Air Force Life Cycle Management Center

Standard Process

For

*Configuration Change Management*

Process Owner:  AFLCMC/EZSC

Date:  17 November 2022

Version:  4.0

Record of Changes. This page summarizes the changes from each revision of the process to the next. Revision numbering starts with 1.0. Minor changes are annotated by changing the second digit, i.e., the first minor change after the basic document would be recorded as "1.1." Major changes are annotated by changing the first digit, i.e., the first major change after release of the basic document would be numbered as "2.0." Example:

| Record of Changes | | |
|---|---|---|
| Version | Effective Date | Summary |
| 1.0 | 6 March 2014 | Standard process was reviewed and approved by S&P Board on 6 Mar 2014. |
| 2.0 | 19 November 2015 | This process was updated to include further definition as obtained from lessons learned since initial implementation and approved by S&P Board on 19 Nov 2015. |
| 2.1 | 22 January 2016 | Administrative change - corrected format issues with the Table of Contents and process flows. |
| 2.2 | 8 April 2016 | Changed title of document from Configuration Control to Change Control. |
| 2.3 | 19 April 2017 | Administrative updates. Incorporated reference to GEIA-HB-649A, Configuration Management Handbook Implementation Guide. |
| 2.4 | 12 July 2018 | Administrative updates. Updated AFMCI 21-402 reference; applied page numbers to attachments. |
| 2.5 | 21 November 2019 | Terms updated due to publication of EIA-649C include Class I and Class II change to Major and Minor and Variances; Forms updated. |
| 3.0 | 18 Nov 2021 | This process was revised to resolve all the 2020 annual review CRM comments. Many of the process flows that were added in 2015 were confusing and incomplete. Cybersecurity and Digital Engineering information were added. All references were updated and a new WBS was created to support the revised configuration change management process flow. Changed title of document from Change Control to Configuration Change Management to bring the process in line with EIA-649C. Approved at 18 Nov 2021 SP&P Group. |
| 4.0 | 17 November 2022 | This process was revised to include AW review assessment information. Process Flowchart and WBS were updated for clarification. WBS attachment was updated to be consistent with Table 2. Acronyms List and |

| | | References to Law, Policy, Instructions or Guidance were updated. Added four new terms to the Definitions section. Administrative updates. Approved at 17 Nov 22 SP&P Group. |
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## 1.0 Description

1.1 Configuration change management is a process for establishing and maintaining consistency of a product's performance, functional, physical attributes, requirements, design, and operational information throughout its life cycle. Its main function provides for the systematic proposal, justification, evaluation, coordination, approval, or disapproval of proposed changes. The goal is to establish a secure environment that is cost effective, functional, and supportive of mission and business processes that will provide for a secure configuration in the face of the significant threats and unauthorized changes.

1.2 As a core function of configuration management practices, configuration change management places emphasis on controlling and documenting (e.g., hardware, software, firmware, and associated documentation) changes to established weapon system configuration baselines in order to maintain integrity of the baselines and associated documentation. Through the use of change management, organizations ensure that changes are formally identified, proposed, reviewed, tested, and approved prior to implementation. Changes are also analyzed for possible impacts to cybersecurity and airworthiness; and addressed accordingly. As part of the change management effort, organizations can employ a variety of access restrictions for change including access controls, process automation, abstract layers, change windows, and verification and audit activities to prevent unauthorized and undocumented changes to their programs.

1.3 This document describes the process of maintaining configuration information and its technical baselines by applying change management, also known as configuration or change control, as referenced in MIL-HDBK-61B, EIA-649C, GEIA-HB-649A, and NIST SP 800-128. Change management begins when the configuration information or technical baselines are established and approved. There are three distinct (functional, allocated, and product) technical baselines that are developed and placed under configuration control. See above references for additional information about configuration information, technical baselines, and change management.

1.4 The organization requesting a change to an approved configuration technical baseline will present a Change Request (CR) to the Program Office (PO). The requesting organization (using command, PO or the contractor) may initially present a draft CR for review. The PO will validate the need and process the approval to move forward with a formal Change Action (CA). Once validated, a formal CA will be developed and provided to the PO for evaluation. The CA will be reviewed by the program's Configuration Control Board (CCB). A recommendation will be presented to the CCB chairperson to approve, disapprove, or defer the CA. The CA shall be tracked from initiation through implementation by appropriate stakeholders and evidence of implementation provided to the Configuration Manager (CM) or Responsible Technical Authority (RTA) for closure of the CA. Data pertaining to the CA and its implementation will be archived after its closure.

1.5 Using a CR for informal communication regarding a potential change may be useful prior to expending resources on preparation of a formal CA. Formal CAs can be driven from approved configuration technical baselines, modifications, Deficiency Reporting (DR), engineering orders, or other approved sources for changing technical data or baselines. These approved changes may drive the need for an Engineering Change Proposal (ECP) or (permanent or temporary) modification proposal to be implemented. For example, Technical Order (T.O.) 00-35D-54 requires open approved DRs awaiting ECP or fix verification to be reviewed quarterly to ensure they are on schedule to be accomplished.

