

Circular No. 1-317

General policy of the Maintenance Review Board

January 6, 2011	First issue (KOKU-KU-KI-932)
June 30, 2011	Amended (KOKU-KU-KOU-516 / KOKU-KU-KI-280)

Airworthiness Division, Aviation Safety and Security Department
Japan Civil Aviation Bureau
Ministry of Land, Infrastructure, Transport and Tourism

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Circular

Director, Flight Standards Division
Director, Airworthiness Division
Aviation Safety and Security Department
Japan Civil Aviation Bureau
Ministry of Land, Infrastructure
Transport and Tourism

Title: General policy of the Maintenance Review Board

1. Purpose

The purpose of this circular is to provide a process to approve the minimum scheduled interval/tasking requirements for the newly type of aircraft for which an applicant has applied for a type certificate in accordance with Civil Aeronautics Law (CAL) article 12 and derivative type of aircraft as a review of documents for maintenance procedures required by the Ordinance for enforcement of the Civil Aeronautics Law (CAR) article 17.

Upon a receipt of an application from any person who applies for type certification (including the holder of a type certificate; hereinafter referred to as “TC applicant”), the Civil Aviation Bureau of Japan (JCAB) will establish the Maintenance Review Board (MRB) and review the minimum scheduled interval/tasking requirements prepared by the TC applicant. After JCAB approval, these requirements will be issued as a Maintenance Review Board Report (MRBR) and become one of a technical material of aircraft and equipment developed by the TC applicant upon which operators develop their own individual maintenance programs.

2. Applicability

This policy will apply to newly or derivative certificated aeroplane over 5,700 kg maximum take-off mass which is designed and applied for a type certificate in Japan when the TC applicant applies for an approval of the MRBR and its revisions from the JCAB.

3. Reference Material

ICAO Doc 9760 Airworthiness Manual, Volume II, Appendix B to Chapter 2,
Maintenance Review Board

FAA AC121-22B Maintenance Review Board Procedures

EASA C.I011-01 Maintenance Review Board Team

4. Application

A TC applicant will submit an application and related materials to the Airworthiness Division, Aviation Safety and Security Department of JCAB when the TC applicant applies for an approval of the minimum scheduled interval/tasking requirements or its revision.

- Address and name
- Category and Type
- Type-certificate number (if any)
- Related materials
 - Proposed Policy and Procedures Handbook (PPH) (by the expected date for a review)
 - Proposed MRBR (by the expected date for a review)

5. General process for MRBR approval

A review of the minimum scheduled interval/tasking requirements follows the process below.

5-1 Preparation of PPH

The TC applicant will prepare a proposed PPH which provides policy and procedures to develop a proposed MRBR.

5-2 Establishment of Industry Steering Committee (ISC)

The TC applicant will organize an ISC with the aircraft, engine and equipment manufactures, and operators and maintenance organizations in order to consider expected operations in developing the minimum scheduled interval/tasking requirements.

5-3 Approval/Acceptance of PPH

The proposed PPH prepared by the TC applicant will be approved by the ISC and accepted by the MRB.

5-4 Establishment of Working Groups (WGs)

After acceptance of the PPH, the ISC will establish WGs with manufactures, operators, maintenance organizations and JCAB advisors considering each system's specialty. Each WG will develop the minimum scheduled interval/tasking requirements.

5-5 Preparation of Proposed MRBR

The ISC will direct each WG and prepare a proposed MRBR (see Appendix 1 for MRBR format and content.).

5-6 Review of Proposed MRBR

Upon a receipt of an application from the TC applicant, the JCAB will establish the MRB and review the proposed MRBR. Director of Airworthiness Division will assign a

MRB chairperson to manage the MRB. The MRB chairperson will assign MRB members and JCAB personnel to work as advisors to each applicable WG with concurrence of Director of Airworthiness Division. The MRB chairperson may assign personnel from research institutes other than the JCAB as WG advisers if appropriate.

5-7 Participation of foreign regulatory authorities

Foreign regulatory authorities will participate MRB, ISC and WG activities, as provided by the letter of confirmation between the regulatory authority and the JCAB.

6. Evaluation

The following evaluation method will be used for the development of the minimum scheduled interval/tasking requirements.

