

10 MAY 2006



Operations

CAPABILITIES-BASED PLANNING

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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

OPR: HQ USAF/A5X-C (Maj Anthony Valerio)

Certified by: HQ USAF/A5X
(Maj Gen R. Michael Worden)

Pages: 35

Distribution: F

This Air Force Instruction (AFI) implements Air Force Policy Directive (AFPD) 10-6, *Capabilities-Based Planning & Requirements Development*. It provides procedures for conducting Air Force Capabilities-Based Planning (CBP) and the Capabilities Review and Risk Assessment (CRR) to support development of operational capability requirements and to provide decision-quality information for the capability requirement identification, development, investment, acquisition, and distribution processes. The new AFPD 10-6 and this instruction will complement AFPD 90-11, *Planning System*, which establishes policy for the strategic planning framework. This instruction applies to the U.S. Air Force, the Air National Guard, and the Air Force Reserve. Major Commands (MAJCOMs), Field Operating Agencies (FOA), and Direct Reporting Units (DRU) may supplement this instruction.

This AFI implements processes and procedures in Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 3170.01, *Joint Capabilities Integration and Development System (JCIDS)*, and Chairman of the Joint Chiefs of Staff Manual (CJCSM) 3170.01, *Operation of the Joint Capabilities Integration and Development System*. This AFI must be used in conjunction with AFI 10-601, *Capabilities-Based Requirements Development*, AFPD 10-28, *Air Force Concept Development*, and AFI 10-2801, *Air Force Concept of Operations Development*.

Adherence is mandatory, except when statutory requirements, Department of Defense (DoD) or Joint Staff (JS) directives override. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual (AFMAN) 37-123, (will become AFMAN 33-363) *Management of Records*, and disposed of in accordance with Air Force Records Disposition Schedule (RDS) located at <https://afirms.amc.af.mil>.

Send proposed supplements or recommended changes to this instruction to Headquarters (HQ) Air Force Deputy Chief of Staff for Air, Space, and Information Operations, Plans, and Requirements (A3/5), Deputy Director of Operational Plans and Joint Matters for CONOPS Champions (HQ USAF/A5X-C), 1480 Air Force Pentagon, Washington, DC 20330-1480; email: AFA5XC.Workflow@pentagon.af.mil.

Chapter 1— VISION & IMPLEMENTATION CONCEPTS 3

1.1. History. 3

1.2. Vision. 3

1.3. Purpose. 3

Chapter 2— AIR FORCE CAPABILITIES-BASED PLANNING OVERVIEW 5

2.1. Purpose. 5

2.2. Overview of Approach. 5

2.3. Participative Planning. 6

2.4. Capability Basis. 6

2.5. Relationship to Other Major Processes. 7

Chapter 3— PROCESSES AND PRODUCT DESCRIPTIONS 9

3.1. Capabilities-Based Planning Process. 9

3.2. Products. 11

Chapter 4— ROLES AND RESPONSIBILITIES 14

4.1. Authority. 14

4.2. Stakeholders. 14

Attachment 1— GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION 22

Attachment 2— ANCILLARY CAPABILITIES-BASED PLANNING PROCESSES 31

Chapter 1

VISION & IMPLEMENTATION CONCEPTS

1.1. History. Changes in the world prevent the United States (U.S.) from knowing, with certainty, which nation, combination of nations, or non-state actors will pose threats to vital U.S. interests or those of U.S. allies and friends now and in the future. To prepare for an uncertain future, our military forces must anticipate the capabilities an adversary might employ to coerce its neighbors, deter the U.S. from acting in defense of its allies, friends, and interests, or directly attack the U.S. or its deployed forces. Concurrently, our military must identify the capabilities needed to deter and defeat its adversaries who will rely on surprise, deception, and nontraditional warfare to achieve their objectives. A CBP process allows senior military leaders to identify a wide array of versatile capabilities that can be used to achieve desired operational effects as well as identifying redundant capabilities. The effective integration of these capabilities creates a more versatile fighting force.

1.1.1. Definition. Air Force CBP is the planning, under uncertainty, to provide capabilities suitable for a wide range of challenges and circumstances, all designed to achieve certain battlespace effects. Air Force CBP employs an analytically sound, repeatable, and traceable process to identify, assess, and prioritize Air Force capability needs and potential tradespace study areas across the Doctrine, Organization, Training, Materiel, Leadership & Education, Personnel, and Facilities (DOTMLPF) spectrum. A capability is the combined capacity of personnel, materiel, equipment, and information in measured quantities, under specified conditions, that, acting together in a prescribed set of activities can be used to achieve a desired output.

1.1.2. Application. In accordance with this broad shift in the DoD's approach to planning, programming, budgeting, and execution (PPBE), and in conjunction with the JCIDS process described in CJCSI 3170.01, the Air Force established the CBP process. CBP will better align Air Force capability allocation strategies with required warfighting effects and will better support Air Force corporate decision making and acquisition to provide warfighting capability to Combatant Commanders. The goal is to make warfighting effects and the capabilities needed to achieve them the basis for everything the Air Force does in the future.

1.2. Vision. Ensuring the Air Force has the capabilities necessary to support the defense strategy through the range of Joint military operations is the primary focus of the CBP process. The procedures established in this AFI support Air Force capability development investment allocation decisions in identifying, assessing, and prioritizing Air Force capability needs. Fulfilling Air Force capability needs, in turn, contributes to the Combatant Commanders' ability to achieve substantive improvements in warfighting and interoperability in the battlespace of the future.

1.3. Purpose. The purpose of this document is to provide an overall description of the Air Force's CBP process and to focus on those subprocesses most directly linked to operational capabilities planning: review of higher level guidance; creation of and updates to Air Force Concepts of Operations (AF CONOPS); performance of Functional Area Analysis and Functional Needs Analyses (FAA and FNA); Air Staff (HQ USAF) and MAJCOM/ FOA/ DRU analysis; course of action (COA) and solution development (Functional Solution Analysis [FSA]); and senior leader review and decision. Inputs and outputs to the subprocesses are included in this AFI. Current CBP documents, methodologies, and other dynamic

details relative to the CBP process may be accessed through the CONOPS Management Tool (CMT) at <http://cmt.af.pentagon.smil.mil/cmttjava>.

1.3.1. Joint Guidance. Air Force CBP incorporates the Quadrennial Defense Review (QDR), Strategic Planning Guidance (SPG), Joint Programming Guidance (JPG), Joint long-range planning inputs and operational concepts, and the effects and capabilities contained in Joint Operations Concepts (JOpsC) family, which consists of a Capstone Concept for Joint Operations (CCJO), Joint Operating Concepts (JOCs), Joint Functional Concepts (JFCs), Joint Integrating Concepts (JICs), and the Joint Capability Areas (JCA).

1.3.2. Air Force Guidance. The Chief of Staff of the Air Force (CSAF) established AF CONOPS expressing the commander's intent for executing military operations. The effects and capabilities contained in specific AF CONOPS provide the foundation for CBP throughout the AF.

1.3.3. Joint Application. Following senior leader review and decision at the Air Force level, CBP results are passed to the Joint process via collaborative HQ USAF A5X/A5R presentations to appropriate Functional Capability Boards (FCB). Air Force and Joint level scrutiny through the FCB and FCB Working Groups will reduce redundant efforts and produce the highest level of Joint collaboration, thereby meeting the needs of the Combatant Commanders.

1.3.4. Air Force Application. The AF CONOPS link the warfighting effects expressed in Joint Operating Concepts (JOC) with the portfolio of Air Force capabilities that can be used to achieve those effects. The AF CONOPS are the catalyst of the Air Force CBP process and serve as the conceptual foundation for capability analysis using the Master Capabilities Library (MCL). Air Force CBP employs an analytically sound, repeatable, and traceable process to identify, assess, and prioritize Air Force capability needs and potential tradespace study areas across the DOTMLPF spectrum. By following the guidelines provided in this document, planning efforts at the MAJCOMs/ FOAs/ DRUs will produce complementary products to inform and enable Air Force-level planning activities, inform joint capability planning and development activities, and facilitate the timely delivery of relevant capabilities to the warfighter.

Chapter 2

AIR FORCE CAPABILITIES-BASED PLANNING OVERVIEW

2.1. Purpose. In general, the Air Force applies CBP results to more effectively inform the decision makers involved in the PPBE cycle, the capabilities requirements process, and the acquisition process. Additionally, agencies within the HQ USAF will refer to capabilities-based plans for a wide range of activities, such as developing and using appropriate metrics to identify capabilities in DOTMLPF activities, program justification from a capability perspective, directives to the field, and responses to inquiries from the Office of the Secretary of Defense (OSD) or Congress. More specifically, Air Force CBP enables the following activities:

- 2.1.1. Ensures the Air Force possesses the capabilities necessary to support the Combatant Commanders' requirements to perform across the range of military operations.
- 2.1.2. Helps the Air Force better prepare for an uncertain future by increasing the effectiveness of its capabilities to face a broad spectrum of operating conditions.
- 2.1.3. Aligns Air Force planning efforts to more effectively guide capabilities development, MAJCOM/ FOA/ DRU Program Objective Memorandum (POM) builds and acquisition cycles.
- 2.1.4. Helps the Air Force monitor capability development.
- 2.1.5. Assesses and makes decisions on risk by positively identifying current and future risk across the full range of military operations, addressing areas of significantly high risk (capability objectives) or low risk (tradespace study areas), and balancing risk across all Air Force capabilities.
- 2.1.6. Identifies a range of areas for further analysis/development from across the DOTMLPF spectrum to better leverage non-materiel solutions.
- 2.1.7. Identifies tradespace study areas for further review that may yield areas for the Air Force to accept more risk.
- 2.1.8. Provides a stronger operational basis for capability development and investment allocation decisions.
- 2.1.9. Provides an operationally oriented forum for addressing combatant command priorities.
- 2.1.10. Aligns the framework for Air Force decision making with the Joint Chiefs of Staff (JCS) and OSD.