1.6 Cyber threats present a risk to all Department of Defense (DoD) weapon systems, information systems, and software. All Air Force Life Cycle Management Center (AFLCMC) systems must incorporate cybersecurity requirements, in accordance with Department of Defense Instruction (DoDI) 8500.01. A cybersecurity assessment will be performed on all CRs and CAs. The program's assigned security manager will conduct the assessment. This assessment will be done in accordance with the *AFLCMC Standard Process for Cybersecurity Assessment and Authorization*.

1.7 Department of the Air Force Instruction 62-601 states that all configuration, usage, operating envelope, and service life changes require an assessment of whether the air system modification is airworthiness-related. To meet this requirement, an airworthiness assessment will be performed on all CRs and CAs IAW DAFI 62-601 and Technical Airworthiness Authority (TAA)-issued Airworthiness Bulletins (AWB) maintained by the United States Air Force Airworthiness Office (AFLCMC/EZZ). If a modification is considered AW-related and requires a TAA-issued airworthiness approval, the assessment will be performed in accordance with the *AFLCMC Standard Process for TAA-Issued Airworthiness Approvals for New Air Systems and Reportable Modifications to Air Systems*.

1.8 DoDI 5000.88 states that the program's system engineering branch will implement a digital configuration management approach and use automated tools to establish, control, and monitor product attributes and technical baselines across the total weapon system, information system, and software life cycle. The configuration management approach will eventually move from a manual (document-centric) process to an automated (data-centric) approach utilizing software tools to identify, record, audit, and monitor the system design. In addition, monitor program schedule and cost. These tools will track any changes (e.g., a dynamic change log for in and out-of-scope changes, formal engineering changes), and provide an audit trail (status accounting) of program design decisions and design modifications.

## 2.0 Purpose

2.1 The creation of AFLCMC brought various ways of accomplishing changes under one center. Creating a standard process that can be used by each AFLCMC organization throughout the life cycle of the product will provide basic consistency to maintain and control configuration technical baselines. This standard process is mandatory for

all AFLCMC organizations. Organizations can utilize their local configuration change management processes outlined in local or organizational government configuration management plan as long as they adhere to the intent of this standard process.

**3.0 Entry/Exit Criteria and Inputs/Outputs**

3.1   Entry Criteria

    3.1.1   An approved functional, allocated, and/or product configuration technical baseline.

    3.1.2   CA recommending a change to the approved configuration technical baselines. Changes that enter the process can include:

        3.1.2.1 A proposed temporary modification for a short-term operational mission requirement change (T-1) along with a completed AF Form 1067, Modification Proposal, requesting approval, or a change to the developmental and/or test capabilities (T-2). Original Equipment Manufacturers (OEMs) can also request a T-2 modification via Contract Data Requirements List (CDRL).

        3.1.2.2 An ECP proposing a change to the configuration technical baseline. An ECP is a management tool used to propose a configuration change to a Configuration Item (CI) and its government-baselined performance requirements and configuration documentation during an acquisition program. DD Form 1692 contains all the information required to submit an ECP. During sustainment activities, when the government is performing a modification, an ECP may not be required when there is no contractor involved. See Para 3.1.2.6 below for other data that could be used to recommend changes to the configuration technical baselines.

        3.1.2.3 A Request for Variance (RFV) is used to temporarily depart from a particular requirement or a specific item's approved configuration information for a specific number of units and/or a specified period of time. Variances do not change the approved recorded baseline; rather, they record acceptance of an item that does not comply with the approved baseline information and does not significantly degrade the performance of the item. Variances are requested by contractors prior to, during, or after item manufacture. Variances requested during or after manufacture were formerly called deviation and waiver. MIL-HDBK-61B, EIA-649C, and GEIA-HB-649A use the term

variance to describe both deviations and waivers. DD Form 1694 contains all the information required to submit an RFV.

3.1.2.4 An approved and completed AF Form 1067, *Modification Proposal*, requesting a (permanent or temporary) modification. AFLCMC/EZSC recommends that for all AF Form 1067s with signed Part IIIs, PO will organically complete Part IV (per Air Force Instruction (AFI) 10-601 and related guidance) and return the document to the using command for Part V completion. Obligation of investment funding and/or engagement with PO's CCB (to include AFTO Form 872 signature) will not be completed until receipt of a Part V-signed AF Form 1067. See AFI 63-101/20-101 for further information and application.

3.1.2.5 A Contract Change Proposal (CCP) is a contract change that has the potential to impact the contract cost, schedule, or performance. A CCP shall not be used to change a configuration technical baseline. To ensure that configuration technical changes to baselines are not included in a CCP, the CA should be reviewed by the program's engineering and Configuration/Data Management (C/DM) offices to determine that a configuration technical baseline is not affected. A CCP should be issued in accordance with the CDRL requirements listed in the contract. If it is determined that the CCP is the correct form, the CA will be processed through the program internal procedures for processing CCPs.

3.1.2.6 An Air Force Materiel Command (AFMC) Form 3925, *Engineering Order* is an acceptable method to address configuration technical baseline changes. Ensure they are properly processed in accordance with Air Force Materiel Command Instruction (AFMCI 21-401). Additionally, technical order changes may be utilized as an entry criterion to process changes for sustainment programs.

