AF/A5/7
CAPABILITY DEVELOPMENT GUIDEBOOK

Volume 2H

Modifications Guidebook

February 2024

Air Force Futures Requirements Oversight Team

AF/A5DR, Pentagon 5C858

PREFACE

This Guidebook is one in a series of AF/A5DR developed guides describing the Air Force process for validation of operational capability requirements in support of overarching Capability Development efforts. This guidebook describes the specific requirements actions that support Modifications.

In accordance with HAFMD 1-57, AF/A5/7 prepares requirements development policies and issues guidebooks to ensure implementation of those policies. The AF/A5/7 Capability Development Guidebooks are how-to guides for use by all stakeholders participating in the USAF requirements process. They represent official guidance and recommended standard procedures to ensure compliance with and implementation of overarching Requirements and Acquisition policies. Although the Guidebooks are not statutory or regulatory in nature, they follow the procedural guidance and other requirements-related processes described in the Joint Capabilities Integration and Development System (JCIDS) Manual. Any guidance in this Guidebook not prescribed in the JCIDS Manual is not directive but following the described procedures is highly encouraged. Requirements sponsors should coordinate with AF/A5D through the AF/A5DR Requirements Oversight Enabling Team for case-by-case tailoring.

There are no restrictions on release or distribution of this guidebook.

Additional guidance and information to supplement this Guidebook is located on the AF/A5DR Requirements Policy & Integration Portal Page:

- Go to https://www.my.af.mil
- Navigate to "BASE, ORG & FUNCTIONAL AREA", select, Organizations A-Z
- On the "Organizations A-Z ribbon, select, "HAF"
- Scroll down and select AF/A5/7 -Air Force Futures
- On the left ribbon, select "SUB-ORGANIZATIONS," then, "AF/A5DR – Requirements Policy & Integration"

If you have questions regarding the Volume 2-series Capability Development Guidebooks or if you have suggestions for improvements, please contact:

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CHANGE SUMMARY

Change Summary	Date
This document captures updated organizations, roles, responsibilities, and DAF guidance and must be reviewed in its entirety. Portions of this guidebook were derived from the AF/A5R Requirements Guidebook Volume 4 (8 April 2020, Version 4.2b), which is rescinded and replaced by this AF/A5/7 Capability Development Guidebook, Volume 2H.	February 2023
Added definitions of permanent sustainment and capability modifications to match DAFI63-101/20-101. Administrative Changes	March 2023
Administrative Changes	September 2023
Clarified Guidebook authorities. Changes are in RED. Administrative Changes	February 2024

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SECTION 1. INTRODUCTION

1.1. Overview and Background. This guidebook outlines the requirements activities to support the management of modifications to systems managed by the Air Force under the acquisition policies and procedures described in DAFI63-101/20-101, Chapter 9 and Attachment 2. DAFI63-101/20-101 defines modifications as changes to hardware or software to satisfy an operational mission requirement by removing or adding a capability or function, enhancing technical performance or suitability, or changing the form, fit, function, and interface of an in-service, configuration-managed AF asset. In-service assets are systems that have been delivered to and accepted by the Air Force via a DD Form 250, Material Inspection and Receiving Report, or in the case of software, those approved for full deployment.

1.2. Types of Modifications. Modifications may be installed as either temporary or permanent alterations.

1.2.1. Temporary Modifications. Temporary modifications change the configuration of an item to enable short-term operational mission accomplishment, Temporary Type 1 (Type-1), or to support test and evaluation (T&E) of new and modified equipment, Temporary Type 2 (Type-2). At the end of its approved modification period (Type-1) or when T&E activities are completed as specified in approved test plans (Type-2), the modification is removed, and the item is returned to its permanent configuration.

1.2.1.1. Type-1 modifications may transition to permanent modifications and remain installed provided a permanent modification proposal or equivalent requirements document is approved.

1.2.1.2. Type-2 modifications are managed by the acquisition program manager and do not typically require review or approval by a requirements decision authority.