2.2. Overview of Approach. The DoD has moved from a threat-based planning approach to a capability-based approach. The OSD and Joint staffs use the CCJO, JOCs, JFCs, and JICs to establish a common understanding of how a capability will be used, who will use it, when it is needed, and the effects it intends to achieve. Concurrently, the Air Force, using a defined set of operational capabilities, describes how operations are conducted and effects are achieved, using air and space power, in its AF CONOPS. These AF CONOPS support the development of the Air Force Roadmap that bridges current Air Force capabilities with those required for the next 20 years and beyond. Further, the Air Force assesses those capabilities resident in the AF CONOPS; describes capability objectives, tradespace study areas, and associated risk identified by CBP and the AF Roadmap; proposes recommended guidance across the DOTMLPF spectrum to mitigate risk; and informs the Joint community via collaborative HQ USAF A5X/A5R presentations, facilitated by HQ USAF A5R-J representatives, to the Joint FCBs. Presentation

of CBP results and recommended guidance serves as the bridge to the capability development process and leads to specific analytically based DOTMLPF solutions and, at times, the development of new capabilities.

2.3. Participative Planning. MAJCOMs/ FOAs/ DRUs and the HQ USAF participate jointly in CBP. The iterative nature of the process continually enhances the products of CBP.

2.3.1. Writing. AF CONOPS Flight Leads author the AF CONOPS documents guiding Air Force operations. Additionally, MAJCOMs/ FOAs/ DRUs produce roadmaps forecasting resourced capabilities within a constrained budget. These processes are described in detail in AFI 10-2801, *Air Force Concept of Operations Development* and AFI 90-11xx (Draft), *Air Force Road Map Development*.

2.3.2. Reviewing. AF CONOPS Champions, working with AF CONOPS Flight Leads (MAJCOM representatives responsible for Service-level CONOPS on behalf of their command/community) and HQ USAF subject matter experts (SME), assess the risk to achieve the Joint Warfighting effects by measuring Air Force operational capabilities found in the AF CONOPS documents and linked to functional capabilities within the MCL, from a broad perspective. While planning for the short- and long-term operations of their organizations, MAJCOMs/ FOAs/ DRUs also participate in the Air Force-level review of capabilities.

2.3.3. Integrating. Together, AF CONOPS Champions, HQ USAF SMEs, and MAJCOMs/ FOAs/ DRUs develop recommended guidance to address identified capability objectives and tradespace study areas. Capability objectives are those groupings of like capability shortfalls or gaps that allow senior leaders to make decisions on common capability topics. Tradespace study areas are areas determined to be of low risk that could be offset to fund capability objectives.

2.3.4. Briefing. AF CONOPS Champions brief the results of the analysis and the associated MAJCOM/ FOA/ DRU analysis results to a board composed of the Air Force's senior leadership from HQ USAF and the MAJCOMs as part of the CRRA process.

2.3.5. Updating. The MAJCOMs/ FOAs/ DRUs utilize CRRA results and recommended guidance to fully develop and implement the best solutions across the DOTMLPF spectrum. In turn, MAJCOMs/ FOAs/ DRUs update their roadmaps as dictated by CRRA results. As each process and product influences the next, it is important to understand the sequence for updating CBP products. As the foundation of all AF CBP, AF CONOPS are revised at the beginning of the CBP cycle, followed by the MCL, as necessary, in preparation for CRRA analysis. Roadmaps should be developed in parallel with the CRRA process to guide POM submissions.

2.3.6. Rewriting. AF CONOPS and Air Force Roadmap will undergo major review and revision every two years. The improvements to capabilities achieved by solution integration are added to an updated versions of these documents.

2.4. Capability Basis. CBP is conducted from a capability perspective, not a systems or mission perspective. Effects and the capabilities required to achieve them are described in AF CONOPS documents. An aircraft by itself, for example, is not a capability. The Air Force has a capability when the aircraft is flown by a trained, qualified crew, is operating under the proper command and control system, is flown from a secure base, has intelligence preparation for the specific mission, with weapons, effective tactics and communications appropriate to the mission, etc.

2.4.1. Capability Categories. Defining and analyzing capabilities are core elements of CBP, while analysis is facilitated by the way in which capabilities are viewed. Capabilities can be viewed from functional and operational perspectives. Within the Air Force's MCL, capabilities are categorized under a functional perspective. AF CONOPS are organized by operational effects and describe the linkage between operational and functional capabilities. Operational capabilities provide a clearer link to the Combatant Commands and the National Defense Strategy than do the functional capabilities. Because the CRRA uses the MCL for analysis, architectural links between operational and functional capabilities are critical.

2.4.1.1. Functional. The Air Force uses a functional perspective to define capabilities, subcapabilities, and tasks that are commonly related. Air Force functional capabilities are named in the Air Force's MCL. Functional capability categories cover warfighting activities (e.g., force application, force projection, communications), direct support and logistics (e.g., security, mission generation, medical), and institutional activities (e.g., acquisition, training). Ultimately, accomplishment is affected by changes due to new technology, emerging threats, or doctrinal updates.

2.4.1.2. Operational. The Air Force uses an operational perspective to conceptualize desired effects and the capabilities required to achieve them. Operational capability categories reflect the purposes to which capabilities are put, such as large-scale operational and support challenges. AF CONOPS focus on a general class of operational challenges (homeland defense, nuclear warfare, agile combat support [ACS]) most pertinent to air and space power. The Air Force Roadmap indicates how resources link to operational effects and distinctive capabilities and considers employment concepts to derive sufficiency requirements for those resources.

2.5. Relationship to Other Major Processes. CBP is an integral element in resource allocation (such as strategic planning, requirements, acquisition, programming, and budgeting). Proper capability analysis requires CBP to use data from other processes as inputs. Likewise, outputs from CBP are used as process inputs elsewhere in resource allocation.

2.5.1. Inputs. Current Joint strategic guidance, defense planning scenarios, Joint Capability Areas, AF CONOPS documents, and metrics serve as important inputs to CBP. Additionally, previously identified guidance, HQ USAF/A5X-C CONOPS-derived Annual Planning and Programming Guidance (APPG) language, Air Force and Joint Lessons Learned, Joint concepts (i.e., CCJO, JOCs, JFCs, JICs), Combatant Commanders' Integrated Priority Lists, and capabilities development initiatives serve as inputs to the various CBP subprocesses, such as a capabilities review and MAJCOM/ FOA/ DRU roadmap development. Air Force Command and Control (C2), Intelligence, Surveillance, and Reconnaissance (ISR), Information Operations (IO), Space, and ACS CBP processes and products (FAA, FNA, and FSA) are also major inputs to the various CBP subprocesses. As CBP is cyclical, outputs from the previous cycle serve as inputs to the current cycle.

2.5.2. Outputs. The results of CBP produce new Air Force guidance that helps inform Air Force Roadmap development and is implemented via the APPG. CBP results also initiate capabilities development through Air Force Requirements for Operational Capabilities Council (AFROCC) review, assignment of responsibility for conducting a formal FSA, and/or creating capabilities-based requirements documents associated with CRRA results. Guidance derived from CBP is applicable in organizational and technology developments, operational experimentation, capabilities requirements generation, material and manpower/personnel acquisition, and capability investment allocations.

2.5.3. Refer to [Attachment 2](#), Ancillary Capabilities-Based Planning Processes, for additional information on the relationships between CBP and other processes.

Chapter 3

PROCESSES AND PRODUCT DESCRIPTIONS

3.1. Capabilities-Based Planning Process.

3.1.1. Review Higher-Level Guidance. As a first step, MAJCOM/ FOA/ DRU and HQ USAF planners review authoritative guidance from all higher echelons. This guidance includes broad policy statements, such as the SPG and JPG, the National Security Strategy, the QDR, and the Air Force Vision. It also includes specific policy documents, such as the National Strategy for Homeland Security, national space policy documents, Secretary of Defense policy letters, MAJCOM strategic plans, and applicable Joint concepts. It may also include documents that help to inform policy or AF CONOPS development, such as CCJO, JOCs, JFCs, JICs, Joint Requirements Oversight Council (JROC) approved Joint Capabilities Documents (JCD), Joint Staff sponsored Capability-Based Assessment results, Air Force Capability Documents (AFCDs), the Air Force Transformation Flight Plan, Air Force Strategic Plan, QDR studies, the Nuclear Posture Review, and OSD-approved scenarios.

3.1.2. Create and Update Concepts of Operations. AF CONOPS describe in broad terms how the Air Force intends to employ air and space capabilities in an operational context now and in the future. In general, MAJCOMs, in conjunction with AF CONOPS Champions, write, coordinate, and publish AF CONOPS. AF CONOPS provide the operational foundation for developing and maintaining required operational capabilities. For more information on AF CONOPS, see AFI 10-2801, *Air Force Concept of Operations Development*.

3.1.3. Update Master Capabilities Library. The MCL is intended to be a mutually exclusive, collectively exhaustive list of Air Force capabilities. The MCL provides the framework for data collection during the capabilities review process and will be updated NLT 1 Sep of the PPBE on year (i.e. even numbered years).

3.1.4. Execute Capabilities Review and Risk Assessment. This process identifies Air Force-wide capability shortfalls, gaps, and tradespace study areas through the application of FAA and FNA techniques. Senior leaders use these findings and the results of other CBP subprocesses to make comprehensive decisions that will yield the best results for the future of the Air Force and for the Joint warfighter. Ultimately, a capabilities review should be a structured, defensible, repeatable, and traceable analytic process that supports actionable results and feeds the JCIDS process. The following steps outline a general capability review process.