3.2 Exit Criteria

3.2.1 CCB chairperson decision to approve, disapprove, or defer the CA.

3.2.2 A signed AFTO Form 872, AFMC Form 244, or equivalent Configuration Control Board Directive (CCBD).

3.2.3 Direction to process a CA in accordance with PO internal procedures, in line with this standard process.

3.2.4 Approved evidence of CA implementation.

3.2.5 Approved evidence of corrective action on a product granted a variance or removal of a temporary change to return all units or products back to compliance with current product technical baselines.

**4.0 Process Workflow and Activities.**

4.1 Suppliers, Inputs, Process, Outputs, Customers (SIPOC), **Table 1**

**Table 1. SIPOC**

| Suppliers | Inputs | Process | Outputs | Customers |
|---|---|---|---|---|
| Contractor, Using Command, PO | Informal CR | Classify CR | Validate CR and classification | PO |
| PO | CR Approval | Prepare and formally present CA | Formal CA | Responsible CM |
| Responsible CM | Distributed CA | Review/Comment on CA; Provide recommendation | Comments/ Recommendations | CCB |
| CCB | Authority to proceed | Monitor implementation | Evidence of completion | Responsible CM |

4.2   Process Flowchart. The process flowchart, Figure 1, represents the change management process.
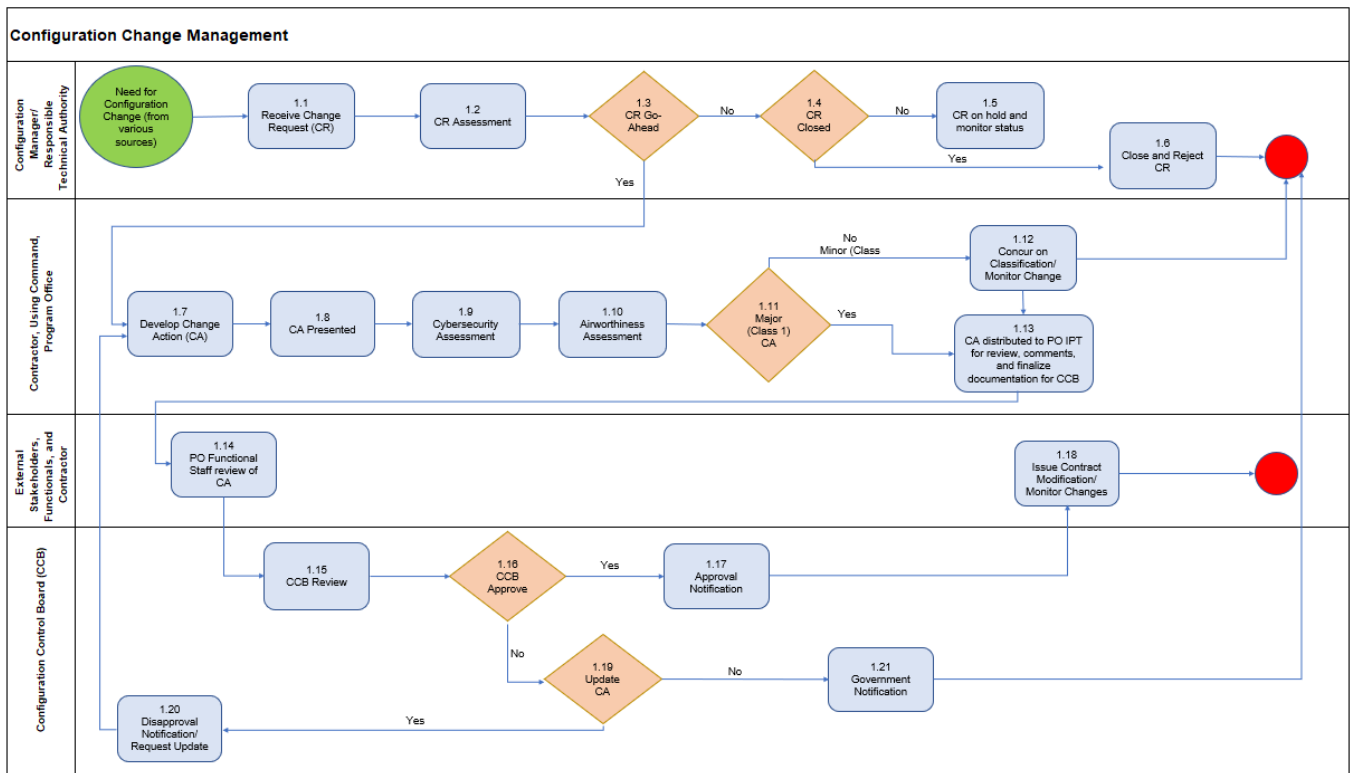


**Figure 1. Configuration Change Management Process Flowchart**

4.3   Work Breakdown Structure (WBS). The WBS, Table 2, provides details for the configuration change management process flowchart activities. The full WBS with more detail is available in Attachment 1.

