

VOLUME 3 GENERAL TECHNICAL ADMINISTRATION**CHAPTER 32 MANUALS, PROCEDURES, AND CHECKLISTS FOR 14 CFR
PARTS 91K, 121, 125, AND 135****Section 7 Safety Assurance System: Procedures for Approving or Accepting an Operator's
Maintenance Manuals and Checklists for Parts 91K and 125**

3-3286 GENERAL. This section contains direction and guidance for principal maintenance inspectors (PMI) when approving or accepting an operator's manuals and checklists. This process is based on the general process for approval or acceptance, which includes the:

- Preapplication phase,
- Formal application phase,
- Document compliance phase,
- Demonstration and inspection phase, and
- Certification phase.

A. The Approval Process. The approval process for a Title 14 of the Code of Federal Regulations (14 CFR) part 121 operator's checklist normally consists of phases one, two, three, and five of the general process. It may be necessary, however, for the principal inspectors (PI) to require that phase four of the general process (the demonstration phase) be included in the approval process.

B. The Acceptance Process. The acceptance process for a manual, manual section, or a 14 CFR part 135 operator's checklist normally consists of phases one, two, and three of the general process. The operator must submit current copies of required manuals to the PIs, and in the case of part 135 operators, the operator must also submit aircraft checklists for Federal Aviation Administration (FAA) review. An operator's entire manual system must be reviewed during the document compliance phase of initial certification. Once an operator is certified, the operator may revise, distribute, and use accepted material even though the PMI has not completed a review. If after a thorough review the PMI or PI determines that portions of the manuals or checklists are unacceptable, the operator must revise the unacceptable portions.

NOTE: Each phase of the general process for approval or acceptance is discussed as if it is separate and distinct; however, at times the phases may overlap.

C. Evaluation of Manuals for FAA Acceptance or Approval. An operator may develop and publish in its manual any policy, method, procedure, or checklist that the operator finds necessary for the type of maintenance conducted. These policies, methods, procedures, and checklists, however, must comply with 14 CFR and be consistent with safe operating practices. The PI should encourage operators to be innovative and progressive in developing such policies, methods, procedures, and checklists. The PMI's role in the review process is to provide an independent and objective evaluation of the operator's manual material. The PMI must ensure

that the operator's material complies with 14 CFR, is consistent with safe operating practices, and is based on sound rationale or demonstrated effectiveness.

D. Discrepancies. When a PMI finds a discrepancy in an operator's existing manual material, the PMI shall take action to have that discrepancy resolved. Usually such discrepancies can be resolved through informal discussions. When an informal discussion cannot resolve the discrepancy, however, the PMI is required to formally withdraw FAA approval or acceptance from the operator.

3-3287 PROCEDURES.

A. Phase One—Preapplication Phase. The first phase of the approval or acceptance process establishes a framework for review. The preapplication phase begins with communication between the FAA and the operator (either a current certificate holder or an applicant for a certificate). There are three occasions when approval or acceptance of manuals and checklists is required, as follows:

- When an applicant applies for a certificate;
- When an existing operator determines if a change is necessary; and
- When, as the result of an investigation or normal surveillance, the PMI determines if a manual, a manual section, or a checklist is inadequate or deficient.

1) Determine Basic Requirements Applicable to the Operator. The primary task of the PMI during phase one is to determine the basic requirements that the operator must meet to obtain acceptance or approval of a manual or checklist. The PMI must communicate these requirements to the operator. The PMI should review the appropriate sections of this order and any advisory circulars (AC), airworthiness information and handbook bulletins, exemptions the operator may hold or is applying for, operations specifications (OpSpecs), and any deviations applicable to subjects the operator must address in its manual or checklist. Both the PMI and the operator must clearly understand the topics and level of detail the operator is required to have in the material to be submitted during phase two of the process. During phase one, the PIs should make the following determinations and communicate them to the operator:

- Whether the submission will involve approval or acceptance;
- Whether there is a need for validation tests or other demonstrations; and
- Whether there is a need for supplementary documentation, analysis, or other data to support the submission.