6-1 MSG Analysis Process

It is general to use MSG analysis process developed by the U.S. Air Transport Association (ATA) to develop the minimum scheduled interval/tasking requirements. Thus, the TC applicant, in principal, will use the latest version of the MSG analysis process for which the application is submitted. When the TC applicant employ different analysis process other than MSG Analysis process, the TC applicant will demonstrate the analysis can establish the same level of safety.

6-2 Evaluation for low-utilization aircraft

In general, it is necessary for low-utilization aircraft to develop the minimum scheduled interval/tasking requirements based on calendar time rather than flight cycles and flight hours. Thus the TC applicant will specify low-utilization parameters in its PPH and MRBR. The TC applicant is responsible to develop a low-utilization program and this program is not a supplement to the MRBR.

6-3 Optimization of tasking intervals

The initial MRBR for any new aircraft is developed in the absence of actual in-service experience. As a result, the tendency is to be conservative in the decision process. When the TC applicant wishes to adjust task intervals to reflect the results of actual in-service data, the TC applicant will develop a proposed revision of the minimum scheduled interval/tasking requirements in accordance with the optimization process of tasking intervals defined by the latest version of Issue Paper 44 issued by the International Maintenance Review Board Policy Board (IMRBPB).

7. TC applicant responsibility

The TC applicant will perform the following functions:

- a. Develop and prepare a draft PPH for ISC approval (see Appendix 2 for PPH format and content.).
- b. Provide required aircraft technical/MSG training for all ISC and WG members, and JCAB/regulatory authorities before holding the first ISC/WG meeting.

- c. Provide the ISC with a comprehensive list of Maintenance Significant Items (MSI) and Structural Significant Items (SSI), and the items precluded from the MSI/SSI list before beginning any ISC/WG meeting.
- d. Arrange for the required attendance of the appropriate TC applicant design personnel at each ISC/WG meeting.
- e. Provide WG members with current technical data to support the analysis of each MSI, SSI, and the items precluded from the MSI/SSI list for analysis by each WG. The data are, in principal, required 30 days before the ISC/WG meeting.
- f. Arrange for technical support and access to the aircraft or appropriate TC applicant and or vendor facility for the review and validation of all analysis and tasks.
- g. Provide the ISC/MRB and appropriate WG members with an updated report of all Airworthiness Limitation (ALI) item, Certification Maintenance Requirements (CMR), and all design changes.
- h. Ensure that the TC applicant manuals contain information of all on-aircraft systems/structures/zonal tasks covered in the MRBR.
- i. Participate in all ISC and WG activities in support of the development of the MRBR.
- j. Provide the MRB chairperson with a copy of all supporting technical data/analysis for the proposed MRBR.
- k. Submit the MRBR proposal to the MRB chairperson at least 90 working days, in principal, before scheduled approval.

8. ISC/WG responsibility

8-1 ISC

ISC will perform the following functions directed by ISC chairperson.

- a. Approve the proposed PPH or its revision, and forward it to the MRB chairperson. Any WG meetings cannot begin until MRB accepts the PPH.
- b. Determine the number and type of each WG that will be necessary and then organize and manage those groups. It is desirable for the ISC to ensure that a minimum of three separate operators attend each WG meeting.
- c. Provide the MRB chairperson with a list of the number and various type of each WG, the name and affiliation of each member, and any subsequent personnel changes.
- d. Arrange for required aircraft technical/MSG training for all ISC and WG members, and JCAB/regulatory authorities.
- e. Invite the MRB chairperson and selected MRB members to ISC meetings.
- f. Invite other regulatory authorities to ISC and WG meetings, with concurrence and coordination of the MRB chairperson.
- g. Attend MRB meetings with a request from MRB chairperson.
- h. Review all WG analyses and presentations. Return to the WG for further review analysis with which the ISC does not concur. The ISC establishes a tracking system to resolve these actions and issues.
- i. ISC accepts the WG analyses/tasks.

- j. Provide complete and accurate meeting minutes for all ISC and WG meetings.
Establish a method of distributing and tracking all meeting minutes.
- k. Establish a tracking system to ensure resolution of all maintenance issues and open action items or concerns. Document and resolve all maintenance issues and open action items before presenting an MRBR proposal to the MRB chairperson.
- l. Provide the appropriate MRB members with all supporting technical data/analysis for the proposed MRBR.
- m. Review and provide comments on proposed MRBR.

