled with the planning guidance outlined in the Quadrennial Defense Review (QDR), Strategic Planning Guidance (SPG), Joint Programming Guidance (JPG), and Transformation Planning Guidance (TPG), lays the foundation for the Air Force's needed capabilities. Capabilities (means) are employed to achieve desired effects (ends) in support of these strategies (ways). The Air Force must be innovative and flexible in the way it resources current and future defense strategies. The Air Force must be able to integrate functions such as: strategic planning, capabilities based planning, capabilities based requirements development, acquisition and sustainment activities, and program and budget execution.

1.2. Joint Capabilities Integration and Development System (JCIDS). The JCIDS process is closely integrated with the acquisition process and exists to identify, develop, and validate defense-related requirements. JCIDS implements a capabilities based approach that better leverages the expertise of DoD and non-DoD agencies and industry to identify, assess, and prioritize joint force capabilities. The process validates warfighting capabilities while considering the full range of materiel and non-materiel solutions. New capabilities are required to be defined within the "art of the possible" and grounded within real world constraints of time, technology, and affordability. Within DoD there is a distinct separation between the requirements authority and acquisition authority, which requires early and continued collaboration between both communities in order for the processes to work effectively together. As a collaborative effort, Air Force operational capabilities (independent of ACAT level) are vetted with the Joint Staff Functional Capabilities Board (FCB) review process, as described in CJCSI 3170.01 and CJCSM 3170.01. To implement a capabilities based approach, the FCB uses Joint Operations Concepts (JOpsC) to establish a common understanding of how a capability will be used, who will use it, when it is needed, and why it is needed to achieve a desired effect. Each capability is assessed based on the effects it seeks to generate and the associated operational risk of not having it. The Joint Staff, Vice Director J-8, in the capacity of the Gatekeeper determines the capability proposal's Joint Potential Designator (JPD), which specifies JCIDS validation, approval, and interoperability expectations.

1.3. Acquisition Category (ACAT) Levels. ACATs are described in DoDI 5000.2, *Operation of the Defense Acquisition System*. The three ACAT Levels (ACAT I, II, & III) are established to aid decentralized decision-making and to comply with Congressional and DoD direction. The Service component, with the help of the requirements sponsor, determines the ACAT level during capabilities development. Acquisition categories for systems are usually based on total RDT&E or procurement costs, but may also be designated at the discretion of the Milestone Decision Authority (MDA).

1.4. Air Force Capabilities Based Requirements Development. **Figure 1.1.** depicts various elements that influence and define Air Force capabilities based requirements development. Each of these elements identifies potential and core capabilities that the Air Force may invest and field in the future.

Figure 1.1. Contributing Elements to Air Force Capabilities Based Requirements.



1.4.1. Capabilities Based Planning. Capabilities based planning incorporates the SPG, JPG, Joint Vision, JOpsCs, Air Force Vision/long range planning inputs and operational concepts, and the effects and capabilities contained in specific Air Force Concepts of Operations (CONOPS). Its objective is to develop capabilities based planning products that ensure future air and space forces have the operational capabilities to fight and prevail anytime, anywhere. Capability gaps/shortfalls identified during capabilities based planning are reviewed and prioritized by the Capabilities Review & Risk Assessment (CRRRA) to determine if a solution(s) is worth pursuing; if so, AF/XOR may direct a MAJCOM/ Agency to develop an Initial Capabilities Document (ICD).

1.4.1.1. Capabilities Review and Risk Assessment (CRRRA). CRRAs are conducted to evaluate the Air Force's ability to employ capabilities and to achieve desired effects when called upon as described by Air Force CONOPS. Based on previous investment decisions and operational risk, CRRAs are report cards that assess how well the Air Force is doing in developing, fielding, and maintaining needed capabilities. CRRAs are a collaborative effort between planning, requirements, acquisition and sustainment communities and are designed to identify and prioritize AF capability needs. The CONOPS are evaluated separately and then in aggregate in the Integration CRRRA. The goal for CRRRA activities is to provide senior leadership an operational, capabilities based focus for capabilities investment decisions. These decisions may result in the development of an ICD, risk acceptance, or reprioritization due to excess capability. Further clarification of the Air Force's Capabilities Based Planning Process, including CRRAs, is provided in AFI 10-604, *Capabilities Based Planning*.

1.4.2. Integrated Architectures. As they are developed, integrated architectures provide a framework for conducting analysis to identify capability and supportability gaps/shortfalls, compare alternatives for improving joint warfighting capabilities, and identify associated resource implications. Until development of joint functional concepts and integrated architectures is sufficiently complete, Capstone Requirements Documents (CRDs) are used to provide a common framework for operational concepts to guide capabilities based requirements document development.

1.4.3. Top-Down Direction. Higher authority may direct a sponsor to initiate the development and fielding of a new capability. Written direction from CSAF or higher authority fulfills the AFPD 10-6 requirement for identifying a capability need. However, the designated requirements sponsor is still responsible for producing the appropriate capabilities based requirements documents. In addition, the JCIDS process may direct multiple materiel solutions due to a system of systems (SoS) or a family of systems (FoS) approach that could result in driving top-down, capabilities based requirements. AF/XOR reviews all top-down directed initiatives before the sponsor initiates an ICD.

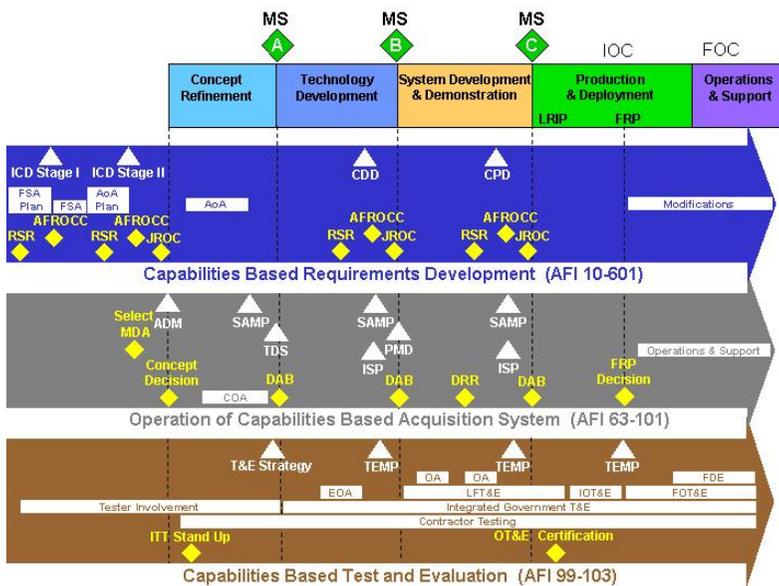
1.4.4. Combatant Commander's Needs. A Combatant Commander's need may identify a capability gap/shortfall that may be satisfied through the normal acquisition process or through the Rapid Response Process (RRP), as described in AFI 63-114, *Rapid Response Process*, and [Attachment 3](#). For a normal acquisition, the Combatant Commander forwards their need to the force providing MAJCOM. In turn, the MAJCOM (through their CONOPS organization) works with AF/XOR to evaluate the need before initiating ICD development.

1.4.5. Technology Transition Activities. Throughout the capabilities based requirements development process, the Air Force maximizes efforts to provide operators with capabilities built on superior and affordable technology. Current sources for capitalizing on technology transition are Advanced Technology Demonstrations (ATDs), Advanced Concept Technology Demonstrations (ACTDs), Joint and Air Force Battlelab experiments, operational exercises, wargaming, DoD and AF laboratory and research projects, and commercial sources identified within the Defense Science and Technology (S&T) Program. Evaluation results can lead to a sponsor developing an ICD to facilitate technology transition.

1.5. Implementation. The Air Force requirements are driven by desired effects and needed capabilities. All stakeholders in the acquisition framework must know why the Air Force needs a particular capability, how and where it will be used, who will use it, when it is needed, and how it will be supported and maintained. For a materiel solution, fielding an operational capability starts with sound requirements, acquisition, and test and evaluation (T&E) strategies. To be viable, these three strategies must be developed in concert and require early and ongoing collaboration among operators, developers, acquirers, sustainers, and testers. No one strategy can stand alone and still be viable since all three are interdependent and require the integration of the other two to be effective.

1.5.1. Collaboration. Expanding upon the JCIDS collaborative effort, there are three mutually supporting Air Force processes that facilitate the development and sustainment of operational capabilities: capabilities based requirements as described in this instruction; capabilities based acquisition as described in AFI 63-101, *Operation of the Capabilities Based Acquisition System*; and seamless verification as described in AFI 99-103, *Capabilities Based Test and Evaluation*. These processes are interdependent and require collaboration to rapidly deliver new capabilities to the operator. The three communities must use the guidance in all three instructions to integrate their efforts and create synergy. [Figure 1.2](#) depicts the integration of the three processes in relation to the overarching DoDI 5000.2 acquisition framework. Initiative specifics (i.e., ACAT level, Joint Potential Designator, etc.) may vary the actual steps executed within each process.

Figure 1.2. Integration of Requirements, Acquisition, and T&E Processes.



1.5.2. Capabilities Based Acquisition System. The primary goal of the acquisition system is to rapidly deliver affordable and sustainable capability that meets the operator's expectations. To achieve this goal, all stakeholders must collaborate in planning and execution activities that lead to developing, fielding and sustaining new operational capabilities. After operational requirements are approved, they are used to guide development, test and evaluation, production, procurement, deployment, and sustainment of the new capability. Working with the operator, the acquirer balances cost, schedule, and performance in response to approved capabilities based requirements documents.

1.5.2.1. Evolutionary Acquisition (EA). Unlike the traditional acquisition approach where full capability is delivered in a single step, an evolutionary acquisition approach delivers capability in increments, recognizing up front the need for future capability improvements. Evolutionary acquisition is the preferred DoD strategy for rapidly acquiring needed capability based on mature technologies. The objective is to balance needs and potential capability with resources, and to quickly put capability into the hands of the operator. The success of the strategy depends on consistent and continuous definition of capabilities based requirements, and the maturation of technologies that lead to the disciplined development of systems that provide increasing capability. There are two approaches to evolutionary acquisition: spiral development and incremental development. Spiral development involves developing desired capabilities where the end-state requirements are not fully known and therefore requires extensive collaboration between operators, acquirers, developers, sustainers, and testers. The operator, working with the acquisition community, must consider the relative importance of each spiral of capability, its projected timeline, and the anticipated cost necessary to achieve the desired end-state capability. Incremental development differs from spiral development in that a desired capability is identified, an end-state requirement is known, but the requirement is met over time by developing several increments, each dependent on available mature technology.

1.5.3. Integrated Test and Evaluation. The overarching functions of T&E are to determine if systems are operationally effective and suitable, to reduce risks, and to identify and help resolve deficiencies as early as possible. Integrated T&E combines developmental and operational test objectives to the

maximum extent possible and provides assurance that systems will be effective and suitable in operational environments. Testers contribute their knowledge to the requirements and acquisition communities by verifying performance and mitigating risks in fielding new capabilities.

1.6. Space-Related Capabilities Based Requirements.

1.6.1. Space-Related Capabilities Based Requirements Policy. Space system acquisitions are primarily governed by National Security Space (NSS) Acquisition Policy 03-01, *Guidance for DoD Space System Acquisition Process*. However, all space-related capabilities based requirements are subject to the same AFI 10-601 process and procedures.

1.6.2. JCIDS Documents and Key Decision Points. Although the NSS Acquisition Policy 03-01 uses Key Decision Points (KDPs) instead of Milestones, the timing of JCIDS documents (ICD, CDD) relative to KDPs and Milestones is essentially the same. An ICD is required to support the Analysis of Alternatives (AoA) and concept refinement activities prior to a KDP A decision, and a CDD is required to support a KDP B decision. The CPD will incorporate what was learned during Phase B of the system acquisition and document refined thresholds and objectives for system attributes and key performance parameters (KPPs) before KDP C.

1.6.3. Validation and Approval Authority. The NSS Acquisition Policy 03-01 does not use the DoDI 5000.2 Acquisition Categories (ACAT I, II, III); instead it uses the equivalent dollar thresholds for Major Defense Acquisition Programs (MDAPs) (ACAT I) and non-MDAP. The DoDI 5000.2 ACAT levels and their associated dollar threshold values are used to determine the validation and approval authority levels for space-related requirements. Since MDAPs are joint programs, they are equivalent to ACAT ID programs. In addition, space acquisition programs can be ACAT II or III equivalent efforts and any space acquisition program should identify its ACAT equivalent level during the JCIDS validation and approval process.

Chapter 2

OVERVIEW: AIR FORCE CAPABILITIES BASED REQUIREMENTS

2.1. Purpose. This section details the Air Force capabilities based requirements process and provides guidance for Air Force requirements strategy, document preparation, validation, approval, and archiving. Once a capability need is validated and the Air Force decides to allocate resources towards fulfilling the need, the effort enters the capabilities based requirements process. The capability need is defined and refined throughout the process and is documented in capabilities based requirements documents.

2.2. Capabilities Based Requirements Documents. The three capabilities based requirements documents are the Initial Capabilities Document (ICD), the Capability Development Document (CDD), and the Capability Production Document (CPD). Based on the primary five planning elements that influence Air Force capabilities based requirements ([Figure 1.1.](#)), AF/XOR may direct a sponsor to develop an ICD. Air Force ICDs are evolutionary and are developed in two stages. The first stage generates a capability based planning document (ICD Stage I) and lays the foundation for additional analysis and discovery. This stage defines the capability gap/shortfall and guides doctrine, organization, training, materiel, leadership and education, personnel and facilities (DOTMLPF) analysis (Sections 1 through 5 of an ICD). After ICD Stage I is reviewed and validated by the Air Force Requirements for Operational Capabilities Council (AFROCC), the sponsor performs the Functional Solution Analysis (FSA), and upon its conclusion, develops a capabilities based requirements document (ICD stage II). ICD Stage II builds upon ICD Stage I, captures the results of the FSA, provides a final recommendation for a materiel approach(es), and enters the JCIDS process as a complete ICD (Sections 1 through 7). The ICD Stage II supports the AoA, the Technology Development Strategy (TDS), the Milestone A decision, and subsequent Technology Development activities. The CDD, guided by the ICD, the AoA, and the TDS, captures the information necessary to initiate an acquisition program to develop a proposed capability, normally using an evolutionary acquisition strategy. The CDD outlines an affordable increment of capability using mature technology and supports Milestone B. The CPD supports Milestone C and is developed after the Design Readiness Review (DRR). The CPD must be approved before Low Rate Initial Production (LRIP) and Initial Operational Test & Evaluation (IOT&E). These documents are discussed in detail in [Chapter 4](#) through [Chapter 6](#).

2.3. Capstone Requirements Document (CRD). The CRD supports interoperability by providing overarching standards of commonality in and across functional areas, families of systems (FoS), and system of systems (SoS). In time, architectures will replace the CRD in the Joint Capabilities Integration and Development System (JCIDS). For the Air Force, CRD initiation is through Joint Requirements Oversight Council (JROC) direction only, and all CRDs are designated as “JROC Interest.” For a complete description of CRDs, to include their development and review, refer to CJCSI 3170.01 and CJCSM 3170.01.

2.4. Requirements Strategy Development. Once a sponsor is designated to develop an ICD Stage I, ICD Stage II, CDD, or CPD, an important first step is developing a viable requirements strategy. The requirements strategy supports capability development by establishing the path and resources necessary to successfully advance through each acquisition phase and develop higher quality documents. The requirements strategy reflects required capabilities outlined in applicable Joint and Air Force operating concepts, capability based planning documents, CRRAs, CRDs, and other pertinent guidance. Each strategy is tailored based on where the initiative is in the acquisition phase, and addresses strategy ele-

ments such as: joint interoperability/ implications, funding, schedule, testing, sustainment, training, analysis, Distributed Mission Operations (DMO), human systems integration, intelligence supportability, potential challenges and constraints, etc. The sponsor, along with operators, develops the requirements strategy in collaboration with Air Force acquisition, test, and logistics communities, as well as the appropriate FCB Working Group, Services, Office of the Secretary of Defense/Program Analysis and Evaluation (OSD/PA&E), and other organizations to ensure stakeholders are actively informed and involved from the beginning.

2.5. Air Force Requirements Strategy Review (RSR). Following the development of the requirements strategy, and prior to documenting the needed capabilities in a capabilities based requirements document, the sponsor presents the requirements strategy to AF/XOR in a mandatory RSR. During the RSR, AF/XOR reviews the requirements strategy, evaluates operator needs, ensures necessary Air Force/Agencies, OSD, Joint Staff, and Services are involved, and provides any necessary guidance to support the most effective acquisition approach. The RSR occurs at least 30 days before the High Performance Team (HPT) meeting to allow for AF/XOR directed requirements strategy changes. The RSR briefing is coordinated with an assigned AF/XORD HPT facilitator and HQ USAF Subject Matter Expert (SME). After AF/XOR approval, AF/XORD archives a copy of the RSR briefing and RSR minutes in the Air Force Requirements Document Library. RSR scheduling, procedures, and briefing templates are located on the AF/XORD web site at: <https://www.afreqs.hq.af.mil/>.

2.6. Air Force High Performance Team (HPT). The HPT is the preferred method to develop an ICD Stage I, ICD Stage II, CDD, or CPD, and is used unless waived by AF/XOR at the RSR. An HPT consists of a lead (normally the sponsor), core and support team members. During the RSR, AF/XOR approves the core team (ideally 7 - 11 members, consisting of SMEs from the Air Force, government agencies, and other Services as required). Support team membership provides “reach-back” expertise in areas not represented by the core team. The HPT accelerates the documentation process and increases the potential for a quality document. Its overarching objective is to capture, articulate, and document the operator’s operational requirements in minimum time, while achieving stakeholder buy-in. The HPT leverages the expertise of all stakeholders by inviting them to participate in the development of the document. Although the sponsoring MAJCOM/Agency maintains ownership of the document, the HPT lead maintains responsibility for writing and ensuring document review until approval. One major benefit of a document generated by an AF/XORD-facilitated HPT is the approval to conduct simultaneous Air Force, Joint Staff, Service, and Agency coordination, whereas, non-HPT documents are staffed sequentially. HPT membership and staffing process information is located on the AF/XORD web site at:

<https://www.afreqs.hq.af.mil/>.

