

**BY ORDER OF THE SECRETARY  
OF THE AIR FORCE**

**AIR FORCE INSTRUCTION 10-2801**

**23 OCTOBER 2014**

**Operations**

**FORCE DEVELOPMENT CONCEPTS**



**COMPLIANCE WITH THIS PUBLICATION IS MANDATORY**

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This publication implements portions of Air Force Policy Directive (AFPD) 10-28, *Air Force Concept Development and Experimentation*, and Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 3010.02D, *Guidance for Development and Implementation of Joint Concepts*. It covers force development concepts written by Headquarters Air Force (HAF) 2-digit organizations, Major Command (MAJCOM) headquarters, and the Air National Guard Readiness Center (ANGRC). It also covers AF support to concept development activities of the Joint Staff, combatant commands (CCMDs), sister Services, and other organizations external to the Department of the Air Force (DAF). It applies to regular and reserve component AF organizations above the wing level that are involved in the force development concept activities described herein. This AFI may be supplemented at any level, but all supplements that directly implement this instruction must be routed to AF/A5XS for coordination prior to certification and approval. Submit waiver requests for non-tiered compliance items to AF/A5XS. Ensure all records created as a result of processes prescribed in this publication are maintained in accordance with (IAW) Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of IAW the AF Records Information Management System (AFRIMS) Records Disposition Schedule (RDS). Refer recommended changes and questions about this publication to AF/A5XS using the AF Form 847, *Recommendation for Change of Publication*; route AF Form 847 from the field through the appropriate functional chain of command. The use of the name or mark of any specific manufacturer, commercial product, commodity, or service in this publication does not imply endorsement by the Air Force.

**SUMMARY OF CHANGES**

This publication has been substantially revised and must be completely reviewed. Major changes include: Force Development (FD) concept description, concept life cycle, development flow, and transition; revised HAF 2-digit and MAJCOM/ANGRC responsibilities; concept elements and expanded concept development guidance; and termination of the term Air Force Concept of Operations (AF CONOPS) as codified by the previous AFI 10-2801. This directive supersedes and renames AFI 10-2801, 24 October 2005, titled *Air Force Concept of Operations Development*.

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**1. Overview.** The AF uses force development concepts (hereafter referred to as “concepts”) to present new ideas for employing airpower to achieve Global Vigilance, Global Reach and Global Power. These concepts help guide how the AF organizes, trains, and equips its forces. The other Services and various joint organizations use concepts similarly, and these efforts often require input from the AF. This instruction:

- 1.1. Describes the role concepts play in AF force development, to include translating AF strategy into requirements development and for focusing science and technology (S&T) efforts.
- 1.2. Describes how AF concept development is initiated.
- 1.3. Provides guidance for writing, implementing and archiving AF concepts.
- 1.4. Assigns responsibilities for concept development activities sponsored by the AF, the Joint Staff, CCMDs, sister Services, or other organizations external to DAF.
- 1.5. Does not apply to concepts developed entirely within the AF Development Planning (DP) process. AF Materiel Command and AF Space Command employ Early Systems Engineering (Early SE) to develop prospective materiel solutions (“concepts”) against validated Joint Capabilities Integration and Development System (JCIDS) capability needs leading to a Materiel Development Decision (MDD). See glossary and AFI 63-101/20-101, *Integrated Life Cycle Management*, for additional information on DP and Early SE.

1.6. Does not cover the development of CONOPS, nor does it codify any use of the term CONOPS beyond the context of Joint Publication (JP) 1-02, *Department of Defense Dictionary of Military and Associated Terms*, and JP 5-0, *Joint Operation Planning*. JP 1-02 defines CONOPS as “a verbal or graphic statement that clearly and concisely expresses what the joint force commander intends to accomplish and how it will be done using available resources.” JP 5-0 describes the role of CONOPS within joint operations planning.

## 2. Force Development Concepts.

2.1. These concepts link strategic guidance to the creation and employment of AF capabilities in the current or future environment. They provide a mechanism for documenting, sharing and evaluating new ideas about the employment or integration of AF and joint capabilities. This allows AF senior leaders to guide the development of new and/or improved capabilities. Force development concept elements and format are presented in Attachment 2.

2.2. Concepts can serve as one of the first steps for solving or mitigating a military need (problem or capability gap), or for exploiting a new opportunity. Future concepts achieve their highest utility when completed before system research or development work begins. Once approved, concepts inform the development/prioritization of requirements and focus S&T planning efforts that in turn drive fiscally informed programming, acquisition, and sustainment activities.

2.3. Concepts can influence strategic planning and/or be used to modify the CONOPS used for strategic analysis and risk assessments.