1.2.2. Permanent Modifications. Permanent modifications change the configuration of an item for operational effectiveness, suitability, survivability, or to reduce ownership costs of a fielded weapon system, subsystem, or item. Some permanent modifications are further designated as safety modification. There are three Permanent Modification Categories:

- Category 1 Modifications retain or restore performance levels as documented in previously validated capability requirements and are considered within scope. They do not normally require any new or additional Joint Capabilities Integration and Development System (JCIDS) documentation or validation beyond approval of the AF Form 1067. However, sponsors should be aware that permanent sustainment modifications may provide additional capability so any added capability may be construed as a new requirement. For example, a sustainment modification may exceed an objective value and require new JCIDS documentation. Although the baseline requirements are not changed, modifications may drive changes or updates to the mandatory attributes. Changes to or the addition of mandatory attributes may require a Category 2 or 3 modification. See the current JCIDS Manual for mandatory attributes. Sponsors must consider any impact to JCIDS mandatory attributes such as energy, systems survivability, and interoperability. Additionally, sponsors should consider incorporation of responsible Artificial Intelligence (AI) principles into any AI requirements in accordance with DepSecDef Memo dated 26 May 2021. Examples of Category 1 Permanent Modifications include:

  - Replacement of a component no longer capable of meeting threshold values with consideration that the existing validated threshold value still meets the need.

  - Upgrade to achieve an existing validated objective value that was previously not within the acceptable cost or risk trade space.

  - Upgrade to add functionality that was previously validated, but not fielded in the system at the time of production due to cost-schedule-performance trades.

- Category 2 Modifications enhance performance levels beyond the scope of previously validated requirements and are considered out-of-scope. These modifications require an update/change validation by an AF or Joint validation authority. Sponsors should consider any impact to JCIDS mandatory attributes such as systems survivability and interoperability. Although the baseline requirements are not changed, modifications may drive changes or updates to the mandatory attributes. Changes to or additions of mandatory attributes may require a Category 3 modification. See the current JCIDS Manual for mandatory attributes. Additionally, sponsors should consider incorporation of responsible Artificial Intelligence (AI) principles into any AI requirements in accordance with DepSecDef Memo dated 26 May 2021. Examples of Category 2 Permanent Modifications include:

  - A required capability or component is replaced due to obsolescence, the replacement is available with a substantial increase in performance, and the Sponsor wants to re-baseline to a new threshold/objective value.

  - Upgrade necessary due to a change in operational context or threat that requires increasing the threshold value for a validated, existing attribute.

  - Upgrade to add functionality that was previously validated as an additional performance attribute, but not fielded due to cost-schedule-performance trades. The situation now requires the capability, and the Sponsor wants to make it a key system attribute.

- Category 3 Modifications add new attributes beyond previously validated requirements and are considered new requirements. They require new requirements documentation. Sponsors must consider any impact to JCIDS mandatory attributes such as systems survivability and interoperability. Although some baseline requirements may not change, modifications may drive changes or updates to the mandatory attributes. See the current JCIDS Manual for mandatory attributes. The AF/A5D will convene a Solution Pathway Review (SPR) and provide guidance on the appropriate requirements documentation. Contact AF/A5DR for guidance on preparing for a SPR. Examples of Category 3 Permanent Modifications include:

  - Upgrade necessary due to significant changes in Operational Context or Threat, that requires validation of a new performance attribute and threshold/objective values.

  - Upgrade to add functionality for a new mission area which requires a new capability/functionality not previously part of the system design.

1.2.2.1. Per DAFI63-101/20-101, permanent modifications are normally installed across the entire inventory of the host weapon system or product line. However, when necessary to support operational mission requirements, permanent modifications may be installed on a subset of the host weapon system or product line inventory with the approval of the lead command, applicable Program Manager, and the requirements validation/approval authority as described in this Guidebook.

1.2.2.2. Safety modifications are permanent modifications that correct materiel or other deficiencies which could endanger the safety or health of personnel, cause the loss of or extensive damage to systems or equipment, or irreversible significant environmental impact. Safety modifications are also conducted to correct materiel deficiencies which caused a Class A mishap, per the provisions of DAFI91-204, *Safety Investigations and Reports.*

1.2.3. Modifications to Assets Planned for Retirement (or Sunset Provisions). Modifications to any aircraft (i.e., a given tail number), weapon, or other item of equipment that the SECAF plans to retire or otherwise dispose of within five years after the date on which the modification would be completed, are

prohibited in accordance with Title 10 USC § 2244a, Equipment Scheduled for Retirement or Disposal: Limitation on Expenditures for Modifications. Exceptions are listed in DAFI63-101/20-101, Section 9.4.

