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**SUBJECT: APPROVED MAINTENANCE ORGANIZATION TRAINING PROGRAM**

**DATE: 24/09/2015**

## 1. PURPOSE

1.1.1 This circular provides information on developing the approved maintenance organization employee training program required under CV-CAR 6, categories of training, training program components, and sample training programs.

1.1.2 This circular also provides an acceptable means, but not the only means, of showing compliance with CV-CAR 6.D.110. Neither of the sample programs described in Annexes A and B of this circular need to be used; they only represent a possible way to structure a training program that meets the requirements of the regulations. Each person subject to CV-CAR 6 should develop his/her own program tailored to his/her individual operations. Because this circular contains only guidance on developing a training program, the word “should” used herein applies only to an entity that chooses to follow a particular suggestion without deviation.

*Note: The words “capability” and “competency” is used to describe the knowledge and skills required to properly accomplish assigned tasks. These terms should be considered synonymous for the purposes of the training program and as used in this circular.*

1.1.3 This circular provides information on developing the approved maintenance organization employee training program required under CV-CAR 6.D.110, categories of training, training program components, and sample training programs.

1.1.4 Entities wishing to become certificated under CV-CAR 6, and those CV-CAR 6 approved maintenance organizations certificated should use this circular to develop the training program required by CV-CAR 6.

## 2. REFERENCES

- CV-CAR 6
- ICAO Document 9824/AN450 Human Factors Guidelines.

## 3. BACKGROUND ON APPROVED MAINTENANCE ORGANIZATION TRAINING

### 3.1 GENERAL

3.1.1 There are numerous categories of personnel employed by CV-CAR 6 approved maintenance organizations, with a variety of specialties. Hiring practices vary widely among approved maintenance organizations with some employees having direct relevant experience, certification, and training, while others do not. There are maintenance personnel who work for

temporary placement organizations, which permit approved maintenance organizations to meet peak workload demands. Therefore, all employees that are assigned tasks to perform maintenance (including inspection), preventive maintenance, or alteration must be included in the training program to ensure they are capable of performing the specific assigned tasks of the particular approved maintenance organization.

- 3.1.2 CV-CAR 6 requires each approved maintenance organization to establish a training program for employees who perform maintenance (including inspection), preventive maintenance, or alteration under the authority of the approved maintenance organization's certificate. This training program will enhance aviation safety by ensuring each maintenance employee is fully capable of performing assigned tasks. The AAC understands that approved maintenance organizations vary in size; therefore, it expects each approved maintenance organization to have a training program appropriate to its organization and the work it performs.
- 3.1.3 Approved maintenance organizations performing maintenance or preventive maintenance functions for a CV-CAR 9 certificate holder were required to have a training program to ensure each person who determines the adequacy of the work performed is fully informed about the procedures, techniques, and new equipment in use and is able to perform all associated duties.
- 3.1.4 A maintenance organisation must establish an initial and recurrent training for maintenance personnel and certifying staff. Maintenance personnel and certifying staff shall meet the qualification requirements and receive initial and continuation training to their assigned tasks and responsibilities. The training program established by the AMO shall include training knowledge and skills related to human performance, including co-ordination with other maintenance personnel and flight crew as appropriate.
- 3.1.5 The AMO shall establish the curriculum and standards for training, as well as the pre-qualification standards for the personnel that will attend the training. The Pre-qualifications standards are intended to insure that the trainee has a reasonable chance of successfully completing any of the courses required by the AMO.
- 3.1.6 In assessing the adequacy of the applicant's maintenance programme, the inspector should determine that the scope of maintenance and inspection personnel training is sufficient to ensure performance of maintenance by the applicant, is maintained to a high degree of airworthiness.
- 3.1.7 The level of training required for each individual is a function:
  - (1) Of his or her experience and the complexity
  - (2) Of the work he or she is expected (authorised) to perform. In many cases the work may be complex and require the use of specialised equipment. In such cases, required training may range from on-the-job training to formal classroom training and appropriate examinations. In any case, the programme should provide sufficient training for each individual to competently perform the work authorised.
- 3.1.8 The size and scope of the applicant's proposed operation have no bearing on the need for an effective training programme. All organisations need such a programme; however, a small organisation should not be expected to duplicate all of the facilities provided by a large operator. Training of the certifying staff shall be performed by the AMO/AOC or by an institute selected by the AMO or AOC. In either case, the AMO/AOC shall establish the curriculum and standards for training, as well as pre-qualification standards for the personnel intended for training. Pre-qualification standards are intended to ensure that the trainee has a reasonable chance of successfully completing any course.