### 2.4. Tenets.

2.4.1. Historical consistency. Concepts should be grounded in doctrinal practice unless intentionally proposing a revolutionary departure from historical patterns. Such departures must be clearly identified and justified. Even concepts that propose new and innovative approaches to operations require solid grounding in the history of airpower and military operations. As such, doctrine and lessons learned provide superb starting points for new concept development. Concepts should use accepted doctrinal terminology to the maximum extent practical.

2.4.2. Cost awareness versus creativity. Since the ultimate goal of concepts is capability development, the ideas they present must be bounded by reasonable expectations about affordability. In cases where applicable cost data/analysis is available, it should be considered and cited by type/source/date, as appropriate. However, concept writers will not let the lack of available cost information constrain the creativity and innovation essential for concept development.

2.4.3. Technological feasibility. Concepts developed according to this instruction should be based on technologies expected to be available by the concept's stated time frame.

2.5. Categories. Concepts shall be written and retained only as needed to guide the development, experimentation, or analysis of proposed improvements to operations or proposed capability solutions. They will not be developed or maintained to populate a pre-established hierarchical structure. Concepts must always be named in a manner that succinctly conveys their content and will always include a clear and complete explanation of

the sponsor's purpose for writing the document. This instruction establishes three broad categories that cover the vast majority of AF concepts:

2.5.1. Operating concepts. These concepts explain how AF capabilities translate into operational outcomes. They can be used to identify/describe interdependencies within AF forces or within the joint force. (Example: *Air-Sea Battle*, 9 May 2012.) Operating concepts broadly describe the employment of AF forces:

2.5.1.1. Within a specific type of joint/multinational operation within the Range of Military Operations (e.g., major operations and campaigns, crisis response and limited contingencies, and military engagement, security cooperation and deterrence). See AF Doctrine Annex 3-0, *Operations and Planning*, for a complete listing of types of military operations.

2.5.1.2. Within a specific operational mission area.

2.5.1.3. In a specific future time frame.

2.5.1.4. In operating environments that differ from those anticipated in current doctrine/plans.

2.5.2. Functional concepts. These concepts inform the AF strategic planning processes and capability development/investments within one or more functional areas. They can be oriented on either one of the AF core functions or on one of the joint functions. Functional concepts broadly describe how:

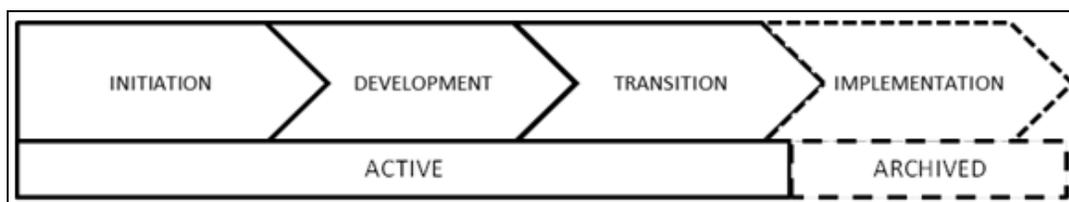
2.5.2.1. An individual function will be accomplished in one or more specific operational contexts and/or time frames.

2.5.2.2. Two or more functions will be integrated together for a specific mission or operation.

2.5.3. Systems concepts. These concepts describe how a specific system (existing or new) will be employed for a specific function/mission in one or more types of joint, multinational operations, or environments.

2.6. Life Cycle. Unless terminated early by the sponsor, AF concepts are considered active from the time of their initiation, throughout development, and until transition is completed. Following transition, concepts should be archived as implementation actions proceed. Figure 1 illustrates these phases of a typical AF concept's life cycle.

