



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR FORCE LIFE CYCLE MANAGEMENT CENTER
WRIGHT-PATTERSON AIR FORCE BASE OHIO

BULLETIN
AWB-215
23 July 2018
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United States Air Force (USAF) Airworthiness Bulletin (AWB)-215

Subject: Change Notices for MIL-HDBK-516, *Airworthiness Certification Criteria*

Attachments: (1) Glossary of References and Supporting Information
(2) Change Notice Development and Approval Process
(3) Change Notice Format
(4) Guidelines for Writing Criteria

1. **Purpose:** Define the process to develop and approve MIL-HDBK-516 Change Notices (CNs).
2. **Office of Primary Responsibility:** The USAF Airworthiness Office, AFLCMC/EZSA, USAF.Airworthiness.Office@us.af.mil.
3. **Applicability:** This bulletin applies to all personnel proposing changes to MIL-HDBK-516 for approval by USAF Technical Airworthiness Authority (TAA).
4. **Background:** Revision of MIL-HDBK-516 typically takes several years. In the interim, new or revised Criteria, Standards, or Methods of Compliance will be approved as CNs.
5. **Procedures:** The CNs are developed and approved in accordance with IAW Attachment 2 and published on the USAF Airworthiness SharePoint IAW Attachment 3. Attachment 4 provides writing guidelines for new and revised criteria.
 - 5.1. The AW Office Chief is the waiver/change authority for the process in Attachment 2.
 - 5.2. Consistent with MIL-HDBK-516, Tri-Service approval of CNs is desired; USAF-only approval is possible if necessary.
 - 5.3. Approved CNs are considered part of the current published version of MIL-HDBK-516 for all USAF development and modification efforts. Any certification basis (CB) that is prepared (see AWB-004A) shall include all approved CNs applicable to the design under consideration.

THOMAS M. FISCHER, SES
Director, Engineering and Technical
Management/Services
USAF Technical Airworthiness Authority

Attachment I
GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AWB-004A, *Development of an Airworthiness Certification Basis*, 17 June 2011
MIL-HDBK-516C, *Airworthiness Certification Criteria*, 12 December 2014
USAF Airworthiness SharePoint website;
<https://cs2.eis.af.mil/sites/23230/Airworthiness>

Abbreviations and Acronyms

ADIAG – Airworthiness Defense Industry Advisory Group
AFSEC – Air Force Safety Center
AFSEC/SEF – Air Force Safety Center, Aviation Safety Division
AMSG – Airworthiness Management Steering Group
AW - Airworthiness
AWB – Airworthiness Bulletin
AWO – Airworthiness Office
CB – Certification Basis
CE – Chief Engineer
CN – Change Notice
CR – Compliance Report
DOE – Director of Engineering
DTA – Delegated Technical Authority
FAA – Federal Aviation Administration
IAT – Individual Aircraft Tracking
PA – Public Affairs
SIB – Safety Investigation Board
SL – Senior Leader
SME – Subject Matter Expert
TA – Technical Advisor
TD – Technical Director
TAA – Technical Airworthiness Authority
USAF – United States Air Force