8-2 Working Group (WG)

WG will perform the following functions additional to those included in paragraph 8-1.

- a. Develop minimum scheduled interval/tasking requirements for newly or derivative aircraft/engine using the latest revision of the MSG analysis process and latest approved PPH.
- b. Establish sampling requirements when an analysis determines that such sampling is applicable and effective in the identification of the cause of failure.
- c. Produce a set of meeting minutes for each WG activity.

9. MRB structure and responsibility

9-1 MRB structure

The MRB will include aeronautical engineers-aircraft design, air-carrier airworthiness engineers and other appropriate JCAB personnel. A MRB chairperson is assigned among them.

9-2 MRB chairperson responsibility

The MRB chairperson will perform the following functions.

- a. Provide the ISC chairperson with a list of JCAB personnel names, their affiliations, and changes in personnel as they occur.
- b. Invite other regulatory authorities, in coordination with Director of Airworthiness Division and the TC applicant, to participate in the MRB, and coordinate the activities with regulatory authorities.
- c. Confirm the participation of the other regulatory authority. Inform the ISC chairperson of all participating regulatory authorities.
- d. Establish and maintain the minutes of MRB in the MRB historical file.
- e. Establish the extent of other regulatory authority participation.
- f. Keep other regulatory authorities informed regarding any changes to MRB policy and procedures before and during the MRB process.
- g. Review the ISC-approved PPH, following a review by all participating regulatory authorities, in principal, within 30 working days of receipt.
- h. Coordinate all MRB activities and associated matters with the ISC chairperson.

- i. Ensure that the TC applicant provides the necessary aircraft familiarization/technical training inclusive of MSG training to all MRB members and WG advisors.
- j. Schedule the MRB meeting before attendance of ISC meetings, as required.
- k. Attend all ISC meetings.
- l. Ensure that the appropriate the JCAB and other regulatory authorities attend WG meetings.
- m. Offer information, guidance, and assistance to the ISC and each WG.
- n. Invite the ISC chairperson and selected ISC members to MRB meetings.
- o. Review reports from previous ISC meetings (if applicable) and from the WG members with regard to open issues or concerns.
- p. Provide oversight of the TC applicant validation of the Associated Maintenance Procedures.
- q. Discuss and correct potential problem areas of controversy with other regulatory authority participants.
- r. Coordinate appropriately all items of new technology developments and issues not previously addressed by the MSG standard.
- s. Establish and maintain links with the JCAB Program Manager and participate in any associated activity as required.
- t. Recommend to Director of Airworthiness Division for approval of the MRBR or its revision

9-3 MRB members responsibility

The MRB members will perform the following functions.

- a. Provide guidance to the JCAB WG advisors and WG members.
- b. Direct the JCAB WG advisors in assigned WG.
- c. Attend MRB meeting.
- d. Attend ISC meetings, as invited by the ISC chairperson.
- e. Attend WG meetings to review and discuss all significant quality problems and open issues as required. Ensure that the WG follows the MSG analysis process and PPH guidelines. Report any deviations from the MSG analysis process/approved PPH procedures to MRB chairperson.
- f. Review technical data and MSG analysis and PPH revisions provided by the TC applicant before each WG meeting. The TC applicant provides and delivers the data 30 working days, in general, before each meeting.
- g. Record all WG activity, meeting minutes, and unresolved open actions/open issues.
- h. Provide oversight of the TC applicant validation of the associated maintenance procedures.
- i. Review WG meeting minutes and provide progress reports to the MRB chairperson within 2 weeks after each WG meeting, but no later than the next scheduled ISC meeting.

This review contains an assessment of WG activities, including a notification of any controversy for potential problem areas or issues.

- j. Provide the MRB chairperson with highlights to include minimum scheduled interval/tasking requirements and any unresolved concerns or issues.

9-4 JCAB WG advisors

The JCAB WG advisors will perform the following functions.

- a. Attend WG meetings and provide technical information, assistance, and guidance to the WG members.
- b. Attend MRB meetings if requested by an MRB chairperson.
- c. Act as an MRB member for the WG when requested by the MRB chairperson.
- d. Provide progress reports to the MRB member assigned to the WG and MRB chairperson, prior to the next scheduled ISC meeting. This report contains an assessment of WG activities, including notification of controversial or potential problem areas or issues.