**Table 2 WBS**

| Lvl | WBS | Activity | Description | OPR | Time |
|---|---|---|---|---|---|
| 1 | 1.1 | Receive CR | When a proposed change to an approved baseline has been identified, the requirement must receive approval authority to proceed with the change. | CM or RTA | 1 Day |
| 1 | 1.2 | CR assessment | A review of the identified change is completed, and the requesting organization is notified to proceed with formal CA, or the request is denied. | CM, PM, and RTA | 1 Day |

| Lvl | WBS | Activity | Description | OPR | Time |
|---|---|---|---|---|---|
| 1 | 1.3 | CR Go-Ahead | A decision is made regarding whether to move forward with the proposed change. If so, the requesting organization is notified to proceed with a formal CA. If not, the request is denied. | CM, PM, or RTA | 1 Day |
| 1 | 1.4 | CR Closed | A decision is made to close out the CR. | PM or RTA | 1 Day |
| 1 | 1.5 | CR on hold and monitor status | The proposed CR is placed on hold and is monitored by the PO. | CM or RTA | 1 Day |
| 1 | 1.6 | Close and reject CR | The CR is officially closed out and the reason for its denial is recorded by the PO. | CM | 1 Day |
| 1 | 1.7 | Develop CA | A CA is developed and provided to the approving organization for review and disposition.  The type of CA will be determined by the CR that was validated and approved. A CA can be presented as an ECP, RFV, CCP or a Modification. | Contractor, Using Command, or RTA | 30 Days |
| 1 | 1.8 | CA Presented | A formal CA is presented for the PO and functional staff to review. | Contractor or Using Command | 1 Day |
| 1 | 1.9 | Cybersecurity Assessment | Cybersecurity assessment is performed IAW AFLCMC Standard Process for Cybersecurity. | Information System Security Officer | 7 Days |
| 1 | 1.10 | Airworthiness Assessment | Airworthiness assessment is performed IAW DAFI 62-601 and Technical Airworthiness Authority (TAA)-issued Airworthiness Bulletins (AWB). | CE | 7 Days |
| 1 | 1.11 | Major (Class I) change | The classification level of the technical configuration change is determined. | CM, RTA and PM | 2 Days |
| 1 | 1.12 | Concur on classification and monitor change | PO concurs on the CA Minor (Class II) classification and monitors the implementation of the CA. | CM, RTA, change implementation monitor, and PM | 1 Day |

| Lvl | WBS | Activity | Description | OPR | Time |
|---|---|---|---|---|---|
| 1 | 1.13 | CA distributed to PO IPT for review, comments, and finalize documentation for CCB | The formal CA is released to the PO IPT for review and finalize CCB documentation. Preparations are made for the CCB. | CM | 1 Day |
| 1 | 1.14 | PO Functional staff review of CA | The PO functional staff is comprised of subject matter experts from the program organization, e.g., Integrated Product Team (IPT). The members are responsible for advising the CCB chairperson. The functional staff make up the CCB membership. They should consist of, but not be limited to representatives from logistics, training, engineering, production management, contracting, finance, configuration management, and other program related functional disciplines. CCB membership is identified by the CCB charter. | PM Functional staff (CCB membership) | 20 Days |
| 1 | 1.15 | CCB review | The CA is presented to the CCB for disposition. The purpose of a CCB is to disposition all CA to any configuration baseline (adding, deleting, or modifying requirements). | CM, RTA, PM | 20 Days |
| 1 | 1.16 | CCB disposition | The CCB chairperson makes a decision to approve, disapprove, or defer the CA. CCBs are chaired by the PM or RTA who has the authority to disposition changes and commit resources for the program, within defined fiscal limits. The evaluation and disposition of a change may require the participation of multiple change approval authorities, such as the original equipment manufacturer and the government Point of Contact (POC). | CM and CCB | 1 Day |
| 1 | 1.17 | Approval notification | Notification of CA approval is issued by a signed and approved CCBD (AFTO Form 872, AFMC Form 244, or equivalent). | CM and Contracting | 1 Day |

| Lvl | WBS | Activity | Description | OPR | Time |
|---|---|---|---|---|---|
| 1 | 1.18 | Issue contract modification and monitor change | An approved CA that is part of an active contract must be incorporated into a contract modification to finalize the documentation for the change. After the contract has been modified, the CA must be monitored or verified to ensure it has been implemented. | Contracting and change implementation monitor | 30 Days |
| 1 | 1.19 | Update rejected CA | A decision is made whether to request that the rejected CA be updated and reissued or to close it. | CM or RTA | 1 Day |
| 1 | 1.20 | Disapproval notification/ request update | The PO will notify the requestor of the disapproval and request that the CA be updated and reissued. | CM and Contracting | 1 Day |
| 1 | 1.21 | Government notification | The PO notifies the requestor that the CA has been rejected. | CM, Contracting | 1 Day |

## 5.0 Process Measurement.

| | | Metric Attribute | Description |
|---|---|---|---|
| Admin Info | | APD Ref No | N/A |
| | | Process Name | Configuration Change Management |
| | | Process Owner | AFLCMC/EZSC |
| | | Metric POC | AFLCMC/EZSC |
| S | Specific | Metric Name | Change Action |
| | | Metric Description | Determine the number of days to process a CA. |
| | | Calculation | Duration = Number of days from when a formal change action is received by the government to CCB closure. |
| | | Business Rules | Calculation is based on calendar days for a CA processing. The clock begins once a formal change action is received and ends when the change action has been boarded by the CCB and the CCBD is signed by the chairperson. This metric is collected for all programs within AFLCMC. The metric is collected weekly and is briefed to all CM directorate leads and AFLCMC SP & Product Group Board annually. |
| M | Meas urab | Data Source | Configuration managers populate the AFLCMC process metrics dashboard weekly. Database is located in the AFLCMC Governance SharePoint Site. |