3.1.4.1. Review Capabilities. Capabilities outlined in the AF CONOPS will be reviewed first by individual HQ USAF and MAJCOM/ FOA/ DRU SMEs, then by teams led by AF CONOPS Champions. HQ USAF/A5X-C will define metrics and distribute instructions for application, e.g., operational vs. tactical level, process for assigning values to metrics, etc. The teams then assign values to the metrics that are later used to assess tasks and document capabilities in the Air Force's ability to achieve the effects specified in the AF CONOPS documents.

3.1.4.1.1. Preparation. Information, such as the SPG, previous CBP results, and MAJCOM/ FOA/ DRU-level planning products (e.g., roadmaps and functional area products), facilitates the initial assessment of capabilities. Use of an updated Air Force MCL enables capabilities-based planners to establish a common frame of reference for their review. See AFI

10-2801, *Air Force Concept of Operations Development*, for more information on MCL updating procedures.

3.1.4.1.2. Data Call. A two-part process that updates data repositories with current funding, technology information, newly released studies; and provides an initial look at a capability's current and future performance while mapping the system(s) that deliver the highest level of capability contribution. MAJCOMs/ FOAs/ DRUs and HQ USAF staffs will provide all applicable information to the managing agency via the CMT.

3.1.4.1.3. Activity Diagrams. Modeling and Simulation Tools, drafted by AF CONOPS Flight Leads under guidance from SAF/XC and verified by the AF CONOPS Champions and their teams, link tasks and capabilities to effects from an operational perspective. Activity diagrams highlight pivotal capabilities required to achieve a desired effect. Diagrams must adequately link operational capabilities within the AF CONOPS to MCL functional capabilities.

3.1.4.1.4. Scenarios. Provide predicted, real-world environment(s) in which Joint warfighters employ a mix of capabilities to achieve effects. The use of multiple scenarios, applied in conjunction with strategic planning guidance and various force structures, addresses the challenge of preparing for an uncertain future. Using several scenarios to frame a capability's effectiveness in a potential environment establishes an operational context and creates a more thorough analysis of the actual need for that capability. Not all capabilities will perform the same in every scenario, the more scenarios that can be used, the better in analyzing the operating conditions under which forces must operate. Where possible, planners should choose from OSD-approved scenarios when conducting capability reviews to ensure the assumptions used and the results of the reviews are more acceptable to reviewers outside the Air Force.

3.1.4.2. Functional Area Analysis. Using strategic guidance, activity diagrams, results of the data call, scenarios, and leveraging Air Force and Joint Lessons Learned, MAJCOM/ FOA/ DRU and HQ USAF SMEs collaboratively complete an FAA during the CRRA that is sufficient for JCIDS requirements. In general, an FAA identifies the operational tasks, conditions, and standards needed to achieve military objectives. In the case of Air Force CBP, the military objectives are expressed in the AF CONOPS. Conditions are elaborated through the use of scenarios, and capability metrics resident in the Air Force's MCL. At the HQ USAF level, the FAA results in a preliminary assessment of capabilities' proficiencies and sufficiencies. Outputs of the FAA are reviewed in the follow-on FNA.

3.1.4.3. Functional Needs Analysis. Following the conclusion of the FAA, SMEs determine the capability objectives (shortfalls/deficiencies) and recommend potential tradespace study areas requiring further investigation by the MAJCOMs/ FOAs/ DRUs. This FNA effort describes the capability objectives in broad, operational terms. SMEs consider scenarios and resulting operating conditions, contributions of capabilities resident in programs of record across an established time-frame, and existing force structure constraints. Additionally, AF CONOPS Champions and AF CONOPS Flight Leads evaluate risk to refine and prioritize capability objectives and tradespace study areas. Given the existence of a shortfall, AF CONOPS Champions and AF CONOPS Flight Leads must determine the consequence to the Air Force of having a specific amount of capability *and* the likelihood that the shortfall will have an adverse impact on the Air Force's ability to achieve desired effects for a given time period. This risk assessment is designed to show senior leaders where risk or tradespace exists in our capability to provide desired effects, based on the given scenarios.

3.1.4.4. Senior Leader Review and Decision. Results from the FAA and FNA are reviewed and refined by a combined HQ USAF/ MAJCOM/ FOA/ DRU board at succeeding levels (typically at the O-6, 1-2 star, and 3-star levels), culminating with a 4-star review led by the Secretary of the Air Force (SECAF) and the CSAF.

3.1.4.4.1. The 4-star review of CRRA results approves detailed APPG language that guides MAJCOM POM development. Decisions made by senior leaders focus on the most-needed capability improvements for the Air Force. As these reviews are risk-balancing exercises, the 4-star review provides guidance on those areas where more risk can be accepted, e.g., tradespace study areas, without imperiling the Joint warfighter.

3.1.4.4.2. A second output from this 4-star review is a tiered list of capability objectives provided to the AFROCC. The AFROCC, in turn, monitors and aids the CRRA-identified sponsor in the development of capability requirements to keep documents/solutions on track.

3.1.5. Functional Solution Analysis. Designated sponsors and their teams, using in-depth analysis tools and processes, refine the capability objectives and identify potential COAs. This effort brings the sponsors and the DOTMLPF analytic community together to provide the best recommendations for a comprehensive solution.

3.1.5.1. Develop COAs. COAs are developed from across the DOTMLPF spectrum to address the top-priority capability areas. MAJCOMs/ FOAs/ DRUs work with HQ USAF to develop and test candidate solutions using modeling and simulation (M&S), architecture models, military utility, tactics development, and cost analysis to assess capability improvement and validate the proposed COAs.

3.1.5.2. Solution Set Development. Solutions are derived from multiple COAs that address CBP-identified capability objectives. A COA may encompass any number of DOTMLPF programs. COA offices of primary responsibility (OPR) (implementing MAJCOMs/ FOAs/ DRUs or HQ USAF agencies) work with other appropriate offices to integrate COAs into potential solution sets.

3.1.6. Timing. CBP events are timed to respond to events in the larger PPBE process. The 4-star review and Roadmap approval are timed to occur every two years, late in the PPBE “off year” (i.e., odd numbered years). Approved guidance is then transmitted via the APPG and is available in time for the MAJCOMs to build their POM inputs for the PPBE “on year” (i.e., even numbered years). For specific information on CBP product timelines, see AFI 10-2801, *Air Force Concept of Operations Development*.

3.2. Products.

3.2.1. Concept of Operations Documents. AF CONOPS describe key Air Force operational areas for producing or enabling desired effects, articulate the capabilities required to achieve them, and inform senior leadership on the Air Force vision for capabilities development. The specific effects and capabilities outlined in the AF CONOPS provide the foundation for the review of Air Force capabilities. AF CONOPS are the operational and combat support blueprints for all other CBP processes and products: architectures, metrics, assessments, capability and task descriptions, MAJCOM strategic plans, and COAs. For specific information on the development, coordination, approval, and distribution of AF CONOPS, see AFI 10-2801, *Air Force Concept of Operations Development*.

3.2.2. Master Capabilities Library. As a repository for Air Force functional capabilities, the MCL captures the subcapabilities to the task level. The task level is the first measurable level reached when breaking down top-level capabilities into component subcapabilities. For consistency and ease of analysis, appropriate MCL capabilities must be linked to each operational capability within the AF CONOPS. Details on the approval and review timeline of the MCL are referenced in AFI 10-2801, *Air Force Concept of Operations Development*. The latest approved MCL can be accessed through the AF CONOPS Champions webpage: <https://www.a3a5.hq.af.mil/a5x/a5xc/index.cfm>.

3.2.3. Course of Action Development. After reviewing capabilities and evaluating risk, AF CONOPS Champions work with the HQ USAF, MAJCOMs/ FOAs/ DRUs, and the analytic community to develop crosscutting recommendations addressing capability objectives and tradespace study areas. Recommendations are published in the APPG and further developed by CRRA-identified OPRs to produce appropriate COAs (JCD, AFCD, FSA, DCR [DOTMLPF Change Recommendation], etc.). Through their broad-based approach, COAs help balance risk across the Air Force. For more details, see CJCSM 3170.01, Operation of the Joint Capabilities Integration and *Development System* and AFI 10-601 Capabilities-Based Requirements Development.

3.2.3.1. DOTMLPF. Since COAs, produced through a rigorous FSA, can be viewed as an institutional strategy to address high-priority capability areas, CBP encourages the development of wide ranging strategies. COA developers should avoid fixating on materiel solutions and adopt non-materiel solutions whenever possible, including *all* elements within the DOTMLPF spectrum.

3.2.3.2. Multi-Agency/Joint Support. Successful COAs are inherently dependent on the success of their manpower/personnel and technology actions. COA developers are encouraged to work closely with other agencies responsible for providing support to COAs for all Air Force capability areas.

3.2.3.3. Capabilities-Based Requirements Documents. Capabilities-based requirements documents may be developed to address the capability objectives identified through the subprocesses of CBP, approved by Air Force senior leadership, and recommended through the AFROCC. The CRRA-identified MAJCOM/ DRU/ FOA Sponsor will lead the development and staffing of these capability requirements documents.

3.2.4. Air Force Roadmap. The Air Force Roadmap communicates overarching strategy, annual force structure with planned recapitalization and modernization over a three-FYDP planning period, and timing of key decisions and actions. It incorporates senior leader direction based on the results of the most recent CRRA and is synchronized with the Air Force programming process to provide timely guidance for POM development. The Air Force Roadmap is based on the Air Force Vision that fully supports national defense strategy requirements. It identifies risk incurred when applying projected fiscal constraints. MAJCOM/ FOA/ DRU-specific roadmaps document projected forces required to meet capabilities over the planning period and support development of the Air Force Roadmap. CSAF, through HQ USAF/A8, is the approval authority for the Air Force Roadmap. Guidance on the development process will be covered in AFI 90-11XX, *Air Force Roadmap Development* (Draft).