2.7. Document Review. Initiation of document review is dependent on the sponsor’s requirements strategy. Once a document enters review, it follows established procedures and timelines outlined in **Attachment 2** of this instruction and on the AF/XORD web site at: <https://www.afreqs.hq.af.mil/>. Note: AF/XOR has delegated AF Flag level review tasking authority to AF/XORD for all ICDs (Stage I and II), CDDs, and CPDs. To accomplish this task, AF/XORD sub-tasks other HQ USAF organizations and directs them to execute the staffing process to obtain the HQ USAF and Secretariat positions.

2.8. Validation Authority. The validation phase is the formal review process of a capabilities based requirements document by the AFROCC or JROC to confirm the capability need and operational requirement. The validation authority for an Air Force capabilities based requirements document is dependent

upon its JPD (JROC Interest, Joint Integration, or Independent), as illustrated in [Table 2.1](#). The JCIDS gatekeeper assigns the JPD for all ICDs (Stage II), CDDs, and CPDs. For additional information on JPD designations, see CJCSI 3170.01 & CJCSM 3170.01.

Table 2.1. Validation, Approval and Signature Authority.

	JROC Interest			Joint Integration		Independent	
	ACAT I	ACAT II	ACAT III	ACAT II	ACAT III	ACAT II	ACAT III
Air Force Validation	AFROCC	AFROCC	AFROCC	AFROCC	AFROCC	AFROCC	AFROCC
Joint Staff Validation	JROC	JROC	JROC				
Joint Staff Approval	JROC	JROC	JROC				
AF Approval / Signature	CSAF	XO	XOR	XO	XOR	XO	XOR

2.8.1. AFROCC Validation. The AFROCC reviews and validates all Air Force ICDs (Stage I & II), CDDs, and CPDs. For ICDs (Stage I), formal review ends with AFROCC validation, and a copy of the validated document is provided to the JCIDS gatekeeper for information purposes only. After AFROCC validation, all ICDs (Stage II), CDDs, and CPDs are submitted to the JCIDS gatekeeper, and only documents with a JPD of JROC Interest enter Joint Staff Flag review for JROC validation/approval. AFROCC decisions and recommendations are documented in an AFROCC Memorandum (AFROCCM) signed by the AFROCC Chairman. The following list depicts the Air Force capabilities based requirements that are NOT validated by the AFROCC:

2.8.1.1. Modifications generated by an AF Form 1067, *Modification Proposal* (See AFI 63-1101).

2.8.1.2. Information Technology/National Security Systems (IT/NSS) Requirements Documents defining Communications and Information capabilities processed IAW AFI 33-103.

2.8.1.3. Combat Capability Documents (See AFI 63-114 & [Attachment 3](#)).

2.8.2. JROC Validation. The JROC reviews and validates all JROC Interest initiatives. JROC decisions and recommendations are documented on a JROC Memorandum (JROCM) signed by the JROC Chairman.

2.9. Document Approval/Signature Authority. Approval confirms the validation process is complete. The approval level is dependent upon ACAT level and JPD ([Table 2.1](#)).

2.9.1. ACAT I/IA and ACAT II/III programs with JPD of JROC Interest. The JROC is the approval authority for all ACAT I/IA and JROC Interest capabilities based requirements documents. AFROCC validation is required for the document to enter Joint Staff Flag review. JROC approval is documented

in a JROCM signed by the JROC Chairman. AF/XORD will staff JROC approved documents for the appropriate Air Force approval signature (**Table 2.1**).

2.9.2. ACAT II with JPD of Joint Integration or Independent. AF/XO is the approval and signature authority. AF/XORD will staff document to AF/XO following AFROCC validation.

2.9.3. ACAT III with JPD of Joint Integration or Independent. AF/XOR is approval and signature authority. AF/XORD will staff document to AF/XOR following validation.

2.10. Waiver Authority. AF/XOR is the waiver authority for the provisions in this instruction and will consider requests on a case-by-case basis. Waiver requests shall contain compelling justification and must be submitted through AF/XORD.

2.11. Air Force Requirements Document Library. AF/XORD maintains the Air Force's Requirements Document Library. The library consists of an electronic repository for approved Air Force capabilities based requirements documents and their supporting staffing documentation. After document processing is complete, AF/XORD archives the approved document into the Air Force Requirements Document Library.

2.12. Joint Staff JCIDS Document Publication and Archival. All approved JCIDS documents (up to Secret), regardless of ACAT or JPD, are posted to the Knowledge Management/ Decision Support (KM/DS) tool; an electronic staffing and repository tool for JCIDS documents. To ensure accuracy between the Air Force Requirements Document Library and KM/DS, the Air Force Document Librarian ensures documents are archived in KM/DS.

Chapter 3

ROLES AND RESPONSIBILITIES

3.1. Purpose. This section defines the authority, roles, and responsibilities for organizations involved with defining, developing, documenting, validating, approving, and managing Air Force capabilities based requirements.

3.2. Authority. The Chairman of the Joint Chiefs of Staff (CJCS) is the chairman of the JROC, and as such, is the requirements validation and approval authority for all ACAT I and JROC Interest programs. This responsibility has been delegated to the Vice Chairman of the Joint Chiefs of Staff (VCJCS). The Deputy Chief of Staff for Air & Space Operations (AF/XO) is responsible for Air Force capabilities based requirements. The oversight for the Air Force capabilities based requirements process and procedures has been delegated to the Director of Operational Capability Requirements (AF/XOR).

3.3. Roles and Responsibilities. This section defines the roles and responsibilities for organizations affecting the Air Force capabilities based requirements process. This list is not exhaustive. Other organizations not specified in this section may provide expertise in certain situations to assist in the production of Air Force capabilities based requirements documents.

3.3.1. Under Secretary of the Air Force (SAF/US)

3.3.1.1. Serves as the Air Force Senior Acquisition Executive for space programs.

3.3.1.2. Monitors space-related acquisition processes and programs across the Air Force with the intent of identifying capabilities based requirements and processes that slow down the delivery of capability, support and/or services to the operator.

3.3.1.3. As appropriate, participates in HPTs to ensure capabilities based requirements documents reflect technical feasibility and conform with acquisition policies.

3.3.1.4. Establishes the Strategic Direction for National Security Space (NSS) by developing plans and integrating the needs and requirements of the DoD Components into major space program requirements documents and advocating Defense Intelligence Community space interest.”

3.3.2. Assistant Secretary of the Air Force, Acquisition (SAF/AQ)

3.3.2.1. Serves as the Air Force Senior Acquisition Executive for non-space programs and as the Air Force Senior Procurement Executive.

3.3.2.2. Lead, integrate and set Acquisition policy, processes and programs across the Air Force to facilitate rapid delivery of intended capability, support and/or services to the operator.

3.3.2.3. Participates in HPTs to ensure capabilities based requirements documents conform to acquisition policies.

3.3.2.4. Establishes a rapid response process to satisfy urgent and compelling operator needs (See AFI 63-114, *Rapid Response Process*).

3.3.2.5. Oversees the Air Force modification process.

3.3.3. Deputy Chief of Staff, Installations & Logistics (HQ USAF/IL)

- 3.3.3.1. Ensures capabilities based requirements documents contain executable supportability and sustainment strategies for effective fielding.
- 3.3.3.2. Supports requirements strategy development and participates in HPTs to ensure logistics and sustainment issues are addressed to provide long-term viability of the capability.
- 3.3.3.3. Ensures Air Force Chemical, Biological, Radiological, and Nuclear (CBRN) Defense Systems concerns are addressed in all Joint Requirements Office (JRO) capabilities based requirements documents and provides a copy of approved JRO capabilities based requirements documents to HQ USAF/XOR.
- 3.3.4. Directorate of Test & Evaluation (HQ USAF/TE)
 - 3.3.4.1. Functions as chief T&E advisor to Air Force leadership.
 - 3.3.4.2. Supports requirements strategy development and ensures appropriate (direct and/or designated) participation in HPTs to ensure capabilities based requirements are measurable and testable.
 - 3.3.4.3. Supports the operational, acquisition, and sustainment communities' efforts to acquire and maintain operationally effective, suitable, and survivable systems.
 - 3.3.4.4. Provides operational users with information needed to develop new doctrines and requirements, and refine tactics, techniques, and procedures.
 - 3.3.4.5. Provides feedback on test results of developmental programs to SAF/AQ/US and XO staff.
- 3.3.5. Deputy Chief of Staff, Warfighter Integration (HQ USAF/XI)
 - 3.3.5.1. Reviews and ensures enterprise and system architectures are properly addressed in capabilities based requirements documents (See AFI 33-124, *Air Force Enterprise Architecture*).
 - 3.3.5.2. Responsible for Air Force Spectrum Certification Compliance for all applicable systems that require spectrum access and allocation.
 - 3.3.5.3. Responsible for developing policy and integrating the process for Air Force Innovation activities, such as Battlelabs, Advanced Concept Technology Demonstrations (ACTD), and experimentations.
 - 3.3.5.4. Establishes policy for modeling and simulation efforts to include those performed in support of capabilities based requirements development and simulation-based acquisition.
- 3.3.6. Deputy Chief of Staff, Air & Space Operations (HQ USAF/XO)
 - 3.3.6.1. Provides oversight for Air Force capabilities based planning and requirements development process and procedures.
 - 3.3.6.2. Ensures Air Force doctrine guides capabilities based requirements, policies, plans, programs, and strategies.
 - 3.3.6.3. Establishes air and space power as key considerations in achieving military objectives.
 - 3.3.6.4. Participates in HPTs to provide HQ USAF subject matter expertise. Can participate as HPT lead, core, or support member.
- 3.3.7. Directorate of Intelligence, Surveillance, & Reconnaissance (HQ USAF/XOI)

- 3.3.7.1. Provides Air Force policy guidance on intelligence issues associated with force modernization-associated programs, activities, or initiatives IAW AFI 14-111.
- 3.3.7.2. Ensures all capabilities based requirements documents are reviewed for accurate assessment of threat and documentation of intelligence supportability and infrastructure requirements.
- 3.3.7.3. Manages Air Force Intelligence Certification process IAW CJCSI 3170.01, CJCSM 3170.01 and CJCSI 6212.01 requirements. Reviews, validates and forwards requests for Joint Military Intelligence Requirements Certification to DIA for approval.
- 3.3.8. Directorate of Operational Capability Requirements (HQ USAF/XOR)
 - 3.3.8.1. Lead for AF/XO on all Air Force capabilities based requirements that may result in research, development, test, and evaluation (RDT&E), and procurement appropriations. Provides advocacy for approved/validated capability needs resulting from capability gaps/shortfalls identified by the capabilities based planning process.
 - 3.3.8.2. Chairs the AFROCC.
 - 3.3.8.3. Manages the HQ USAF capabilities based requirements processes governed by CJCSI 3170.01 and CJCSM 3170.01, which support acquisition policies described in NSS 03-01 and the DoD 5000-Series. Responsible for the standardization and quality of Air Force capabilities based requirements processes and products.
 - 3.3.8.4. Assists in the formal transfer of capability responsibility to SAF/AQ, SAF/US, or an HQ USAF directorate for program development and procurement.
 - 3.3.8.5. Coordinates with other HQ USAF directorates to resolve requirements and programmatic issues for all programs, including special access programs (SAPs).
 - 3.3.8.6. Ensures other Services' requirements receive applicable Air Force functional review.
 - 3.3.8.7. Coordinates all Air Force capabilities based requirements documents with the other Services/Agencies and Joint Staff organizations.
 - 3.3.8.8. Provides RSR oversight and approves all requirements strategies.
 - 3.3.8.9. Maintains tasking authority to instruct responsible organizations within the HQ USAF, Secretariat, MAJCOMs, and Agencies to review and staff capabilities based requirements documents and comment resolution matrixes (CRMs).
 - 3.3.8.10. Facilitates the HPT process, approves HPT membership, and provides HPT lead and membership training.
 - 3.3.8.11. Reviews and facilitates staffing and coordination for all capabilities based requirements documents.
 - 3.3.8.12. Reviews and validates underlying capabilities analysis done in Analysis of Alternatives and Functional Solution Analysis to ensure studies are operationally relevant.
- 3.3.9. Directorate of Operational Plans and Joint Matters (HQ USAF/XOX)
 - 3.3.9.1. Prepares VCSAF for JROC decision meetings. Supports Joint Capabilities Board (JCB) decision meetings and serves as the primary Air Force representative on the FCB held at the Pentagon.

- 3.3.9.2. Sponsors and coordinates all Air Force ACAT I/IA and JROC Interest programs through JROC process once the document is validated by the AFROCC.
 - 3.3.9.3. Serves as single Air Force focal point for document entry into KM/DS for JCIDS processing.
 - 3.3.9.4. Coordinates Air Force position for all JROCMs that are associated with operational requirements, regardless of Service or ACAT level.
 - 3.3.9.5. Attends the AFROCC to facilitate the cross-flow of information between the AFROCC and JROC.
 - 3.3.9.6. Provides Air Force future operational concepts crafted within a joint context as input to effects and capabilities development.
 - 3.3.9.7. Supports future Air Force capabilities development through exploration of concepts and capabilities in wargaming.
- 3.3.10. Deputy Chief of Staff, Plans & Programs (HQ USAF/XP)
- 3.3.10.1. Provides capabilities based planning and programming guidance and insight through the Air Force Strategic Planning Directive (AFSPD), the Air Force Transformation Flight Plan (AFTFP), the Air Force Capabilities Investment Strategy (AFCIS), and the Annual Planning and Programming Guidance (APPG).
 - 3.3.10.2. Provides policy direction and oversight to facilitate MAJCOM and Agency strategic planning activities as identified in Air Force Policy Directive 90-11, Planning System.
- 3.3.11. Air Force, Chief Information Officer (AF-CIO)
- 3.3.11.1. Ensures effective and efficient information technology management as required by Congressional statutory and DoD regulatory requirements, e.g., the Clinger-Cohen Act and DoD 5000-series.
 - 3.3.11.2. Serves as Air Force lead for net-centric operations implementation through policies, program oversight and resource allocation
 - 3.3.11.3. Supports requirements strategy development and provides IT life-cycle management expertise during HPTs.
- 3.3.12. Air Education and Training Command (AETC)
- 3.3.12.1. Focal point for developing, conducting, and evaluating initial skills training; advanced technical training; graduate academic education programs; and conducting flying training.
 - 3.3.12.2. Coordinates on all Air Force capabilities based requirements documents and other Service requirements documents with Air Force training implications.
 - 3.3.12.3. Provides HPT member (core or support as appropriate) responsible for training input to all Air Force (and some Joint) capabilities based requirements documents.
- 3.3.13. Air Force Operational Test and Evaluation Center (AFOTEC)
- 3.3.13.1. Manages and conducts Air Force Operational Test and Evaluation (OT&E) in accordance with AFI 99-103.

3.3.13.2. Supports analysis and planning processes as requested to understand current and future operational needs.

3.3.13.3. Assists in developing Air Force capabilities based requirements documents as a core team member of the HPT.

3.3.13.4. Reviews all capabilities based requirements documents and operational concepts of employment for OT&E issues.

3.3.13.5. Participates in AoAs, AF CONOPS Risk Assessment Team conferences, concept decisions and studies, Technology Development Strategies, T&E strategies, and acquisition option development down select as necessary.

3.3.13.6. Uses, but is not limited to, capabilities based requirements documents and AoAs as a basis for planning, conducting and reporting the OT&E and assessing operational impacts of systems.

3.3.14. Lead Command/Field Operating Agency (FOA)

3.3.14.1. Sponsors capabilities based requirements documents for capabilities needed to accomplish the MAJCOM's mission.

3.3.14.2. Participates in and coordinates on requirements strategy reviews and provides SMEs as required.

3.3.14.3. Develops and conducts analysis to support Air Force and Joint requirements.

3.3.14.4. Participates in HPTs (as HPT lead, and/or core and support member - as necessary) for document development and provides consultation to AF/XOR on HPT lead determination.

3.3.14.5. Provides a focal point to facilitate command-wide review of capabilities based requirements documents.

3.3.14.6. Assists Air Force CONOPS organization in identifying and prioritizing capability gaps/shortfalls through the capabilities based planning process.

3.3.14.7. Provides stakeholder requirements inputs to the HPT lead and supports the briefings required at the RSR, AFROCC, and JROC.

3.3.14.8. Ensures weapons systems are developed in compliance with US Arms Control Treaty obligations.

3.3.14.9. Submits CCDs to AF/XOR to initiate the rapid response process described in AFI 63-114 and [Attachment 3](#).

3.3.14.10. Documents the architecture and M&S required for the capability's acquisition, operations, test, training, and sustainment.

3.3.15. Operating Commands

3.3.15.1. Provides a focal point to facilitate command-wide review of capabilities based requirements documents.

3.3.15.2. Provides core/support HPT members as appropriate for capabilities based requirements document development.

3.3.15.3. Develops and conducts analyses to support Air Force and Joint requirements.

3.3.16. Implementing Command (Air Force Materiel Command (AFMC) and/or Air Force Space Command (AFSPC))

3.3.16.1. Provides core/support HPT members as appropriate for capabilities based requirements document development.

3.3.16.2. Assists the lead command in developing and preparing AoAs and performing or contracting for concept studies funded by requesters.

3.3.16.3. Ensures modeling and simulation requirements are addressed within capabilities based requirements.

3.3.16.4. Provides assistance and guidance in sustainment planning and execution.

3.3.16.5. Coordinates on all capabilities based requirements documents.

3.3.17. Air Reserve Components (Air Force Reserve (AFR) & Air National Guard (ANG))

3.3.17.1. Sponsors capabilities based requirements documents for capabilities needed to accomplish assigned missions.

3.3.17.2. Participates in and coordinates on requirements strategy reviews and provides SMEs as required.

3.3.17.3. Develops and conducts analysis to support Air Force and Joint requirements.

3.3.17.4. Provides core/support HPT members as appropriate for capabilities based requirements document development.

3.3.17.5. Provides a focal point to coordinate capabilities based requirements documents with appropriate commands/agencies during document development and resolution of comments.

3.3.17.6. HQ USAF/REOR works in concert with AF/XOR and is the Air Force Reserve office of primary responsibility for capabilities based requirements at the HQ USAF level.

3.3.17.7. ANG/XOR (National Guard Bureau (NGB)) works in concert with AF/XOR as the ANG office of primary responsibility for capabilities based requirements at the HQ USAF level.

3.3.17.8. Provides recommendations to AF/XOR on CCD approval.

3.3.18. Air Force Studies and Analyses Agency (AFSAA)

3.3.18.1. Provides strategic analytic synchronization framework for functional area and CONOPS analyses.

3.3.18.2. Acts as the Air Force interface with OSD for analytic policy issues to ensure common reference across the Air Force Major Commands.