3.1.9 Curriculum components. An acceptable curriculum will consist of at least the following elements:

- (1) Subjects, appropriate to ratings requested
- (2) Course content, appropriate to ratings requested
- (3) Objective testing and grading criteria
- (4) Classroom or theory, appropriate to ratings requested
- (5) Total number of hours required for successful completion
- (6) A schedule of required tests, which indicates the sequence of examinations for each subject in the curriculum
- (7) The order of instruction for each subject element.

3.1.10 The training programme shall include details of the number of personnel who will receive initial training to qualify personnel to become certifying staff personnel over specified time periods. If there is any change to the curriculum it will have to be approved by the AAC Inspector, in writing.

## **3.2 REGULATORY REQUIREMENTS**

3.2.1 CV-CAR 6 requires an applicant for certification and current certificated approved maintenance organizations to submit a training program to the AAC for approval. The employee training program approved by the AAC must include initial and recurrent training requirements. The training program must ensure each employee assigned to a maintenance (including inspection), preventive maintenance, and alteration task is capable of performing the work. Upon training program approval by the AAC, the approved maintenance organization will begin following its approved procedures. If an approved maintenance organization accomplishes work for a CV-CAR 9 operator, its program must ensure any employee assigned to tasks for these referenced operators are trained in accordance with that operator's requirements.

## **3.3 MANUAL REQUIREMENTS**

3.3.1 The training program may be documented in the Maintenance Procedure Manual or it may be in a separate manual. If the training program becomes part of the MPM, these procedures should distinguish between handling revisions to the approved training manual section from handling those revisions associated with the non-approved approved maintenance organization manual. The procedures should also include how submitting revisions to the authority will be handled for the different types of manuals. If the training program is contained in a separate manual, that document may include the revision and notification provisions required by section CV-CAR 6.

## **3.4 PROGRAM SCOPE AND COMPLEXITY**

3.4.1 The purpose of the approved maintenance organization's initial and recurrent training program is to ensure approved maintenance organization employees performing maintenance (including inspection); preventive maintenance and alteration are capable of performing assigned tasks as required by section CV-CAR 6.D.110.

- 3.4.2 Each approved maintenance organization’s training program must be based on its individual operation and needs. When developing its training program, each approved maintenance organization should consider its size, ratings, and maintenance tasks associated with positions, and its employees’ experience and skill levels.
- 3.4.3 Each individual employed by an approved maintenance organization should have training based on the tasks associated with the person’s job position. Therefore, each approved maintenance organization should develop procedures for determining the training each employee requires. Also, not all approved maintenance organization employees require the same level of training. To facilitate the development of the training requirements and courses of study, each approved maintenance organization may wish to separate its staff into categories. Those persons that perform maintenance (including inspection), preventive maintenance or alteration tasks must be trained under the provisions of the approved training program required by CV-CAR 6. Other employees may be trained under the CV-CAR 6 training program, but their training should not be considered mandatory under the regulations. The following table shows two examples of types of categories an approved maintenance organization might use:

**Table 1. Example of an approved maintenance organization categories**

<b>Type of Approved maintenance organization</b>	<b>Example of Staffing Categories</b>
Small to medium	(1) Technicians and inspectors that perform maintenance, preventive maintenance, and alteration duties (including inspection). (2) Supervisors that perform maintenance, preventive maintenance, and alteration duties (including inspection). (3) Managers and support staff that perform maintenance, preventive maintenance, and alteration duties (including inspection).
Larger	(1) Technical personnel conducting maintenance, preventive maintenance, and alteration duties (including inspection) with authority for approval for return to service. (2) Technical personnel conducting maintenance, preventive maintenance, and alteration duties (including inspection) without authority for approval for return to service. (3) Inspection personnel. (4) Supervisor personnel that perform maintenance, preventive maintenance, or alteration functions and duties.

- 3.4.4 Each approved maintenance organization’s training program should address:
- (1) Indoctrination (initial and recurrent) training for new and existing employees covering the regulations and the approved maintenance organization’s operations, policies, and procedures (see paragraph 5.2);
  - (2) Initial technical requirements for new and existing employees taking on new tasks to ensure appropriate technical skills training is provided (see paragraph 5.3);
  - (3) Recurrent technical training for specific tasks or functions to ensure currency in existing or added capabilities (see paragraph 5.4);
  - (4) Specialized technical training or advanced training requirements for specific tasks or functions to ensure all employees accomplishing maintenance remain capable of performing assigned tasks (see paragraph 5.5); and

(5) Remedial technical training requirements to correct demonstrated lack of skill or knowledge deficiencies (see paragraph 5.6).