3.2.5. Annual Planning and Programming Guidance. The APPG contains CBP guidance approved through the 4-star CRRA to MAJCOMs/ FOAs/ DRUs for planning actions. The APPG provides direction to the Air Force to develop a POM. HQ USAF/A8 is OPR for the APPG, and will coordinate with HQ USAF/A3/5 on the appropriate 4-star CRRA results for inclusion in the APPG.

3.2.6. MAJCOM-Level Documents. MAJCOMs/ FOAs/ DRUs are free to supplement these mandatory products with products of their own. They are also free to incorporate the applicable elements into their existing planning documents. For example, a MAJCOM roadmap might become an annex to that MAJCOM's strategic plan. Also, MAJCOMs/ FOAs/ DRUs augment AF CONOPS with functional concepts that can be useful during the CBP process. All products delivered from MAJCOMs/ FOAs/ DRUs to HQ USAF, however, must be expressed in terms of AF CONOPS capabilities.

Chapter 4

ROLES AND RESPONSIBILITIES

4.1. Authority. The CSAF ensures MAJCOM and Air Force POMs fund and lead to the delivery of needed capabilities. By providing strategic guidance and approving AF CONOPS, ultimate authority for CBP resides with the CSAF. The oversight for the Air Force CBP process and procedures has been delegated to the HQ USAF/A5X-C. The responsibility for strategic planning and programming policy, process, and procedures resides within HQ USAF/A8. It is beyond the scope of this instruction to outline the roles and responsibilities of every organization that interfaces with the CBP process. Other organizations not specified in this section may provide expertise in certain situations to assist in the production of Air Force operational capabilities.

4.2. Stakeholders. Responsible for enabling CBP at all levels of the Air Force. Effective CBP processes rely on close and continuous coordination of all agencies involved.

4.2.1. SECAF/CSAF.

4.2.1.1. Establish the strategic vision and guidance for the AF CONOPS development to guide planning, programming, requirements, and acquisition processes of the Air Force.

4.2.1.2. Approve AF CONOPS documents in accordance with guidance set forth in AFI 10-2801, *Air Force Concept of Operations Development*.

4.2.1.3. CSAF approves the AF Roadmap, developed by the coordinating and integrating MAJCOM/ FOA/ DRU roadmaps.

4.2.1.4. Chair the 4-Star capability review.

4.2.1.5. Approve prioritized capability objectives, tradespace study areas, proposed solution sets, taskings, and APPG language resulting from the Air Force capabilities review process.

4.2.2. VCSAF.

4.2.2.1. Releases 4-Star capability review results to Air Force through formal correspondence.

4.2.2.2. Directs development of MAJCOM/ FOA/ DRU roadmaps.

4.2.3. AF CONOPS Champions. HQ USAF focal points for all AF CONOPS-related activities that work in close coordination with the AF CONOPS Flight Leads. The AF CONOPS Champions for Global Mobility (GM), Global Strike (GS), Global Persistent Attack (GPA), Homeland Security (HLS), Nuclear Response (NR), and Space & Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (S&C4ISR) are assigned to HQ USAF/A5X-C, and the AF CONOPS Champion for ACS is assigned to HQ USAF/A4RC and matrixed to HQ USAF/A5X-C to support CBP.

4.2.3.1. Inform senior leadership and advocate those AF CONOPS-derived capabilities necessary for the Air Force to present the full range of Air and Space Expeditionary Task Force Power to the Combatant Commander.

4.2.3.2. Ensure AF CONOPS-specific equities are incorporated in the integration of capability review activities.

- 4.2.3.3. Implement an integrated capability review process using MAJCOM/ FOA/ DRU and HQ USAF inputs.
 - 4.2.3.4. Participate in the AFROCC and the JROC processes, through coordination with HQ USAF/A5R-J, HQ USAF SMEs, and the FCBs, to ensure Air Force capabilities are addressed and understood at the appropriate level. Attend AFROCC sessions, as required, to provide guidance on capabilities achieved or affected by a presented system/program.
 - 4.2.3.5. Work with AF CONOPS Sponsors, AF CONOPS Flight Leads, and AFSOC/XPPX to review the AF CONOPS and identify how Air Force capabilities fit into a Joint/coalition environment to carry out assigned missions.
 - 4.2.3.6. Provide advice and assessments as needed to the Air Force Corporate Structure (AFCS), managed by HQ USAF/A8, to evaluate how the Air Force budget supports the capabilities necessary to execute the AF CONOPS in terms of risk to the warfighter. This allows the Air Force to identify capability areas that must be addressed through changes to all facets within the DOTM-LPF spectrum.
 - 4.2.3.7. Work with AF CONOPS Flight Leads to identify and ensure participation and coordination from all applicable organizations during the Air Force-level capability review process.
 - 4.2.3.8. Work with AF CONOPS Flight Leads and other Air Force agencies through the process vehicle of the CRRA, to identify capability areas where additional risk may reasonably be accepted without imperiling the Joint warfighter and recommend to senior leadership new or additional investments to areas where the risk needs to be reduced.
 - 4.2.3.9. Support HQ USAF/A8 and MAJCOMs/ FOAs/ DRUs to align roadmaps with the CBP process and to assist in building POM submissions.
- 4.2.4. AF CONOPS Sponsor (Applicable MAJCOM).
- 4.2.4.1. Oversees the authoring and maintenance of AF CONOPS documents through use of products generated during execution of capabilities planning efforts.
 - 4.2.4.2. Collects the unique capability requirements of those MAJCOMs/ FOAs/ DRUs that do not have a preponderance of capabilities represented by a single AF CONOPS.
 - 4.2.4.3. In collaboration with applicable MAJCOM/ FOA/ DRUs, leads capabilities-based requirements document generation for capabilities needed to accomplish achievement of the desired effects described in the particular CONOPS.
 - 4.2.4.4. In collaboration with applicable MAJCOM/ FOA/ DRUs, develops and conducts analysis to ensure MAJCOM POM submissions support validated capability review results and associated Air Force and Joint capability requirements.
- 4.2.5. AF CONOPS Flight Leads
- 4.2.5.1. Serve as the focal point for all AF CONOPS-related activities in his/her respective command, and works in close coordination with the AF CONOPS Champions.
 - 4.2.5.2. Work with AF CONOPS Champions to identify and ensure participation and coordination from all applicable organizations, under his/her purview, during the capability review process.

- 4.2.5.3. Oversee the capability review efforts by applying and/or assigning expertise from appropriate MAJCOMs/ FOAs/ DRUs to assess Air Force capabilities identified by the various MAJCOMs/ FOAs/ DRUs during their respective planning and analysis efforts.
 - 4.2.5.4. Assist AF CONOPS Champions and other MAJCOMs/ FOAs/ DRUs to identify and prioritize, through the CBP process, capability objectives and areas where additional risk may reasonably be accepted without imperiling the Joint warfighter and recommend to senior leadership new or additional investments to areas where the risk needs to be reduced.
 - 4.2.5.5. Liaise with appropriate HQ USAF functional organizations during the development and revision of related AF CONOPS capabilities.
 - 4.2.5.6. Represent and advocate all MAJCOM issues to the AF CONOPS Champions and Air Force leadership.
 - 4.2.5.7. Coordinate and prepare responses from all MAJCOMs/ FOAs/ DRUs on AF CONOPS issues.
 - 4.2.5.8. Coordinate MAJCOM/ FOA/ DRU roadmap development with results of HQ USAF capability reviews.
 - 4.2.5.9. Participate in MAJCOM POM development to ensure respective MAJCOM's POM submission reflects capability objectives as identified by the capability review process.
- 4.2.6. HQ USAF/A2.
- 4.2.6.1. Provides Air Force ISR inputs to the various AF CONOPs for use in the capabilities review process.
 - 4.2.6.2. Provides ISR planning guidance in accordance with CBP-based, SECAF/CSAF approved priorities.
 - 4.2.6.3. Ensures ISR operational capabilities identified through AF CONOPs generation contain supportability and sustainment aspects for effective implementation of new capabilities.
- 4.2.7. HQ USAF/A3/5.
- 4.2.7.1. Air Force-level process owner for CBP.
 - 4.2.7.2. Chairs the 3-Star capability review and finalizes briefings presented during the 4-Star capability review.
 - 4.2.7.3. Ensures A3/5 Staff functional organizations support the appropriate HQ USAF/A5X CONOPS office and AF CONOPS Flight Leads in the execution of CBP. During the capability review process, support includes provision of HQ USAF-level SMEs to the appropriate assessment teams.
 - 4.2.7.4. Provides advocacy to the CSAF for approved/validated capability objectives identified by the CBP process.
 - 4.2.7.5. Maintains tasking authority for responsible organizations to review and staff capability review teams as part of the CBP process.
 - 4.2.7.6. Ensures the CBP products feed the JCIDS process.

4.2.7.7. Reviews and facilitates staffing and coordination for all HQ USAF/A3/5-related capability review taskings and outputs.

4.2.7.8. Provides policy direction and oversight to facilitate MAJCOM/ FOA/ DRU and agency capability planning activities.

4.2.8. HQ USAF/A4/7.

4.2.8.1. The Agile Combat Support (ACS) advocate for the USAF. Develops policy to deliver effective ACS across the full spectrum of the air and space expeditionary force by integrating ACS with the operational, warfighting AF CONOPS.

4.2.8.2. Ensures ACS analysis for CBP is complete and accurate.

4.2.8.3. Ensures operational capabilities identified through AF CONOPS generation contain acquisition of personnel and equipment, training, supportability, sustainment, and force protection aspects for effective implementation of new capabilities.