3.3.18.3. Serves as the analytic advisor to the AFROCC Chairman for special and designated programs to include concept and pre-AoA screening studies.

3.3.18.4. Chairs formal Technical Review Groups when requested by the requirements sponsor or the AFROCC.

3.3.19. Office of Aerospace Studies (OAS)

3.3.19.1. Assists lead command and field agencies with the development of all Air Force AoAs (and FSAs, if requested by sponsor) to ensure quality, consistency and value.

3.3.19.2. Provides technical reviews and assessments on all Air Force AoAs (and FSAs, if requested by sponsor) prior to AFROCC review.

3.4. Air Force Requirements for Operational Capabilities Council (AFROCC). The AFROCC, an instrument of the CSAF and SECAF, reviews, validates, and recommends approval of all Air Force capabilities based requirements. The AFROCC ensures Air Force capabilities based requirements documentation is prepared in accordance with Air Force and Joint Staff guidance, complies with established standards, and accurately articulates valid Air Force capabilities based requirements. The AFROCC reviews FSA plans along with the ICD Stage I. For follow-on capabilities based requirements documents, the AFROCC validates all AF-developed AoA Study Plans, midterm status, and AoA final results. It is chaired by AF/XOR and is composed of MAJCOM requirements principals, Secretariat, and HQ Air Force representatives. AFROCC membership and functions are outlined in the AFROCC Charter and is located on the AF/XORD web sites at: <https://www.afreqs.hq.af.mil/> and <http://www.afreqs.pentagon.smil.mil>.

3.4.1. Executive AFROCC. An Executive session brings all O-7/O-8 permanent members together to review AFROCC processes and other requirements issues as appropriate. The AFROCC normally meets in Executive session twice per year.

3.4.2. AFROCC Special Session. The AFROCC Special Session reviews, validates, and approves all Air Force special access capabilities based requirements.

3.5. Functional Capabilities Boards (FCBs). Each FCB implemented by the JROC is responsible for all aspects of its assigned Joint Functional Concept (JFC). Each FCB will work as the lead coordinating body to ensure that the joint force is best served throughout the JCIDS and acquisition process. For additional information on FCBs, refer to CJCSI 3170.01, CJCSM 3170.01, and FCB charters. Copies of these documents are located on AF/XORD web sites at: <https://www.afreqs.hq.af.mil/> and <http://www.afreqs.pentagon.smil.mil>.

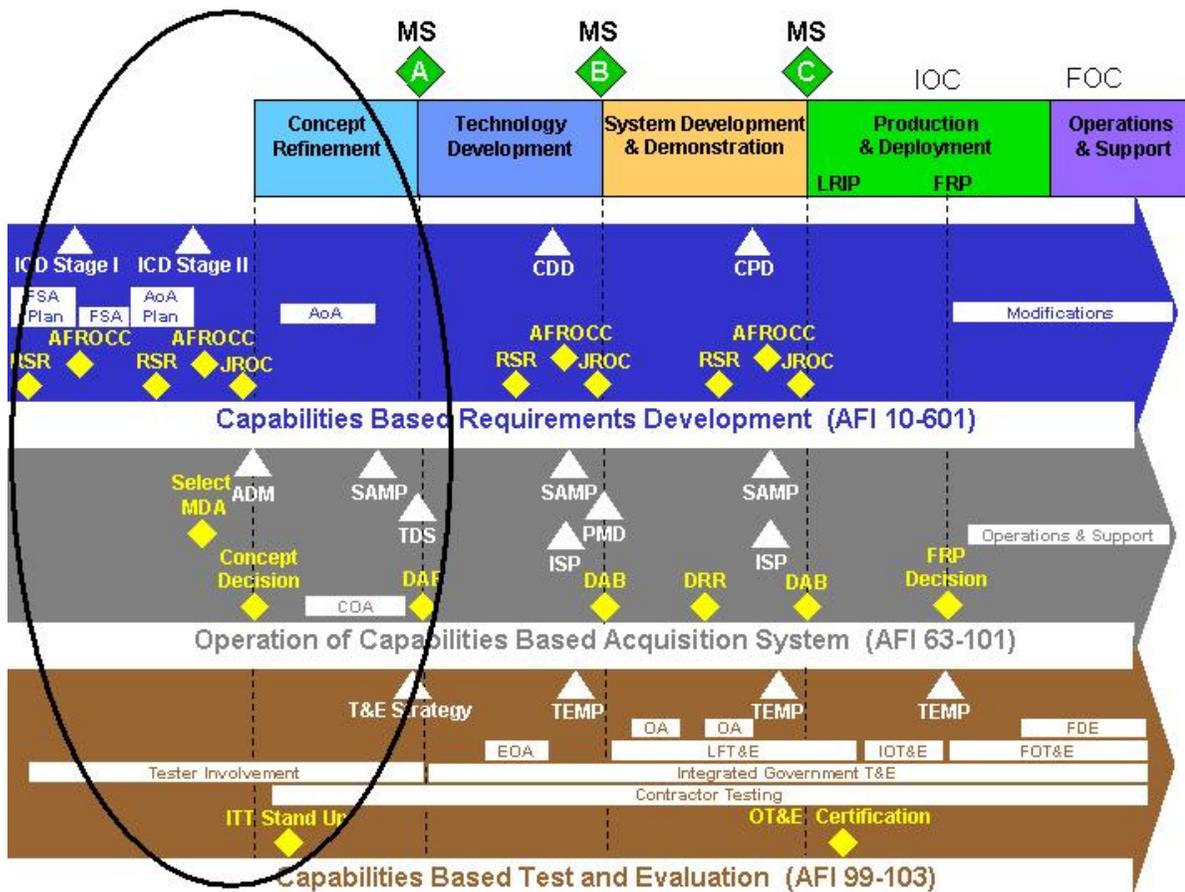
3.6. Joint Requirements Oversight Council (JROC). The JROC reviews programs designated as JROC Interest and supports the acquisition review process. The JROC, at its discretion, may review any capabilities based requirements document or any other issues that may have joint interests or impacts. The JROC also reviews programs at the request of the Secretary of Defense, Deputy Secretary of Defense, USD(AT&L), USecAF (as DoD Executive Agent for Space), or the Director of Central Intelligence (DCI) to resolve contentious and high interest issues. Specific guidance on the JROC is provided in CJCSI 5123.01, and a copy of the instruction is located on the AF/XORD web site at: <https://www.afreqs.hq.af.mil/>.

Chapter 4

REQUIREMENTS ACTIVITIES TO SUPPORT MILESTONE A ACQUISITION DECISION

4.1. Purpose. This chapter provides a high-level description of capabilities based requirements process activities conducted to support a Milestone A acquisition decision (Figure 4.1). It outlines the actions necessary to develop an ICD in an evolutionary process: ICD Stage I and ICD Stage II. ICD Stage II builds upon ICD Stage I and both directly support the Concept Refinement phase, Analysis of Alternatives (AoA), the Technology Development Strategy (TDS), the Milestone A acquisition decision, and subsequent Technology Development activities.

Figure 4.1. Activities to Support Milestone A Acquisition Decision.



4.2. ICD Stage I. Stage I captures a capability gap/shortfall and highlights it to senior leadership. The intent is early identification, in order to enhance the opportunity to investigate viable alternatives to fill the gap/shortfall. The ICD Stage I encompasses the information required in Sections 1 through 5 of a complete ICD, as described in CJCSM 3170.01. ICD Stage I identifies the capability gap/shortfall and operational impacts to guide follow-on analysis, innovation, and experimentation. It characterizes and bounds the capability gap/shortfall in operational terms based on operating concepts and desired effects. It describes how the capability gap/shortfall was identified (i.e., capabilities based planning, top-down direction, technology insertion, etc.), why and when a capability is needed, and how it will be used and its

relation to effects-based operations (EBOs). Stage I documents the results of the Functional Area Analysis (FAA) and a Functional Needs Analysis (FNA) conducted by the sponsor. The output of the FAA is a list of operational tasks, conditions, and standards needed to achieve operational objectives. Using the tasks identified in the FAA as primary input, the output of the FNA is a list of capability gaps/shortfalls that require solutions and the time frames in which those solutions are needed. Stage I stops short of a complete ICD since it does not document Functional Solution Analysis (FSA) results or make a recommendation for materiel and/or non-materiel approach(es). Further details on the FAA, FNA, and FSA are provided in CJCSM 3170.01.

4.2.1. Stage I Strategy Development. The sponsor must accurately scope the capability gap/shortfall based on credible facts, timing, and technology constraints. The strategy maps the details necessary for developing an ICD Stage I and describes the resources and communities necessary to support the process. Upon notification to develop ICD Stage I, at action officer level, the sponsor notifies the appropriate FCB Working Group to gather functional impacts and constraints. The FCB Working Group assists the sponsor in determining its potential JPD, and determining the appropriate organizations (i.e., other Services, agencies, etc.) necessary to involve in the process. For potential JROC Interest initiatives, the sponsor officially advises OSD/PA&E of the anticipated ICD Stage I development. It is imperative the sponsor develop Stage I in collaboration with the FCB Working Group, Services, AF/XO-CONOPS, HQ USAF SMEs, as well as the appropriate MAJCOMS/Agencies, OSD/PA&E, and other organizations to ensure stakeholders are actively informed and involved from the beginning. In addition, consideration must be given to the focus and depth of analysis that will be needed to support the development of the ICD Stage II and FSA plan. Normally, all initiatives develop an ICD Stage I; however, in some circumstances AF/XOR may direct a sponsor to bypass the development of an ICD Stage I and proceed directly to an ICD Stage II. Specific guidance on ICD Stage I development, ICD Stage I document review, and FCB Working Group and OSD/PA&E contact information is located on the AF/XORD web site at: <https://www.afreqs.hq.af.mil/>.

4.2.2. Stage I Requirements Strategy Review. AF/XOR approves the strategy for Stage I development. To obtain approval, the sponsoring organization or a HQ USAF SME briefs AF/XOR on the strategy at least 30 days before commencing an HPT to develop ICD Stage I. **Table 4.1.** illustrates the types of information presented during the ICD Stage I RSR. Additional guidance for RSR presentations and HPT scheduling requests is located on the AF/XORD web site at: <https://www.afreqs.hq.af.mil/>.

Table 4.1. ICD Stage I Strategy Review Information.

<ul style="list-style-type: none"> • Describe capability gap/shortfall in operational terms (who needs it, why, when, etc.) • How capability need was identified (e.g., top-down directed, CRRA, etc.) • Linkage to: <ul style="list-style-type: none"> o Joint Operating Concepts (JOCs) o Joint Functional Concepts (JFCs) o Integrated Architectures (as available) o Air Force CONOPS • OV-1 • Strategy to conduct FSA • Potential ACAT level and JPD • Constraints (operational environment, threat, etc.) • HPT lead, HQ USAF SME, FCB Working Group, OSD, Services, and other participating stakeholders • HPT membership (core & support teams) • Projected ICD Stage I completion/AFROCC presentation/doc archival • Justification for not conducting an HPT (XOR must approve)
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4.2.3. Stage I HPT Planning. Following strategy approval, sponsor ensures final preparations are completed for the ICD Stage I HPT. **Table 4.2.** lists the HPT items to consider.

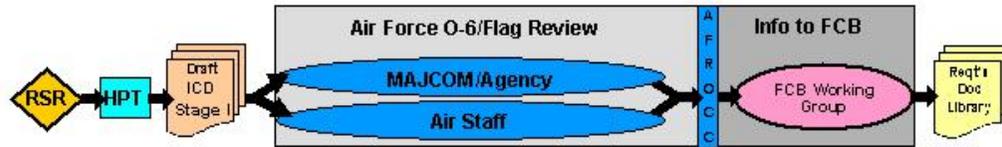
Table 4.2. ICD Stage I HPT Considerations.

<p>Confirm:</p> <ul style="list-style-type: none"> • Core team and supporting organizations participation • HQ USAF SME, FCB Working Group, Service, & OSD/ PA&E participation • Facilitator and facility availability
<p>Provide:</p> <ul style="list-style-type: none"> • Strategy guidance to core team members • Draft document to team members (if available) • HPT training (as required)
<p>Assign:</p> <ul style="list-style-type: none"> • Pre-HPT tasks to team members (as required)

4.2.4. Stage I Processing. Stage I documents are Air Force products and only receive Air Force-wide review. Once Air Force review is complete, the sponsor presents the Stage I document and the FSA Study Plan to the AFROCC for review and validation. Upon validation, AF/XORD forwards a copy of the ICD Stage I to the FCB Working Group (for information purposes) and archives the validated doc-

ument in the Air Force Requirements Document Library. **Figure 4.2.** depicts the review flow for all ICD Stage I documents. Follow the review and approval process for ICD Stage I presented in **Attachment 2** and the specific coordination timelines located on the AF/XORD web site at: <https://www.afreqs.hq.af.mil/>.

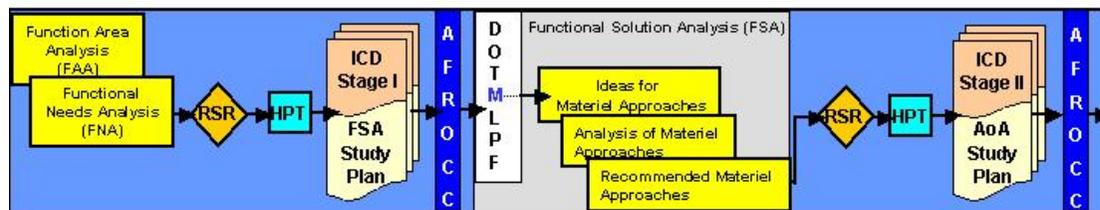
Figure 4.2. ICD Stage I Review Flow.



4.2.5. Stage I Guidelines. To develop the ICD Stage I, sponsors will use the format and guidelines described in CJCSI 3170.01, CJCSM 3170.01 and the XORD web site.

4.3. ICD Stage II. The outcome of ICD Stage II is a complete ICD, which is mandatory to enter the JCIDS process (**Figure 4.3.**). It builds on ICD Stage I (Sections 1 through 5), and identifies, evaluates, and recommends DOTMLPF approaches to fill the capability gap/shortfall (Sections 6 through 7).

Figure 4.3. ICD Stage I & Stage II Development Flow.



4.3.1. Stage II Requirements Strategy Development. The strategy developed for an ICD Stage I is expanded upon and further refined in the requirements strategy development for ICD Stage II. The ICD Stage II further defines the capability gap/shortfall in terms of operating concepts, desired effects and operational impacts. It identifies why and when a capability is needed and how it will be used. The sponsor, along with operators, continues the collaboration initiated in ICD Stage I with Air Force acquisition, test, and logistics communities (and other appropriate SMEs). Strategy development includes sponsor's interaction with other Services and agencies, including the appropriate FCB Working Group, to confirm the JPD and gather supporting information and analysis. For potential JROC Interest initiatives, the sponsor continues collaborating with OSD/PA&E. Continuous collaboration ensures the requirements strategy addresses required capabilities identified in applicable Joint and Air Force Operating Concepts, capabilities based planning documents, CRRA results, and other pertinent guidance. In addition, consideration must be given to the focus and depth of analysis that will be needed to support the development of the ICD Stage II and AoA Study Plan. Additional guidance on strategy development is located on the AF/XORD web site at: <https://www.afreqs.hq.af.mil/>.

4.3.2. Stage II Requirements Strategy Review. AF/XOR approves the requirements strategy for ICD Stage II development. To obtain approval, the sponsoring organization or a HQ USAF SME briefs AF/XOR on the requirements strategy. The RSR briefing should occur at least 30 days before starting an HPT. **Table 4.3.** illustrates the types of information presented during the ICD Stage II RSR. Additional

guidance for RSR presentations and HPT scheduling requests is located on the AF/XORD web site at: <https://www.afreqs.hq.af.mil/>.

Table 4.3. Stage II ICD Requirements Strategy Review Information.

- Describe capability gap/shortfall in operational terms (who needs it, why, when, etc.)
- How capability need was identified (e.g., top-down directed, FCB, CRRA, etc.)
- Linkage to:
 - o Joint Operating Concepts (JOCs)
 - o Joint Functional Concepts (JFCs)
 - o Integrated Architectures (as available)
 - o Air Force CONOPS
- OV-1
- FSA (identify non-materiel/materiel approaches) and scope of AoA (if required)
- Potential ACAT level and JPD
- Proposed schedule/timeline for capability development and fielding (MS A/B, etc.)
- Constraints (technology maturity, acquisition approach, HSI considerations, etc.)
- Funding strategy
- Interoperability & Supportability requirements such as:
 - o Global Information Grid (GIG)
 - o Distributed Mission Operations (DMO), etc.
 - o Intelligence and Threat Certifications
- HPT lead, HQ USAF SME, FCB Working Group, OSD, Services, and other participating Stakeholders
- HPT membership (core & support teams)
- Projected ICD completion/AFROCC presentation/JROC presentation/doc archival
- Justification for not conducting an HPT (XOR must approve)

4.3.3. Stage II HPT Planning. Following strategy approval, sponsor ensures that final preparations are completed for the ICD Stage II HPT. **Table 4.4.** lists the HPT items to consider.

Table 4.4. ICD Stage II HPT Considerations.

<p>Confirm:</p> <ul style="list-style-type: none"> • Core team and supporting organizations participation • HQ USAF SME, FCB Working Group, Service, & OSD/ PA&E participation • Facilitator and facility availability
<p>Provide:</p> <ul style="list-style-type: none"> • Strategy guidance to core team members • Draft document to team members (if available) • HPT training (as required)
<p>Assign:</p> <ul style="list-style-type: none"> • Pre-HPT tasks to team members (as required)

4.3.4. Stage II Processing. All ICD Stage II documents are coordinated Air Force-wide. The level of review beyond the AFROCC is dependent upon the document’s JPD (Table 2.1.). For ACAT I efforts, sponsors present the corresponding AoA Study Plan for the associated ICD Stage II to the AFROCC for approval. Figure 4.4. depicts the ICD Stage II review flow for a “JROC Interest” effort and should be used for planning purposes during requirements strategy development. Follow the review and approval process for ICDs presented in Attachment 2 and the specific coordination timelines located on the AF/XORD web site at: <https://www.afreqs.hq.af.mil/>.

4.3.5. Stage II Guidelines. To develop the ICD Stage II, sponsors will use the format and guidelines described in CJCSI 3170.01, CJCSM 3170.01 and the XORD web site.

Figure 4.4. ICD Stage II Review Flow (JPD: JROC Interest).