3.4.5 Each approved maintenance organization's training program will vary in the number of courses, content, time requirements, training methods, and sources. One approved maintenance organization may have separate indoctrination courses for technicians, inspectors, managers, and supervisors. Another approved maintenance organization may have only one indoctrination course appropriate for all of its employees, including temporary personnel.

3.4.6 Consistent with its evolving systems safety certification and surveillance process, the AAC may ask the following questions to establish whether the training program meets the requirement for ensuring each employee performing maintenance, preventive maintenance, and/or alteration tasks is being trained or is capable of performing the assignment:

- (1) Is there clear responsibility and authority? Did the approved maintenance organization clearly identify the job title responsible for the different aspects of the training program? Did the approved maintenance organization identify the job title with the authority to propose changes to the approved training manual?
- (2) Are there written procedures? Are the approved maintenance organization's training program policies and procedures written in its training manual or program document?
- (3) Is there a measurement of effectiveness? Is there a method of determining whether the employee is capable of performing assigned tasks?
- (4) Are there controls in place? Does the approved maintenance organization have adequate procedural controls to ensure that all applicable elements of the training program are carried out in specific situations?
- (5) Does the approved maintenance organization identify and describe the interface between the training program and the individuals responsible for task assignments?
- (6) Are there written procedures that require the approved maintenance organization to maintain personnel training records for two years?
- (7) Is the manual identified with applicable contact information such as company name, address, certificate number, telephone, fax, e-mail, etc.?
- (8) Does the control system include a distribution list identifying a particular manual to a person or location?
- (9) Does the manual contain an adequate revision system to allow an easy determination of currency?
- (10) Is there a procedure for submitting revisions to the AAC for approval?
- (11) Does the training program have provisions for initial and recurrent training?
- (12) Are individual training requirements identified and documented?

#### **4. TRAINING PROGRAMME APPROVAL PROCESS**

## 4.1 GENERAL

- 4.1.1 Training curriculum approval follows the five phase general process for approval or acceptance described in this circular. The basic steps of this process must be followed. Each phase, however, may be adjusted to accommodate existing circumstances. Depending on the complexity of the organisation and the availability of AAC resources, the approval/acceptance process may be accomplished in only a few days, or the process may last many months. The approval/acceptance process applies to each organisation requesting approval of a new curriculum or a revision to a currently approved curriculum. Inherent in the approval process is the AAC's responsibility to deny approval of any training which does not meet regulatory requirements or which has been found deficient. Training curricula which have been granted approval and later found either to be in conflict with regulatory requirements or to be ineffective must be appropriately modified by the organisation, or AAC approval must be withdrawn. This circular paragraph establishes procedures for granting approval or withdrawing approval of all or part of a training curriculum.
- 4.1.2 The training approval process discussed in this circular applies only to applicants for an Approved Maintenance Organisation Certificate. CV-CAR 6.D.105 (h) states that maintenance personnel and certifying staff shall meet the qualification requirements and receive initial and continuation training. CV-CAR 6, IS 6.D.105 (r) allows that training may be performed by an outside agency. If this option is used, the AMO establishes the curriculum and standards for training.

## 4.2 INITIATING THE APPROVAL PROCESS – PHASE ONE

- 4.2.1 The training approval process can be initiated by either the AMO or the AAC as follows:
- (1) **AMO Initiated.** The organisation informs the AAC that it is planning to establish a new training curriculum or to change an existing curriculum
  - (2) **AAC Initiated.** The AAC informs an organisation that revisions to its training program are required based on recently acquired information relative to training techniques, aviation technology, operator performance, or regulatory changes.
- 4.2.2 When a proposal is initiated by the AMO, one of the first steps the AAC inspector should take is to obtain the following basic information:
- (1) Type of equipment
  - (2) Proposed training schedules
  - (3) Proposed contract training, if any
  - (4) Facilities to be used

## 4.3 AAC INVOLVEMENT IN PHASE ONE

- 4.3.1 Early in the process, the AAC and the AMO should establish, through discussion, a common understanding of both the regulatory training requirements and the direction and guidance provided in this directive. The AAC inspector and the AMO must examine the entire operation to ensure that any training necessitated by authorisations, or limitations, such as those in the specific operating provisions, deviations, is included in the organisation's training curricula. The training program is the area most affected by operational changes. The Inspector should review

all general requirements in the CV-CAR and in this circular that apply to the proposed operation.