| | | | |
|---|---|---|---|
| | | | https://usaf.dps.mil/teams/21710/gov/Lists/Change_Control/AllItems.aspx |
| **A** | **Actionable** | **Decision Maker** | AFLCMC/EZSC |
| | | **Review Forum / Governance Body** | SP & Products Group |
| | | **Target** | Duration standard = 90 days or less |
| | | **Threshold (G/Y/R)** | $\leq$ 90 days (G)<br><br>91 – 119 days (Y)<br><br>> 120 days (R) |
| | | **Baseline Performance** | At or less at target ($\leq$ 90 days) |
| **R** | **Relevance** | **Enterprise Impact / Process Purpose** | Provide senior leadership with an accurate view of programs ability to process CA in a timely manner. |
| | | **AFLCMC Objective** | Adherence to DoDI 5000.88, AFMCI 63-1201, and<br><br>NIST SP 800-128 |
| **T** | **Time Based** | **Baseline Date** | November 2021 |
| | | **Review Frequency** | Annually (FY) |
| | | **Update Frequency** | Annually (FY) |

## 6.0 Roles and Responsibilities.

6.1 AFLCMC/EZSC C/DM Branch (Process Owner):

    6.1.1    Manages, recommends, and coordinates all changes to this process.

    6.1.2    Leads and/or assigns personnel to work on any process improvement and change events related to this process.

    6.1.3    Evaluates metrics from a center perspective.

    6.1.4    Provides center configuration change management training, guidance, and expertise.

    6.1.5    Reviews/inspects local/organizational processes to ensure they adhere to this standard.

6.2    Responsible Technical Authority (RTA):

    6.2.1    Reviews CR and identifies type and classification.

    6.2.2    Requests CA for validated CR if one hasn't been received.

    6.2.3    Can serve as the CCB chairperson when delegated from the program manager in accordance with the established board charter.

    6.2.4    Can serve as the project engineer for the product addressed by a CA when not serving as the CCB Chair.

6.3    Directorate Configuration Management Lead:

      6.3.1    Enforces adherence to this process within the programs in their directorate to include collection of data for development of metrics.
      6.3.2    Reviews metrics annually for programs within their directorate to identify opportunities for improvement.
      6.3.3    Can serve as the lead program configuration manager.
      6.3.4    Can serve as the responsible CM and/or board secretariat as required.

6.4    Program Manager (PM):

      6.4.1    Serves as configuration change authority (CCB chairperson). May delegate responsibility to the deputy program manager or chief engineer as defined in the CCB charter.
      6.4.2    May review formal CA and provide relevant comments and recommendations to responsible project manager or engineer.
      6.4.3    Can serve as responsible PM when not serving as the CCB chair or delegate responsibility.

6.5    CCB chairperson:

      6.5.1    Using the recommendations and inputs of the reviewing members and advisors, approves or disapproves the CA. Single change authority for the program.
      6.5.2    Issues disposition via a CCBD (AFTO 872 or AFMC Form 244) or equivalent. AFMC Form 244, *T-2 Modification Configuration Control Board Directive* is to be used for programs that are used in sustainment. (See AFMCI 21-126, *Temporary 2 (T-2) Modification of Aerospace Vehicles*).
      6.5.3    Designates, in writing, the CCB primary and alternate membership.

6.6    Lead Program CM:

      6.6.1    Enforces adherence to this process within their program.
      6.6.2    Can perform duties of the responsible configuration change manager and/or board secretariat as required.
      6.6.3    Maintains configuration control of, and manages, recorded baselines, CCB charter, and CCB primary and alternate CCB membership lists for their assigned program(s).
      6.6.4    Maintains PO local/organizational change control process which adheres to this standard process.

6.7    Configuration Change Manager (CM):

      6.7.1    Supports RTA to identify CR type and classification.
      6.7.2    Can perform duties of the lead program configuration manager.
      6.7.3    Can perform CCB secretariat duties.
      6.7.4    Receives and distributes CA.

6.7.5     Logs and tracks each CA from receipt through implementation – monitors progress, updates the tracking record, collects metrics for the directorate CM lead, and keeps stakeholders apprised of status.

6.7.6     Populates CA information to the AFLCMC Governance SharePoint Site dashboard weekly.

6.7.7     Reviews the CA under CCB consideration, provides comments to the project lead and provides a C/DM recommendation to CCB.

6.7.8     Prepares a formal technical evaluation for C/DM related proposal items, which will form the basis for negotiation.  Represents C/DM during contract negotiations as needed.

6.7.9     Maintains official list of board membership and ensures required functional organizations are represented at CCB by appropriate members.

6.7.10   Verifies responsible change implementation and monitors to ensure changes are correctly incorporated.

6.7.11   Verifies responsible change implementation, monitor for evidence of completion, including temporary modification expiration/de-modification, or extension of a temporary modification.