4.2.9. SAF/XC (A6).

4.2.9.1. Establishes architecture policy, guidance, and standards to facilitate the development of architecture products to support the Air Force's CBP process.

4.2.9.2. Establishes policy for architecture-based M&S efforts to include those performed in support of operational capability objectives analyses. Ensures architecture-based M&S (through the application of activity diagrams) is conducted in accordance with commonly accepted standards and procedures in the capability review process.

4.2.9.3. Provides the policy guidance and oversight to work with all MAJCOMs/ FOAs/ DRUs to develop appropriate system and operational architectures that reflect a particular AF CONOPS construct and that provide a way to map to future capabilities using a network of systems.

4.2.9.4. Ensures all architecture views are established in accordance with the Department of Defense Architecture Framework (DoDAF) and support JCIDS architecture requirements, as necessary.

4.2.9.5. Provides, in conjunction with HQ USAF/A3/5, the direct linkage regarding identified capability objectives and solution sets to innovations, i.e., Battlelabs, Advanced Technology Demonstrations (ATD), Advanced Concept Technology Demonstrations (ACTD), and relevant Joint experimentation programs associated with the capability being discussed, to include language as to how the particular item helps the capability.

4.2.9.6. Works with MAJCOM/ FOA/ DRU roadmap developers to create integrated capability solutions for the warfighter.

4.2.9.7. Improves integration with Joint capabilities and representation of Joint Operations to enable warfighters to better explore and evaluate air and space effects and capabilities to provide to the Combatant Commanders.

4.2.9.8. Provides Air Force communications, computer, and C2 inputs to the various AF CONOPS for use in the capabilities review process.

4.2.9.9. Provides, in conjunction with the Air Force Command and Control & Intelligence, Surveillance and Reconnaissance Center (AFC2ISRC), inputs to the CONOPS, MCL and the CRRA process.

4.2.10. HQ USAF/A8.

4.2.10.1. Provides strategic planning guidance in accordance with SECAF/CSAF approved priorities and coordinates planning process executed by the MAJCOMs/ FOAs/ DRUs.

4.2.10.2. Ensures 4-star capability review guidance is included in the APPG and balances those priorities with fiscal reality to build the Air Force POM.

4.2.10.3. Ensures that CBP products are integrated across overall USAF Strategic Planning process, Joint and OSD planning and analyses process and POM development process.

4.2.10.4. Provides policy direction and oversight in AFRD 90-11, *Planning System*, to facilitate MAJCOM/ FOA/ DRU strategic planning activities.

4.2.10.5. Provides policy oversight and guidance on development of MAJCOM/ FOA/ DRU roadmaps in AFI 90-11xx, *Air Force Roadmap Development (Draft)*.

4.2.11. HQ USAF/A9.

4.2.11.1. Lead agent for HQ USAF with regard to analytic policy, processes, and methodologies necessary to support CBP, to synchronize analysis across the Air Force, and for development and review of all processes, methodologies, and outputs from the CBP process.

4.2.11.2. Provides Air Force interface with OSD and Joint Staff for analytic policy issues to ensure common reference across the Air Force when conducting CBP.

4.2.11.3. Coordinates and synchronizes analytic issues across the Air Force to reduce analysis redundancies and improve sharing of analytic information in support of the CBP process. AF lead on coordinating on analysis and analytical M&S issues with other services and external organizations/communities.

4.2.11.4. Provides technical advice, guidance, and recommendations on Air Force analysis-related modeling and simulation issues to ensure defensibility of CBP-produced analysis.

4.2.11.5. Advocates analytical (including M&S) resources for use in CBP by establishing AF and interpreting OSD and Joint Staff Analytic M&S policies to include Analytic Baseline scenarios, models, databases and tools.

4.2.11.6. Assists MAJCOM/ FOA/ DRU in performing capability review and risk assessment as required. Conducts analysis as required to support CBP activities.

4.2.11.7. Monitors the conduct of CBP analytic activities to ensure compliance with the Analysis Synchronization Roadmap.

4.2.11.8. Establishes policies and procedures for identifying, collecting, and disseminating lessons learned across the AF and ensures they are considered under CBP.

4.2.11.9. Provides insights to CBP through oversight of the centralized integration and coordination of studies and analyses among all analytic providers.

4.2.11.10. Supports the development, maintenance, and currency of constructs/frameworks used for common capabilities-based analysis such as the AF MCL and OSD JCAs.

4.2.12. SAF/AQ.

- 4.2.12.1. Provides acquisition professionals to HQ USAF CONOPS organization in accordance with HQ USAF/A3/5-SAF/AQ memorandum of agreement.
 - 4.2.12.2. Participates in Air Force-level capability review activities.
 - 4.2.12.3. Monitors and tracks acquisition-related Air Force-level capability review action items.
 - 4.2.12.4. Supports the Air Force-level capability review as the primary data collector for the systems data portfolio call segment of the Air Force-level capability review process.
 - 4.2.12.5. Supports the Air Force-level capability review as the Integrator of Special Access Program/Special Access Required information related to the Air Force-level capability review analysis.
- 4.2.13. Major Commands.
- 4.2.13.1. Author the AF CONOPS documents guiding Air Force operations, when designated as the CONOPS Sponsor.
 - 4.2.13.2. Augment AF CONOPS with functional concepts to enhance both the Air Force CBP process and related MAJCOM planning processes.
 - 4.2.13.3. Produce complementary planning products to enable Air Force-level planning activities, inform Joint capability planning and development activities, and facilitate the timely delivery of relevant capabilities to the warfighter.
 - 4.2.13.4. Participate in the Air Force-level review of capabilities.
 - 4.2.13.5. In conjunction with AF CONOPS Champions and their teams, develop recommended guidance to address identified capability objectives at the HQ USAF level.
 - 4.2.13.6. Perform in-depth, capabilities-based analyses expanding the recommended guidance to fully develop and implement the best solutions across the DOTMLPF spectrum.
 - 4.2.13.7. For capability shortfalls identified outside the CRRA process, complete an FAA to direct planning efforts at the MAJCOM level and to feed Air Force-level CBP processes. Use strategic guidance, activity diagrams, scenarios, and leverage Air Force and Joint Lessons Learned.
 - 4.2.13.8. For capability shortfalls identified outside the CRRA process, complete an FNA to direct planning efforts at the MAJCOM level and feed Air Force-level CBP processes. Use results of the FAA, strategic guidance, activity diagrams, scenarios, and leverage Air Force and Joint Lessons Learned.
 - 4.2.13.9. Complete an FSA using in-depth analysis tools and processes to refine either the capability objectives, as identified by the CRRA, or other capability requirements identified through the MAJCOM-level FAA and FNA processes.
 - 4.2.13.10. Work with AF CONOPS Champions, other MAJCOMs/ FOAs/ DRUs, and the DOTMLPF analytic community to develop crosscutting recommendations addressing capability objectives and tradespace study areas.
 - 4.2.13.11. Develop roadmaps, as necessary, forecasting resourced capabilities within a constrained budget.
- 4.2.14. Field Operating Agencies and Direct Reporting Units

- 4.2.14.1. Augment AF CONOPS with functional concepts to enhance both the Air Force CBP process and related MAJCOM/ FOA/ DRU planning processes.
 - 4.2.14.2. Produce complementary planning products to enable Air Force-level planning activities, inform Joint capability planning and development activities, and facilitate the timely delivery of relevant capabilities to the warfighter.
 - 4.2.14.3. Participate in the Air Force-level review of capabilities.
 - 4.2.14.4. In conjunction with AF CONOPS Champions and their teams, develop recommended guidance to address identified capability objectives at the HQ USAF level.
 - 4.2.14.5. Perform in-depth, capabilities-based analyses expanding the recommended guidance to fully develop and implement the best solutions across the DOTMLPF spectrum.
 - 4.2.14.6. Complete an FAA to direct planning efforts at the appropriate levels and to feed Air Force-level CBP processes. Use strategic guidance, activity diagrams, scenarios, and leverage Air Force and Joint Lessons Learned.
 - 4.2.14.7. Complete an FNA to direct planning efforts at the appropriate levels and feed Air Force-level CBP processes. Use results of the FAA, strategic guidance, activity diagrams, scenarios, and leverage Air Force and Joint Lessons Learned.
 - 4.2.14.8. Complete an FSA using in-depth analysis tools and processes to refine either the capability objectives, as identified by the CRRRA, or other capability requirements identified through the FAA and FNA processes.
 - 4.2.14.9. Work with AF CONOPS Champions, other MAJCOMs/ FOAs/ DRUs, and the DOTMLPF analytic community to develop crosscutting recommendations addressing capability objectives and tradespace study areas.
 - 4.2.14.10. Develop roadmaps forecasting resourced capabilities within a constrained budget.
- 4.2.15. Research, Development, Test & Evaluation Community.
- 4.2.15.1. Supports MAJCOM/ FOA/ DRU planning efforts with technical expertise, analysis, and potential capability descriptions.
 - 4.2.15.2. Supports MAJCOM/ FOA/ DRU planning efforts by providing system/technology assessment through tools and associated processes (e.g., System and Technology Roadmaps, Architecture System Views and Technical Views, M&S, Program Reviews, and Summits), whose products are used during execution of the Air Force-level capability review.
 - 4.2.15.3. Supports MAJCOM/ FOA/ DRU and users by providing early involvement (conceptual test planning) and assists with development of test activities that support capabilities development, test, and evaluation (e.g., initial operational test and evaluation, follow-on operational test and evaluation, force development evaluation, etc.).
 - 4.2.15.4. Provides core/support members for CBP process to include direct support for the capability review process. Executes studies, analysis, and plans in support of CBP generated actions or requests.
- 4.2.16. Air Force Requirements for Operational Capabilities Council (AFROCC).