Attachment 2

Change Notice (CN) Development and Approval Process

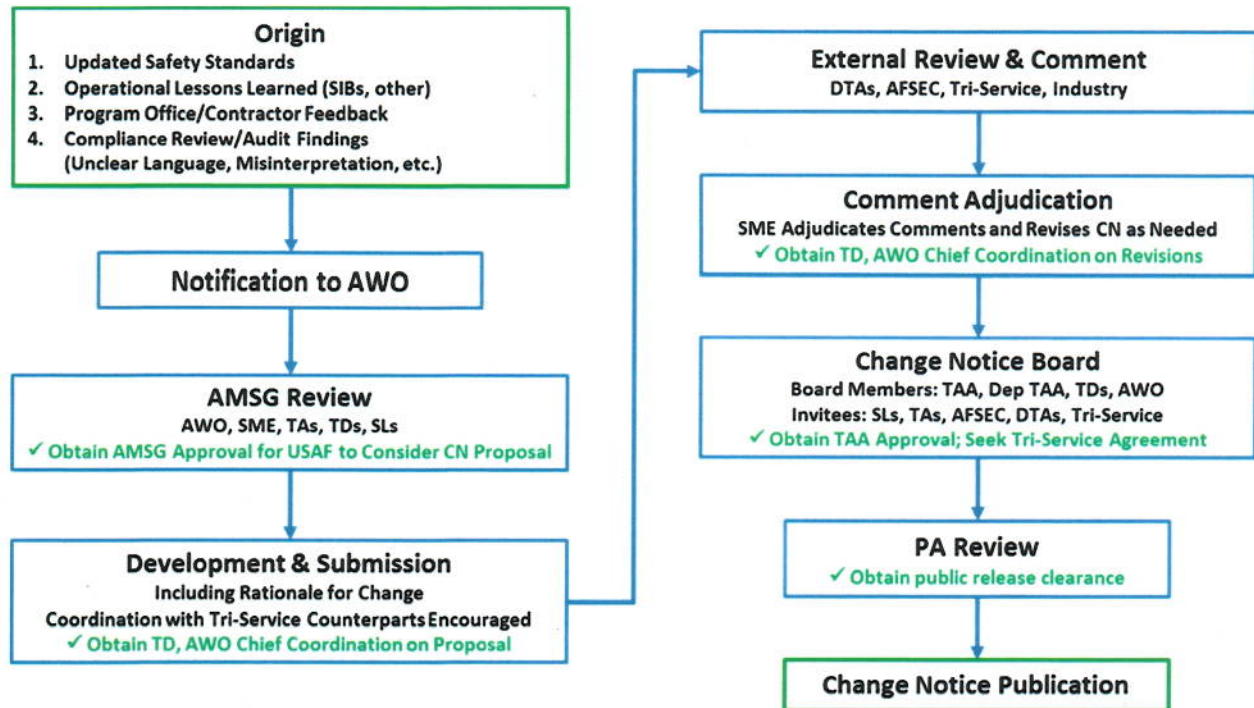


Figure 1: CN Development and Approval Process

1. **Origin.** The potential need for a CN can come from many places.
 - 1.1. Aerospace Industry or other Government Agency updated safety standards (e.g. Federal Aviation Administration Airworthiness (AW) Circulars, AW Directives, or regulatory changes).
 - 1.2. Operational lessons learned (Safety Investigation Boards (SIB), other).
 - 1.3. Program Office/contractor feedback.
 - 1.4. Compliance review/ audit findings (unclear language, misinterpretation, etc.).
2. **Notification.** Recommendations for a CN should be submitted to the AW Office.
3. **Airworthiness Management Steering Group (AMSG) Review.** The AW Office, with support from the recommending entity, obtains AMSG Chair approval for the USAF to consider the CN proposal (entry criteria). The AMSG assigns an AW Subject Matter Expert (SME) to serve as the USAF focal point for the CN proposal.
4. **Development and Submission.** The AW SME submits a CN proposal to the AW Office using the CN Proposal and CN Board briefing chart templates, which can be obtained from the AW Office. The AW SME ensures the proposal is consistent with MIL-HDBK-516 writing guidelines. Early coordination with Tri-Service counterparts is encouraged. The AW SME obtains coordination from the Technical Directors (TDs) and AW Office Chief (exit criteria).

5. **External Review and Comment.** The AW Office distributes the CN proposal for external review and comment, collects comments, and provides the comments to the AW SME.

5.1. Distribution includes Director of Engineering Level Delegated Technical Authorities (DOE-Level DTAs), Chief Engineer Level Delegated Technical Authorities (CE-Level DTAs), Air Force Safety Center (AFSEC/SEF), Tri-Service representatives, and industry via the Airworthiness Defense Industry Advisory Group (ADIAG).

5.2. For CN proposals originating outside the USAF, the AW Office will coordinate USAF review and comment on the proposal.

6. **Comment Adjudication.** The AW SME adjudicates comments, revises the CN proposal as needed, and requests a CN Board through the AW Office.

6.1. The CN Board request includes the revised CN Proposal and CN Board briefing charts.

6.2. The AW SME obtains coordination from the TDs and AW Office Chief (exit criteria) on any revisions.

7. **CN Board.** The AW Office conducts a CN Board to request approval of the CN.

7.1. The Technical Airworthiness Authority (TAA) chairs the CN Board and is the USAF approval authority for CNs.

7.2. Invitees include the TAA, deputy TAA, AW Office Chief, AW SME, TDs, relevant Senior Leaders, Technical Advisors, AFSEC/SEF, DOE-Level DTAs and CE-Level DTAs.