10. Participation of foreign regulatory authorities

The foreign regulatory authorities will perform the following functions.

- a. Participate in the MRB, ISC, and/or WG activities, as provided by the coordination between the regulatory authority and the JCAB.
- b. Attend ISC meetings by invitation from the ISC chairperson and the concurrence of the MRB chairperson.
- c. Notify the ISC chairperson, via the MRB chairperson, of any national regulatory differences requirements before compiling the MRB report proposal.
- d. Acknowledge approval of the MRB report in accordance with the coordination between the regulatory authority and the JCAB and PPH.
- e. Review WG meeting minutes and provide to the MRB chairperson an assessment or notification of controversial or potential problem areas and issues before the next scheduled ISC meeting.

11. MRBR approval process

11-1. Initial MRBR approval process

Following ISC final review, the TC applicant will submit the MRBR proposal to the MRB chairperson. The MRB Chairperson will invite the MRB Members to review the MRBR proposal. When all issues have been resolved, the MRB Chairperson will recommend to Director of Airworthiness Division for approval of the MRBR. Director of Airworthiness Division will make a decision for an approval of MRBR.

In principal, the JCAB approval process occurs within a timeframe of 90 working-days, unless corrections are required. Approval by foreign regulatory authorities will normally occur concurrently with JCAB approval.

The TC applicant is responsible for publishing and distributing the initial and revised MRBR. A copy of the MRBR or its revisions will be sent to both the Airworthiness Division and the MRB Chairperson.

Note: TC applicant can issue MRBR electrically or in writing or both.

11-2 Foreign regulatory authority approval of the MRBR

When there may be a need to identify national regulatory differences that are not compatible, acceptable, or applicable to all regulatory authorities, an appendix or specified section to the MRBR will be used to list these differences, with the respective regulatory authority approving each difference with a separate appendix or specified section to the MRBR.

11-3 Disapproval process of MRBR and its revisions

The MRB chairperson will coordinate disapproval of a proposed MRBR or its revision with the TC applicant so that the ISC chairperson receives written notification of such action.

The disapproval letter will include the specific reason(s) for the disapproval, and suggested guidance to make the MRBR proposal or its revision approvable.

12. MRBR revision

12-1 Annual review process

The TC applicant, ISC, and the MRB chairperson will annually conduct a joint MRBR review to determine any need for a revision. The MRB chairperson will document results of these reviews.

Annual review will consider the following matters but not limited:

Design change, operational experience, reliability of aircraft, change of operational environment, fleet age, change of applicability and temporary revision etc.

12-2 MRBR revision approval process

If needed, the TC applicant, ISC and the MRB will convene to evaluate any proposed changes. The TC applicant will submit all proposed changes with supporting data to the MRB chairperson. Approval or disapproval of the proposed changes will be processed in the same manner as outlined for the initial MRBR approval/disapproval process.

12-3 Multiple approvals by foreign regulatory authorities

If more than one regulatory authority approves an MRBR, each approving authority will evaluate proposed changes as per confirmation before approval by the JCAB.

12-4 Temporary revisions

If temporary revisions (TR) are needed, the TC applicant, ISC and the MRB will convene to evaluate any proposed changes. The process will follow the process of the section 11.

13. Others

Regardless of this circular, MRBR can be developed in accordance with other procedures if Director of Airworthiness Division agrees its necessity.

Supplementary provision (January 6, 2011)

1. This circular is effective from January 6, 2011.
2. Any revisions of MRBR which has been already issued before the effective date of this circular can follow the previous rules.
3. This circular cancel TCL-59 “Establishment of Maintenance Review Board System” and TCM-21-009 “Procedures for Maintenance Review Board”

Supplementary provision (January 30, 2011)

1. This circular is effective from July 1, 2011.

Please contact for questions or comments regarding this Circular to:
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Appendix 1 MRBR Format and Content

MRBR is entitled, “Maintenance Review Board Report (MRB Report), manufacturer name, aircraft model #,” and at a minimum, contains the following, as appropriate. The other content can be contained if needed.