**Figure 1. Concept Life Cycle**

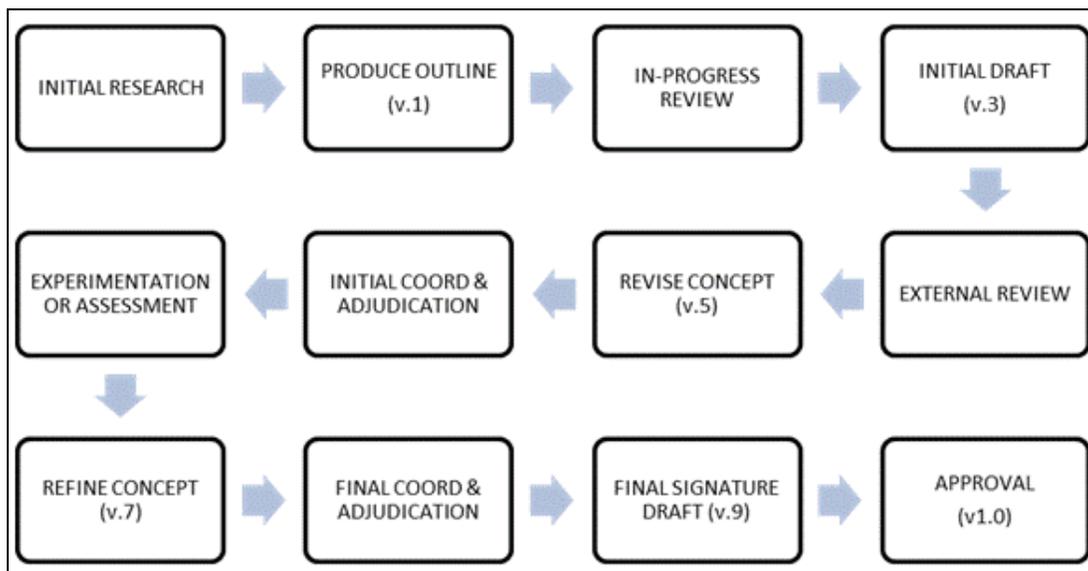


2.6.1. Initiation. The initiation of a new concept is driven by a current or future/envisioned military need, to include a documented capability gap, expected problem, or a potential opportunity. Strategic guidance, senior leader direction, existing analytical processes (joint urgent operational needs, threat assessments, wargames,

lessons learned, capabilities-based assessments, etc.), other concepts, emerging technologies, or economic, political, or societal developments can identify a military need or opportunity. The concept should be written to describe a problem solution or means of exploiting an opportunity. Designation of a sponsor (organization responsible for development), the identification of the official/officials who will ultimately approve the finished concept, and a timeline for completing development are also part of concept initiation.

2.6.2. Development. Concept development must follow a disciplined, iterative process that facilitates sharing, understanding, evaluation and eventual implementation of new ideas across HAF, MAJCOMs and ANGRC. Writers will necessarily tailor their efforts to each individual situation, but concept development will generally follow the flow in Figure 2 and Attachment 3. The version naming convention (v.1, v.3, etc.) mirrors CJCSI 3010.02D. MAJCOM supplements to this AFI should preserve this standardization to the maximum extent practical. Concept development ends when the concept is approved.

**Figure 2. Concept Development Flowchart**



#### 2.6.2.1. Writing Teams.

2.6.2.1.1. The writing team size will depend on the purpose and scope of the concept. It may consist of a single author, a core writing team within a single command/staff, or a larger effort that includes stakeholders from multiple commands/staffs.

2.6.2.1.2. Determine team membership based on expertise and/or significant concept equity. The larger the writing team providing creative inputs, the more important it is to limit editorial responsibilities to a few individuals. Expand the writing team as new stakeholders are identified, or as needed to gather more feedback or to socialize the concept more broadly prior to initial coordination at the HAF 3-digit and MAJCOM/ANGRC 2-digit level.

2.6.2.2. Termination. Sponsors should terminate a concept at any stage of development if it becomes apparent the concept will not achieve its intended purpose. Such critical decision-making is essential to preserve scarce concept development and transition resources.

2.6.3. Transition. After the appropriate senior leader approves a concept, it enters the transition phase. Transition activities may include further testing/evaluation and assessment prior to the actual transition of the concept to a formal implementation process. The transition phase ends when all applicable transition documents are approved or accepted. These documents replace the concept itself as the primary driver of new capability development, allowing the concept to be archived.

2.6.3.1. Testing and Evaluation. Some approved concepts will require either further testing or evaluation to refine how to operationalize required capabilities.

2.6.3.2. Assessment. Wargames and exercises or similar activities may be used to further assess the feasibility/utility of the concept. These activities may help determine whether a non-materiel solution is the appropriate way ahead. A Capabilities-Based Assessment (CBA) may also be used to identify potential gaps in capabilities required to implement the concept. A CBA helps determine whether a materiel solution, non-materiel solution, or both are needed to close the identified gaps.

2.6.3.3. Transition pathways. There are two basic pathways to transition from concept development to concept implementation: a Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, Facilities, and Policy (DOTMLPF-P) change for non-materiel solutions, or the Initial Capabilities Document (ICD) for materiel, non-materiel, or both solutions. Either of these pathways will result in the establishment of Offices of Primary Responsibility (OPRs) for concept implementation.

2.6.3.3.1. DOTMLPF-P Change. If a CBA or similar detailed analysis determines that only a non-materiel solution is needed to wholly address a gap, then either a joint or an AF DCR is the appropriate transition document. (Refer to AFI 10-601, *Operational Capability Requirements Development*, for additional detail.) An AF non-materiel solution can also be implemented through a program action directive, a program plan, a program guidance letter or similar execution document. (Refer to AFI 10-501, *Program Action Directive (PAD) and Programming Plans (PPLAN)*, for additional detail.)

2.6.3.3.2. ICD. In cases where it is unclear whether the capability requirement should be satisfied through a non-materiel approach, materiel approach, or both, then an ICD is the appropriate transition document. (Refer to AFI 10-601 for additional detail.)