4.3.2 The inspector should be aware of changes to the information initially provided by the organisation. The inspector should discuss with the AMO the sequence and timing of events which occur in the development and the granting of initial and final approval of a training curriculum. If the AMO's proposal involves complex operations, such as ceramic coating or composite repair, the inspector must consult appropriate paragraphs of this circular and other relevant document and be prepared to advise the AMO during this phase. In such a case, the inspector should determine whether assistance from AAC specialist is needed.

4.3.3 The AAC inspector should be prepared to provide advice to an AMO during training curriculum development. During phase one, the operator must be informed of the procedure for requesting initial approval and of the types of additional supporting information that the inspector will require the AMO to submit. An inspector should be prepared to provide guidance to the AMO on the following:

- (1) The general formats and content of curricula, curriculum segments and training modules.
- (2) Courseware
- (3) Facilities
- (4) Qualifications of instructor personnel
- (5) Other areas of the organisation's proposed training program

4.3.4 Early AAC involvement is also important for the following reasons:

- (1) AAC advice and guidance during development of training may provide a useful service to the organisation. This advice may save the AMO and the AAC from unnecessary use of resources. It may also prevent the AMO from submitting a training curriculum proposal that would not be approved/accepted by the AAC
- (2) The inspector can become familiar with the material the AMO intends to submit. This facilitates review of the proposal before the granting of initial approval
- (3) The inspector can begin planning long range needs, such as arranging for the utilisation of AAC specialist to assist in the evaluation of the program's overall effectiveness.

*Note: Early AAC inspector involvement in the development of training programs is appropriate. The AAC inspector must act in an advisory capacity only. The inspector must avoid active participation in the actual training program development. The organisation is responsible for the development of its own training program. The AAC inspector must not assume that responsibility.*

#### **4.4 REQUEST FOR INITIAL APPROVAL – PHASE TWO**

4.4.1 Phase two begins when the AMO submits its training curriculum in writing, for initial approval, to the AAC. The AMO should submit to the AAC an outline of each curriculum segment and any additional relevant supporting information requested by the AAC inspector. These outlines, any additional supporting information, and a letter must be submitted to the AAC. This letter should request AAC approval of the training curriculum. Two copies of each curriculum should be forwarded along with the letter of request to the AAC.

(1) The curriculum may be a section of the MPM.

4.4.2 Each AMO must submit its own specific curriculum segment outlines appropriate for the ratings requested. These outlines may differ from one AMO to another and from one category of training to another in terms of format, detail, and presentation. Each curriculum should be easy to revise and should contain a method for controlling revisions, such as a revision numbering system, if not part of the MPM.

4.4.3 Each curriculum outline must include the following information:

- (1) AMO Name
- (2) Title of curriculum including the category of training, such as indoctrination, or recurrent.
- (3) Consecutive page numbers
- (4) Page revision control dates and revision numbers

4.4.4 Each curriculum must also include the following items, as appropriate:

- (1) Prerequisites prescribed by the CV-CARs or required by the operator for enrolment in the curriculum
- (2) Statements of objectives of the entire curriculum and a statement of the objective of each curriculum segment
- (3) A list of each training device, if required
- (4) An outline of each training module within each curriculum segment (Each module should contain sufficient detail to ensure that the main features of the principal elements or events will be addressed during instruction.)
- (5) Training hours will be applied to each curriculum segment and the total curriculum.
- (6) The checking and qualification modules of the qualification segment used to determine successful course completion.

#### **4.5 ADDITIONAL RELEVANT SUPPORTING INFORMATION - PHASE TWO**

4.5.1 When applying for an Approved Maintenance Organisation Certificate, an AMO must submit any additional relevant supporting information requested by the AAC inspector as supported by CV-CAR 6.D.105 (h). This additional information is necessary for determining whether the proposed training program is feasible and adequately supported. It is information, which would be difficult to include in a curriculum outline format. The type and amount of supporting information will vary depending on the type of training. The inspector must determine the appropriate types of supporting information to be required. This should be limited to information used for determining the proposed training programme's acceptability. The following list of types of relevant supporting information is not all-inclusive, but includes information that is typical.