4.2.16.1. Assigns CBP products including Air Force-level capability review results into capabilities development process.

4.2.16.2. Informs successive cycles of CBP about ongoing capabilities development initiatives that may mitigate previously identified capability objectives.

CARROL H. CHANDLER, Lt Gen, USAF
DCS, Air, Space & Information Operations, Plans & Requirements

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

CJCSI 3170.01, *Joint Capabilities Integration and Development System*
CJCSM 3170.01, *Operation of the Joint Capabilities Integration and Development System*
Joint Publication (JP) 1-02, *Department of Defense Dictionary of Military and Associated Terms*
AFPD 10-6, *Capabilities-Based Planning and Requirements Development*
AFPD 10-23, *Operational Innovation Program*
AFPD 10-28, *Air Force Concept Development*
AFPD 61-1, *Management of Science and Technology*
AFPD 90-11, *Planning System*
AFI 10-204, *Readiness Exercises and After-Action Reporting Program*
AFI 10-601, *Capabilities-Based Requirements Development*
AFI 10-2305, *Wargaming*
AFI 10-2801, *Air Force Concept of Operations Development*
AFI 38-201, *Determining Manpower Requirements*
AFI 61-101, *Planning for the Applied Technology Council Process*
AFI 90-11XX, *Air Force Roadmap Development (Draft)*
AFMAN 37-123, (will become AFMAN 33-363) *Management of Records*
AFMAN 38-208, Volumes 1 and 2, *Air Force Management Engineering Program*
AFMCI 61-102, *Advanced Technology Demonstration Technology Transition Planning*
HQ USAF/A5RD, *Air Force Requirements for Operational Capabilities Council Charter*
Available on AF/A5RD website: <https://www.afreqs.hq.af.mil/afrocc.htm>

Abbreviations and Acronyms

ACS—Agile Combat Support
ACTD—Advanced Concept Technology Demonstration
AF CONOPS—Air Force Concept of Operations
AFCD—Air Force Capabilities Document
AFCS—Air Force Corporate Structure
AFMC—Air Force Materiel Command
AFMCI—Air Force Materiel Command Instruction

AFOTEC—Air Force Operational Test & Evaluation Center

AFPD—Air Force Policy Directive

AFRL—Air Force Research Laboratory

AFROCC—Air Force Requirements for Operational Capabilities Council

AFSP—Air Force Strategic Plan

AFTFP—Air Force Transformation Flight Plan

APPG—Annual Planning and Programming Guidance

ATC—Applied Technology Council

ATD—Advanced Technology Demonstration

C2—Command and Control

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

CBA—Capabilities-Based Assessment

CBMS—Capabilities-Based Manpower Studies

CBP—Capabilities-Based Planning

CDD—Capabilities Development Document

CCJO—Capstone Concept for Joint Operations

CJCS—Chairman of the Joint Chiefs of Staff

CJCSI—Chairman of the Joint Chiefs of Staff Instruction

CJCSM—Chairman of the Joint Chiefs of Staff Manual

CMT—CONOPS Management Tool

COA—Course of Action

CPD—Capabilities Production Document

CPX—Command Post Exercise

CRRA—Capabilities Review and Risk Assessment

CSAF—Chief of Staff of the United States Air Force

DCR—DOTMLPF Change Recommendation

DoD—Department of Defense

DoDAF—Department of Defense Architecture Framework

DOTMLPF—Doctrine, Organization, Training, Materiel, Leadership & Education, Personnel, and Facilities

DPS—Defense Planning Scenario

DRU—Direct Reporting Unit

F2T2EA—Find, Fix, Track, Target, Engage, Assess
FAA—Functional Area Analysis
FCB—Functional Capabilities Board
FNA—Functional Needs Analysis
FOA—Field Operating Agency
FSA—Functional Solution Analysis
FTX—Field Training Exercise
FYDP—Future Years Defense Program
GM—Global Mobility
GPA—Global Persistent Attack
GS—Global Strike
HLS—Homeland Security
ICD—Initial Capabilities Document
ISR—Intelligence, Surveillance and Reconnaissance
JCA—Joint Capability Area
JCD—Joint Capabilities Document
JCIDS—Joint Capabilities Integration and Development System
JCS—Joint Chiefs of Staff
JFC—Joint Functional Concept
JIC—Joint Integrating Concept
JOC—Joint Operating Concept
JOpsC—Joint Operations Concept
JPG—Joint Programming Guidance
JROC—Joint Requirements Oversight Council
JS—Joint Staff
M&S—Modeling and Simulation
MAJCOM—Major Command
MCL—Master Capabilities Library
NR—Nuclear Response
NSS—National Security Strategy
OPR—Office of Primary Responsibility
OSD—Office of the Secretary of Defense

OT&E—Operational Test and Evaluation

POM—Program Objective Memorandum

PPBE—Planning, Programming, Budgeting, and Execution

QDR—Quadrennial Defense Review

S&C4ISR—Space & Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance

SECAF—Secretary of the Air Force

SME—Subject Matter Expert

SPG—Strategic Planning Guidance

VCSAF—Vice Chief of Staff of the Air Force

Terms

NOTE: The purpose of this glossary is to help the reader understand the terms used in this publication. It is not intended to encompass all pertinent terms. Joint Publication 1-02, *Department of Defense Dictionary of Military and Associated Terms*, and the *Air Force Glossary* (<https://www.doctrine.af.mil/Library/AirForceGlossary.asp>) contain standardized terms and definitions for Department of Defense and U.S. Air Force use.

Activity Diagram—M & S tools, drafted by AF CONOPS Sponsors and Flight Leads, under guidance from SAF/XC and verified by the AF CONOPS Champions and their teams, link tasks and capabilities to effects from an operational perspective. These diagrams depict the decision logic, sequencing, and timing between operational activities as a result of a particular scenario. Additionally, these models highlight pivotal capabilities required to achieve a desired effect, according to the AF CONOPS.

Advanced Concept Technology Demonstration (ACTD)—One method of technology transition. 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. Funding is programmed to support up to two years in the field. ACTDs are funded with ATD funds.

Advanced Technology Demonstration (ATD)—One of three technology transition mechanisms; the other two are ACTDs and experiments. 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. ATDs are funded with Advanced Technology Development funds.

Air Force Capabilities Document (AFCD)—The Air Force Capabilities Document (AFCD) is primarily a planning document, which is normally generated as a result of the Air Force capability-based planning process. Although not recognized by the Joint Staff as a formal JCIDS document, the AFCD is capability-based and lays the foundation for additional analysis and development of JCIDS documents. The AFCD defines the capability required, capability gap/shortfall and assigns responsibility for follow-on functional solution analyses.

Air Force Concept of Operations—An Air Force Concept of Operations is the highest Service-level

concept comprising a commander's assumptions and intent to achieve desired effects through the guided integration of capabilities and tasks that solve a problem in an expected mission area. Joint Force Commanders employ Air Force Concepts of Operations through Air Expeditionary Forces to fight and win wars.

AF CONOPS Champion—The Air Staff focal point for Service-level CONOPS and the basket of capabilities described and required by that CONOPS. The Champion promotes the attainment and sustainment of essential Air Force capabilities required to achieve the effects needed by Joint Force Commanders to fulfill their assigned missions. The Champion is also responsible for leading the CRRA process, advocating AF CONOPS, effects, and capabilities in all Department of Defense, Joint Staff, and Air Staff CBP processes, and informing the Air Force Corporate and the Planning, Programming, Budgeting, and Execution System processes.

AF CONOPS Sponsor—The Air Staff Directorate or MAJCOM/ FOA/ DRU responsible for developing any AF CONOPS in support of the Air Force CBP process.

AF CONOPS Flight Lead—The Air Staff Directorate representative or Air Force MAJCOM representative responsible for documenting Service-level CONOPS on behalf of their sponsor and advocating AF CONOPS effects and capabilities to their appropriate AF CONOPS Champion.

Air Force Requirements for Operational Capabilities Council (AFROCC)—The AFROCC, an instrument of the CSAF and Secretary of the Air Force (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.

Air Force Roadmap—A long-range, capabilities-based projection of force structure and associated support spanning a three-FYDP planning period. The Air Force Roadmap provides a fiscally constrained projection connecting current programs to the future and identifies future capabilities, transformational technologies, and critical decision points to achieve an operationally effective force.

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

Capabilities-Based Planning—Planning, under uncertainty, to provide capabilities suitable for a wide range of challenges and circumstances, all designed to achieve certain battlespace effects.

Capabilities Review and Risk Assessment (CRRA)—A process identifying Air Force-wide capability shortfalls, gaps, and tradespace study areas. Capabilities review, risk assessment, and senior leader review and decisions are incorporated into the CRRA process.

Capability—A capability is the combined capacity of personnel, materiel, equipment, and information in measured quantities, under specified conditions, that, acting together in a prescribed set of activities can be used to achieve a desired output.

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 Gaps—Those synergistic resources (DOTMLPF) that are unavailable but potentially attainable to the operational user for effective task execution.

Capability Objective—The grouping of like capability shortfalls and gaps that allows senior leaders to make decisions on a common capability topic requiring improvement.

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

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

Capstone Concept for Joint Operations (CCJO)—The CCJO heads the family of joint operations concepts that describe how joint forces are expected to operate across the range of military operations in 2012-2025. Its purpose is to lead force development and employment primarily by providing a broad description of how the future joint force will operate. Service concepts and subordinate joint concepts will expand on the CCJO solution. Experimentation will test the concepts and offer recommendations for improvements across doctrine, organization, training, materiel, leadership and education, personnel and facilities (DOTMLPF) and policy.