2.6.3.4. Revalidation/Revision. If DCRs/ICDs (or other transition documents) will not be completed within three years of a concept's initial approval, the sponsor may revalidate or revise a concept to keep it active in the transition phase.

2.6.3.4.1. Revalidation signifies that the concept sponsor remains committed to implementation, and that the concept's basic elements do not require revision.

The revalidation process does not require coordination outside of the sponsoring organization, and is complete when the appropriate senior leader approves the concept's revalidation. Revalidation may be accomplished at the discretion of the sponsoring organization, but must be completed within three years of the concept's last approval/revalidation/revision.

2.6.3.4.2. Concept revisions should be the exception to the rule, but may be necessary if changes in strategic guidance, intelligence estimates, technology or other factors prevent the concept from being revalidated as originally written. Concept revision can follow an abbreviated/accelerated development process, at the discretion of the sponsor.

2.6.3.5. Archiving. Concept sponsors will archive concepts when they complete the transition phase. Archiving will be automatic on the third anniversary of a concept's approval if the concept has not been revalidated or revised. Archived concepts remain available for research or reference, but no further resources will be expended to assess, maintain, or revise them.

2.6.4. Implementation. Concept transition documents will specify implementation actions and OPRs. Functional process owners or acquisition authorities assigned as OPRs in the transition documents are responsible for overseeing the implementation of recommended capabilities until they have been fielded, replaced, and/or terminated.

### **3. Roles and Responsibilities.**

3.1. The Deputy Chief of Staff, Operations, Plans and Requirements (AF/A3/5) will:

3.1.1. Provide policy, guidance, and oversight for the HAF and MAJCOM/ANGRC level concept development process IAW AFPD 10-28, *Air Force Concept Development and Experimentation*.

3.1.2. Coordinate with other HAF 2-digit directorates and MAJCOMs/ANGRC, as required, for:

3.1.2.1. AF participation in, and support to, joint concept development, as described in CJCS directives and other applicable guidance.

3.1.2.2. AF participation in, and support to, sister-Service concept development.

3.1.3. Provide guidance for innovative and high-priority concepts for exploration and operational applicability for development by HAF 2-digits, MAJCOM/Commanders (CCs), or NGB/CF.

3.1.4. Review and coordinate on concepts developed by other DCS/HAF 2-digits, MAJCOM/CCs, and NGB/CF that have AF-wide or joint force impact.

3.1.5. Ensure concepts support requirements development and provide focus for science and technology planning efforts.

3.1.6. Link AF concept development to AF requirements and planning/programming processes.

3.2. The Director of Operational Planning, Policy & Strategy (AF/A5X) will:

3.2.1. Coordinate with HAF and MAJCOMs/ANGRC, as required, to:

- 3.2.1.1. Disseminate AF/A3/5 concept development guidance through established documents.
- 3.2.1.2. Collect information to enable AF/A3/5 concept oversight.
- 3.2.1.3. Support joint and sister-Service concept development.
- 3.2.2. Provide general officer representation as required for joint concept development governance activities.
- 3.3. The Chief, Concepts, Strategy and Wargaming Division (AF/A5XS) will:
  - 3.3.1. Implement and maintain an electronic concept library for HAF 2-digit concepts and for AF-wide sharing of concept development status and related information to:
    - 3.3.1.1. Track major HAF, MAJCOM, ANGRC, and joint concept development activities.
    - 3.3.1.2. Improve awareness of concept development across the AF.
  - 3.3.2. Coordinate directly with other HAF organizations, MAJCOMs and ANGRC to execute AF/A3/5 concept development responsibilities.
  - 3.3.3. Validate, prioritize, and track (as required) all external requests (including coordination on) for AF support to national level, Department of Defense, Joint Staff, or sister-Service sponsored concept development activities.
  - 3.3.4. Participate in planning conferences/workshops and governance meetings associated with joint and sister-Service concept development, as appropriate.
  - 3.3.5. Review and coordinate on joint and sister-Service concepts, as appropriate.
  - 3.3.6. Promulgate CJCS concept development guidance, as appropriate, to AF stakeholders.
  - 3.3.7. When requested by CJCS, solicit inputs and develop prioritized joint concept development proposals or other related products for Chief of Staff of the U. S. Air Force (CSAF) approval.
  - 3.3.8. Assist AF concept sponsors, as required, in sourcing support from HAF, MAJCOM, ANGRC, the Joint Staff, CCMDs, sister-Services, and other organizations external to the sponsor's organization.
  - 3.3.9. Identify relevant concepts to AF/A8XC for consideration in the biennial Title 10 AF Future Capabilities Game.
- 3.4. HAF 2-digits, MAJCOM/CCs and NGB/CF will (may be delegate to directorate level):
  - 3.4.1. Accomplish the following for concepts they sponsor:
    - 3.4.1.1. Prioritize, assign and resource new concept development/revision work.
    - 3.4.1.2. Select a development/revision approach (writing team selection, use of wargaming or experimentation, classified/unclassified, etc.) and a timeline for completion.
    - 3.4.1.3. Conduct periodic reviews of concepts in development or revision.