6.8    CCB Secretariat:

6.8.1     Verifies all required documentation is complete for CCB.

6.8.2     Schedules and conducts any pre-board reviews/activities to develop CCB recommendation prior to CCB.

6.8.3     Generates and issues official board agenda to notify all participants.

6.8.4     Administers the CCB and obtains CCB chairperson decision and signature.

6.8.5     Generates and issues board minutes and maintains documented records of the CCB.

6.9    PM /Engineer:

6.9.1     Works with contractor personnel to develop CA.

6.9.2     Develops CA package when CR has been validated and is not covered by a contract.

6.9.3     Initiate Requests for Proposals (RFP), through contracting officer, to contractor to develop a CA.

6.9.4     Adjudicates comments to CA.

6.9.5     Works with CM to prepare data for CCB.

6.9.6     Resolves issues/comments prior to boarding the CA.

6.9.7     Prepares CCB presentation.

6.9.8     Can serve as change implementation monitor.

6.9.9     Can serve as RTA for changes affecting assigned products.

6.10   Using Commands:

6.10.1   When recommending a temporary modification (AFI 63-101/20-101, *Modification Management)*, develop a completed AF Form 1067 package for approval or disapproval.

6.10.2 Review CA, provide comments, recommend approval or disapproval, and participate in the program's CCB.

6.10.3 Can serve as change implementation monitor.

6.11 Functional Staff (CCB Members):

6.11.1 Consist of engineering, safety, CM, logistics, finance, contracts, test, training, cybersecurity, and others, as needed, and will be designated as members of the program office's CCB membership.

6.11.2 Review CA and provide comments and recommendations to CM for inclusion into CCB documentation.

6.11.3 Attend CCB and recommend approval or disapproval.

6.12 Chief Engineer:

6.12.1 Develop and implement a comprehensive systems engineering strategy that addresses the total life cycle of the system and documents the strategy.

6.12.2 Serve as the overall engineering and technical authority for the PO.

6.12.3 Ensure all changes address cybersecurity and airworthiness potential impacts.

6.12.4 Ensures the changes to delivered product design data satisfies Technical Data Package (TDP), Model-based TDP, and intellectual property strategy requirements.

6.12.5 When delegated, serve as CCB chairperson.

6.13 Contracting Officer:

6.13.1 Recommends approval/disapproval of CA.

6.13.2 Provides contractor notification of CCB results.

6.13.3 Negotiates contracts for changes and consideration for variances to requirements, to include implementation and corrective action plans.

6.13.4 Issues contract modification to contractor.

6.13.5 Maintains all contractual records/data related to changes.

6.14 Change Implementation Monitor:

6.14.1 Monitor change implementation, corrective action, and modification removal.

6.14.2 Sign evidence of completion of change incorporation, corrective action, modification removal, and forwards to CM.

6.15 Information System Security Manager (ISSM):

6.15.1 Serves as the primary cybersecurity technical advisor to the PO.

6.15.2 Ensures the integration of cybersecurity into and throughout the life cycle of the weapon, information technology, and software programs.

6.15.3 Ensures all cybersecurity-related data is current and accessible to properly authorized individuals.

6.15.4 Continuously monitors the program and environment for security-relevant events, assess proposed configuration changes for potential impact to the cybersecurity posture, and assess the quality of security controls implementation against performance indicators.

6.15.5 Ensures cybersecurity-related events or configuration changes that impact programs or adversely impact the security posture are formally reported to the PM.

## 7.0 Tools

7.1 MEARS (Multi-User ECP Automated Review System) is a low-cost, government-owned, automated tool that is available to handle ECP processing. Contact the AFLCMC/EZSC Data Management PoC for more information. Visit the https://usaf.dps.mil/:f:/r/teams/23230/CDM/DataMgt/-%20MEARS?csf=1&web=1&e=DRBL47 for further details.

7.2 Air Force Product Lifecycle Management (AF-PLM). For more information visit the Capability Support Office (CSO) SharePoint site at https://usaf.dps.mil/teams/AFPLM/PLM/SitePages/Home.aspx.

7.3 Other third-party automated tools developed and owned by contractors.

7.4 The Configuration Management SharePoint site is available for sharing configuration management documents, i.e., training documentation, process documents, etc. https://usaf.dps.mil/teams/23230/CDM/SitePages/Home.aspx.

7.5 Acquisition Streamlining and Standardization Information System (ASSIST). A database system for DoD-wide standardization document information. ASSIST is located at the Document Automation and Production Service (DAPS), Philadelphia, PA. ASSIST-Online provides web-based access to digital documents on the ASSIST database. ASSIST is the official source of DoD specifications and standards. Also, ASSIST provides online, interactive listing of source documents and Data Item Descriptions (DID) that DoD has approved for repetitive contractual application in DoD acquisitions and those DoD has cancelled or superseded. ASSIST can be accessed at https://assist.dla.mil/online/start/. The public site use https://quicksearch.dla.mil/qsSearch.aspx.

7.6 Various prime contractor's website and database applications provided for access to submittals of documentation required by contract CDRLs.

## 8.0 Training

8.1 C/DM training and certification requirements.

8.1.1   C/DM personnel, as identified in Para 6.6, 6.7, and 6.8 are responsible for executing this standard process and are required to be Acquisition Professional Development Program (APDP) certified. *This certification applies to government C/DM only!* C/DM personnel are responsible for meeting these elements in the C/DM training plan.  AFLCMC/EZSC manages the standard C/DM training plan and is implemented by their supervisors of all C/DM personnel. The C/DM training plan is available on the C/DM SharePoint site at [https://usaf.dps.mil/:f:/r/teams/23230/CDM/TrngMat/-%20CDM%20Training%20Plans?csf=1&web=1&e=rMNOLJ](https://usaf.dps.mil/:f:/r/teams/23230/CDM/TrngMat/-%20CDM%20Training%20Plans?csf=1&web=1&e=rMNOLJ).