1.2.4. Additional Modification Requirements. In addition to the above general modification program requirements, modification activities involving certain types of materiel may impose additional management requirements on the using/lead command and the program manager. For example, modifications for urgent needs, nuclear certified equipment, programs under the purview of a joint program office, and many others are listed in DAFI63-101/20-101, Section 9.5.

1.2.5. Applicability. The following examples are not considered modifications and therefore do not follow the procedures in this guidebook. When determining if a desired change is a modification, in most cases, the question, "What is being modified," must be answered. For more detail, refer to DAFI63-101/20-101, Chapter 9 and Attachment 2.

- Operation and maintenance funded parts replacement that does not alter form, fit, function, or interface. This is considered routine maintenance and would follow standard maintenance procurement and management procedures.

- Purchase of aircrew equipment, ground support equipment or similar devices. The system is not being modified.

- Replacement for an entire stand-alone piece of equipment or system. The system is being replaced; not modified.

- Design changes to items still under development/production. Changes to systems not fielded, as defined in paragraph 1.1.1., are not modifications. These may be engineering changes and follow normal acquisition management processes.

- Procurement or purchase of new, stand-alone, "off the shelf" items. The key phrase is stand-alone; the system is not being modified.

- Software development using Information Technology (IT)-Box documents are not modifications and follow the IT-Box governance.

1.3. Documentation.

1.3.1. AF Form 1067, *Modification Proposal.* The AF Form 1067 provides a means to initiate and document the submission, review, and approval of requirements for permanent sustainment and capability, track modification proposals through the approval/funding process, and to initiate actions to maintain configuration control of items affected by the modification, even though the capability is described in a previously approved capability requirements document. Detailed instructions for completing the AF Form 1067 are in DAFI63-101/20-101, Chapter 9 and Attachment 2.

1.3.1.1. Permanent sustainment modifications change the configuration of an asset/software to address attributes such as suitability, service life extension, and reduction of ownership costs of a fielded weapon system, subsystem, or item.

1.3.1.2. Permanent capability modifications change the configuration of an asset/software to address attributes such as effectiveness and survivability of a fielded weapon system, subsystem, or item estimated to cost no more than ten percent of the ACAT II minimum threshold dollar value, as defined in DoDI 5000.85.

1.3.2. Modification Proposal Addendum. The Modification Proposal Addendum (MPA) is an AF-only document that accompanies Category 2 and 3 Permanent Modifications. When attached to the AF Form 1067, the package may be used as a Service-Equivalent Capability Development Document (CDD). An MPA

is not required for Temporary or Permanent Category 1 modifications. Detailed instructions for the MPA are in Section 2.3 of this guidebook.

SECTION 2. GUIDANCE FOR MODIFICATIONS AND USE OF AF FORM 1067

2.1. The AF Form 1067. The AF Form 1067, *Modification Proposal,* is used to document the submission, review, and approval of modifications. Detailed instructions for completing the AF Form 1067 are in DAFI63-101/20-101, Chapter 9 and Attachment 2.

2.1.1. Approval Authority. The Approval Authority and required documentation for modification proposals is based on the estimate for the total amount of funding required. The cost estimate for approval purposes is the total of all expenditures as indicated in Blocks 25 and 30 of the AF Form 1067.

2.1.1.1. For modification proposals with a cost estimate less of than $100M, the MAJCOM/Agency sponsor may review and certify/approve the modification proposal.

2.1.1.2. Review and approval for modifications to Common Aviation Support Equipment (CaVSE) is delegated to AFMC and are therefore not subject to these procedures. Contact AFMC/A5R for details.

2.1.2. HAF-level Review and Approval.

2.1.2.1. All modification proposals with a cost estimate greater than $100M require HAF-level review and approval in addition to the MAJCOM/Agency certification/approval.

2.1.2.2. When HAF-level review is required, the MAJCOM/Agency and Program Manager must ensure the modification effort does not commence until HAF-level approval is obtained via an Air Force Requirements Decision Memorandum (AFRDM). This allows the sponsor to take advantage of possible tailoring and streamlining.

2.2. HAF-level Review and Approval Procedures. When HAF-level approval is required, the MAJCOM/Agency submits a Command approved AF Form 1067, the MPA signed by the MAJCOM/Agency Director of Requirements and supporting materials to AF/A5DR via the Information and Resource Support System (IRSS), or another appropriate network.