CONOPS Management Tool (CMT)—An interactive, web-based, knowledge management system specifically designed to facilitate Air Force CBP subprocesses (i.e., CRRA). CMT is currently maintained by the HQ USAF/A5X-C organization.

Course of Action—1. Any sequence of activities that an individual or unit may follow. 2. A possible plan open to an individual or commander that would accomplish, or is related to the accomplishment of the mission. 3. The scheme adopted to accomplish a job or mission. 4. A line of conduct in an engagement. 5. A product of the Joint Operation Planning and Execution System concept development phase.

Effect—A state, defined by measurable conditions, that results from the dynamic application of capabilities through a prescribed process.

Functional Capabilities Board—A permanently established body that is responsible for the organization, analysis, and prioritization of joint warfighting capabilities within an assigned functional area. Chaired by Joint Staff Flag Officer/General Officer, with O-6 level participation from all services.

Initial Capabilities Document (ICD)—Documents the capability gap(s) in terms of the functional area, the relevant range of military operations, desired effects, time and doctrine, organization, training, materiel, leadership and education, personnel, and facilities (DOTMLPF) and policy implications and constraints.

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.

Integrated Priority Lists (IPL)—Combatant Commanders' prioritized key capability "gaps" that could hinder their performance of assigned missions. The IPLs are submitted annually to the Secretary of Defense.

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 2 and 3-Star Flag Officer/General Officer representatives of the Services.

Joint Capabilities Integration and Development System—A Joint concepts-centric process that supports the Joint Chiefs of Staff and the JROC in identifying, assessing and prioritizing joint military capability needs and identifying integrated DOTMLPF solutions (materiel and nonmateriel) to fill those needs within the DoD CBP process. Additionally, JCIDS is a key element in the Chairman's effort to realize the initiatives directed in the Transformation Planning Guidance.

Joint Functional Concept—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 Integrating Concept—A description of how a Joint Force Commander 10-20 years in the future will integrate capabilities to generate effects and achieve an objective. A JIC includes an illustrative CONOPS for a specific scenario and a set of distinguishing principles applicable to a range of scenarios. JICs have the narrowest focus of all concepts and distill JOC and JFC-derived capabilities into the fundamental tasks, conditions, and standards required to conduct Capabilities-Based Assessment (CBA).

Joint Operating Concept—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 JFCs to provide joint capabilities. They articulate the measurable detail needed to conduct experimentation and allow decision makers to compare alternatives.

Joint Operations Concepts—The Joint Operations Concepts (JOpsC) family consists of a Capstone Concept for Joint Operations, Joint Operating Concepts, Joint Functional Concepts and Joint Integrating Concepts. They identify military problems and propose solutions for innovative ways to conduct operations, going beyond merely improving the ability to execute missions under existing standards of performance. They are a visualization of future operations and describe how a commander, using military art and science, might employ capabilities necessary to meet future military challenges. Ideally, they will produce military capabilities that render previous ways of warfighting obsolete, and may significantly change the measures of success in military operations overall. The JOpsC family covers a period beyond the Future Years Defense Program (FYDP), 8-20 years into the future.

Joint Requirements Oversight Council—The JROC approves all JCIDS documents with a Joint Potential Designator of "JROC Interest". The JROC may, at its discretion, review other programs at the request of SecDef, USD, USecAF, and Dir of Central Intelligence MRB. The JROC establishes, disbands, and combines FCBs. The JROC will also determine which functional area(s) are assigned to each FCB and the lead organization responsible for chairing each FCB. The JROC is chaired by VCJCS and is comprised of the Service Vice Chiefs.

Military Utility—An assessment of the benefits and usability of a concept or tool to aid the accomplishment of the warfighter's mission based on measures that are developed by subject matter experts participating in the development and demonstration of the initiative. These assessments are specific to each initiative as developed by an initiative team. The assessment of military utility is used

with an assessment of costs to attain and sustain the subject concept or tool against the cost to attain and sustain comparable military utility to determine military worth.

Operational Test and Evaluation (OT&E)—1) The field test, under realistic combat conditions, of any item of (or key component of) weapons, equipment, or munitions for the purpose of determining the effectiveness and suitability of the weapons, equipment, or munitions for use in combat by typical military users; and the evaluation of the results of such test (Title 10 §139(a)(2)). 2) 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. It may also provide data to support or verify material in operating instructions, publications, and handbooks. Within the Air Force, OT&E is conducted by the Air Force Operational Test and Evaluation Center, AFOTEC.

Operational View—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.

Proficiency—Estimate used during capability analysis that answers the question “How well do we perform a given task (miles, minutes, percent, etc.)?” Together, proficiency and sufficiency ratings will be used to determine overall health and risk of a capability to achieve an effect.

Risk—The quantifiable level of exposure to an undesirable outcome based on consequence and likelihood.

Special Access Program—A sensitive program, approved in writing by a head of agency with original top secret classification authority, that imposes need-to-know and access controls beyond those normally provided for access to confidential, secret, or top secret information. The level of controls is based on the criticality of the program and the assessed hostile intelligence threat. The program may be an acquisition program, an intelligence program, or an operations and support program.

Sponsor—The DoD component responsible for all common documentation, periodic reporting, and funding actions required to support the capabilities and acquisition process.

Sufficiency—Estimate used during capability analysis that answers the question “Do we have enough (troops, aircraft, supplies, etc.)?” Together, sufficiency and proficiency ratings will be used to determine overall health and risk of a capability to achieve an effect.

Systems View—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.

Task—An action or activity based upon doctrine, standard procedures, mission analysis or concepts that may be assigned to an individual or organization.

Technical View—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.

Tradespace—Any identified overages in a capability's performance that may be used to reduce costs while keeping risk at an acceptable level. Areas for consideration as tradespace may be found in capability sufficiency, capability overlap, and/or capability proficiency. All tradespace examinations should include Joint contributions.

Tradespace Study Area—Areas specifically identified through the Air Force-level capability review process requiring additional MAJCOM/ FOA/ DRU review for potential reductions in capability sufficiency, capability overlap, and/or capability proficiency in order to reduce cost.

Attachment 2

ANCILLARY CAPABILITIES-BASED PLANNING PROCESSES

A2.1. Associated Processes. This attachment defines the interactions of other agencies and how their processes impact and relate to the CBP process.

A2.1.1. Analysis Synchronization.

A2.1.1.1. Analysis synchronization is a collaborative process by which the Air Force analytic community, using a common analytic framework, can support the leadership's need to make capabilities-based decisions. The analysis must assess operational proficiency, sufficiency, the consequences of the capability shortfall, and the likelihood of an operational impact given the identified capability gap/shortfall in order to determine operational risk for comparison. These assessments support strategic-level decisions, such as capabilities tradeoffs and investment alternatives. Common synchronization elements include shared methodologies, capability definitions, common measures of capacity and proficiency and sufficiency, data sources, scenarios, models, and simulations.

A2.1.1.2. Major elements of analysis synchronization are found in the CONOPS Analysis Synchronization Roadmap produced by HQ USAF/A9. This CSAF-approved document contains the building blocks for synchronizing analysis across the CONOPS and supporting CBP. These building blocks are developed with the help of the MAJCOM analytic centers of excellence and can be found on the AF/A9R organizational website via the Air Force Portal: <https://www.my.af.mil>.

A2.1.2. Applied Technology Council (ATC).

A2.1.2.1. The ATC forum provides technology development efforts with a MAJCOM/ FOA/ DRU warfighter capability requirements focus. The objectives of ATCs are as follows: build greater understanding among AFMC (AFRL, Product, Logistics, and Test Centers) and other MAJCOMs/Agencies regarding ATD candidates; enhance senior Air Force leadership visibility and commitment to the commissioning and execution of ATDs; and coordinate Advanced Technology Development program investments and transition activities across AFMC and other MAJCOMs/Agencies.

A2.1.2.2. Governing documentation for the ATC can be found in the following documents: AFPD 61-1, *Management of Science and Technology*, AFI 61-101, *Planning for the Applied Technology Council Process*, and Air Force Materiel Command Instruction (AFMCI) 61-102, *Advanced Technology Demonstration Technology Transition Planning*.

A2.1.3. Architectures.

A2.1.3.1. Integrated architectures based on the capabilities identified in the MCL will be developed for each AF CONOPS. When developed in accordance with the DoDAF, integrated architectures provide a consistent, complete, accurate, comparable, and reusable description of the operational activities, skills, organizations, systems, systems functions, and information that combine to provide capabilities. Integrated architectures accurately capturing the interrelationship of systems, operational activities, and capabilities provide a basis for CBP, including the determination of gaps and shortfalls and the utility of proposed solutions. Using "As Is" architectures describing the current state and "To Be" architectures describing the desired future state (a rolling 7-year/POM timeframe), planners can develop transition plans to guide investment decisions at

the Service and Joint levels. Additionally, planners use graphic portrayals of current plans and the status of future capabilities and technologies required to meet the needs of the warfighter to guide investment decisions. These summaries include detailed plans for improving a capability or identifying existing capability solutions within a particular MCL area.

A2.1.3.2. Integrated architectures are living documents that must be updated annually to reflect investments and decisions already made, changes to the MCL, technology advancements, and lessons learned. To promote reuse and comparison, the MAJCOMs/ FOAs/ DRUs will develop the required integrated architectures using consistent formats, data schemata, and definitions. Approved architectures will be accessible to all of the CBP process stakeholders. Specific architectural models reflecting CBP activities are currently under development.

A2.1.4. Capabilities-Based Planning Products.

A2.1.4.1. Formerly known as Mission Area or Functional Area Plans (MAPs/ FAPs). As applicable, functional offices will perform MAJCOM-level planning processes and produce CBP reports. The CBP reports, along with additional inputs, may be used to develop the Air Force Roadmap that supports and influences AF CONOPS, CRRAs processes, the APPG, JCIDS documents, and MAJCOM POM processes.