- (1) A description of facilities is appropriate if the inspector is unfamiliar with the facilities or if the facilities are not readily available for examination.

- (2) A list of instructors and their qualifications may be requested. This information is particularly important if the operator intends to use contract instructors.
- (3) A detailed description of each training device is appropriate when the training device is not readily available for the inspector's examination.
- (4) A detailed description of minimum student qualifications and enrolment prerequisites is appropriate when such prerequisites are not described in detail in the curriculum. Examples of these prerequisites may need to be detailed as supporting information may include, type of airman license, previous training programs, experience with other AMO's and recency of experience. This description may be useful to the inspector when determining whether the proposed amount of detail outlined in training modules and proposed training hours are adequate.
- (5) Copies of training forms and records to be used for recording student progress and the completion of training may be required. This ensures the organisation has planned for the CV-CAR record keeping requirements. This type of supporting information shall be required of applicants for an AMO. It may also be required of an organisation with any significant revision to existing training programs. These forms, records, or computer transmittal worksheets must be designed so that attendance and course completion information is recorded and retrievable for verifying regulatory compliance.
- (6) Supporting information may include samples of courseware, such as training modules/lesson plans and instructor guides. Description of other types of courseware, such as home study, computer based instruction, should be in enough detail to provide an understanding of how the training will be administered and of the proposed instructional delivery method. This information should describe the instructor/student interaction and indicate methods for measuring student learning.

#### **4.6 INITIAL REVIEW OF REQUESTS FOR APPROVAL - PHASE TWO**

- 4.6.1 In phase two the inspector must review the submitted training curriculum and supporting information for completeness, general content, and overall quality. A detailed examination of the documents is not required during phase two. If after initial review, the submission appears to be complete and of acceptable quality or if the deficiencies are immediately brought to the AMO's attention and can be quickly resolved, the inspector may begin the phase three in-depth review. If the submission is determined to be incomplete or obviously unacceptable, the approval process is terminated and the inspector must immediately return the documents (preferably within 5 working days) with a written explanation of the deficiencies. The documents must be immediately returned, so the operator will not erroneously assume the inspector is continuing the process to the next phase. The approval process can be resumed when the revised training curriculum or curriculum segment is resubmitted.
- 4.6.2 An applicant for a certificate in the early stages of certification may be unable to provide all information required for its training program. For example, the applicant may not yet know what training facilities or devices it intends to use. The lack of such information in the formal application does not necessarily indicate that the training curriculum attachment be returned. There should be an understanding between the applicant and the Project Manager (PM) that such parts are missing. The PM may initiate the phase three in-depth reviews without this type of information. Initial approval, however, of a curriculum segment must be withheld until all parts pertinent to the curriculum segment have been examined. For example, it may be appropriate to initially approve a training curriculum segment even though the entire program has not been evaluated and approved. However, effective evaluation of training curricula can

be hampered when excessive number of incomplete segments is permitted. The PM shall either delay initial approval of training curricula or return them to the applicant when excessive numbers of incomplete curriculum segments have been submitted with the formal application.

#### **4.7 IN-DEPTH REVIEW OF SUBMITTED CURRICULA-PHASE THREE**

4.7.1 Phase three is initiated when the AAC begins a detailed analysis and evaluation of a training curriculum or curriculum segment. The purpose of this phase is to determine the acceptability of training curricula for initial approval. This phase ends either with the initial approval or with the rejection of all or part of the training curriculum. To complete an evaluation in a timely manner the inspector may need to involve other AAC personnel early in this phase.

4.7.2 Before granting initial approval for a specific curriculum or curriculum segment, the inspector must ensure that the following evaluations are accomplished:

- (1) A side-by-side examination of the curriculum outline with the appropriate regulations and with the direction provided in this directive must be performed. This examination is to ensure that training will be given in at least the required subjects. It should also ensure that appropriate training would be given on safe operating practices.
- (2) An examination of the courseware developed or being developed by the operator must be performed. This review should include a sampling of available courseware such as training modules and lesson plans, audio – visual programs, procedure documents, and student handouts. The courseware must be consistent with each curriculum outline. From this review, the inspector should be able to determine whether the operator is capable of developing and producing effective training courseware.
- (3) The training hours specified in each curriculum segment outline must be evaluated. An inspector should not attempt to measure the quality or sufficiency of training by the number of training hours alone. This can only be determined by direct observation of training and testing (or checking) in progress. The specified training hours must be realistic in terms of the amount of time it will take to accomplish the training outlined in the curriculum segment so as to achieve the stated training objectives. During the examination of courseware, an inspector should note the times allotted by the organisation for each training module. These times should be realistic in terms of the complexity of the individual training modules. The number of training hours for any particular curriculum segment depends upon many factors. Some of the primary factors are as follows:
  - (a) Regulatory requirements
  - (b) Complexity of the specific aircraft or component
  - (c) Complexity of the type of operation involved
  - (d) Amount of detail that needs to be covered
  - (e) The experience and knowledge level of the students
  - (f) Efficiency and sophistication of the operator's entire training program (including items such as instructor proficiency, training aids, facilities, courseware and the organisation's experience with the aircraft.)