2) Discuss Methods for Manual or Checklist Organization. During phase one, the PMI should inform the operator there are various methods that can be used to organize and format their manuals, manual sections, and checklists requiring FAA approval/acceptance. The PMI may inform the operator of the content of the following subparagraphs, which describe at least four possible methods that an operator may use:

a) **Limited Content.** An operator may choose to limit the content of the manual solely to approved material. When the operator chooses this method, PMIs must ensure that a header or footer is on each page indicating that the material is FAA approved.

b) **Grouping Material.** An operator may choose to group the FAA-approved material in specified sections of the manual and place accepted material in the remaining sections. With this method, the PMI must ensure that a header or footer is on each page of the approved sections indicating that the material on that page is FAA approved. The operator may submit the approved and accepted sections to the PMI as separate packages.

c) **Interspersed Material.** An operator may choose to intersperse FAA-approved material and accepted material throughout the manual. When an operator chooses this method, the PMI must ensure that the operator has clearly identified approved material each time it appears in the manual. This method of organization allows for efficient manual use, but makes the operator's publication process and the approval process difficult.

d) **Approval Document.** The operator may choose to place material in an "approval document" solely for obtaining FAA approval of that material. An approval document is a document and therefore may not be used as a manual. After the document has been approved, the operator must develop user manuals that incorporate the approved information from the document along with detailed guidance and supplementary information. When this method is used, the user manuals are treated as "accepted" material and do not have to be individually approved. The PMI must, however, review the user manuals to ensure that the information in them is consistent with the approval document. When using this method, the operator may revise the information in user manuals without prior FAA approval, provided the revision is consistent with, and does not conflict with, the information in the approval document. If the operator or the PMI finds it necessary for the approval document to be revised, the operator must submit the proposed revision for review and approval. A revision to an approval document must be approved before the operator can incorporate the changed information into the user manuals. When an operator uses this method for submitting manual or checklist material for FAA approval, PMIs must ensure that the operator has stated on the first page of the user manuals that the manual contains FAA-approved material. The manuals or checklists provided to the user, however, do not have to be specifically identified as being FAA approved.

3) Advise Operator How to Submit Material. During phase one, the PMI should advise the operator on how to submit the documents, manuals, checklists, and subsequent revisions for approval or acceptance.

a) **FAA Approval Submission.** For material that requires FAA approval, the PMI should advise the operator to submit the following:

1. Two copies of the document, manual, manual section, checklist, or revision to be approved; one copy of the printed version of the electronic checklist (as applicable); one copy of a report indicating differences between the proposed and current versions of the electronic checklist (as applicable); and a copy of any supporting documentation or analysis; or

2. One copy of the document, manual, manual section, checklist, or revision, and two copies of the page control sheets for the material (showing an appropriate revision number or original page number for each page and the effective date of each page); and a copy of any supporting documentation or analysis.

b) **FAA Acceptance Submission.** For material that is to be evaluated for acceptance by the FAA, the PMI should advise the operator to submit the following:

- A copy of the manual, manual section, checklist, or revision to be reviewed; and
- A copy of the page control sheets for the material to be reviewed, when appropriate.

4) Encourage Coordination of Submitted Documents. PMIs should encourage operators to coordinate drafts of manuals, checklists, and revisions before making a formal submission. Mutual agreement on major PMI notes should be reached between the operator and the PMI before the material is put in final form. Operators should be advised by the PMIs not to publish or distribute material requiring FAA approval until after they have received written notification that the material has been approved. An operator that prepares and distributes such material before receiving approval may have to make costly changes. The PMI should encourage the operator to establish methods that streamline and simplify the process for both the operator and the PMI.

B. Phase Two—Formal Application. Phase two consists of the PMI or a qualified inspector conducting a preliminary review (as opposed to a detailed analysis) of the operator's submission. This preliminary review is intended to ensure that the operator's submission is clear and contains all required documentation. The phase two reviews should be conducted promptly after receipt of the operator's submission. If after preliminary review the submission appears to be complete and of acceptable quality, or if the deficiencies are immediately brought to the operator's attention and can be quickly resolved, the PMI may begin the phase three indepth review. If the submission is incomplete or obviously unapprovable or unacceptable, the process is terminated, and the PMI must immediately return the submission (preferably within 5 working days) with an explanation of the deficiencies. PMIs should return the submission to the operator promptly so that the operator will not erroneously assume that the PMI is continuing the process to the next phase.

C. Phase Three—Document Compliance. Phase three is a detailed analysis of the operator's submission. During this phase, a qualified inspector must review the operator's submission in detail to determine that the submission is complete and technically correct. The time to complete phase three depends on the scope and complexity of the submission. During the phase two preliminary reviews, the PMI should determine whether the review could be completed within 10 working days. If any part of the submission requires FAA approval, and the PMI determines that it will take longer than 10 working days to complete the review and approval process, the PMI shall give the operator an estimate of the time it should take to complete the process.