A2.1.4.2. Together, these planning products and MAJCOM/ FOA/ DRU-generated roadmaps detail the expected delivery of capabilities cross-cutting AF CONOPS. MAJCOMs/ FOAs/ DRUs and other organizations provide support to the designated functional leads, as required, for the conduct of planning processes and the development of roadmaps.

A2.1.5. Capabilities-Based Manpower Studies (CBMS).

A2.1.5.1. CBMSs will be the primary means by which a capability is translated into its manpower requirements. CBMSs will replace traditional Air Force Manpower Standards (civilian and military). As such, CBMSs encompass the full spectrum of military operations, wartime and peacetime, from a Total Force perspective that includes active Air Force, Air Force Reserve, and Air National Guard requirements.

A2.1.5.2. The OPR for CBMSs will be HQ USAF/A1M with the Air Force Manpower Agency acting as A1M's primary agent for AF-wide capabilities. Governing instructions for the CBMS process will be AFI 38-201, *Determining Manpower Requirements*, and AFMANs 38-208 Vols. 1 and 2, *Air Force Management Engineering Program*.

A2.1.6. Exercises.

A2.1.6.1. Exercises are designed to train commanders, staffs, and forces in mission-essential skills. Field training exercises (FTX) employ actual forces in the field. FTXs are resource-intensive and require the marshalling, transportation, and support of participating forces. Command post exercises (CPX) require fewer resources but still provide headquarters with a focused training venue. CPXs are conducted by/between headquarters, with a primary focus on command and control and crisis action response.

A2.1.6.2. The Air Force sponsors FTXs and CPXs for mission rehearsal/preparation and interoperability training with the other services and foreign nations. FTXs range from large live-fire venues, such as RED FLAG, to smaller venues where teams of civil engineers and medical personnel deploy, such as NEW HORIZONS and MEDFLAG, respectively. The FTXs may include live, virtual, and constructive forces. Both FTXs and CPXs yield valuable post-exercise analysis reports,

which may be used when evaluating the current health of capabilities during the CRRA process. Exercise planners, in turn, may use CRRA-identified deficiencies when drafting future exercise objectives.

A2.1.6.3. HQ USAF/A3OT, Operational Training Division, is responsible for CJCS exercise program oversight and advocacy. MAJCOM/ FOA/ DRU exercise staffs plan and execute CJCS and Combatant Commander-sponsored exercises. AFI 10-204, *Readiness Exercises and After-Action Reporting Program*, provides Air Force policies and guidance for participation.

A2.1.7. Experimentation.

A2.1.7.1. The purpose of Air Force experimentation is to harness the creative potential of Air Force people to explore new operational concepts and technologies providing the capabilities to achieve the Air Force Vision. Achieving this requires investigating concepts, technologies, and processes that define the Air Force capabilities.

A2.1.7.2. Experimentation results, or findings, consist of the best “value added” recommendations for changes in DOTMLPF required to achieve required Air Force capabilities. Experimentation results illuminate and underpin corporate Air Force modernization decisions.

A2.1.7.3. Air Force Experimentation is governed by AFPD 10-23, *Operational Innovation Program*, AFI 10-2304 (Draft), the Air Force Innovation Campaign Plan (including a chapter on experimentation) and Memorandums of Agreement, Experiment Project Orders and other directives governing specific Air Force experiments, such as the Joint Expeditionary Force Experiment and the Advanced Process and Technology Experiment.

A2.1.8. Functional Solution Analysis.

A2.1.8.1. The purpose of the solution analysis phase of the CBP process is to provide DOTMLPF solution options in response to identified Air Force capability shortfalls in the achievement of desired warfighting effects. As such, it links the capabilities planning process to the capabilities development process. During this phase, the CRRA-identified sponsor uses analysis teams that cross services, enterprises, MAJCOMs, national laboratories, industry, academia, and Air Staff personnel to produce vertically and horizontally integrated solution set options. The analysis considers technology availability, cost, speed to field, performance, and other factors in providing recommendations for investment/POM decisions.

A2.1.9. Modeling & Simulation.

A2.1.9.1. A model is a physical, mathematical, or otherwise logical representation of a system, entity, phenomenon, or process. A simulation is a method for implementing a model over time. M&S is the use of models, such as emulators, prototypes, simulators, and stimulators, either statically or over time, to develop data as a basis for making managerial or technical decisions. The M&S mission supports CBP through the exploration and evaluation of desired effects and concepts of operations.

A2.1.9.2. With the onus on the M&S customer to understand and implement the CONOPS and scenarios, a close relationship between the M&S customer and the SME during the capability deconstruction, will ensure all the essential elements are being modeled.

A2.1.10. Operational Lessons Learned.

A2.1.10.1. The Air Force Office of Lessons Learned (HQ USAF/A9L) works through a three-step process: turning an observation (data) into an issue (evaluated, analyzed, actionable problem statement), and then into a lesson learned (corrected shortfall). HQ USAF/A9L maintains an up-to-date list of Air Force and Joint lessons learned issues, and, through SMEs, tracks the status of DOTM-LPF solutions. The findings and issues in the Air Force Lessons Learned list are continually updated using after action reports, which detail real world events and post-exercise analyses, and the results of active and passive collection activities.

A2.1.10.2. Integrating lessons learned issues from actual combat operations and exercises is an important and necessary part of CBP. Real-world operations and the lessons derived from them provide a valuable yardstick to measure both the Air Force's current capabilities baseline and the ultimate results of the CRRA analysis. Once lessons learned issues have been formally collected and evaluated, they can be mapped to the MCL and applied to CBP. Then, appropriate lessons learned issues (strengths and shortfalls) can be introduced to enhance understanding of current capabilities within a real-world context.

A2.1.10.3. The lessons learned process also establishes a framework for understanding the results coming out of the integration analysis. In most cases, high priority, lessons learned shortfalls should be reflected among the capability gaps derived from the CRRA process. The leveraging of lessons learned enables evaluation of actual capabilities in real-world operations with a thinking enemy, providing a good balance to the CRRA analysis built upon approved, yet artificial scenarios.

A2.1.11. POM Analysis

A2.1.11.1. HQ USAF/A8PL, Combat Support and Analysis Division, supports AFCS deliberations with assessments of compliance from numerous sources: DoD and Air Force guidance, MAJCOM funding priorities, Combatant Commands' needs, and documented Air Force Lessons Learned.

A2.1.11.2. In mid November, HQ USAF/A8PL provides copies of the annual Combatant Commanders' IPL submissions to the HQ USAF/A5X-C organization. During the PPBE "on year," HQ USAF/A8PL partners with the AF CONOPS Champions to assess capability ramifications on shortfalls described in the Combatant Commanders' IPLs, CRRA results generated in the PPBE "off years," APPG foundation guidance, and the Air Force Lessons Learned. Conclusions from these iterative assessments are used to inform the AFCS throughout POM deliberations.

A2.1.12. Strategic Planning Process.

A2.1.12.1. The Air Force strategic planning process establishes a methodology to set direction for the Air Force, to examine alternative futures, and to provide guidance for allocation of resources. It accomplishes these objectives through development and issuance of the Air Force Vision, Air Force Strategic Plan (AFSP), Air Force Transformation Flight Plan (AFTFP), Road Maps, and APPG. These documents provide guidance to support CBP.

A2.1.12.2. Through the Air Force Vision, the SECAF and the CSAF provide strategic direction to support national, DoD, and Joint objectives. The AFSP focuses on communicating the SECAF's and CSAF's mission for the department and identifying the goals, objectives, and initiatives to accomplish that mission. The AFTFP communicates Air Force's transformation efforts to OSD as directed in the Transformation Planning Guidance.

A2.1.12.3. The APPG links planning and programming through its authoritative guidance to HQ USAF and MAJCOM/ FOA/ DRU participants in developing the Air Force POM. The APPG incorporates strategic objectives and the results of CBP to provide the basis for investment priorities that address Air Force capability objectives at a fiscally-constrained, acceptable risk. The general strategic planning process is addressed in AFPD 90-11, *Planning System*.

A2.1.13. Summits.

A2.1.13.1. The summit process begins with a detailed look at the global environment, current and future threats, and the emerging military strategies to deal with those evolving threats. The AF CONOPS are thoroughly reviewed to identify associated capabilities. CRRA results, formulated APPG language and/or action items, are also reviewed to determine what additional focus work may be necessary to fill capability gaps. The Summit process develops various products to provide systems and technology descriptions, mission effectiveness assessments, and investment trade analysis to support requirements, programming, and budgeting decisions.

A2.1.14. Wargames.

A2.1.14.1. Multifaceted in their uses, wargames are designed to explore new concepts and capabilities; study and refine emerging operational concepts; prevent technological, strategic, and operational surprise; and evaluate the Air Force Strategic Plan and Vision and assess alternative plans and visions. Wargames are one tool used to shape military capabilities to best respond to emerging future warfighting environments and national security challenges. Within the CRRA process, the utility of data and results from wargames executed against DPS-based scenarios capture current and proposed warfighting environments.

A2.1.14.2. Outputs from mid-term wargames with the associated follow-on supporting studies and analyses are used to advance new technologies and concepts, contribute to the Air Force's QDR process, and develop strategies and doctrine for incorporation into experiments, exercises, and other forums for evaluation.

A2.1.14.3. Governing documents for Wargaming are AFPD 10-23, *Operational Innovation Program*, and AFI 10-2305, *Wargaming*.

A2.1.15. Additional methodologies developed to identify the critical steps within the operational context of a specific mission set, such as the Kill Chain (Find, Fix, Track, Target, Engage, Assess [F2T2EA]), can be applied to capability analysis during CBP.