- Sponsors are encouraged to contact AF/A5DR early in the development of any modification proposal that requires HAF-level review. Sponsors must understand the constraints to using the AF Form 1067 and the details necessary for approval of the MPA. Packages with missing, incomplete, or insufficient information are the main reasons for delayed HAF review.

- The AF Gatekeeper and the AF/A5D subject matter expert review the modification proposal package in coordination with SAF/AQX and other acquisition stakeholders, determine the appropriate level of AF and Joint review and approval, and if any additional documentation or review is necessary.

- HAF-level decisions validating and approving or disapproving modification proposals are documented with an AFRDM and archived in IRSS along with any updated Joint certifications.

2.2.1. Modification Categories. To facilitate the HAF-level review and approval, the Sponsor must coordinate with the program office, the Implementing Command headquarters requirements office, and other stakeholders to identify the modification category that best describes the modification for the appropriate approval action. Modification types and categories are described in Section 1.2. Approval criteria and completion actions are described below.

2.2.1.1. Type 1, Temporary, Short-Term Mission Modifications (Type-1).

2.2.1.1.1. Approval Criteria. The modification proposal must specifically indicate the traceability to current/ongoing mission requirements with performance parameters, system attributes, and minimums or threshold values. The proposal must also specify a target quantity and timeframe or duration for the

requirement. Extensions beyond the approved quantity and/or timeframe will typically require a revalidation.

Per DAFI63-101/20-101, Type-1 modifications shall not be used; 1) due to a lack of appropriate modification funding (e.g., long term sustainment) or, 2) to circumvent the process associated with permanent modifications, as prescribed in this Guidebook and DAFI63-101/20-101.

2.2.1.1.2. Completion. An AF/A5D or higher approval documented in an AFRDM and archived in IRSS completes the HAF-level review and approval process.

2.2.1.2. Type 2, Temporary, T&E Support (Type-2). Type-2 modifications rarely require HAF review. Refer to section 2.1. for HAF review criteria and section 2.2. for the HAF review process.

2.2.1.3. Permanent - Category 1. (No requirements change).

2.2.2.3.1. Approval Criteria. The modification proposal must specifically include traceability to existing validated requirements with applicable performance parameters, system attributes, and minimums or threshold values that are to be achieved by the modification. References to specific paragraphs in the baseline CDD is sufficient.

2.2.2.3.2. Completion. An AF/A5D or higher approval documented in an AFRDM and archived in IRSS completes the HAF-level review and approval process.

2.2.1.4. Permanent - Category 2. (Requirements updates or changes, no "new" requirements).

2.2.1.4.1. Approval Criteria. This determination requires close coordination between AF/A5D, SAF/AQX, and other acquisition stakeholders to determine appropriate requirements documentation and level of approval to support the program modification acquisition decision. Refer to the baseline program requirements validation documentation for HAF-level change authorities. Additionally, changes affecting any Joint Certifications or Endorsements will be submitted to the Joint Staff by AF/A5DR to determine if a new/updated certification or endorsement is necessary.

2.2.1.4.2. Completion. An AF/A5D or higher approval documented in an AFRDM and archived in IRSS completes the HAF-level review and approval process. AF/A5DR also provides a copy of the AFRDM to the Joint Staff Gatekeeper for archiving in the Knowledge Management/Decision Support system. If Joint Capabilities Board (JCB) or Joint Requirements Oversight Council (JROC) validation is required, the JROC Memorandum (JROCM) will also be posted to IRSS and the Knowledge Management/Decision Support (KM/DS) system.

2.2.1.5. Permanent - Category 3. (New Requirement).

2.2.1.5.1. Approval Criteria. There are several options and selection of the appropriate documentation depends on the details of the proposal. The below options are examples of possible document combinations. There may be others.

- Option 1. If the modification is below the level of JCB/JROC interest or is a smaller Acquisition Category (ACAT) III program, then the modification proposal may be approved as a change/update to a previously validated JCIDS document. Refer to the baseline program requirements validation documentation for HAF-level change authorities. Changes affecting any Joint Certifications or Endorsements will be submitted to the Joint Staff to determine if a new/updated certification or endorsement is necessary. AF/A5DR will coordinate with the Joint Staff Gatekeeper as required. Pursuit of Middle Tier of Acquisition authority combined with the AF Form 1067 and MPA should be considered.