4.4. Post-ICD Activities. An approved ICD Stage II and AoA Study Plan (if necessary) are required for the sponsoring organization to conduct Concept Refinement in support of Milestone A. The collaborative effort initiated during requirements strategy development continues throughout the Pre-Milestone A phase and directly supports the AoA and the TDS. Additional activities supported by the ongoing collaborative effort are: Courses of Action (COA) and acquisition strategy development, test strategy development, and sustainment/supportability strategy development. Concept Refinement ends at Milestone A when the MDA selects a preferred solution to fulfill the capability need.

4.4.1. Analysis of Alternatives (AoA). In the case of a potential ACAT I proposal, an AoA must be conducted in accordance with DoDI 5000.2. The AoA helps decision makers select the most cost-effective alternative to satisfy an operational capabilities based requirement. The AoA assesses a program’s desirability and affordability and helps justify the need for initiating or continuing an acquisition effort. An AoA is an analysis of the operational effectiveness and estimated life cycle costs of alternative materiel solutions. It is required for all ACAT I programs and may be directed for ACAT II

or III programs. Air Force AoAs must not only make the case for having identified the most cost-effective alternative, they must also make a compelling statement about the military utility of the capability needed.

4.4.1.1. AoA Execution and Review. The sponsor is responsible for executing the AoA with the assistance from AFMC's Office of Aerospace Studies (OAS). The AoA study team is composed of members from the MAJCOM staff, HQ USAF, support Commands, OAS, Services, and others as necessary and led by the designated Study Director. OSD/PA&E participation from the early stages of planning and on the AoA team is required. The AFROCC reviews and approves the AoA Study Plan, midterm status, and final reports in accordance with the AFROCC Charter. Results of AoAs are reviewed by the appropriate FCB Working Group to ensure that the refined concept or approach continues to meet operator's capability needs. The AFROCC may direct AoA results to be presented to the Air Force Council as appropriate. If the nature of the AoA is extremely technical or high-visibility, either the requirements sponsor or the AFROCC may request a formal technical assessment by the Technical Review Group (TRG), which is chaired by the Director of Air Force Studies and Analyses (AFSAA).

4.4.1.1.1. AoA Study Plan. The AoA study team develops a study plan of sufficient detail to address the issues established by the Milestone Decision Authority (MDA) and to ensure a rigorous analysis process. Time and effort spent on the study plan before beginning the analysis helps ensure a high-quality AoA, on schedule and within budget. The sponsor presents the AoA Study Plan at the AFROCC for validation in conjunction with the appropriate ICD Stage II document. The Air Staff SME (normally from within AF/XOR) will staff a memorandum to the AF/CV to release AFROCC-validated AoA Study Plans to OSD/PA&E and the MDA. OSD/PA&E reviews all study plans prior to beginning the analysis. Formats and additional guidance are available in the AoA Handbook located on the AFMC/OAS web site at: <http://www.oas.kirtland.af.mil/>.

4.4.1.1.2. AoA Final Report. The sponsor approves the final AoA report and briefs the results to the AFROCC for validation. After AFROCC validation, the sponsor forwards the report to the Air Staff SME (normally from within AF/XOR), who will staff a memorandum to the AF/CV to release the AFROCC-validated AoA final results to OSD/PA&E and the MDA. Final AoA reports must be provided to OSD/PA&E no later than 60 days before the acquisition board for Milestone A or KDP A decision. The Joint Staff does not review the Milestone A AoA final report until review of the CDD occurs (as per CJCSI 3170.01 & CJCSM 3170.01). The sponsor supplies the final AoA report along with the CDD to AF/XORD, who in turn, submits both to the Lead FCB (via the JCIDS Gatekeeper). The lead FCB reviews the report to ensure that the refined concept or approach continues to meet the operator's capability needs.

4.4.1.1.3. AoA to Support Milestone B/C. Before Milestone B or C, the MDA may require a new AoA, or an update to a previous AoA, to account for any factors that were omitted or may have changed during the preceding acquisition phase. Staffing of these AoAs to AF/CV for release to OSD will be accomplished in the same manner as the original AoA Study Plan and final results.

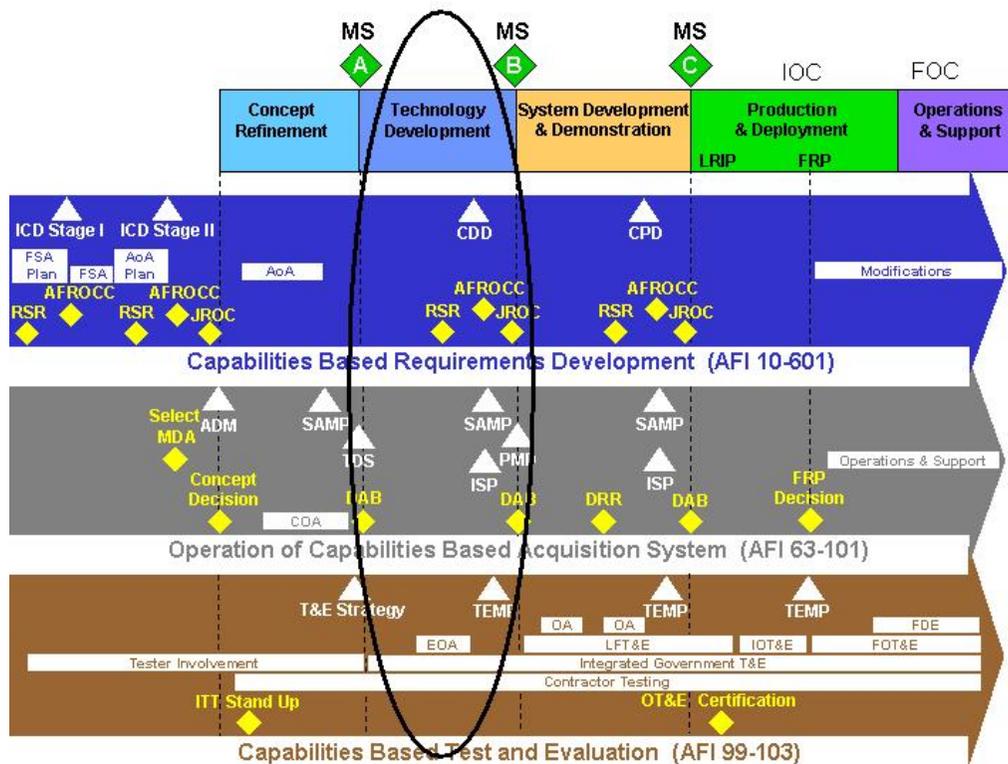
4.5. Changes to the ICD. The ICD is not normally updated.

Chapter 5

REQUIREMENTS ACTIVITIES TO SUPPORT MILESTONE B ACQUISITION DECISION

5.1. Purpose. This chapter provides a high-level description of the capabilities based requirements process activities conducted to support a Milestone B acquisition decision (Figure 5.1). It outlines the requirements strategy development, RSR, and HPT activities leading to a Capability Development Document (CDD). The results of the AoA (if accomplished), technology development, and other analyses provide the basis for development of the CDD and the rationale for adopting either an evolutionary acquisition or a single-step-to-full-capability strategy (traditional acquisition strategy). An approved CDD is required at Milestone B.

Figure 5.1. Activities to Support Milestone B Acquisition Decision.



5.2. Requirements Strategy Development. The requirements strategy lays the foundation for CDD development and supports the System Development and Demonstration phase for a single increment. The sponsor, along with operators, continues the collaboration initiated in ICD development with Air Force acquisition, test, and logistics communities (and other appropriate SMEs). Strategy development includes sponsor’s interaction with other Services and agencies, including the appropriate FCB Working Group, to re-confirm the JPD and gather supporting information and analyses. For potential JROC Interest initiatives, the sponsor continues collaborating with OSD/PA&E. The preferred materiel solution is based on mature technologies demonstrated during the Technology Development phase. The sponsor applies lessons learned during the Concept Refinement and Technology Development phases plus any other appropriate risk reduction activities such as experimentation, T&E, and capability/schedule tradeoffs.

Additional guidance on strategy development is located on the AF/XORD web site at:

<https://www.afreqs.hq.af.mil/>.

5.3. Requirements Strategy Review. AF/XOR approves the requirements strategy before initiating the CDD. To obtain approval, the sponsoring organization or a HQ USAF SME briefs AF/XOR on the requirements strategy. The RSR briefing occurs at least 30 days before commencing a HPT. **Table 5.1.** illustrates the types of information presented during the RSR. Additional guidance for RSR presentations and HPT scheduling requests is located on the AF/XORD web site at: <https://www.afreqs.hq.af.mil/>.

Table 5.1. CDD Requirements Strategy Review Information.

- Description of capability need and association with approved ICD(s)
- Linkage to:
 - o Joint Operating Concepts (JOCs)
 - o Joint Functional Concepts (JFCs)
 - o Air Force CONOPS
- Describe if CDD is a FoS or SoS, and identify any related CDD(s)/CPD(s)
 - o Identify CRD crosswalk
- ACAT level and JPD
- Summary of AoA results (if applicable)
- Summary of the Technology Development Strategy
- OV-1 & SV-1 minimum (possibly other views as directed)
- Threat Summary
- Key Performance Parameters (KPPs) and Key System Attributes (KSAs)
- Acquisition and sustainment strategy
- Funding and Test strategies
- Proposed schedule/timeline for capability development and fielding (MS B/C, etc.)
- Constraints (technology maturity, acquisition approach, HSI considerations, etc.)
- Lessons learned during Concept Refinement and Technology Development
- Interoperability & Supportability requirements such as:
 - o Spectrum Access and Allocation
 - o Distributed Mission Operations (DMO), GPS Utility/Denial, etc.
 - o Intelligence, Threat, and Insensitive Munitions Certifications
- HPT lead, HQ USAF SME, FCB Working Group, OSD, Services, and other participating Stakeholders (as appropriate)
- HPT membership (core & support teams)
- Projected CDD completion/AFROCC presentation/JROC presentation/doc archival
- Justification for not conducting an HPT (XOR must approve)

5.4. HPT Planning. Following strategy approval, sponsor ensures that final preparations are completed for the HPT. **Table 5.2.** illustrates the types of information to consider.

Table 5.2. CDD HPT Considerations.

<p>Confirm:</p> <ul style="list-style-type: none"> • Core team and supporting organizations participation • HQ USAF SME, FCB Working Group, Service, & OSD/ PA&E participation • Facilitator and facility availability
<p>Provide:</p> <ul style="list-style-type: none"> • Strategy guidance to core team members • Draft document to team members (if available) • HPT training (as required)
<p>Assign:</p> <ul style="list-style-type: none"> • Pre-HPT tasks to team members (as required)

5.5. CDD Guidelines. The CDD supports a single affordable increment of useful military capability based on a mature technology and defines the information necessary to support program initiation. It provides the operational KPPs, KSAs, and other attributes necessary to design and sustain the proposed system. It captures the evaluation of different materiel solutions and recommends the best approach to achieve the needed capability. It discusses the overall acquisition strategy, describes the current increment, and provides an outline of the overall program strategy. For evolutionary acquisition programs, the CDD outlines the increments delivered to date, the current increment, and future increments (if any) of the acquisition program to deliver the full desired capability. For CDD development, follow guidelines and format as described in CJCSI 3170.01, CJCSM 3170.01, and that are located on the AF/XORD web site at: <https://www.afreqs.hq.af.mil/>.

5.5.1. AoA to Support Milestone B. Before Milestone B, the MDA may require a new AoA or an update to a previous AoA to account for any factors that may have changed during the preceding phase. AoAs are tailored based on direction from decision-makers. For Milestone B, AoAs may be done for reasons such as systems and technology refinements, capability/technology insights, interoperability and supportability, operational risk and operational effectiveness updates, threat and survivability updates, sensitivity to cost and performance drivers, etc.

5.5.2. Performance Attributes. The CDD provides performance attributes with threshold and objective values, including KPPs and KSAs. Since the operational performance attributes provided in a CDD apply to only a single increment, the KPPs apply only to the current increment or, in a single-step-to-full-capability approach, to the entire system. Follow guidelines and format as described in CJCSM 3170.01 and this AFI for CDD development.

5.6. CDD Requirements Correlation Table (RCT). Specific to Air Force-generated CDDs, the RCT is a summary of the all desired capabilities listed as threshold and/or objective values within the CDD text. The RCT consists of three separate tables. It adds a Key System Attribute (KSA) table and expands on the KPP and Attribute tables already required by CJCSM 3170.01. It lists operator identified KPPs and

attributes, their accompanying thresholds and objectives values, the supporting rationale justifying each of these values, and the paragraph number where supporting text is documented in the CDD. The primary objective of the RCT is to provide a concise summary to ensure decision makers have the necessary information to make informed conclusions and/or decisions. It also provides operator identified key performance parameters for inclusion in the performance section of the APB. The RCT is mandatory for all Air Force-generated CDDs and CDD Annexes.

5.6.1. RCT Structure. The RCT consists of three separate tables: Key Performance Parameter (KPP), Key System Attribute (KSA), and Attribute (**Table 5.3.**).

5.6.1.1. KPP Table. The KPP table contains only those few KPPs (generally eight or fewer) that capture the minimum operational effectiveness (and any necessary support-related KPPs) needed to achieve the overall desired capabilities during the increment. Failure to meet KPP threshold value may result in a reevaluation, reassessment or termination of the program.

5.6.1.2. KSA Table. The KSA table contains only those few KSAs (generally eight or fewer) that capture the operational effectiveness the operator defines as essential to achieve overall desired capabilities during the applicable increment. KSAs provide decision makers with an additional level of prioritization of operator identified attributes.

5.6.1.3. Attribute Table. The attribute table contains attributes that contribute significantly to the desired operational capability during the applicable increment. Attributes are used to guide decision makers in making tradeoffs between threshold and the objective levels of the stated attributes.

5.6.2. RCT Format. All three tables consist of the same format with the exception of the subject column (e.g., KPP, KSA, and Attribute). The following information is required in each column for all three tables within the RCT:

5.6.2.1. Paragraph #. Identify the paragraph where text for KPP/attribute is located within CDD.

5.6.2.2. KPP/KSA/Attribute. Depending on the table (e.g., KPP, KSA, and Attribute), identify the KPP/attribute for which the threshold and objective is listed in the CDD text.

5.6.2.3. Development Threshold. Insert the minimum acceptable operational value below which the utility of subject KPP/attribute becomes questionable. Some KPP/attribute threshold values in the CDD may be listed as "To Be Determined" (TBD), and as the program matures, are codified and documented in the CPD.

5.6.2.4. Development Objective. Insert the desired operational objective value associated with subject KPP/attribute, beyond which any gain in utility does not warrant additional expenditure. The objective value is an operationally significant increment above the threshold.

5.6.2.5. Rationale/Analytical References. Briefly summarize (4 bullets or less) the rationale/analytical references of subject KPP/attribute as provided within the text of section 6 of the CDD. Address the specific studies, analysis, threat assessments, modeling, or other reference sources (including informed military judgments) that justify and substantiate the threshold value. The value for each threshold must describe its relationship to mission success and how that value was derived.

Table 5.3. CDD RCT Format.

Para. #	Key Performance Parameter	Development Threshold	Development Objective	Rationale & Analytical References
	KPP 1	Value	Value	
	KPP 2	Value	Value	
	KPP 3	Value	Value	

Table X.X. Performance Parameter Table

Para. #	Key System Attribute	Development Threshold	Development Objective	Rationale & Analytical References
	KSA 1	Value	Value	
	KSA 2	Value	Value	
	KSA 3	Value	Value	

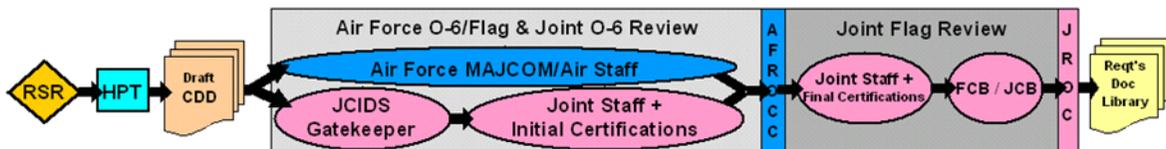
Table X.X. Key System Attribute Table

Para. #	Attribute	Development Threshold	Development Objective	Rationale & Analytical References
	Attribute 1	Value	Value	
	Attribute 2	Value	Value	
	Attribute 3	Value	Value	

Table X.X. Attribute Table

5.7. CDD Processing. All CDDs are coordinated through the Air Force. The level of review beyond the AFROCC is dependent upon the document’s JPD (Table 2.1.). Figure 5.2. depicts the CDD review flow for a “JROC Interest” effort and should be used for planning purposes during requirements strategy development. Follow the review and approval process for CDDs presented in Attachment 2 and the specific review timelines located on the AF/XORD web site at: <https://www.afreqs.hq.af.mil/>.

Figure 5.2. CDD Review Flow (JPD: JROC Interest).



5.8. Post-CDD Activities. When approved, the CDD supports a Milestone B decision, updates architectures, and guides post-Milestone B activities. Each increment of an evolutionary acquisition program normally has its own CDD and Milestone B decision. The sponsor recommends and the requirements approval authority approves whether the CDD for a follow-on increment(s) will be an entirely new CDD, or whether an annex to existing CDD is sufficient.

5.9. Changes to the CDD.

5.9.1. CDD Update. Within one acquisition increment, or in a follow-on increment, the need may arise to refine (update) an approved CDD in order to accurately document changes that have occurred before and/or during System Development and Demonstration. CDD updates are often a result of unforeseen program events (i.e., altering KPPs, budget cuts, schedule delays, technology maturity, leadership intervention, acquisition strategy changes, etc.). Sponsors may update the CDD before or

after Milestone B. Document preparation, format, review, validation, approval, and archival of subsequent updates are normally the same as the original CDD. AF/XOR determines the level of review and approval authority required for CDD updates. Additional information on CDD updates is located on the AF/XORD web site at: <https://www.afreqs.hq.af.mil/>.

5.9.1.1. Changes to CDD KPP. All CDD updates containing changes to a previously validated KPP, regardless of JPD, require AFROCC validation. After AFROCC validation, CDDs designated as JROC Interest must receive JROC validation/approval (unless previously delegated elsewhere by the JROC).