1) Analyze Submission for Conformance to Criteria. The phase three review and analysis should confirm that the operator's submission conforms to, or is consistent with, the following:

- Applicable 14 CFR parts;
- Criteria and guidance in this order;
- The operator's maintenance specifications;
- Criteria and guidance in ACs;
- Applicable Aircraft Flight Manuals (AFM), manufacturer's operating bulletins, and Airworthiness Directives (AD);
- Safe operating procedures;
- The operator's cockpit resource management policies; and
- Flight Standardization Board (FSB) and Flight Operations Evaluation Board (FOEB) training recommendations.

NOTE: The directions and guidance in Volume 3, Chapter 32, for reviewing procedures and checklists have been developed after consultation with knowledgeable and experienced personnel in the air transportation industry, aircraft manufacturers, and the FAA. The information presented is considered the best guidance currently available on the topic. PMIs should realize, however, that circumstances vary widely. The best set of procedures for one circumstance may not work well in another circumstance. Two recommendations may be in conflict. In such cases, the appropriate resolution must be achieved through compromise. For example, it may be more important for an operator's checklist and procedures design policies to be internally consistent than for an individual procedure to be designed in a specific way.

2) Consider Operator's History. The PMI should thoroughly consider the operator's experience and history when evaluating procedures and checklists. When an operator has a history of successful maintenance, the PMI should normally approve submissions consistent with the operator's existing procedures. When an operator has an incident or accident attributable to crew error, the PMI must thoroughly examine the basic assumptions and policies in the design of the operator's checklists and operating procedures.

3) Review Electronic Checklists. Review of electronic checklist modifications in applications with the ability to automatically detect the completion of an action shall include verification that this detection is based on monitored conditions that are consistent with the objective of the action. The review and verification should be accomplished using a paper copy of the electronic checklist annotated with the monitored condition for each action whose completion is automatically detected.

D. Phase Four—Demonstration and Inspection. PMIs should encourage operators to conduct validation tests of operating procedures and checklists during the development process. These validation tests should be conducted before the operator submits the proposed procedures and checklists for FAA review and approval. Whenever possible, the PMI or a qualified inspector should observe these tests. Under certain circumstances, a validation test may have to

be conducted after the phase three indepth reviews. In other circumstances, especially for minor types of revisions, simple procedures, or checklists, validation tests may not be warranted or appropriate. Before approving operating procedures and checklists, PMIs should consider the following guidance concerning validation tests:

- 1) Aircraft operating procedures and checklists should be tested in realistic, real-time scenarios with a full crew complement.
- 2) Validation tests of normal procedures may be conducted in a flight simulator, in a flight training device (FTD), on training flights, or in conjunction with proving tests.
- 3) Validation tests of nonstandard, abnormal, and emergency procedures or checklists should be conducted in a flight simulator or FTD. Tests of nonstandard and emergency procedures and checklists may be conducted in an aircraft; however, the operator must ensure that the test can be conducted safely. Testing of nonstandard and emergency procedures and checklists shall not be conducted during revenue service.
- 4) Operators may submit evidence that a qualified party (such as the manufacturer or another operator) has already conducted a validation test of a procedure or checklist. When such evidence is available, the PMI should not require a validation test unless the operator's circumstances are significantly different from those in which the original tests were conducted.
- 5) Changes in the wording of a procedure may not actually change the procedure. In such cases, validation tests are not necessary.
- 6) PMIs should require that operators validate the safety and effectiveness of any addition, deletion, or change of sequence in the steps of a non-normal or emergency checklist through validation testing.
- 7) PMIs should require that operators who want to convert immediate action items to or from challenge verify items on an emergency checklist and test the modified procedure to ensure that it is safe, effective, and has no adverse effects. PMIs shall consult with the appropriate Aircraft Evaluation Group (AEG) before approving such changes.
- 8) The addition or deletion of individual items to a normal phase checklist does not usually need to be validated by a test. If the PMI is of the opinion that the change significantly alters crewmember assignments or workload distribution, the PMI shall require a validation test.
- 9) While electronic checklists must comply with the same guidelines discussed here, modification to an existing electronic checklist does not in itself require a validation test if the PMI deems the modification minor.

E. Phase Five—Certification. Phase five consists of the PMI granting FAA approval to manuals, manual sections, and checklists. During this phase the PMI must formally notify the operator of the approval and complete a specific record of the approval. For manuals, manual sections, and part 135 aircraft operating checklists, which are not required to have FAA approval, written notification of acceptance is not required and should not be given.