- Option 2. If Option 1 is not applicable and the modification requires a new separate JCIDS document, then it may be appropriate to pursue a waiver for an Initial Capability Document (ICD) and Analysis of Alternatives and proceed to development of a CDD Annex or possibly a stand-alone CDD to establish the requirements for the program. Pursuit of Middle Tier of Acquisition authority combined with the AF Form 1067 and MPA should be considered.

- Option 3. If the modification program will be an ACAT I level or is designated as a Major Defense Acquisition Program, and subject to formal DoDI 5000.02 oversight, it will likely be necessary to proceed to the formal Capabilities Based Analysis/ICD path to begin validation of the modification requirements.

2.2.4.2. Completion. An AF/A5D or higher approval documented in an AFRDM and archived in IRSS completes the HAF-level review and approval process. AF/A5DR also provides a copy of the AFRDM to the Joint Staff Gatekeeper for archiving in KM/DS. If JCB or JROC validation is required, the JROCM will also be posted to IRSS and KM/DS.

2.3. AF Modification Proposal Addendum. The MPA is a memorandum addressed to AF/A5D and signed by an appropriate MAJCOM/Agency Director of Requirements or designated representative. The MPA contains the following at a minimum:

- Title/Subject: AF Modification Proposal Addendum to [name of program/system, previous JCIDS document]. The title should clearly link this modification effort to the previously validated requirements of a currently fielded AF system.

- Category: Indicate the category, as applicable (as described in section 2.2 above)

- References: List relevant predecessor validation document(s) (JROCM, AFRDM, Urgent Operational Need, etc.)

- Operational Context/Threat. Provide a summary of any changes/updates that have occurred in the operating concept, formal Concepts of Operation, mission profiles, or threat assessments that are driving the need for this modification. Include any new Critical Intelligence Parameters and map them to new or existing Key Performance Parameters (KPP). If not applicable, indicate "no change."

- Capability Gap(s). Provide a summary of relevant (previously validated) capability requirements along with any required/proposed changes to mission/operational requirements (if applicable) and describe the associated gaps being addressed in the Modification Proposal. Address the risk assessment and traceability to a Capability Based Analysis or similar study, or other source used to identify the gap(s) and risk. As with the original CDD, the requirements must be traceable to AF assigned roles, missions, and functions or other drivers such as top-down direction, external compliance direction, etc., and consistent with approved concepts of operations.

- Performance Attributes. Provide detailed descriptions, rationale, and analytical references for all required changes to previously validated attributes being addressed in the Modification Proposal. Provide KPP/Key System Attributes tables summarizing new attributes with threshold/objective values. Use the format for CDD attribute descriptions and tables in the current JCIDS Manual. Identify any attributes that might require joint review or validation such as Joint Performance Requirements, Net-Ready or Joint Interoperability attributes, or other Service or Combatant Command needs.

- Program Summary. Provide a summary of the overall approach for funding strategy/sources, schedule (for fielding) including Initial and Final Operational Capability target dates, and total quantities required/planned. Identify related interdependencies with other systems or programs

which must be satisfied to provide a successful capability solution. Schedule and quantity should balance operational need and affordability.

- Other Issues. Identify any significant issues that need to be resolved in support of this modification proposal. Address any impacts to mandatory KPPs, interoperability supportability, intelligence supportability, or other AF or Joint Certifications that may require additional review/approval.

APPENDIX 1 - REFERENCES AND ACRONYMS

References

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

CJCSI 5123.01I, *Charter of the Joint Requirements Oversight Council and Implementation of the Joint Capabilities Integration and Development System [JCIDS]*

DepSecDef Memo, May 26, 2021, *Implementing Responsible Artificial Intelligence in the Department of Defense*

DoDI 5000.02, *Operation of the Adaptive Acquisition Framework*

HAF MD 1-54, *Deputy Chief of Staff for Air Force Futures (AF/A5/7)*

Manual for the Operation of Joint Capabilities Integration and Development System

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Acronyms

ACAT - Acquisition Category

AFRDM – Air Force Requirements Decision Memorandum

AI – Artificial Intelligence

CDD – Capability Development Document

IRSS - Information and Resource Support System

IT – Information Technology

JCB - Joint Capabilities Board

JCIDS - Joint Capabilities Integration and Development System

JROC - Joint Requirements Oversight Council

JROCM - Joint Requirements Oversight Council Memorandum

KM/DS - Knowledge Management/Decision Support

KPP - Key Performance Parameter

MPA – Modification Proposal Addendum

SPR – Solution Pathway Review

T&E - Test and Evaluation

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