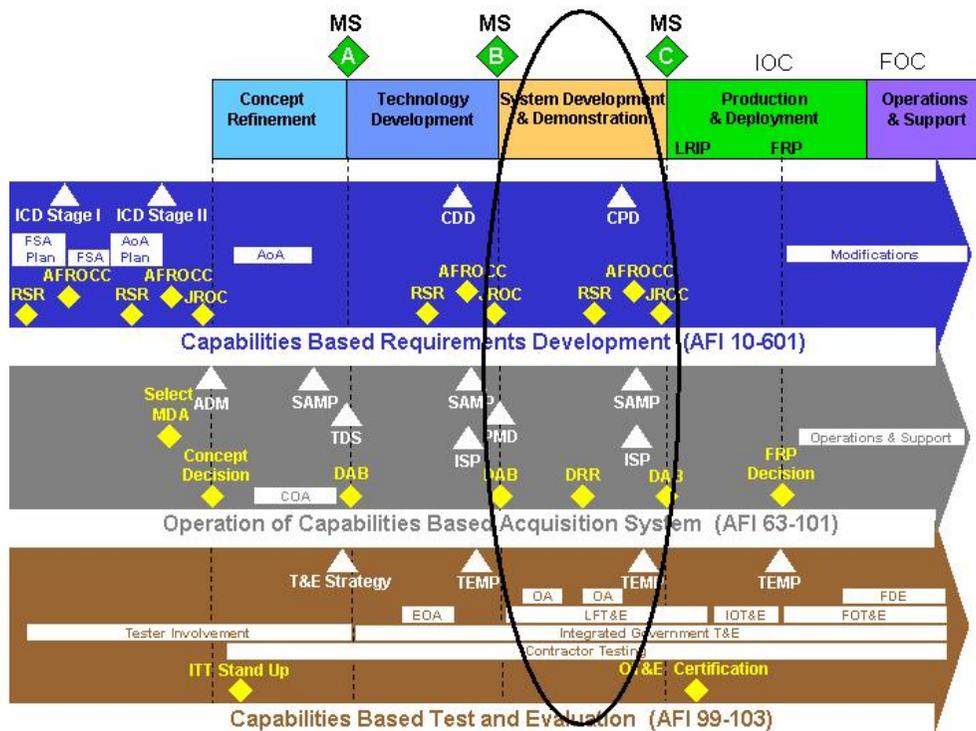
5.9.2. CDD Annex. Within one acquisition increment, or in a follow-on increment, the need may arise to add capability to an approved (original) CDD. If the increment or follow-on increment is consistent with the strategy described in the original CDD, and the only change is to add capability (and any necessary supporting information) to the original CDD, an annex to the original CDD may be written and approved, as appropriate. In a CDD annex, the sponsor inserts only the new (additional) information into the appropriate sections of the document. All sections of the annex that are unchanged from the original CDD display the words "No Change" in that section. The original CDD accompanies the annex during document review, and AF/XOR determines the level of review and approval authority required. Note: a CDD annex cannot be used if it is necessary to make any KPP changes to the original CDD. Additional information on CDD updates is located on the AF/XORD web site at: <https://www.afreqs.hq.af.mil/>.

Chapter 6

REQUIREMENTS ACTIVITIES TO SUPPORT MILESTONE C ACQUISITION DECISION

6.1. Purpose. This chapter provides a high-level description of capabilities based requirements process activities conducted to support a Milestone C acquisition decision (Figure 6.1). It outlines the requirements strategy development, RSR, and HPT activities leading to a Capability Production Document (CPD). The CPD directly supports the Production & Deployment and Operations & Support phases. The results of the AoA (if accomplished), the Design Readiness Review, Acquisition Program Baseline (APB), system demonstrations, and early test results provide the basis for development of the CPD. An approved CPD is required for a Milestone C decision.

Figure 6.1. Activities to Support Milestone C Acquisition Decision.



6.2. Requirement Strategy Development. The requirements strategy lays the foundation for CPD development and supports the Production and Deployment Phase for a single increment. The sponsor, along with operators, continues the collaboration initiated in CDD development with Air Force acquisition, test, and logistics communities (and other appropriate SMEs). Strategy development includes the sponsor’s interaction with other Services and agencies (as required), including the appropriate FCB Working Group. The sponsor applies lessons learned, findings of design reviews, test results to refine performance attributes for a single increment. The requirements strategy establishes operational performance expectations for the capability to be produced and fielded. Additional guidance on strategy development is located on the AF/XORD web site at: <https://www.afreqs.hq.af.mil/>.

6.3. Requirements Strategy Review. AF/XOR approves the requirements strategy before initiating the CPD. To obtain approval, the sponsoring organization or a HQ USAF SME briefs AF/XOR on the

requirements strategy. The RSR briefing occurs at least 30 days before starting an HPT. **Table 6.1.** illustrates the types of information presented during the RSR. Additional guidance for RSR presentations and HPT scheduling requests is located on the AF/XORD web site at: <https://www.afreqs.hq.af.mil/>.

Table 6.1. CPD Requirements Strategy Review Information.

- Description of capability need and association with approved ICD(s) & CDD(s)
- Linkage to:
 - o Joint Operating Concepts (JOCs)
 - o Joint Functional Concepts (JFCs)
 - o Air Force CONOPS
- Describe if CPD is a FoS or SoS, and identify any related CDDs/CPDs
 - o Identify CRD crosswalk
- ACAT level and JPD
- Summary of test results
- OV-1 & SV-1 minimum (possibly other views as directed)
- Threat Summary
- Key Performance Parameters (KPPs) and Key System Attributes (KSAs)
- Initial Operational Capability (IOC) & Full Operational Capability (FOC) criteria
- Interoperability & Supportability requirements such as:
 - o Spectrum Access and Allocation
 - o Distributed Mission Operations (DMO), GPS Utility/Denial, etc.
 - o Intelligence, Threat, and Insensitive Munitions Certifications
- Acquisition and sustainment strategy
- Funding strategy
- Lessons learned during System Development and Demonstration
- Proposed schedule/timeline for capability fielding (MS C, IOC, FOC, etc.)
- Constraints (technology maturity, acquisition approach, HSI considerations, etc.)
- HPT lead, HQ USAF SME, FCB Working Group, OSD, Services, and other participating Stakeholders (as appropriate)
- HPT membership (core & support teams)
- Projected CPD completion/AFROCC presentation/JROC presentation/doc archival
- Justification for not conducting an HPT (XOR must approve)

6.4. HPT Planning. Following RSR approval, sponsor ensures that final preparations are completed for the HPT. **Table 6.2.** illustrates the types of information to consider.

Table 6.2. CPD HPT Considerations.

<p>Confirm:</p> <ul style="list-style-type: none"> • Core team and supporting organizations participation • HQ USAF SME, FCB Working Group, Service, & OSD/ PA&E participation • Facilitator and facility availability
<p>Provide:</p> <ul style="list-style-type: none"> • Strategy guidance to core team members • Draft document to team members (if available) • HPT training (as required)
<p>Assign:</p> <ul style="list-style-type: none"> • Pre-HPT tasks to team members (as required)

6.5. CPD Guidelines. The CPD provides firm, measurable, and testable requirements for the Production and Deployment Phase of an acquisition program. The ICD, CDD, testing results, and design reviews guide CPD development. A CPD is finalized after DRR and is validated and approved prior to the Milestone C decision. The CPD captures the information necessary to support production and sustainment of an increment of capability. The CPD refines the KPPs, KSAs, and performance attributes that were validated in the CDD to guide Production and Deployment. Follow guidelines and format for CPD development as described in CJCSI 3170.01, CJCSM 3170.01, and located on the XORD web site at:

<https://www.afreqs.hq.af.mil/>.

6.5.1. AoA to Support Milestone C. Before Milestone C, the MDA may require a new AoA or an update to a previous AoA to account for any factors that may have changed during the preceding phase. AoAs are tailored based on direction from the MDA and stakeholders. For Milestone C, AoAs may be done for reasons such as manufacturing capability, system bed-down and employment, force structure optimization, interoperability and supportability, and operational risk and operational effectiveness updates, threat and survivability updates, sensitivity to cost and performance drivers, etc.

6.5.2. Performance Attributes. The CPD provides performance and any support-related attributes, with threshold and objective values, including KPPs and KSAs. Since the operational performance attributes provided in a CPD apply to only a single increment, the KPPs apply only to the current increment or, in a single-step-to-full-capability approach, to the entire system. Follow guidelines and format as described in CJCSM 3170.01 and this AFI for CPD development.

6.6. CPD Requirements Correlation Table (RCT). Specific to Air Force-generated CPDs, the RCT is a summary of all the desired capabilities listed as threshold and/or objective values within the CPD text. The RCT consists of three separate tables. It adds a Key System Attribute (KSA) table and expands on the KPP and Attribute tables already required by CJCSM 3170.01. It lists operator identified KPPs and attributes, their accompanying thresholds and objectives values, the supporting rationale justifying each of these values, and the paragraph number where supporting text is documented in the CPD. The primary objective of the RCT is to provide a concise summary to ensure decision makers have the necessary information to make informed conclusions and/or decisions. It also provides operator identified key perfor-

mance parameters for inclusion in the performance section of the APB. The RCT is mandatory for all Air Force-generated CPDs and CPD Annexes.

6.6.1. RCT Structure. The RCT consists of three separate tables: KPP, Key System Attribute (KSA), and Attribute (**Table 6.3**).

6.6.1.1. KPP Table. The KPP table contains only those few KPPs (generally eight or fewer) that capture the minimum operational effectiveness (and any necessary support-related KPPs) needed to achieve the overall desired capabilities during the increment. Failure to meet KPP threshold value may result in a reevaluation, reassessment or termination of the program.

6.6.1.2. KSA Table. The KSA table contains only those few KSAs (generally eight or fewer) that capture the operational effectiveness the operator defines as essential to achieve overall desired capabilities during the applicable increment. KSAs provide decision makers with an additional level of prioritization of operator identified attributes.

6.6.1.3. Attribute Table. The attribute table contains attributes that contribute significantly to the desired operational capability during the applicable increment. Attributes are used to guide decision makers in making tradeoffs between threshold and the objective levels of the stated attributes.

6.6.2. RCT Format. All three tables consist of the same format with the exception of the subject column (e.g., KPP, KSA, and Attribute). The following information is required in each column of the RCT:

6.6.2.1. Paragraph #. Identify the paragraph where text for KPP/attribute is located within CPD.

6.6.2.2. KPP/KSA/Attribute. Depending on the table (e.g., KPP, KSA, and Attribute), identify the KPP/attribute for which the threshold and objective is listed in the CPD text.

6.6.2.3. Production Threshold. Insert the minimum acceptable operational value associated with subject KPP/attribute, below which the utility of the subject attribute becomes questionable. At this point in the program the production value is a known value; therefore no value is listed as a "TBD."

6.6.2.4. Production Objective. Insert the desired operational objective value associated with subject KPP/attribute, beyond which any gain in utility does not warrant additional expenditure. The objective value is an operationally significant increment above the threshold.

6.6.2.5. Rationale/Analytical References. Briefly summarize (4 bullets or less) the rationale/analytical references of subject KPP/attribute as provided within the text of section 6 of the CPD. Address the specific studies, analysis, threat assessments, modeling, or other reference sources (including informed military judgments) that justify and substantiate the threshold value. The value for each threshold must describe its relationship to mission success and how that value was derived.

Table 6.3. CPD RCT Format.

Para. #	Key Performance Parameter	Production Threshold	Production Objective	Rationale & Analytical References
	KPP 1	Value	Value	
	KPP 2	Value	Value	
	KPP 3	Value	Value	

Table X.X. Performance Parameter Table

Para. #	Key System Attribute	Production Threshold	Production Objective	Rationale & Analytical References
	KSA 1	Value	Value	
	KSA 2	Value	Value	
	KSA 3	Value	Value	

Table X.X. Key System Attribute Table

Para. #	Attribute	Production Threshold	Production Objective	Rationale & Analytical References
	Attribute 1	Value	Value	
	Attribute 2	Value	Value	
	Attribute 3	Value	Value	

Table X.X. Attribute Table

6.7. CPD Processing. All CPDs are coordinated through the Air Force. The level of review beyond the AFROCC is dependent upon the document’s JPD (Table 2.1.). Figure 6.2. depicts the CPD review flow for ACAT I and JROC Interest efforts and should be used for planning purposes during requirements strategy development. Follow the review and approval process for CPDs presented in Attachment 2 and the specific coordination timelines located on the AF/XORD web site at: <https://www.afreqs.hq.af.mil/>.

Figure 6.2. CPD Review Flow (JPD: JROC Interest).



6.8. Post-CPD Activities. When approved, the CPD supports a Milestone C decision, updates architectures, initiates production actions, and guides post-Milestone C activities.

6.9. Changes to the CPD.

6.9.1. CPD Update. The CPD is always specific to a single production increment and is normally not revised. However, the need may arise to update an approved CPD in order to accurately document changes that have occurred prior to and/or during Production and Deployment. Document preparation, format, review, validation, approval, and archival of subsequent updates are the same as the original CPD. AF/XOR determines the level of review and approval authority required for CPD updates.

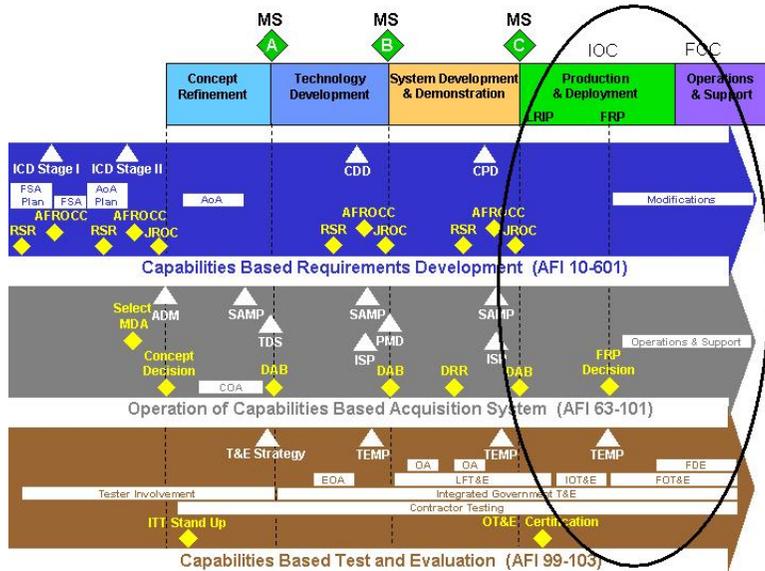
6.9.1.1. Changes to CPD KPP. All CPD revisions containing changes to a previously validated KPP, regardless of JPD, require AFROCC validation. After AFROCC validation, CPDs designated as JROC Interest must receive JROC validation/approval (unless previously delegated elsewhere by the JROC).

Chapter 7

REQUIREMENTS ACTIVITIES TO SUPPORT MODIFICATIONS

7.1. Purpose. This chapter provides a description of the capabilities based requirements process activities conducted to support modifications (Figure 7.1). It outlines the requirements activities required to support the management of modifications for Air Force fielded and managed systems.

Figure 7.1. Activities to Support Modifications.



7.2. Modifications. A modification is defined as an alteration to a configuration item (CI) that, as a minimum, changes the form, fit, function and/or interface of the item. Modifications to CIs are implemented via modification kits and consist of Group A and Group B items. Group A items are parts or components (including software) that are permanently or temporarily installed in a CI to support, secure, interconnect, or accommodate the equipment in a Group B kit. Group B items are parts or components (including software) that complete a modification when installed in the CI, and are normally readily removable. AFI 63-1101, *Modification Management*, further defines and describes the modification process and provides guidance and procedures for managing modifications. The following discussion addresses the capabilities based requirements documentation needed to support modifications. An AF Form 1067 cannot be used for any modification that meets criteria of the Net Ready-Key Performance Parameter (NR-KPP). For a complete description of NR-KPP requirements, refer to CJCSI 6212.01.

7.2.1. Permanent Modifications. Permanent modifications are managed as acquisition programs and therefore must satisfy approved requirements (Table 7.1).

7.2.1.1. AF Form 1067. An AF Form 1067, *Modification Proposal*, documents the submission, review, and approval of requirements for permanent modifications estimated to cost no more than ten percent of the minimum threshold dollar values for ACAT II designated programs as described in DoDI 5000.2, Enclosure 2. When estimated expenditures exceed 10% of ACAT II minimum threshold dollar values (e.g. \$14M RDT&E or \$66M procurement funding in FY2000 constant dollars); a capabilities based requirements document must be prepared unless previously documented in an approved ICD, CDD, or CPD.

7.2.1.2. AF Form 1067 Approval. The Lead MAJCOM and Program Manager (PM) for a system must approve AF Forms 1067 for permanent modifications. Modifications projected to cost in excess of \$30M in FY 2000 constant dollars are also approved by AF/XOR to ensure proper reprogramming actions are completed. In this case, the MAJCOM requirements principals submit the completed AF Form 1067 to AF/XOR accompanied by a transmittal memo and the mandatory threshold and objective table containing all attributes with their supporting rationale and analysis (use CPD RCT attribute table as guide for AF 1067 table). AF/XORD coordinates AF Form 1067s (using established JCIDS timelines) with appropriate Air Staff organizations prior to AF/XOR review/approval.

7.2.2. Temporary Modifications. Temporary modifications change the configuration of a system for flight or ground test purposes or to support the accomplishment of a specific mission. Approved AF Form 1067s can be used as the capabilities based requirements documentation for a temporary modification to a system.

7.2.3. In-Production Systems. An AF Form 1067 is applicable only to items that have been delivered to the government under DD-250. Modifications or configuration changes to undelivered items do not require a new or updated capabilities based requirements document unless the change is driven by a change to the underlying requirement. If some articles of the in-production system have been delivered and the modification will also be made to the delivered articles, document capabilities based requirements for modifying the government owned items with an AF Form 1067, ICD, CDD, or CPD, as appropriate.

Table 7.1. Modification (\$) Thresholds (non NR-KPP initiatives).