NOTE: Coordination between the PMI and principal avionics inspector (PAI) with certificate management responsibilities prior to the notification of disapproval or approval is critical.

1) Notify Operator of Approval, if Applicable. When the PMI decides to approve a document, manual, manual section, or checklist, the following procedures apply:

a) For a document, manual, or checklist that contains page control sheets, the PMI shall annotate both copies of the page control sheets with the phrase "FAA Approved." Under the words "FAA Approved," PMIs shall enter the effective date of approval and sign both copies. The operator may preprint the words "FAA Approved" and blank lines for the date and signature on the page control sheets, or the PMI may use a stamp to add the approval annotation on each sheet.

b) For manuals, manual sections, or checklists that do not contain page control sheets, the approval annotation must be placed by the PMI on each page of the material. In this case the approval annotation must be made on two copies of the material. This procedure should be used only for very short manuals, manual sections, or checklists (usually fewer than five pages) or when the use of page control sheets is not practical or serves little purpose.

c) When page control sheets are used, the PMI shall return one copy of the annotated page control sheets to the operator. In the remaining cases, one copy of the approved material must be returned to the operator with a notification letter that states that the material is approved. This letter should also contain a statement advising the operator to maintain for its records the signed page control sheets or the material with the approval annotation. The PMI shall retain the second copy of the signed page control sheets or the annotated material in the district office files.

d) When electronic checklists are submitted for approval, the operator will prepare a release/cover sheet for the printed version of the electronic checklist. The release/cover sheet will contain the preprinted words and lines.

2) Notify Operator of Disapproval/Stop Approval Process, if Applicable. The coordination, revision, and editing activities that take place throughout all phases of the process should eventually result in approved products. Under certain circumstances, however, it may be appropriate for the PMI to terminate the process. For example, the operator may not take any action on the material for 30 days. To stop the approval process, the PMI shall return the entire submission to the operator with a letter stating that the FAA is unable to grant approval, along with the reasons why it cannot be granted.

3) Complete District Office Records. The PMI shall maintain a record of approval for each operator-submitted document, manual, manual section, and checklist. Records of approval to revisions of this material must also be maintained. The records should consist of page control sheets (or approved material if page control sheets are not used), notification letters, and any other related correspondence. While superseded portions of documents, manuals, or checklists do not have to be retained, PMIs may retain this type of material if they determine that

it is appropriate. The PMI should include with the material in the operator's file a brief memorandum containing the reasons for retaining the material.

F. Notify Operator of Deficiencies. When any portion of approved material that is currently in use is found to be deficient, the PMI shall notify the operator and request prompt action to resolve the deficiency. Deficiencies can usually be resolved through an informal process; however, when this cannot be done, the PMI must formally notify the operator by letter that the deficiency must be corrected.

1) Deficiency Involves FAA-Approved Material. If the deficiency involves FAA-approved material, the letter must contain a clear statement that FAA approval of the material will be withdrawn as of a specific date if corrective action is not taken. The letter should also contain a statement that the material does require FAA approval and that after the specified date, any maintenance without that approval will be in violation of 14 CFR.

2) Deficiency Involves Operator-Developed Material. If the deficiency involves operator-developed material that is accepted by the FAA, the letter should clearly indicate the material that is deficient and the reasons why it is deficient. If after such notification the operator still fails to take appropriate corrective action, the PMI should attempt to negotiate a reasonable solution. When these attempts fail, the PMI may, with regional Flight Standards division (RFSD) approval, amend the operator's maintenance specifications to withdraw the authorization for conducting the maintenance affected by the deficiency.

G. Emergency Revisions. For safety reasons, an operator may sometimes find it necessary to immediately revise FAA-approved material before there is an opportunity to coordinate the revision with the PMI. In such cases, the operator should take action as necessary to make the revision effective (such as alert bulletins and dispatch messages). For example, an operator may become aware of a deficiency after business hours, on a weekend, or on a holiday. In such cases, the operator should take immediate action. When emergency revisions to FAA-approved material are made, the operator shall notify the PMI of the revision at the earliest practical opportunity (preferably the first working day after the action). Since there are a wide variety of reasons that an emergency revision action may be necessary, the PMI must determine the best course of action to be taken after being notified of the emergency revision. It is most important that PIs inform their assigned operators of this guidance.

RESERVED. Paragraphs 3-3288 through 3-3305.