- 3.4.1.4. Approve or obtain approval for new/revised concepts, when complete.
  - 3.4.1.5. Terminate a concept in development, if appropriate.
  - 3.4.1.6. Develop and execute plans for concept implementation.
  - 3.4.1.7. Archive concepts that are no longer active.
  - 3.4.1.8. Make available current electronic copies of all concepts they produce within the scope of this AFI to AF/A5XS.
  - 3.4.1.9. Provide prioritized joint concept development proposals to AF/A5X, in support of CSAF's input to CJCS tasking, as required.
  - 3.4.1.10. Inform AF/A3/5 (via AF/A5XS) when developing a new concept or when revalidating, revising, or archiving an existing concept.
  - 3.4.1.11. Maintain consolidated electronic concept libraries for active, under revision, and archived concepts. (MAJCOM/CC and NGB/CF only.)
- 3.4.2. Provide personnel/expertise, subject to resource availability, to support AF, Joint, or another Service's concept development activities when requested by AF/A3/5, AF/A5X, or AF/A5XS.
- 3.4.3. Coordinate with AF/A5XS on all requests for concept development support received from organizations external to the AF. Requests from a parent CCMD to subordinate AF service components are exempt from this coordination requirement, but AF/A5XS should be informed of any such requests.
- 3.5. MAJCOM/CCs with service core function lead responsibilities must determine if a requirement exists to maintain and keep current conceptual guidance required for strategic planning for each assigned service core function.
- 3.6. Air Force Component/CCs will:
- 3.6.1. Advocate, as appropriate, concept capability gaps through their combatant command headquarters for inclusion in their respective integrated priority lists submitted for the Chairman's Joint Assessment and used in the follow-on Capability Gap Assessment.
  - 3.6.2. Identify concept capability gaps from the operational assessment of the Component steady-state campaign support plan, and documented for functional MAJCOMs and core function leads through the annual assessment of the USAF campaign support plan.
- 3.7. LeMay Center Director for Strategy and Concepts will:
- 3.7.1. Coordinate resources across a network of academic and civilian industry experts to support AF concept development.

3.7.2. Act as the focal point coordinator for Air University support of AF concept development.

BURTON M. FIELD, Lt Gen, USAF  
DCS, Operations, Plans and Requirements

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

CJCS J5 Information Paper, *Risk Assessment Process and Methodology for the 2014 Chairman's Risk Assessment (CRA)*, 5 June 2013

CJCSI 3010.02D, *Guidance for Development and Implementation of Joint Concepts*, 22 November 2013

CJCSI 3170.01H, *Joint Capabilities Integration and Development System*, 10 January 2012

CJCSM 3500.04F, *Universal Joint Task Manual*, 1 June 2011

*Joint Operating Environment 2010*, 18 February 2010

Joint Publication (JP) 1-02, *Department of Defense Dictionary of Military and Associated Terms*, 15 March 2013

Joint Publication 3-0, *Joint Operations*, 11 August 2011

Joint Publication 5-0, *Joint Operation Planning*, 11 August 2011

AFPD 10-28, *Air Force Concept Development and Experimentation*, 17 April 2012

AFI 10-2801, *Air Force Concept of Operations Development*, 24 October 2005

AFI 10-501, *Program Action Directive (PAD) and Programming Plans (PPLAN)*, 5 January 1994

AFI 10-601, *Operational Capability Requirements Development*, 6 November 2013

AFI 63-101/20-101, *Integrated Life Cycle Management*, 7 March 2013

AFMAN 33-363, *Management of Records*, 1 March 2008

AF Doctrine ANNEX 3-0 *Operations and Planning*, 9 November 2012

*AF Strategic Environmental Assessment 2010-2030*, 11 March 2011

***Adopted Forms***

AF Form 847, *Recommendation for Change of Publication*

***Abbreviations and Acronyms***

**AF**—Air Force

**AFI**—Air Force Instruction

**AFPD**—Air Force Policy Directive

**ANGRC**—Air National Guard Readiness Center

**CBA**—Capabilities-Based Assessment(s)

**CCMD**—Combatant Command(s)

**CJCS**—Chairman, Joint Chiefs of Staff

**CJCSI**—Chairman, Joint Chiefs of Staff Instruction

**CJCSM**—Chairman, Joint Chiefs of Staff Manual

**CSAF**—Chief of Staff of the U.S. Air Force

**DAF**—Department of the Air Force

**DCR**—DOTMLPF-P Change Recommendation(s)

**DCS**—Deputy Chief of Staff

**DOTMLPF-P**— Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, Facilities, and Policy

**DP**—Development Planning

**HAF**—Headquarters United States Air Force

**IAW**—In Accordance With

**ICD**—Initial Capabilities Document

**IPR**—In-Progress Review

**JCIDS**—Joint Capabilities Integration and Development System

**JP**—Joint Publication

**MAJCOM**—Major Command

**MDD**—Materiel Development Decision

**OPR**—Office of Primary Responsibility

**PAD**—Program Action Directive

**PGL**—Program Guidance Letter

**PPLAN**—Programming Plan

### *Terms*

**Capability**— The ability to achieve a desired effect under specified standards and conditions through combinations of means and ways to perform a set of tasks. (CJCSM 3500.04F)