Modification (\$) Amounts	Requirements Document	Approval Authority
< 10% of ACAT II Minimum Thresholds * & < \$30M total expenditure **	AF Form 1067	Lead MAJCOM & PM
< 10% of ACAT II Minimum Thresholds * & > \$30M total expenditure **	AF Form 1067 with RCT for KSAs & Attributes (use CPD RCT format)	HQ USAF/XOR
> 10% of ACAT II Minimum Thresholds *	ICD, CDD, CPD	AFROCC or JROC

* Consideration must be given to both RDT&E and procurement amounts

** Total dollar amounts are based on FY 2000 constant dollars

7.3. Forms Adopted. AF Form 1067, *Modification Proposal*, DD Form 250, *Material Inspection And Receiving Report*.

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

Title 10, United States Code, *Armed Forces*, §139, §2366, §2399, and §2400

DoD C4ISR Architecture Framework

DoDD 5000.1, *Defense Acquisition System*

DoDI 5000.2, *Operation of the Defense Acquisition System*

CJCSI 3170.01, *Joint Capabilities Integration and Development System*

CJCSM 3170.01, *Operation of the Joint Capabilities Integration and Development System*

CJCSI 3180.01, *Joint Requirements Oversight Council (JROC) Programmatic Processes for Joint Experimentation and Joint Resource Change Recommendations.*

CJCSI 5123.01, *Charter for the Joint Requirements Oversight Council*

CJCSI 6212.01, *Interoperability and Supportability of Information Technology and National Security Systems (IT and NSS)*

Joint Publication (JP) 1-02, *Department of Defense Dictionary of Military and Associated Terms*

Air Force Enterprise Architecture Framework

Air Force Requirements for Operational Capabilities Council Charter

AFDD 1-2, *Air Force Glossary of Standardized Terms*

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

AFPD 10-9, *Lead Operating Command Weapon Systems Management*

AFPD 10-28, *Air Force Concept Development*

AFPD 37-1, *Information Management*

AFPD 90-11, *Planning System*

AFI 10-602, *Determining Mission Capability and Supportability Requirements*

AFI 10-604, *Capabilities Based Planning*

AFI 10-2302, *Advanced Concept Technology Demonstration (ACTD)*

AFI 10-2303, *Battlelabs*

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

AFI 16-1002, *Modeling and Simulation (M&S) in Support of Acquisition*

AFI 33-103, *Requirements Development and Processing*

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

AFI 33-124, *Enterprise Information Technology Architectures*

AFI 63-101, *Operation of the Capabilities Based Acquisition System*

AFI 63-114, *Rapid Response Process*

AFI 63-1101, *Modification Management*

AFI 99-103, *Capabilities Based Test and Evaluation*

AFMAN 37-123, *Management of Records*

NSS Acquisition Policy 03-01, *Guidance for DoD Space System Acquisition Process*

Abbreviations and Acronyms

ACAT—Acquisition Category

ACTD—Advanced Concept Technology Demonstration

ADM—Acquisition Decision Memorandum

AFR—Air Force Reserve

AFROCC—Air Force Requirements for Operational Capabilities Council

AFROCCM—Air Force Requirements for Operational Capabilities Council Memorandum

AMA—Analysis of Materiel Approaches

ANG—Air National Guard

AoA—Analysis of Alternatives

APB—Acquisition Program Baseline

APOM—Amended Program Objective Memorandum

ATD—Advanced Technology Demonstration

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

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

CBRN—Chemical, Biological, Radiological, Nuclear

CCD—Combat Capability Document

CDD—Capability Development Document

CI—Configuration Item

CJCS—Chairman, Joint Chiefs of Staff

CJCSI—Chairman, Joint Chief of Staff Instruction

CJCSM—Chairman, Joint Chief of Staff Manual

C-MNS—Combat Mission Need Statement

COA—Course of Action

CONOPS—Concept of Operations

CPD—Capability Production Document
CRD—Capstone Requirements Document
CRM—Comment Resolution Matrix
CRRA—Capabilities Review and Risk Assessment
CSAF—Chief of Staff of the United States Air Force
DCI—Director of Central Intelligence
DIA—Defense Intelligence Agency
DMO—Distributed Mission Operations
DOD—Department of Defense
DOTMLPF—Doctrine, Organization, Training, Materiel, Leadership & Education, Personnel, & Facilities
DRR—Design Readiness Review
DTIC—Defense Technical Information Center
DT&E—Developmental Test and Evaluation
EA—Evolutionary Acquisition
EBO—Effects-Based Operations
EOA—Early Operational Assessment
FAA—Functional Area Analysis
FCB—Functional Capabilities Board
FNA—Functional Needs Analysis
FOA—Field Operating Agency
FOC—Full Operational Capability
FoS—Family of Systems
FOT&E—Follow-On Operational Test and Evaluation
FRP—Full Rate Production
FSA—Functional Solutions Analysis
FY—Fiscal Year
FYDP—Future Years Defense Program
GIG—Global Information Grid
HPT—High Performance Team
HSI—Human Systems Integration
ICD—Initial Capabilities Documents
IOC—Initial Operational Capability

IOT&E—Initial Operational Test and Evaluation
IRSS—Information & Resource Support System
ISP—Information Support Plan
ISR—Intelligence, Surveillance, and Reconnaissance
IT—Information Technology
IT/NSS—Information Technology/ National Security System
JCB—Joint Capabilities Board
JCIDS—Joint Capabilities Integration and Development System
JCS—Joint Chiefs of Staff
JOC—Joint Operating Concept
JOpsC—Joint Operations Concept
JS—Joint Staff
JPD—Joint Potential Designator
JPG—Joint Programming Guidance
JRO—Joint Requirements Office
JROC—Joint Requirements Oversight Council
JROCM—Joint Requirements Oversight Council Memorandum
KDP—Key Decision Point
KIP—Key Interface Protocol
KM/DS—Knowledge Management/Decision Support
KPP—Key Performance Parameter
KSA—Key System Attribute
LRIP—Low-Rate Initial Production
MAJCOM—Major Command
MDA—Milestone Decision Authority
MDAP—Major Defense Acquisition Program
MNS—Mission Need Statement
M&S—Modeling and Simulation
MS—Milestone
MS&A—Modeling, Simulation & Analysis
NDI—Non-Developmental Items
NGB—National Guard Bureau

NMS—National Military Strategy

NR-KPP—Net-Ready Key Performance Parameter

NSS—National Security Space

NSS—National Security Strategy

NSS—National Security System

OA—Operational Assessment

ORD—Operational Requirements Document

OSD—Office of the Secretary of Defense

OSD/PA&E—Office of the Secretary of Defense/Program Analysis and Evaluation

OT&E—Operational Test and Evaluation

OUSD(AT&L)—Office of the Under Secretary of Defense (Acquisition, Technology and Logistics)

OV-1—Operational View 1 (Operational Concept Graphic)

PM—Program Manager

PMD—Program Management Directive

POC—Point of Contact

POM—Program Objective Memorandum

QDR—Quadrennial Defense Review

RCT—Requirements Correlation Table

RDT&E—Research, Development, Test and Evaluation

RRAC—Rapid Response Assessment Committee

RRP—Rapid Response Process

RSR—Requirements Strategy Review

SAMP—Single Acquisition Management Plan

SAP—Special Access Program

SECAF—Secretary of the Air Force

SECDEF—Secretary of Defense

SME—Subject Matter Expert

SoS—System of Systems

SPD—System Program Director

SPG—Strategic Planning Guidance

SPO—System Program Office

S&T—Science and Technology

SV-1—System View (System Interface Description Graphic)

T&E—Test and Evaluation

TBD—To Be Determined

TDS—Technology Development Strategy

TEMP—Test and Evaluation Master Plan

TPG—Transformation Planning Guidance

UJTL—Universal Joint Task List

USD (AT&L)—Under Secretary of Defense (Acquisition, Technology and Logistics)

USecAF—Under Secretary of Air Force

VCJCS—Vice Chairman of the Joint Chiefs of Staff

WRAP—Warfighter Rapid Acquisition Process

Terms

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 terms. See pertinent Joint and Air Force specific publications for standardized terms and definitions for DoD and Air Force use.

Acquisition Category (ACAT)—Categories established to facilitate decentralized decision-making and execution, and compliance with statutorily imposed requirements. The categories determine the level of review, decision authority, and applicable procedures. DoDI 5000.2, reference b, provides the specific definition for each acquisition category.

Acquisition Program Baseline (APB)—Each program's APB is developed and updated by the program manager and will govern the activity in the phase succeeding the Milestone for which it was developed.

Advanced Concept Technology Demonstration (ACTD)—One of three technology transition mechanisms; the other two are ATDs and experiments. ACTDs are used to determine the military utility of proven technology and to develop the concept of operations that will optimize effectiveness. ACTDs are not themselves acquisition programs, but are designed to provide a residual, usable capability upon completion, and/or transition into acquisition programs.

Advanced Technology Demonstration (ATD)—One method of technology transition. ATDs are used to demonstrate the maturity and potential of advanced technologies for enhanced military operational capability or cost effectiveness, and reduce technical risks and uncertainties at the relatively low costs of informal processes.

Analysis of Alternatives (AoA)—The evaluation of the operational effectiveness and estimated costs of alternative systems to meet a mission capability. The analysis assesses the advantages and disadvantages of alternatives being considered to satisfy capabilities, including the sensitivity of each alternative to possible changes in key assumptions or variables.

Approval—The formal or official sanction of the identified capability described in the capability documentation. Approval also certifies that the documentation has been subject to the uniform process established by the DOD 5000 series.

Architecture—The structure of components, their relationships, and the principles and guidelines governing their design and evolution over time.

Attributes—Characteristics so significant they must be verified by testing or analysis. Whenever possible, attributes should be stated in terms that reflect the capabilities necessary to operate in the full range of military operations and the environment intended for the system, family of systems (FoS), or system of systems (SoS). These statements will guide the acquisition community in making tradeoff decisions between the threshold and objective values of the stated attributes. Operational testing will assess the ability of the system(s) to meet the production threshold values.

Capability—The ability to execute a specified course of action. It is defined by an operational user and expressed in broad operational terms in the format of an initial capabilities document or a DOTMLPF change recommendation. In the case of materiel proposals, the definition will progressively evolve to DOTMLPF performance attributes identified in the CDD and the CPD.

Capability Development Document (CDD)—A document that captures the information necessary to develop a proposed program(s), normally using an evolutionary acquisition strategy. The CDD outlines an affordable increment of militarily useful, logistically supportable, and technically mature capability.

Capability Gap—A synergistic resource (DOTMLPF) that is unavailable but potentially attainable to the operational user for effective task execution.

Capability Production Document (CPD)—A document that addresses the production elements specific to a single increment of an acquisition program.

Capstone Requirements Document (CRD)—A document that contains capabilities based requirements that facilitates the development of CDDs and CPDs by providing a common framework and operational concept to guide their development.

Capability Shortfall—A lack of full military utility needed by an operational user to effectively execute a task.

Concept of Operations (CONOPS)—A verbal or graphic statement, in broad outline, of a commander's assumptions or intent in regard to an operation or series of operations.

Course of Action (COA)—The COA is a planning and decision process that culminates in a MAJCOM decision. The COA includes a series of alternative program choices developed by the MDA or his designate, presented to a MAJCOM commander and that once a specific COA is selected, becomes a formal agreement between the MDA and the operator (MAJCOM Commander) that clearly articulates the performance, schedule, and cost expectations of the program. The COA provides the basis for the Technology Development Strategy during the Technology Development Phase. The COA becomes the basis for the SAMP.

DD Form 250—The DD Form 250 (Material Inspection and Receiving Report) is a multipurpose report used to: (1) provide evidence of acceptance at origin/destination; (2) provide evidence of Government contract quality assurance at origin/destination; (3) supply packing list(s); (4) document shipping/receiving; (5) as a contractor invoice; and (6) commercial invoice support.

Distributed Mission Operations (DMO)—An Air Force readiness initiative to allow operators to train as they would expect to fight; in large horizontally and vertically integrated Joint Composite Force packages. DMO will fill gaps in training by providing operators the ability to train with current and emerging weapons systems, tactics, techniques and procedures that cannot be supported through existing

ranges, airspace or simulations. DMO will enable operators to maintain primary combat readiness at home or deployed; and conduct mission rehearsal in a realistic operational environment.

DoD Components—The DoD components consist of the Office of the Secretary of Defense, the Military Departments, the Chairman of the Joint Chiefs of Staff, the combatant commands, the Office of the Inspector General of the Department of Defense, the Defense Agencies, DoD Field Activities, and all other organizational entities within the Department of Defense.

Effects-Based Operations (EBO)—Military actions and operations designed to produce distinctive and desired effects through the application of appropriate movement, supply, attack, defense, and maneuvers. Effects-based operations focus on functional, systemic, and psychological effects well beyond the immediate physical result of a tactical or operational event. Furthermore, it is equally concerned with military actions and operations that trigger additional effects beyond those desired.

Experiments—Experiments test candidate technologies alone and as components in new systems and are a critical part of the development of a new technology. Experiments facilitate the transition of a device from operation in the laboratory to operation as a component or system in the field.

Evolutionary Acquisition (EA)—DoD's preferred strategy for rapid acquisition of mature technology for the user. An evolutionary approach delivers capability in increments (in either spiral development or incremental development), recognizing up-front the need for future capability improvements (see section 1.5.2.1 for additional information).

Family-of-Systems (FoS)—A set or arrangement of independent systems that can be arranged or interconnected in various ways to provide different capabilities. The mix of systems can be tailored to provide desired capabilities, dependent on the situation.

Functional Area Analysis (FAA)—An FAA identifies the operational tasks, conditions and standards needed to achieve military objectives. It uses the national strategies, Joint Operating Concepts (JOC), Joint Functional Concepts (JFC), Integrated Architectures (as available), Air Force CONOPS, and the Universal Joint Task List (UJTL) as input. Its output is the tasks to be reviewed in the follow-on functional needs analysis. The FAA includes cross-capability and cross-system analysis in identifying operational tasks, conditions and standards. The FAA should be conducted as a collaborative effort.

Functional Capabilities Board (FCB)—A permanently established body that is responsible for the organization, analysis, and prioritization of joint warfighting capabilities within an assigned functional area.

Functional Needs Analysis (FNA)—It assesses the ability of the current and programmed joint capabilities to accomplish the tasks that the FAA identified, under the full range of operating conditions and to the designated standards. Using the tasks identified in the FAA as primary input, the FNA produces as output a list of capability gaps/shortfalls that require solutions, and indicates the time frame in which those solutions are needed. The sponsor leads the FNA.

Functional Solution Analysis (FSA)—It is an operationally based assessment of all potential DOTMLPF approaches to solving (or mitigating) one or more of the capability gaps (needs) previously identified. On the basis of the capability needs, potential solutions are identified, including (in order of priority) integrated DOTMLPF changes that leverage existing materiel capabilities; product improvements to existing materiel or facilities; adoption of interagency or foreign materiel solutions; and finally, initiation of new materiel programs. Identified capability gaps/shortfalls or redundancies (excess to the gap/shortfall) establish the basis for developing materiel approaches in ICD and/or DOTMLPF

approaches through CJCSI 3180.01, *Joint Requirements Oversight Council (JROC) Programmatic Processes for Joint Experimentation and Joint Resource Change Recommendations*.

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; it defines the criteria necessary to declare full operational capability.

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

Gatekeeper—That individual who makes the initial joint potential designation of JCIDS proposals. This individual will also make a determination of the lead and supporting FCBs for capability proposals. The Gatekeeper is supported in these functions by USJFCOM, J-6, J-7, and the FCB Working Group leads. The Vice Director, J-8 serves as the Gatekeeper.

Human Systems Integration—Part of the acquisition, and design process that includes such elements as manpower, personnel, training, environmental issues, safety, health, human factors, and personnel survivability for incorporation into the total human weapon system for the life-cycle of the system.

Implementing Command—The command (usually Air Force Materiel Command or Air Force Space Command) providing the majority of personnel in direct support of the program manager responsible for development, production, and sustainment activities.

Increment—A militarily useful and supportable operational capability that can be effectively developed, produced or acquired, deployed, and sustained. Each increment of capability will have its own set of threshold and objective values set by the user.

Information Assurance (IA)—Information operations and technology that protects and defends information and information systems by ensuring their availability, integrity, authentication, confidentiality, and non-repudiation and includes restoration through protection, detection, and reaction capabilities.

Information & Resource Support System (IRSS)—IRSS is a web-based Air Force-wide system, which facilitates and integrates capabilities based requirements definition, review, and management activities of the warfighting commands, HQ USAF, MAJCOMs and other AF agencies. IRSS supports AFCIS development and review, AF CONOPS capabilities based planning, speeds up the development and processing of AF requirements documents and provides the much-needed links between planning and programming. IRSS provides a unique capability to tie Planning to Requirements across the AF Enterprise - long a goal of senior leadership.

Information Support Plan (ISP)—Used by program authorities to document the IT and NSS needs, objectives, interface requirements for all non-ACAT and fielded programs. ISPs should be kept current throughout the acquisition process and formally reviewed at each Milestone, decision reviews and whenever the operational concepts, and IT and NSS requirements change (ref: CJCSI 6212.01).

Information Technology (IT)—Any equipment or interconnected system to subsystems of equipment that is used in the automatic acquisition, storage, manipulation, management, movement, or reception of data or information. Information technology includes computers, ancillary equipment, software, firmware, and similar procedures, services (including support services), and related resources. Information technology does not include any equipment that is acquired by a federal contractor incidental to a federal contract.

Initial Capabilities Document (ICD)—Documents the need for a materiel solution to a specific capability gap/shortfall derived from an initial analysis of alternatives executed by the operational user and, as required, an independent analysis of alternatives. It defines the capability gap/shortfall in terms of the functional area, the relevant range of military operations, desired effects, and time. In order to capture capabilities based planning along with capabilities development, the Air Force develops ICDs in two distinct stages. ICD Stage I covers capabilities based planning and ICD Stage II covers capabilities based requirements development.

Initial Operational Capability (IOC)—That first attainment of the capability to employ effectively 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 defined in the CPD. *NOTE:* IOC will be event-driven and not tied to a specific future date.

Integrated Architectures—An architecture consisting of multiple views or perspectives (operational view, systems view, and technical view) that facilitates integration and promotes interoperability across family of systems and systems of systems and compatibility among related architectures.

Interoperability—The ability of systems, units or forces to provide data, information, materiel and services to and accept the same from other systems, units or forces and to use the data, information, materiel and services so exchanged to enable them to operate effectively together. NSS and ITS interoperability includes both the technical exchange of information and the end-to-end operational effectiveness of that exchanged information as required for mission accomplishment.

Joint Capabilities Board (JCB)—The JCB functions to assist the JROC in carrying out its duties and responsibilities. The JCB reviews and, if appropriate, endorses all JCIDS and DOTMLPF proposals prior to their submission to the JROC. The JCB is chaired by the Joint Staff, J-8, Director of Force Structure, Resources, and Assessment. It is comprised of Flag Officer/General Officer representatives of the Services.

Joint Functional Concept (JFC)—An articulation of how a future Joint Force Commander will integrate a set of related military tasks to attain capabilities required across the range of military operations. Although broadly described within the Joint Operations Concepts, they derive specific context from the Joint Operating Concepts and promote common attributes in sufficient detail to conduct experimentation and measure effectiveness.