8.1.2   LOG 2040, *Configuration Management* (Defense Acquisition University [DAU]).

8.1.3   AFIT CM Course available in [https://avolve.apps.dso.mil/](https://avolve.apps.dso.mil/).

8.1.4   AFLCMC C/DM forums and local training (e.g., AFLCMC Focus Week training).

8.1.5   Additional readings: DoDI 5000.88, AFI 63-101/20-101, MIL-HDBK-61B, EIA-649C, EIA-649-1A, and GEIA-HB-649A.

8.1.6   Tool training: MEARS tool training or local/organizational change management tool, as applicable.


## 9.0 Definitions, Guiding Principles and/or Ground Rules & Assumptions

9.1 Definitions:

9.1.1   AF Form 1067, *Modification Proposal* – Documents the requirements for temporary or, in conjunction with ECPs, permanent modifications to existing systems.  (AFI 63-101/20-101).

9.1.2   AFMC Form 244, *T-2 Modification Configuration Control Board Directive* – The document that records the approval or disapproval decision of the CCB for a temporary T-2 modification.

9.1.3   AFTO Form 872, *Configuration Control Board Directive (CCBD)* – A document that records approval or disapproval decision of the CCB and provides the direction to the contracting activity.

9.1.4   Allocated baseline – The approved allocated configuration performance-oriented information for a work product or configuration item to be developed. It describes the functional and interface characteristics that are allocated from those of the higher-level Configuration Items (CI) and the

verification required to demonstrate achievement of those specified characteristics.

9.1.5   Baseline – An approved description of the attributes of a product, data and sets of documents, or set of data at a point in time, which serves as a basis for defining change, for conducting verifications, and for other management activities.

9.1.6   Configuration – A collection of an item's descriptive and governing characteristics that can be expressed in functional terms and in physical terms. Configuration represents the requirements, architecture, design, and implementation that define a particular version of a system or system component.

9.1.7   Configuration Control Board (CCB) – A chartered board composed of representatives who recommend approval or disapproval of proposed engineering changes to, and proposed variances from, a CI current approved configuration documentation.

9.1.8   CCB chairperson – The person who has the authority to approve/disapprove changes and chairs the CCB.

9.1.9   Contract Change Proposal (CCP) – Provides the data necessary to propose, control, and approve changes to contractual information that are not part of a configuration technical baseline. CCPs are not to be used for making changes to specifications, drawings, or other technical baselines.

9.1.10   CCB members – Individuals that have been designated as CCB representatives to review and recommend approval/disapproval to requested changes.  They will be designated in writing by the CCB chairperson and will attend the CCBs.

9.1.11   Change Action (CA) – Formal developed change package after identification of CR type and classification to be dispositioned by the CCB.  Can be an ECP, RFV, Modification or CCP.

9.1.12   Configuration CM – The CM assigned responsibility for a particular CA.

9.1.13   Change request (CR) – Means by which a change is proposed, described, justified, and submitted to the PO or RTA to have its type and classification validated.

9.1.14   Configuration technical baseline – The approved configuration of a product, at a specific point in time, which serves as a basis for defining change.

9.1.15   Configuration Item (CI) – Any hardware, software, or combination of both that satisfies an end use function and is designated for separate configuration

management. Configuration items are typically referred to by an alphanumeric identifier which also serves as the unchanging base for the assignment of serial numbers to uniquely identify individual units of the CI. (See also: Product-Tracking Base-Identifier.) Note: The terms "CI" and "Product" are identified as aliases in EIA 649 and are used interchangeably within this document.

9.1.16  Configuration management – A technical and management process for establishing and maintaining consistency of a product's functional and physical attributes with its requirements, design, and operational information throughout its life.

9.1.17  DD Form 1692, *Engineering Change Proposal (ECP)* - establishes requirements for the preparation of an ECP.

9.1.18  DD Form 1694, *Request for Variance (RFV)* – establishes requirements for the preparation of an RFV.

9.1.19  Engineering Change Proposal (ECP) - Is a management tool used to propose a configuration change to a CI and its government-baselined performance requirements and configuration documentation during an acquisition program.

      9.1.19.1      Major (Class 1) ECP – is an ECP that proposes a change to the approved recorded configuration baseline that will have an impact to the functional, performance and/or interchangeability characteristics of the item.

      9.1.19.2      Minor (Class II) ECP – is an ECP that proposes a change that has little or no significant impact to the functional, performance and/or interchangeability characteristics of the item, and does not fit the criteria for a Major (Class 1) ECP.

9.1.20  Functional baseline – The approved functional configuration information or work product describing a systems or top-level CI performance. This includes its functional, interoperability and interface characteristics as well as the verification required to demonstrate the achievement of those specified characteristics.

9.1.21  Modification – A modification is an alteration to the form, fit, function or interface of an in-service Air Force CI.