**Capability Solution**— A materiel solution or non-materiel solution to satisfy one or more capability requirements (or needs) and reduce or eliminate one or more capability gaps. (CJCSI 3170.01H)

**Capabilities—Based Assessment**— The CBA is the JCIDS analysis process. It answers several key questions for the validation authority prior to their approval: define the mission; identify capabilities required; determine the attributes/standards of the capabilities; identify gaps/shortfalls; assess operational risk associated with the gaps/shortfalls; prioritize the gaps/shortfalls; identify and assess potential non-materiel solutions; provide recommendations for addressing the gaps/shortfalls. (AFI 10-601)

**Concept Implementation**— Developing materiel concept solutions from their respective ICD into fielded systems and/or the process of institutionally incorporating a DCR or other approved DOTMLPF-P implementing documents.

**Concept Transition**— The process of incorporating the required capabilities to implement a concept into an ICD for materiel solutions and/or incorporating the capabilities needed to implement the concept into a DCR or other DOTMLPF-P approved implementing documents that are then approved for institutionally fielding non-materiel solutions.

**Development Planning (DP)**— Development Planning (DP) encompasses the engineering analysis and technical planning activities that provide the foundation for informed investment decisions on the fundamental path a materiel development will follow to effectively and affordably meet operational needs. (AFI 10-601)

**Force Development Concept**— Links strategic guidance to the development and employment of future force capabilities and serves as "engines for transformation" that may ultimately lead to doctrine, organization, training, materiel, leadership and education, personnel, facilities, and policy (DOTMLPF-P) changes.

**Gap (Capability Gap)**— The inability to execute a specified course of action. The gap may be the result of no existing capability, lack of proficiency or sufficiency in an existing capability solution, or the need to replace an existing capability solution to prevent a future gap. (CJCSI 3170.01H)

**Initial Capabilities Document**— Summarizes the CBA and recommends a materiel approach or a combination of materiel and non-materiel approaches to satisfy specific capability gaps/shortfalls. It defines the capability gap(s) in terms of the functional area, the relevant range of military operations, desired effects, time, and DOTmLPP-P and policy implications and constraints. The ICD summarizes the results of the DOTmLPP-P analysis and the DOTmLPP-P approaches (materiel and non-materiel) that may deliver the required capability. The outcome of an ICD could be one or more Joint DOTmLPP-P change recommendations or capability development documents and/or capability production documents. (AFI 10-601)

**Institutional Risk**— The ability to use resources effectively. Resource effectiveness may be limited by business practices, industrial capacity, doctrine or policy that restricts our ability to employ required resources.

**Joint Concept**— A document that links strategic guidance to the development and employment of future joint force capabilities and serve as "engines for transformation" that may ultimately lead to doctrine, organization, training, materiel, leadership and education, personnel and facilities, and policy (DOTMLPF-P) changes. (CJCSI 3010.02D)

**Joint Functions**— Functions that are common to joint operations at all levels of war fall into six basic groups: command and control, intelligence, fires, movement and maneuver, protection, and sustainment. The joint functions reinforce and complement one another, and integration across the functions is essential to mission accomplishment (JP 3-0)

**Future Environment**— An anticipated set of political, social, economic, military, and threat conditions derived from strategic planning documents such as the Joint Operating Environment, the AF Strategic Environment Assessment, or other vetted sources.

**Materiel Solution**— A new item (including ships, tanks, self-propelled weapons, aircraft, etc., and related spares, repair parts, and support equipment, but excluding real property, installations, and utilities) developed or purchased to satisfy one or more capability requirements (or needs) and reduce or eliminate one or more capability gaps. (CJCSI 3170.01H)

**Military Need**— A current or future problem, gap, or unexploited opportunity.

**Need (capability requirement)**— A capability required to meet an organization's roles, functions, and missions in current or future operations. To the greatest extent possible, needs (capability requirements) are described in relation to tasks, standards, and conditions IAW the Universal Joint Task List or equivalent Department of Defense Component Task List. If a need (capability requirement) is not satisfied by a capability solution, then there is also an associated capability gap which carries a certain amount of risk until eliminated. A requirement is considered to be 'draft' or 'proposed' until validated by the appropriate authority. (CJCSI 3170.01H)