- a. Title Page (The title of the MRBR and the report number, if any.)
- b. Table of Contents
- c. Approval Page (Contain the following statements.)
 - (1) “This report outlines the minimum scheduled interval/tasking requirements to be used in the development of an approved maintenance/inspection program for the airframe, engines, systems, and components of the (aircraft make, model, and series).”
 - (2) “The requirements in the report have been developed using the latest MSG revision (or alternative procedure as agreed upon by the JCAB, ISC, or WG).”
 - (3) “The Civil Aviation Bureau of Japan (JCAB) hereby approves that this report be used by Japanese certificated operators of the (aircraft make, model, and series).”
Signed: _____
Date: _____
(Title of approving Official)
(Insert page for each foreign regulatory authority approval, as applicable.)
- d. Record of Revisions
- e. Summary of Changes
- f. List of Effective Pages (Include the revision status and corresponding dates.)
- g. ISC/MRB Personnel Listing (Include their organizational affiliation and the capacity in which they serve.)
- h. The MRBR Preamble (Include the following information.)

This report outlines the minimum scheduled interval/tasking requirements to be used in the development of an approved maintenance/inspection program for the airframe, engines (on aircraft), systems, components, and appliances, of (aircraft make, model, and series). These MRB report requirements are a basis from which each operator develops its own maintenance/inspection program.
- i. Acronyms (Define all acronyms in the MRBR. Appendix 1 contains a list of acronyms.)
- j. Definitions (Define technical terms in the MRBR.)

Whenever possible, use industry accepted definitions such as those found in the Air Transportation Association ATA latest version of MSG documents and World Airlines Technical Operations Glossary.
- k. Applicability (The MRBR identifies the specific aircraft make, model, and series, and the standard options/modifications.
New options/modifications will be added to the MRBR.)
- l. Analysis of MSIs and SSIs

Analyze all MSI and SSI on a task-by-task basis and classify appropriately and select the tasking interval.

- (1) The MRBR provides guidance regarding the means to optimize the minimum scheduled interval/tasking requirements to a level higher than that provided as initial requirements in the MRBR.
- (2) Optimization guidance considers the content of like checks or other related inspections and their repetitive intervals. A series or sequence of checks or other related inspections are completed and the resultant data found satisfactory before optimization of that type of check/inspection. Include in this section of the MRBR the description, type of checks/inspections, and their intervals.

m. Maintenance Requirement Rules (Include the following rules in the MRBR.)

- (1) The optimization procedures as described in the Policy and Procedure Handbook are based on the optimization procedure of task intervals defined by the latest version of Issue Paper 44 issued by the IMRBPB.
- (2) Individual task intervals may be optimized based on the review and approval by its appropriate regulatory authority or in accordance with the operator's JCAB-approved reliability program after the satisfactory substantiation by the operator.
- (3) Task interval parameters expressed in the MRBR may be converted to an individual operator's desired units. This conversion does not result in the operator exceeding the initial requirements of the MRBR.
- (4) The use of nondestructive inspection (NDI) methods, such as X-ray, ultrasonic, eddy current, and radioisotope, or alternative processes that TC applicant approves, can provide an alternative to the methods this report prescribes. Each operator notifies its appropriate regulatory authority of the use of an acceptable alternative method.
- (5) Life-limited items are retired in accordance with the limits established in the engine or aircraft Type Certificate Data Sheets (TCDS) or the Airworthiness Limitations section of Instructions for Continued Airworthiness established by engine or aircraft TC applicant.
- (6) After the accumulation of industry service experience, the ISC or MRB chairpersons may request changes to the requirements of this MRBR.
- (7) Failure Effect Category (5 or 8) safety tasks cannot be deleted or escalated without the approval of the MRB Chairman and/or the Airworthiness Division.

n. System/Powerplant Requirement Rules (Contain the following contents in the system/powerplant requirement rules section of the MRBR.)

- (1) Because MSG analysis process (Specify the revision) was used to develop an on-aircraft minimum scheduled interval/tasking requirement, this process does not normally include detailed shop maintenance procedures with the exception of life-limited items. Individual operators control off-aircraft detailed procedures that are in accordance with the TC applicant published minimum interval/tasking requirements which the regulations require.

(2) MSI

(Provide the MSI list.)

(3) Each MSI TC applicant identified has been subjected to MSG analysis process.

Provide the list of MSI for which a task was not generated during the analysis.

(4) SSIs are not confused with Principal Structural Elements (PSE).