Joint Operating Concept (JOC)—An articulation of how a future Joint Force Commander will plan, prepare, deploy, employ, and sustain a joint force against potential adversaries' capabilities or crisis situations specified within the range of military operations. Joint Operating Concepts guide the development and integration of Joint Function Concepts (JFCs) to provide joint capabilities. They articulate the measurable detail needed to conduct experimentation and allow decision makers to compare alternatives.

Joint Operations Concepts (JOpsC)—A concept that describes how the Joint Force intends to operate 15 to 20 years from now. It provides the operational context for the transformation of the Armed Forces of the United States by linking strategic guidance with the integrated application of Joint Force capabilities.

Joint Potential Designator (JPD)—A designation assigned by Vice Director J-8 to specify JCIDS validation, approval, and interoperability expectations.

1. "JROC Interest" designation will apply to all ACAT I/IA programs and ACAT II and below programs designated as JROC Interest. This designation may also apply to intelligence capabilities that support DoD and national intelligence requirements. These documents will be staffed through the JROC for validation and approval. All CRDs will be designated as JROC Interest.
2. "Joint Integration" designation will apply to ACAT II and below programs where the concepts and/or systems associated with the document do not significantly affect the joint force and an expanded review is not required, but C4 interoperability, intelligence, or munitions certification is required. Once the required certification(s) are completed, Joint Integration proposals are validated and approved by the sponsoring component.
3. "Independent" designation will apply to ACAT II and below programs where the concepts and/or systems associated with the document do not significantly affect the joint force, an expanded review is not required, and no certifications are required. Once designated, these documents are returned to the sponsoring component for validation and approval.

Joint Requirements Oversight Council Memorandum (JROCM)—Official JROC correspondence generally directed to an audience(s) external to the JROC -- usually decisional in nature.

Key Decision Points (KDP)—Major decision points that separate the phases of a space system acquisition program.

Key Performance Parameter (KPP)—An attribute or characteristic considered most essential for an effective military capability during an increment, where failure to meet the threshold value may result in a reevaluation, reassessment or termination of the initiative.

Key System Attribute (KSA)—An attribute or characteristic considered essential for an effective military capability during an increment. KSAs provide decision makers with an additional level of capability prioritization below the KPP level. Generally, KSAs are the top 8 to 10 attributes that are considered as potential KPPs but do not meet full KPP criteria.

Knowledge Management/Decision System (KM/DS)—An electronic staffing and repository tool the Joint Staff uses for development and staffing of JCIDS documents.

Lead Command—The command that serves as operators' interface with the PM for a system as defined by AFPD 10-9, not to be confused with the MAJCOM designated by HQ USAF/XOR as OPR for authoring a capabilities based requirements document.

Low-Rate Initial Production (LRIP)—Production of the system in the minimum quantity necessary (1) to provide production-configured or representative articles for operational tests pursuant to §2399; (2) to establish an initial production base for the system; and (3) to permit an orderly increase in the production rate for the system sufficient to lead to full-rate production upon the successful completion of operational testing.

Materiel Solution—A defense acquisition program (non-developmental, modification of existing systems, or new program) that satisfies identified operator capabilities.

Milestones—Major decision points that separate the phases of an acquisition program.

Milestone Decision Authority (MDA)—The individual designated, in accordance with criteria established by the USD(AT&L), by the ASD(C3I) for Automated Information System acquisition programs or by the USecAF(Space) for space programs to approve entry of an acquisition program into the next phase.

Militarily Useful Capability—A capability that achieves military objectives through operational availability for and dependable, effective performance of mission functions, interoperable with related systems and processes, transportable and sustainable when and where needed, and at costs known to be affordable over the long term.

Modification—An alteration to a configuration item applicable to aircraft, missiles, support equipment, ground stations software (imbedded), trainers, etc. As a minimum, the alteration changes the form, fit, function or interface of the item. A weapon system is defined as a combination of elements that function together to produce the capabilities required to fulfill a mission need, including hardware, equipment, software, and all Integrated Logistics Support elements, but excluding construction or other improvements to real property.

Net-Ready Key Performance Parameter (NR-KPP)—The NR-KPP assesses information needs, information timeliness, information assurance, and net-enabled attributes required for information exchange and use. The NR-KPP consists of measurable and testable characteristics and/or performance metrics required for the timely, accurate, and complete exchange and use of information to satisfy information needs for a given capability. The NR-KPP is comprised of the following elements: compliance with the Net-Centric Operations and Warfare (NCOW) Reference Model (RM); compliance with applicable Global Information Grid (GIG) Key Interface Profiles (KIPs); verification of compliance with DoD information assurance requirements; and supporting integrated architecture products required to assess information exchange and use for a given capability. The NR-KPP is documented in the following requirements documents: CDD, CPD, and CRD.

Objective—The desired operational goal associated with a performance attribute, beyond which any gain in utility does not warrant additional expenditure. The objective value is an operationally significant increment above the threshold. An objective value may be the same as the threshold when an operationally significant increment above the threshold is not significant or useful.

Operating Command—Those commands operating a system, subsystem, or item of equipment.

Operator—An operational command or agency that employs acquired systems for the benefit of users. Operators may also be users.

Operational Requirements—A system capability or characteristic required to accomplish approved capability needs. Operational (including supportability) requirements are typically performance attributes, but they may also be derived from cost and schedule. For each parameter, an objective and threshold value must also be established.

Operational Test and Evaluation (OT&E)—Testing and evaluation conducted in as realistic an operational environment as possible to estimate the prospective system's operational effectiveness and operational suitability. In addition, OT&E provides information on organization, personnel requirements, doctrine, and tactics.

Operational View (OV)—A view that describes the joint capabilities that the user seeks and how to employ them. The OVs also identify the operational nodes, the critical information needed to support the piece of the process associated with the nodes, and the organizational relationships.

Procurement—Procurement appropriations fund those acquisition programs that have been approved for production (to include low rate initial production (LRIP) of acquisition objective quantities), and all costs integral and necessary to deliver a useful end item intended for operational use or inventory upon delivery.

Program Executive Officer (PEO)—A military or civilian official who has primary responsibility for

directing several MDAPs and for assigned major system and non-major system acquisition programs.

Program Management Directive (PMD)—The official Air Force document used to direct acquisition or modification responsibilities to appropriate Air Force MAJCOMs and FOAs 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, production, or modifications for which sufficient resources have been identified. States program unique requirements, goals, and objectives, especially those to be met at acquisition Milestone B or later, or other program review.

Program Manager (PM)—As used in this instruction applies collectively to System Program Director, Product Group Manager, Single Manager, or acquisition program manager. The PM is the designated individual with responsibility for and authority to accomplish program objectives for development, production, and sustainment to meet the user's operational needs. The PM shall be accountable for credible cost, schedule, and performance reporting to the MDA.

Rapid Response Process (RRP)—An expedited process for documenting and staffing materiel solutions to urgent, time-sensitive requirements. The process is fully described in AFI 63-114, *Rapid Response Process*.

Requirements Correlation Table (RCT)—A three-part table, specific to Air Force-generated CDDs and CPDs, which provides an audit trail of the performance attributes and desired capabilities identified in the text of these documents. The RCT lists operator-identified performance attributes and capabilities with accompanying thresholds and objectives; identifies operator recommended key performance parameters; provides supporting rationale justifying each threshold obtained from the AoA or concept studies; and provides a concise summary to ensure decision makers have the necessary data to make informed decisions.

Sponsor—The organization responsible for documentation, periodic reporting, and funding actions necessary to support needed capabilities (e.g., MAJCOM, FOA, etc.)

System-of-Systems (SoS)—A set or arrangement of interdependent systems that are related or connected to provide a given capability. The loss of any part of the system will degrade the performance or capabilities of the whole.

Systems View (SV)—A view that identifies the kinds of systems, how to organize them, and the integration needed to achieve the desired operational capability. It will also characterize available technology and systems functionality.

Technical View (TV)—A view that describes how to tie the systems together in engineering terms. It consists of standards that define and clarify the individual systems technology and integration requirements.

Test and Evaluation Master Plan (TEMP)—Documents the overall structure and objectives of the T&E program. It provides a framework within which to generate detailed T&E plans and it documents schedule and resource implications associated with the T&E program. The TEMP identifies the necessary developmental, operational, and live-fire test activities. It relates program schedule, test management strategy and structure, and required resources to: critical operational issues; critical technical parameters; objectives and thresholds documented in the requirements document; and Milestone decision points.

Threshold—A minimum acceptable operational value below which the utility of the system becomes questionable.

Trade-Space—Selection among alternatives with the intent of obtaining the optimal, achievable system configuration. Often a decision is made to opt for less of one parameter in order to achieve a more favorable overall system result.

User—An operational command or agency that receives or will receive benefit from the acquired system. Combatant commanders and their Service component commands are the users. There may be more than one user for a system. Because the Service component commands are required to organize, equip, and train forces for the combatant commanders, they are seen as users for systems. The Chiefs of the Services and heads of other DoD components are validation and approval authorities and are not viewed as users.

Validation—The review of documentation by an operational authority other than the user to confirm the operational capability. Validation is a precursor to approval.

Attachment 2

DOCUMENT REVIEW

A2.1. Document Review and Approval. AF/XOR has delegated tasking authority to AF/XORD for HQ USAF and Secretariat review on all ICDs (Stage I and II), CDDs, CPDs, and CRDs. Normally each MAJCOM/Agency is given one opportunity to review and comment on a capabilities based requirements document. The AFROCC reviews and validates all Air Force ICDs (Stage I and II), CDD, CPD, and CRDs. This review is the final opportunity to comment on these documents. Documents are validated and approved per **Table 2.1**. Use of the Information and Resource Support System (IRSS) is mandatory. Current staffing flowcharts and guidance for the staffing process is located on the AF/XORD web site at: <https://www.afreqs.hq.af.mil/>.

A2.2. Review for Comment Phase. Each MAJCOM/Agency responsible for reviewing ICD Stage I and capabilities based requirements documents establishes a single office with responsibility for receiving documents for comment, distributing the document within their organization, and consolidating and returning comments. A listing of applicable agencies and offices to be included in this review is located on the AF/XORD web site at: <https://www.afreqs.hq.af.mil/>.

A2.2.1. Air Force Review. ICDs (Stage I and II), CDDs, CPDs, and CRDs are submitted for simultaneous MAJCOM and HQ USAF review using IRSS. After developing the document, the lead MAJCOM/Agency enters the document into IRSS for Air Force-wide review. The sponsor (Lead MAJCOM/Agency) tasks AF/XORD to start Air Staff review. AF/XORD designates an HQ USAF SME to accomplish the staffing of the document within the HQ USAF, Secretariat, and ANG. The HQ USAF and Lead MAJCOM/Agency SMEs task the document for review based on the document distribution list maintained in IRSS and on the AF/XORD web site. AF/XOR has delegated the authority to AF/XORD to staff the document to the appropriate level. The intent is to obtain Air Staff Directorate (3-Ltr) review to support the AF Flag review at the AFROCC. However, organizations may elevate the document to the appropriate level within their chain of command as they see fit. The normal review cycle is 35 calendar days. Since ICD Stage I documents are Air Force-only products, the review process for Stage I documents ends with AFROCC validation. The specific document staffing flow charts are located on the AF/XORD web site at: <https://www.afreqs.hq.af.mil/>.

A2.2.2. Joint Staff Review/Certifications. AF/XORD submits all capabilities based requirements documents to the JCIDS Gatekeeper process. Per CJCSI 3170.01, the entry point for documents is through the Knowledge Management/Decision System (KM/DS) to J-8 for formal JPD determination by the Gatekeeper and then Joint Staff O-6 review/certification (**Figure A2.1**). The Vice Director, J-8 serves as the JCIDS Gatekeeper and determines the JPD for each document. This designation determines the level of Joint Staff involvement in the review, certification, validation and approval of a document as depicted in **Table A2.1**. The specific document staffing flow charts are located on the AF/XORD web site at: <https://www.afreqs.hq.af.mil/>.

Table A2.1. Document Certification/Validation Authority.

Certification/Validation	JROC Interest	Joint Integration	Independent	Documents
Threat Validation	DIA/J-2	DIA/J-2	Service	All
Intelligence	DIA/J-2	DIA/J-2	-	All **
Insensitive Munitions*	J-4	J-4	-	CDD & CPD
Interoperability & Supportability	J-6	J-6	-	CDD, CPD & CRD

* Applies to munitions programs only

** For programs that consume, produce, process, or handle intelligence data

A2.2.2.1. JROC Interest documents receive Joint Staff O-6 review before the AFROCC. Joint Staff Flag review and final certifications are completed following AFROCC validation. Joint Integration documents must receive all the required certifications before the AFROCC.

A2.2.3. Simultaneous Reviews. Only when an AF/XOR-approved HPT develops a document may simultaneous Joint Staff O-6 and Air Force-wide review be accomplished. Figure 4.4. (JROC Interest), Figure A2.1. (Joint Integration), and Figure A2.2. (Independent) provide examples of the three types of simultaneous review.

Figure A2.1. Simultaneous Review (JPD: Joint Integration).

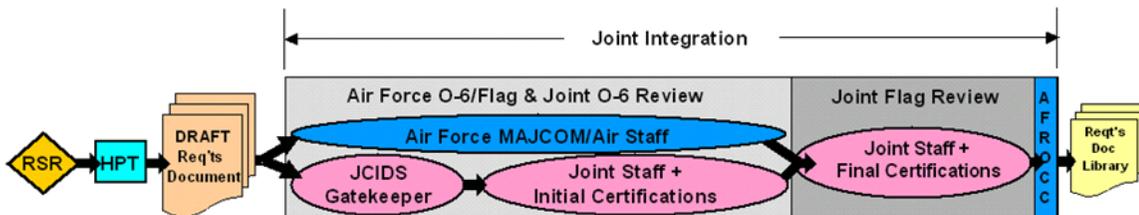
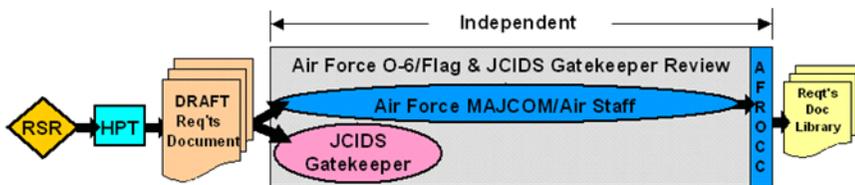


Figure A2.2. Simultaneous Review (JPD: Independent).



A2.3. Joint Programs. A joint program is managed and funded by more than one Service. This should not be confused with the JPDs as described in the Glossary. One Service is normally designated as the lead for a joint program and, unless the program is designated "JROC Interest", the Lead Service is the approval authority for the program's capabilities based requirements documents.

A2.3.1. Air Force as Lead Service. When the Air Force is the Lead Service, AF/XOR designates an Air Force Lead MAJCOM or Agency to sponsor the program. The Lead MAJCOM/Agency generally

follows the document development and review processes described elsewhere in this instruction. In addition, the Air Force OPR identifies a counterpart office in each participating Service. Working through the other Service counterparts, the Air Force lead invites appropriate representation from the other Services to participate in drafting the document. Appropriate offices within the other participating Services will be included in the pre-AFROCC review and comment process. Using their own procedures, each participating Service should concur with the final version of non- JROC Interest documents before they are submitted to the AFROCC.

A2.3.2. Other Service as Lead. When another Service is designated as lead for a joint program, AF/XOR will designate a Lead MAJCOM or Agency for Air Force participation. The Air Force lead should participate in drafting the document and managing document review within the Air Force. Joint documents with other Services as lead are staffed in accordance with the lead Service's procedures. The AFROCC will normally validate the document following O-6 review to ensure Air Force equities are covered.

A2.3.3. Joint Requirements Office for Chemical, Biological, Radiological, and Nuclear Defense (JRO-CBRN) Documents. JRO-CBRN is responsible for developing joint capabilities based requirements for chemical, biological, radiological, and nuclear defenses with the participation of the Services. Air Combat Command (ACC) is the Air Force Lead MAJCOM and AF/ILEX is the HQ USAF focal point for all JRO-CBRN documents. The AFROCC is the validation authority for Air Force sponsored documents or Air Force Annexes to other Service documents and forwards these documents to the JRO-CBRN for final approval.

A2.4. Review of Non-Air Force Capabilities Based Requirements Documents (JPD: Joint Integration or Independent). The Air Force reviews all capabilities based requirements documents developed by other Services, Defense Agencies, and Joint organizations submitted via KM/DS. Once received, the assigned Air Staff action officer forwards the document via IRSS to all Air Staff and MAJCOM mandatory addressees listed on the Air Force Staffing Distribution list (list is provided on the AF/XORD web site at: <https://www.afreqs.hq.af.mil>). After review, AF/XOR approves the Air Force position on the document and recommends the level of Air Force participation to the sponsoring Service. These documents are normally staffed to the Air Force twice; once for O-6 and a second time for Flag review.

A2.5. Document Review. The MAJCOM/Agency review cycle begins with the document sponsor sending the document out for staffing via IRSS. The HQ USAF review cycle begins when AF/XORD sends the document out for staffing via IRSS. The Air Force review cycle for documents received from the Joint Staff (J-8) begins on the day J-8 tasks the document in KM/DS. No response by the suspense date is considered concurrence (J8 does not have to accept late comments). Document reviewers use the remarks section of IRSS to submit comments. Identify the significance of the comment as *Critical*, *Substantive*, or *Administrative* using descriptions below for reference. Convincing support for critical and substantive comments will be provided in a comment/justification format.

A2.5.1. Critical. A critical comment indicates non-concurrence with the document until the comment is satisfactorily resolved. Critical comments are restricted to Cost/Schedule/Performance Attributes, particularly KPPs and KSAs, Concept of Operations, and other fundamental issues (such as sustainment, security, or violation of policies and directives) that would bring into question the rationale for the document to be approved. Documents with unresolved critical comments will not go to the AFROCC unless approved by AF/XOR. Document reviewers will not make critical comments on issues not related to their area of responsibility.

A2.5.2. **Substantive.** A substantive comment addresses a section in the document that appears to be, or is potentially unnecessary, incorrect, misleading, confusing, or inconsistent with other sections. Substantive comments do not lead to document non-concurrence, but the document sponsor must consider all substantive comments for incorporation. The sponsor must be prepared to discuss any rejected substantive comments at the AFROCC.

A2.5.3. **Administrative.** An administrative comment addresses typographical, format, or grammatical errors. The sponsor should consider all administrative comments.