7.3. Tri-Service approval is pursued in parallel by each service; if necessary, the AW Office will coordinate USAF participation in a joint CN Board.

8. **Public Affairs Review.** The AW SME obtains clearance for public release of the CN from the 88th Air Base Wing Public Affairs (PA) office. The AW Office ensures the CN is marked IAW DoDD 5230.24, *Distribution Statements on Technical Documents*.

9. **CN Publication.** Upon approval, the AW Office publishes the CN and sends notification to all DTAs, USAF AW SMEs, AFSEC/SEF, ADIAG, and Tri-Service representatives.

9.1. The AW Office publishes CNs to folder "Change Notices" on the AW SharePoint Site under "MIL-HDBK-516 AW Criteria."

9.2. The AW Office updates the MIL-HDBK-516 Certification Basis/Compliance Report template to include CNs.

Attachment 3

MIL-HDBK-516 CHANGE NOTICE FORMAT

FORMAT EXAMPLE for Table of Contents of MIL-HDBK-516 Change Notice Summary:

CN #	Title	Date CN Approved	Paragraphs Affected or Created	Date Incorporated into MIL-HDBK-516
Example 1	Head borne equipment	DDMMYYYYYY	Modified paragraphs: X.1.1.x , X.3.x, X.4.1.x Added: X.1.1.1.1.x	516X, DDMMYYYYYY in paragraphs: x.x.x.x,y.y.y
Example 2	Service Life Limit	DDMMYYYYYY	Modified 5.7.5 Standard and Method of Compliance	

FORMAT EXAMPLE for Individual MIL-HDBK-516 Change Notices

CN #	Para	Criteria	Rationale for Change	Standard	Method of Compliance
Example 2	5.7.5	Verify the aircraft structure service life limit	Section X does not sufficiently address IAT.....	<p>1. The aircraft structure service life limit shall be established in terms of equivalent flight hours (or other appropriate measures of damage such as landings, pressure cycles, etc.) <u>and the IAT Program shall be used to determine when each aircraft reaches the limit.</u></p> <p>2. The initial structure service life limit shall be based upon the design analyses correlated to full-scale ground and flight testing with supporting risk analysis. The initial aircraft structure service life limit shall not exceed 50% of the full- scale airframe durability test demonstrated service life...</p>	<p>Durability and damage tolerance analysis report. Corrosion assessment report. Risk analysis report. FSMP report. Durability and damage tolerance test report. Teardown inspection report, if conducted. <u>Service life limit extension verification report, if applicable</u></p>

Attachment 4**GUIDELINES FOR WRITING CRITERIA**

The characteristics of well-written airworthiness criteria are the same as those for well-written requirements. Applicable airworthiness criteria in an approved certification basis are effectively requirements for a given aircraft system configuration. Characteristics of good requirements found in a variety of sources¹ generally include the following:

1. **Unambiguous:** There should be only one way to interpret the requirement.
2. **Clear:** Requirements should not contain unnecessary verbiage or information. They should be stated clearly and simply. (i.e. concise, terse, simple, and precise)
3. **Complete:** The requirement is fully stated in one place with no missing information.
4. **Correct:** If a requirement contains facts, these facts should be true.
5. **Testable:** The implementation of the requirement can be determined through basic possible methods: inspection, demonstration, test (instrumented) or analysis (to include validated modeling and simulation). (i.e. verifiable)
6. **Understandable:** Requirements should be grammatically correct and written in a consistent style.
7. **Feasible:** The requirement should be doable within existing constraints such as time, money, and available resources. (i.e. realistic, possible)
8. **Independent:** To understand a requirement, there should not be a need to know any other requirement.
9. **Atomic:** The requirement should contain a single traceable element, not compound (e.g. list of required functions).
10. **Necessary:** A requirement is unnecessary if no stakeholder needs the requirement or removing the requirement does not affect the system.
11. **Implementation-free:** Requirements should not contain unnecessary design and implementation information. (i.e. abstract)

¹ Guidance for writing technical requirements includes the AFLCMC Engineering Guide to Writing RFP Technical Content, Chapter 5, *Systems Requirements Document*; AFIT SYS-112 Course, *Systems Requirements Document Development*; and EZS-107 Focus Week Course, *Systems Requirements Document Preparation*.