The SSIs address all PSEs.

o. Structural Program Rules

TC applicant develops structural inspection procedure (SIP) requirement to meet the inspection requirements for damage tolerance. The types of damage considered during structural requirement development are environmental deterioration (ED) (corrosion, stress corrosion), accidental damage (AD), and fatigue damage (FD).

Because some forms of ED are age related, calendar intervals are established to control inspections for this type of deterioration. These calendar inspections and the requirements for detecting other types of ED, AD, and FD are established in the SIP. The structural program rules section of the MRBR includes the following contents.

(1) All aircraft in an operator's, or group of operator's fleet are subject to the provisions of this report. These requirements include external and internal inspections, structural sampling and age-exploration programs, corrosion prevention and control programs, and additional supplemental structural inspections that may be required for fatigue-related items. Calendar time, flight cycles, or flight hours express the initial check intervals for the SIP.

Do not optimize a repeat inspection interval until at least one aircraft in an operator's or group of operator's fleet has been inspected within the defined interval listed in the MRBR.

(2) All changes to structural inspection items listed in the Airworthiness Limitations section require JCAB approval. Document number references structural inspection limitations listed in the aircraft TC applicant's Airworthiness Limitations inspection section in the MRBR.

(3) The Structures Program includes requirements to maintain composite structural details, elements or assemblies whose failure could affect the structural integrity necessary for the safety of the aircraft. These requirements take into account that composite structures may be damaged by accidental impact or aging deterioration and those composite structures degrade in a different way compared to metallic structures. All structural items are categorized as either an SSI or Other Structure. (Provide the SSI/PSE list.)

p. Zonal Inspection Program (ZIP) Rules

The Zonal Inspection Program (ZIP) includes the general visual inspection (GVI) tasks for each zone. A zonal inspection may include GVI tasks derived from MSI and SSI. An MSI/SSI task that is in the ZIP are cross-referenced and located in the appendix of the MRBR. Likewise, the zonal item is cross-referenced as an MSI/SSI task.

Include the following contents of the zonal inspection program rules of the MRBR.

NOTE: Failure Effect Category (5 or 8) safety tasks are not candidates for zonal requirements.

- (1) The ZIP contains a series of GVI tasks. Detailed inspection (DET) and special detailed inspection (SDI) are not to be contained in the ZIP. Zonal inspection requirements apply only to zones.
 - (2) The ZIP contains GVI tasks derived from enhanced zonal analysis procedures (EZAP).
 - (a) Identify zones that both contain electrical wiring and have potential for combustible material being present and perform an enhanced zonal analysis that allow appropriate attention to be given to deterioration of installed wiring and electrical wiring interconnection system (EWIS),
 - (b) EWIS tasks derived during the EZAP process are identified as GVI, DET, or Restoration (RST) tasks. The ZIP doesn't contain stand-alone EWIS tasks. These identified tasks reside in the Systems/Powerplant section of the MRBR.
 - (c) Identify all stand-alone GVI, DET, or RST tasks derived from EWIS in the EZAP analysis. This prevents inadvertent deletion or escalation of an EZAP-derived task without proper consideration. All escalations are approved by the JCAB.
 - (d) The ZIP doesn't contain stand-alone L/HIRF tasks. These tasks reside in a separate section of the MRBR.
 - (3) Access to zones is easy to accomplish and isn't require the use of special tools. Normally, the inspection aids include a flashlight and/or inspection mirror. Inspect the visible contents of the zone for obvious damage, security of installation, and general condition including corrosion and leaks.
 - (4) Provide list of the zones not specified in the ZIP. Provide aircraft zone diagram sheets.
- q. Foreign Regulatory Authority National Requirements
- A specified section or appendix of the MRBR identifies national differences as mandated by foreign regulatory authorities after the approval of foreign regulatory authority.
- r. Appendices
- (1) Identification of aircraft zones
 - (2) Extended Operations requirements
 - (3) All acronyms/abbreviations as used in the MRBR
 - (4) Definitions of specific terms, processes, inspections as identified in MRBR
 - (5) Others

APPENDIX 2 PPH Format and content

At a minimum, PPH contains the following, as appropriate. The other content can be contained if needed.

Contents of PPH

- I Approval & Acceptance Letters or Signature Page
- II Record of Revisions
- III List of Effective Pages
- IV History of Changes

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