**Non-Materiel Solution**— Changes in doctrine, organization, training, materiel, leadership and education, personnel, facilities, or policy (including all human systems integration domains) to satisfy identified functional capabilities. The materiel portion is restricted to commercial or non-developmental items that may be purchased commercially or by purchasing more systems from an existing materiel program. The acquisition of the materiel portion must comply with all acquisition policies. (AFI 10-601)

**Operational**— Pertaining to "operations," as that term is defined by U.S. joint doctrine: A sequence of tactical actions with a common purpose or unifying theme. (JP 1); A military action or the carrying out of a strategic, operational, tactical, service, training, or administrative military mission. (JP3-0)

**Program Action Directive (PAD)**— A formal planning document that helps accomplish a major action such as the reorganization or formation of a MAJCOM, organization, unit, or function. Examples include establishing Air Education and Training Command, normalizing Air Force Intelligence, or carrying out directions from the Defense Base Closure and Realignment Commission. The PAD is also used to direct programs on new acquisitions and modifications. It states the objective of the program, assigns specific tasks to OPRs and OCRs, and establishes milestones. (AFI 10-501)

**Program Guidance Letter (PGL)**— A formal planning document that establishes direction, assigns tasks, and provides guidance (for example, Morale, Welfare, and Recreation/Services integration or Civil Air Patrol reorganization). (AFI 10-501)

**Programming Plan (PPLAN)**— A formal planning document written below HQ USAF-level that helps accomplish and record major actions. (AFI 10-501)

**Military Risk**— Considers combatant command "risk to mission" and Service "risk to force" in determining the impact to mission objectives caused by the difference between required and available capability, capacity, readiness, plans, and authorities.

**Risk to Mission**— The risk to the joint force commander's ability to execute his mission at acceptable human, material, financial, and strategic costs.

**Risk to Force**— The risk to the AF's ability to recruit, maintain, train, equip, and sustain the force to meet strategic objectives.

**Sponsor**— The individual that initiates, tasks, and provides the required resources for developing, assessing, and transitioning a concept.

## Attachment 2

### CONCEPT ELEMENTS AND FORMAT

**A2.1. Executive Summary.** A concise summary for senior leaders who do not need the full details of the concept. The writing team will determine what to include in the Executive Summary, but risks are normally excluded.

**A2.2. Purpose.** Every concept must include a purpose statement/paragraph that clearly articulates the sponsor's intent in writing the concept, not just the general purpose of the concept's subject.

**A2.3. Background.** If used, this section should include a brief summary of historical events/documentation the writing team finds necessary for understanding the context for concept development.

**A2.4. Future Environment.** A brief description of the envisioned future environment, as applicable to the concept and its timeframe, is provided as context for the military need. While important to the concept, this section should be written concisely. Reference to authoritative documents like the *Joint Operating Environment 2010*, the *AF Strategic Environmental Assessment 2010-2030*, or other vetted sources will facilitate brevity and provide a recognized foundation for the concept. Only in the rare instances where no relevant AF, CJCS, DOD or USG outlook or assessment exists should the concept present completely new ideas about strategic/operational conditions.

**A2.5. Concept Time Frame/Scope.** Clearly identify the time frame for the concept's application and delineate its relationship to other concepts like Service/joint doctrine, CFMPs, etc. The scope establishes what is and what is not addressed in the concept. FD concepts should be scoped as narrowly as possible to facilitate assessments and follow-on transition.

**A2.6. Military Need Statement.** Describe the need that was the starting point for concept development. Include additional knowledge about of the gap, problem or opportunity that was discovered in the course of concept development. This description must be provided independent of the proposed solution. When combined with the preceding elements, the military need provides the context within which the concept applies.

**A2.7. Central Idea.** A broad description of the solution or means of exploiting the opportunity identified as the military need. The central idea should be articulated in the most fundamental and widest terms possible while retaining practical meaning. This constitutes the basic "success mechanism" for a problem-solution concept. Alternatively, it could also propose a deliberate deviation from existing doctrine, plans, TTPs, or other concepts to create a new advantage. Supporting themes to the central idea may be briefly addressed, but details should be left for the Capabilities section.

**A2.8. Capabilities.** This section describes in detail how the writers envision using proposed capabilities (means and ways) to solve or mitigate the postulated military need. Capabilities are usually described in qualitative vice quantitative terms. Organization of this section will vary based on the concept's purpose.

**A2.9. Risks.** This section identifies specific risks or vulnerabilities that may result from the successful implementation of the concept. Any assumptions made in writing the concept

constitute implicit risks and should also be addressed in this section. The inclusion of risks in the concept document will help guide the design of any wargaming, experimentation, or other studies undertaken to evaluate or assess the concept. Use the following framework derived from CJCS J5 Information Paper, *Risk Assessment Process and Methodology for the 2014 Chairman's Risk Assessment (CRA)*, 5 Jun, 2013, for characterizing risks that will result from concept implementation:

A2.9.1. Risk to Mission. The risk to the joint force commander's ability to execute his mission at acceptable human, material, financial, and strategic costs. Risk to mission requires assessing the ability of AF forces to execute current, planned, and contingency operations in the assessed timeframe and the force's ability to hedge against shocks.