A2.6. Comment Resolution. Document sponsors consolidate all comments into a single comment resolution matrix (CRM) (or other automated formats as directed by AF/XORD) and use the CRM to document actions taken in response to each comment. The document sponsor must document the rationale for not accepting a comment. The document sponsor resolves all critical comments before submitting the document for AFROCC review, unless otherwise approved by AF/XOR.

A2.6.1. **Comment Resolution Timing.** Per JS/J8 direction, the comment resolution period is 15 calendar days. The sponsor must notify AF/XORD if comment resolution is anticipated to take longer than 15 days. If the comment resolution period is deemed excessive, the document may have to be re-staffed.

A2.6.2. **Resolving Critical Comments.** Resolve comments at the lowest possible level. If the document sponsor disagrees with a critical comment, contact the comment originator to seek resolution. The method and date of resolution must be documented in the CRM (e.g. ivia telecon on xx dateî).

A2.6.2.1. **Adjudication Procedures.** If a critical comment cannot be resolved, the issue is elevated as required to achieve final resolution. The intent of the adjudication process is to not allow a single office/individual to hold up the document indefinitely. If the document sponsor cannot adjudicate the comment with the comment originator within 5 days, the issue is raised to the O-6 level for adjudication. If the comment cannot be resolved at the O-6 level within approximately 48 hours, the document sponsor requests AF/XORD support in adjudicating the comment. AF/XORD presents the issue to AF/XOR (as necessary). In rare instances, the comment may have to remain open and be adjudicated at the AFROCC. For adjudication issues with other Services or the Joint Staff, the Air Staff SME assists the document sponsor in working the issue with the applicable FCB Working Groups. In rare cases, these issues may have to be resolved at the FCB, JCB or even the JROC.

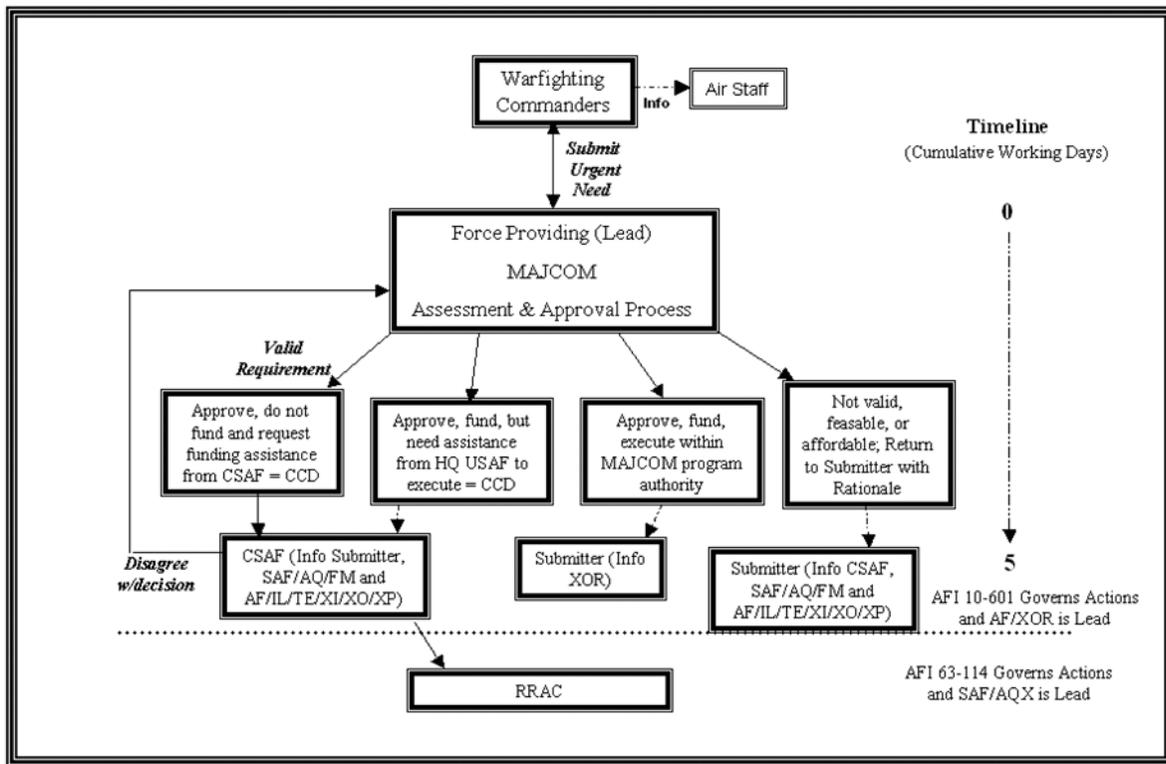
A2.7. Document Completion. After the document completes the staffing process, AF/XORD is responsible for obtaining final signature/approval and enters the approved document and all supporting material into the Requirements Document Library and forwards a signed copy to the J-8 Gatekeeper for archiving in KM/DS.

Attachment 3

RESPONDING TO WARFIGHTER URGENT CAPABILITY NEEDS

A3.1. This attachment details the requirements identification, validation and approval process used to satisfy operator urgent needs either within the Lead (force providing) MAJCOM or through use of a Combat Capability Document (CCD). AF/XOR is the single Air Staff POC for addressing warfighter urgent capability needs and CCD processing actions (Figure A3.1). CSAF has delegated authority for addressing warfighter urgent capability needs and approving CCDs to the Lead MAJCOM Commander. Current procedures, templates, status of submitted CCDs and other process information are located on the AF/XORD web site at: <https://www.afreqs.hq.af.mil> or <http://www.afreqs.pentagon.smil.mil>.

Figure A3.1. Warfighter Urgent Capability Needs Process.



A3.2. **Combat Capability Document (CCD).** A CCD is an operational requirements document used by the Air Force in lieu of an ICD, CDD and CPD to support fielding an interim solution to a warfighter’s urgent capability needs. The CCD is a short-term solution and Lead MAJCOMs should follow-up by processing the required JCIDS documents (ICD/CDD/CPD) for the long-term solution, sustainment activities, or to transition the CCD solution into a permanent program. The CCD is not intended to create placeholders for future funding or as a means to bypass the normal requirements and acquisition processes.

A3.2.1. **CCD Criteria.** Lead MAJCOM Commanders should consider the following when deciding whether to approve a CCD:

A3.2.1.1. Capability can be fielded in time to impact an ongoing conflict or a crisis situation; usually means fielded within approximately 60 days of program start.

A3.2.1.2. Capability is needed by a warfighting commander to address a critical capability gap/shortfall that could result in loss of life and/or prevent mission accomplishment.

A3.2.1.3. Capability must be supportable/sustainable within existing support structure.

A3.2.1.4. Envisioned program must be technically and technologically feasible and affordable.

A3.2.1.5. Must have a viable concept of operations to field, provide training, employ, support and sustain the required capability.

A3.2.1.6. Capabilities that require extensive RDT&E do not normally qualify.

A3.2.1.7. A CCD is not intended for modification of an entire fleet. Normal modification and acquisition processes will be used if permanent modification to the remainder of the inventory is required. A modification initiated under a CCD does not require an AF Form 1067.

A3.2.1.8. CCDs result in materiel solutions and are not a source of increased manpower/ personnel.

A3.2.2. Submission of Identified Urgent Need. The CCD process timeline begins when a Warfighting Commander notifies the Air Force of a capability gap/shortfall that could result in loss of life and/or prevent mission accomplishment. The warfighting commander must be a Combatant Commander or Air Force Component Commander. Once identified, the urgent need is sent to the Lead MAJCOM (usually ACC for CAF; AMC for MAF; AFSOC or AFSPC) for requirement validation/approval and solution identification. Also forward the urgent need via e-mail to <mailto:afxord@pentagon.af.smil.mil> since AF/XORD tracks them for the CSAF. AF/XORD will forward urgent need to SAF/AQXA and appropriate Air Staff Subject Matter Experts.

A3.2.2.1. Recommend the warfighting commander use the Warfighter Urgent Capability Needs Format template provided on page 69 (the more information provided, the quicker a Lead MAJCOM can respond with proposed solutions). An urgent need *does not become a CCD* until the Lead MAJCOM has approved the requirement and submitted it to HQ USAF for action (**Figure A3.1**). Rationale: in many instances the Lead MAJCOM can satisfy the operator's requirement through means other than the CCD process (non-materiel solutions, internal programming authority, off-the-shelf purchase, AF Form 1067, etc).

A3.2.3. Lead MAJCOM Validation. The Lead MAJCOM processes the warfighter's urgent capability needs request within 5 workdays. In many instances, a thorough review of these requests may take longer than the allotted 5 days. In these cases, the Lead MAJCOM provides the submitter and AF/XOR (via email and telephone) a review status within the allotted 5 days that includes an intended course of action and an expected timeline for completing the decision process. The Lead MAJCOM has four possible courses of action: approve requirement and execute within existing program authority; approve requirement, fund and submit a CCD to CSAF, info AF/XOR/FMB and SAF/AQX; approve requirement, not fund and submit to CSAF for assistance (option to be rarely used); or notify originator that urgent need is non-executable as a CCD. Lead MAJCOM informs AF/XORD upon receipt of an urgent need request; AF/XORD informs AF/XO (and CSAF as appropriate).

A3.2.3.1. In many cases, urgent need requests are satisfied without a CCD. This is the preferred method since it provides the quickest support to the operator. If direction is not required from HQ

USAF (such as PMD or other decision memorandum), the Lead MAJCOM executes within existing program authority and documents decision for potential reimbursement through normal processes (APOM, supplemental, cost of war, etc). However, urgent need requests funded by investment appropriations must be coordinated with SAF/FMBI/AQXR for new start determination (e-mail verification is adequate) and to ensure appropriate funds have been identified. Lead MAJCOM notifies warfighting commander and CSAF (info AF/XOR) of decision to satisfy the urgent need request internally.

A3.2.3.2. If the Lead MAJCOM/CC approves and funds the requirement and assistance is needed from HQ USAF (New Starts, PMD, etc), the MAJCOM submits a CCD to CSAF using attached format. Upon receipt at Air Staff, the CCD proceeds directly to the RRAC for action. AFSOC works investment and RDT&E funding issues directly with HQ USAF and/or AFMC prior to submission of CCD. All CCD requests must also address funding for CCD program sustainment. Lead MAJCOM informs originator and CSAF of decision.

A3.2.3.3. If MAJCOM/CC approves the requirement and deems there may be a corporate claim for funding (e.g. scope of acquisition obligates other MAJCOMs or the corporate Air Force should share in the financial burden), an unfunded CCD may be submitted directly to CSAF using attached format. The intent is to avoid prematurely terminating effective solutions, but this option is rarely used and must not be used as a way to avoid funding responsibilities. There is no dedicated funding source at Air Staff for CCDs, and supplemental funding (cost of war, Global War on Terrorism, Omnibus, etc) is not normally a valid source of funds for CCDs (due to long lead time for reprogramming). Submission of an unfunded CCD may result in CSAF directing funding from submitting MAJCOM's appropriations (or taking offsets). If CSAF does not concur with the CCD being a corporate claim, it is returned to the submitting MAJCOM/CC for action; HQ USAF will not maintain a list of unfunded CCDs since this violates the intent of the warfighter urgent capability needs process (the submitting MAJCOM must continue to work these unfunded requirements).

A3.2.3.3.1. MAJCOMs notify AF/XORD as soon as possible when they intend to submit an unfunded CCD. The RRAC works with the MAJCOM to find possible solutions to programmatic problems (i.e., technical, schedule, funding, etc.) and provides a recommendation for the CSAF once the MAJCOM/CC-approved, unfunded CCD is received. AF/XO recommends one of three possible courses of action to the CSAF: non-concur on CCD and return to MAJCOM; concur with CCD but fund from within MAJCOM appropriations; concur with CCD and seek corporate solution.

A3.2.3.4. CSAF has delegated funding authority to lead MAJCOMs to train, organize and equip. This includes authority to disapprove urgent need requests that are not considered valid, feasible or affordable by the Lead MAJCOM Commander. Inform originator and CSAF of decision with rationale.

A3.2.3.4.1. If Lead MAJCOM considers the urgent need a valid capability gap/shortfall, but not a valid CCD, then the Lead MAJCOM continues to work to satisfy this capability gap/shortfall by entering the requirement into the Air Force requirements development process for accelerated development of JCIDS documents. The MAJCOM also starts to work POM issues for the required capability.

A3.2.4. Satisfying a warfighting commander's urgent needs should be the MAJCOM's top funding priority. Many of the approved solutions, such as modifications, purchase of stock items, etc., can be cash flowed by MAJCOM O&M (3400) accounts within existing budget authority. MAJCOMs have the necessary control of the O&M accounts and can calculate the associated funding risk of cash flowing operational capability requirements until reimbursement is received via cost-of-war supplemental or omnibus reprogramming. However, MAJCOMs often do not have the same clarity in evaluating the trade space with the investment accounts (3600, 3010, etc) that are managed by AFMC and SAF/AQ appropriation managers. Therefore, the Lead MAJCOM works investment-funding issues with HQ USAF and other appropriate agencies when considering warfighting commander's urgent need funding solutions.

A3.2.5. AF/XOR Process: On receipt of a Lead MAJCOM CCD, AF/XORD has 2 working days to staff an information package to the CSAF to ensure the CSAF has seen the MAJCOM/CC message. In the rare case where an unfunded CCD is forwarded, AF/XOR seeks CSAF guidance on how (or whether) CCD should be funded. To expedite information to CSAF, AF/XO informs CSAF of all MAJCOM Commander CCD decisions via e-mail.

A3.3. Rapid Response Process (RRP). As a follow-on to the warfighter urgent capability needs process, the RRP satisfies a capability gap/shortfall identified by a warfighting commander and approved by the Lead MAJCOM/CC but requiring HQ USAF action. Once the MAJCOM/CC approved CCD is received by AF/XOR and forwarded to the Rapid Response Assessment Committee (RRAC), SAF/AQX takes the lead and is responsible for determining if the proposed solution is feasible IAW AFI 63-114, *Rapid Response Process*.

Warfighter Urgent Capability Needs

Format

Precedence: Immediate

From: Warfighting Commander

Action: Lead MAJCOM (ACC for CAF issues; AMC for MAF issues; AFSPC for Space issues; and AFSOC for Special Forces issues)

Info: HQ USAF/XO/XOR, SAF/AQ/FM/US/AQX/FMB, HQ AFMC/XR, and other appropriate offices (including appropriate COCOM agencies: i.e. CENTCOM/J3)

E-mail copy to: <mailto:afxord@pentagon.af.smil.mil>

Classification: As required

Subject: URGENT NEED FOR A (TITLE OF DEFICIENCY)

1. General Description: Identify the general mission area where the urgent operational deficiency exists (i.e., electronic combat, aircrew chemical defense, improved system reliability and maintainability, weapons certification); specify platform where applicable (i.e., B-52, F-15, etc); specify operation supported.
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, security, survivability, personnel, training, logistics, communications, etc. The need should be supported by a current threat assessment.
3. Non-Materiel Alternatives: Discuss the non-materiel options and alternatives that could be considered as potential solutions.
4. Potential Materiel Alternatives: Identify and discuss proposed short-term viable solutions. Alternatives may include specific solutions now available, other Service or Allied capabilities, non-developmental items (NDI), etc. Include a short description of envisioned CONOPs. Address supportability within existing support infrastructure.
5. Point of Contact (POC). Identify POC familiar with the urgent need. Provide name, grade, office symbol, phone number (DSN and/or Commercial) and email address.

NOTE: This is NOT a mandatory format for submission of urgent needs to a Lead MAJCOM. In addition, identifying materiel and non-materiel solutions is not mandatory. Primary intent is to provide a readily available format for a warfighting commander to document a critical combat capability gap/shortfall (urgent need) - it is the Lead MAJCOM's responsibility to determine the best solution for filling the capability gap/shortfall.

Combat Capability Document (CCD)

Format

Precedence: Immediate

From: Submitting Lead MAJCOM Commander

Action: CSAF Washington DC// (Combatant Commanders send to Lead MAJCOM)

Info: HQ USAF/XO/XOR, SAF/AQ/FM/US/AQX/FMB, HQ AFMC/XR, commander that submitted urgent need, and other appropriate offices

E-mail copy to: <mailto:afxord@pentagon.af.smil.mil>

Classification: As required (Note: a CCD identifies a wartime shortfall, so they should normally be handled via classified channels even though they may be unclassified)

Subject: COMBAT CAPABILITY DOCUMENT (CCD) FOR A (TITLE OF DEFICIENCY)

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); specify platform where applicable (i.e., B-52, F-15, etc.); identify the operation supported.
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, security, survivability, personnel, training, logistics, communications, etc. The need should be supported by a current threat assessment.
3. Non-Materiel Alternatives: Discuss the non-materiel options and alternatives that were considered as potential solutions.
4. Potential Materiel Alternatives: Identify and discuss proposed short-term viable solutions. Alternatives may include specific solutions now available, other Service or Allied capabilities, non-developmental items (NDI), etc. Include a short description of envisioned CONOPs. Address supportability within existing support infrastructure. Indicate whether the proposed solution will be temporary or permanent, if permanent, address plans for sustainment and transition to normal JCIDS/acquisition process.
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; life-cycle sustainment issues; transportation; geospatial information and Services; manpower; personnel; training; human factors, safety, technology protection, system security engineering, health hazards, and personnel survivability, command, control, communications and intelligence support; and standardization and interoperability issues. It is mandatory in this section that drafter identify and discuss interoperability requirements for the system. Other constraints might address timing, potential non-military sensitivities, etc. In addition, discuss the operational environment envisioned (biological, chemical, electromagnetic, weather, etc.) and the level of desired mission capability, if appropriate. If known, indicate any prior initiatives or ongoing program efforts to acquire the capability, referencing previous draft or approved operational capability requirements documents. Identify whether the solution is expected to require nuclear safety and compatibility certification. If the alternative requires development of or modification to a system that is used to deliver nuclear weapons, it will require certification prior to fielding. Certification requirements may affect schedule and program affordability. Define expected certification requirements or state that the modification does not affect nuclear certification. When appropri-

ate, identify the weather, oceanographic and astrogeophysical support needs throughout the program's expected lifecycle. Include data accuracy and forecast needs.

6. Funding: Lead MAJCOM must identify potential source of funding or offset when submitting a CCD.

6a. Total funding:

6b. Program Element:

6c. Funding breakdown by appropriation (3010, 3080, etc):

6d. Sustainment funding (min. 2 years to allow time for APOM actions):

7. Point of Contact (POC). Identify POC familiar with the CCD. Provide name, grade, office symbol, phone number (DSN and/or Commercial) and email address.