      9.1.21.1      Permanent modification. Changes the configuration of an asset/software for operational effectiveness, suitability, survivability, service life extension and/or reduces ownership costs of a fielded weapon system, subsystem, or item.

Permanent modifications shall only be accomplished in response to an approved AF Form 1067, ECP or Capability Requirements Document.

9.1.21.2    Temporary 1 (T-1) modification - a modification that changes the configuration of an item in order to satisfy short-term operational mission requirements by adding, modifying, or removing hardware and/or software components or capabilities in a manner that provides an immediate operational benefit.

9.1.21.3    Temporary 2 (T-2) modification of aerospace vehicles. T-2 modifications are configuration changes that support research and development; design changes to existing T-2 modifications; and Developmental Test and Evaluation programs or in-service testing of systems or equipment.

9.1.22   Product baseline – The approved technical information and work product (i.e., "build-to" and "code-to" items such as specifications, drawings, software code, interface control documents, and related materials) which describes a CI during the production, fielding/deployment, and operational support phases of its life cycle.

9.1.23   Program Manager/Project Engineer – The individual that will process a requested change through CCB.

9.1.24   Responsible Technical Authority (RTA) – The chief engineer or delegate assigned to the product addressed by a CR.

9.1.25   Variance – A specific written authorization to depart from a particular requirement(s) of an item's approved configuration baseline for a specific number of units and/or a specified period.  The recorded configuration baseline will not be changed. Classified by their originators as either minor, major, or critical, unless the contract specifies that a government's technical representative is responsible for assigning the classification.  See DD Form 1694 instructions sheet and MIL-HDBK-61B or GEIA-HB-649A for further information on variances.

9.2   Acronyms

AF          Air Force

AFI         Air Force Instruction

AFLCMC   Air Force Life Cycle Management Center

AFMC      Air Force Materiel Command

AFMCI     Air Force Materiel Command Instruction

AFMAN      Air Force Manual

AF-PLM     Air Force Product Lifecycle Management

AFTO       Air Force Technical Order

APDP       Acquisition Professional Development Program

ASSIST     Acquisition Streamlining and Standardization Information System

C/DM       Configuration/Data Manager

CA         Change Action

CCB        Configuration Control Board

CCBD       Configuration Control Board Directive

CE         Chief Engineer

CDRL       Contract Data Requirements List

CI         Configuration Item

CM         Configuration Change Manager

CR         Change Request

CSO        Capability Support Office

DAPS       Document Automation and Production Service

DAFI       Department of the Air Force Instruction

DAU        Defense Acquisition University

DFAR       Defense Federal Acquisition Regulation

DoD        Department of Defense

DoDI       Department of Defense Instruction

EIA        Electronic Industry Association

GEIA       Government Electronics and Information Technology Association

| HB | Handbook |
| HDBK | Handbook |
| IPT | Integrated Product Team |
| ISSM | Information System Security Manager |
| MEARS | Multi-User ECP Automated Review System |
| MIL | Military |
| NIST | National Institute of Standards and Technology |
| PDF | Portable Document Format |
| PLM | Product Life Cycle Management |
| PM | Program Manager |
| PO | Program Office |
| POC | Point of Contact |
| RFP | Request for Proposal |
| RTA | Responsible Technical Authority |
| SIPOC | Supplier, Input, Process, Output, Customer |
| SMART | Specific, Measurable, Action Oriented, Realistic, Time Bound |
| SP | Standard Process |
| SSO | System Security Officer |
| TAA | Technical Airworthiness Authority |
| WBS | Work Breakdown Structure |

## 10.0 References to Law, Policy, Instructions or Guidance

DoDI 5000.88, *Engineering of Defense Systems,* 18 November 2020.

DoDI 8500.01, *Cybersecurity*, 7 October 2019.

MIL-HDBK-61B, *Configuration Management Guidance,* 7 April 2020.

AFI 10-601, *Operational Capability Requirements Documentation and Validation,* 27 April 2021.

AFI 63-101/20-101, *Integrated Life Cycle Management,* 30 June 2020.

AFMCI 21-126, *Temporary 2 (T-2) Modification of Aerospace Vehicles,* 15 May 2020.

AFMCI 21-401, *Engineering Drawing, Data Storage, Distribution and Control System,* 25 November 2020.

AFMCI 63-1201, *Implementing Operation Safety Suitability and Effectiveness (OSS&E) and Life Cycle Systems Engineering (LCSE),* 12 September 2018.

DAFI 62-60, 1 *Airworthiness*, 10 June 2022.

*AFLCMC Standard Process For Cybersecurity Assessment and Authorization*, 20 October 2022

*AFLCMC Standard Process For TAA-Issued Airworthiness Approvals for New Air Systems and Reportable Modifications to Air Systems*, 18 March 2021

NIST Special Publication 800-128, *Guide for Security-Focused Configuration Management of Information Systems,* August 2011.

EIA-649C, *National Consensus Standard for Configuration Management,* February 2019

EIA-649-1A, *Configuration Management Requirements for Defense Contracts,* August 2020.

GEIA-HB-649A, *Configuration Management Handbook Implementation Guide,* March 2016.

| Attachment 1:  MS Excel version of the complete WBS | WBS CCM S&P 2022 |
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| Attachment 2: Change Management Plan (*AFLCMC/OFT review only*) | Change Management Plan.docx |