A2.9.2. Risk to Force. The risk to the AF's ability to recruit, maintain, train, equip, and sustain the force to meet objectives. Risk to force requires examination of the ability to provide trained and ready personnel across the DOTMLPF spectrum.

A2.9.3. Institutional Risk. Risks would be assessed based on the limitations that business practices impose on our ability to employ required resources. Measures of industrial capacity, doctrine or policy imposed limitations or other business practices may contribute to the assessment of this criterion.

**A2.10. Summary.** A concise paragraph that brings the readers back to what is most important to remember.

**A2.11. Appendices.** Include detailed information that supports the concept, but may detract from the readability of the concept if included in the main body. Appendices may include the references, list of acronyms, glossary, vignettes, other reference material that is too large to footnote and is not readily available to the reader. Examples include:

A2.11.1. References. Cite the information sources used for the concept. It can also provide sources of information for readers who desire additional information.

A2.11.2. Vignettes. These are short scenario-based descriptions of the employment of the primary capabilities presented in the concept.

A2.11.3. Experimentation Results. Provide analysis, reports, etc. produced during any experimentation activities supporting the concept's development.

### Attachment 3

#### CONCEPT DEVELOPMENT

**A3.1. Initial Research.** Initial research requires evaluating applicable strategy/guidance, directives, joint and service doctrine, lessons-learned reports, academic writings, etc. Research may also include reviewing mature/maturing technologies as to redundancy, feasibility, and interoperability to support the concept. Thorough document research will prevent development of concepts that simply restate what is already addressed in existing doctrine, TTPs or other documents. Research information may also help develop a performance baseline against which success might be measured. Finally, initial research provides historical information that helps the writers to refine the military need.

**A3.2. Initial Outline (Version . 1).** After performing initial research, the writing team will develop a presentation of the concept that includes a refined purpose, military need statement, scope, proposed development approach and timeline to include any experimentation or assessments, and who is represented on the writing team.

**A3.3. Leadership In-Progress-Review (IPR) (v. 1).** The v.1 draft is developed in a briefing format and presented to the sponsoring senior leader to obtain updated guidance for further development.

**A3.4. Initial Draft (v. 3).** After receiving guidance from the v.1 IPR, the writing team develops the initial draft. This may require workshops to obtain expertise not resident within the writing team or sponsor's organization. The initial draft should address all appropriate elements in Attachment 2.

**A3.5. External Review.** An external review exposes the concept to an audience not involved in the actual writing to identify potential failure points or possible adversary countermeasures, and to evaluate overall logic. If used, the external review will be accomplished prior to developing v.5. The make-up of a review team is dependent on the concept's purpose. It could include selected senior leaders, technical subject matter experts, academia, or a combination of both.

**A3.6. Revise Concept (v. 5).** The writing team will assess the external review inputs and modify the concept as appropriate. It is not necessary for all external inputs to be incorporated into v.5.

**A3.7. Initial Coordination and Adjudication.** Organizations will coordinate v.5 concepts with AF-wide or multi-command impact at the HAF 3-digit and MAJCOM/ANGRC 2-digit level. Organizations developing concepts without AF-wide/multi-command applicability will determine the appropriate offices for initial coordination. Include a way-ahead plan for transition with the initial coordination package.

**A3.8. Experimentation/Assessment.** The writing team must determine if a concept requires rigorous examination/assessment of capabilities and/or approaches before it can be considered for approval. The goal should be to substantiate, confirm, and verify the concept's approach and premise, or disprove its utility, adequacy, or feasibility. Examination/assessment may be accomplished via experimentation, wargaming, exercises or other suitable means. Any planned activities should be included in the concept's development plan.

**A3.9. Refine Concept (v. 7).** Using knowledge gained from the initial coordination and any experimentation/assessment data available, the writing team develops v.7 for final coordination.

**A3.10. Final Coordination and Adjudication.** Organizations will coordinate v.7 concepts that have AF-wide or multi-command impact at the HAF 2-digit and MAJCOM CV, and NGB/CF level. Organizations developing concepts without AF-wide/multi-command applicability will determine the appropriate offices for initial coordination. Include an updated way-ahead plan for transition with the final coordination package.

**A3.11. Final Signature Draft (v. 9).** After final coordination is completed, v.9 is developed and provided to the designated senior leader for approval.

**A3.12. Approval (v1. 0).** After the senior leader approval, the concept is made available to all stakeholders and added to the respective organization's consolidated concept electronic library.