4.7.3 If after completing these evaluations, the inspector determines that the curriculum or curriculum segment is satisfactory and adequately supported, and that the training hours are realistic,

initial approval should be granted. Sometimes a portion of the submittal may appear to be unsatisfactory. However, if that portion is dependent upon another undeveloped portion or another unsatisfactory portion, initial approval must be withheld. For example, the initial training on ultrasonic equipment set-up segment is satisfactory but related training modules within the initial equipment operation training curriculum segment are unsatisfactory. In such a case, it may be inappropriate to grant approval to the initial equipment training curriculum segment until the operation training curriculum segment is determined to be satisfactory.

4.7.4 During phase three of the approval process, the inspector must establish priorities to ensure that, if appropriate, the granting of initial approval is not unnecessarily delayed. These priorities should assure that deficiencies are resolved so that initial approval can be granted before the organisation's planned starting date for training.

#### **4.8 EXPIRATION DATES FOR INITIAL APPROVALS**

4.8.1 When the inspector determines that a training curriculum or curriculum segment should be initially approved, the inspector must also determine an appropriate expiration date for the initial approval. The expiration date is important throughout phase four of the approval process.

*Note: CV-CAR 6.D.110 (a) and (d) requires the operator to obtain "APPROVAL" of training program.*

4.8.2 The initial approval expiration date provides an incentive to the AMO for refining all aspects of the program to assure that this requirement is met. The expiration date also provides the inspector with a time frame to plan evaluation activities for determining the effectiveness of the training. The expiration date assigned to an initially approved training curriculum must not exceed 24 months from the date of initial approval.

4.8.3 The inspector may reduce the expiration date of initial approval, if it is apparent that a 24-month time frame will unnecessarily delay final approval. The inspector should be aware that shortening the initial approval expiration date would commit him/her to completing the final approval phase within a shorter time period. The inspector may grant final approval any time before the expiration date. Except when unforeseen circumstances preclude an adequate evaluation of training effectiveness, an extension to the initial approval expiration date should not be permitted. A new expiration date, however, may be established for a curriculum segment when there are significant revisions to an initially approved curriculum segment.

#### **4.9 METHOD OF GRANTING INITIAL APPROVAL**

4.9.1 Initial approval is granted by letter. Sample letters granting initial approval or denying approvals are included at the end of this circular (figures 1 and 2). The initial approval letter must include at least the following:

- (1) Specific identification of the curricula and/or curriculum segments initially approved, including page numbers and revision control dates.
- (2) A statement that initial approval is granted, including the effective and expiration dates.
- (3) Any specific conditions affecting the initial approval, if applicable.
- (4) A request for advance notice of training schedules so that training may be evaluated.
- (5) If the inspector authorises a reduction in the programmed hours, a statement concerning the basis for the reduction in requirements.

- 4.9.2 An initial letter serves as the primary record of curriculum or curriculum segment pages that are currently effective. In the past, initial approval was stamped on each of a curriculum. If this method is no longer necessary, the inspector and each organisation may agree to use the method to account for revisions to training documents. If this method is used, the stamp must clearly indicate initial approval and the expiration date. Other acceptable methods include a list of effective curriculum or curriculum segment pages or pages with a pre-printed signature and date blocks.
- 4.9.3 The original pages of the curriculum or curriculum segment, shall be returned to the operator with the transmittal letter. These documents should be retained by the organisation as an official record. A copy of the training curriculum or curriculum segment, with a copy of the transmittal letter granting initial approval attached, shall be maintained on file in the AAC office by the inspector during the period that the initial approval is valid. The inspector shall also maintain on file with the curriculum all additional relevant supporting information.

#### **4.10 EVALUATING INITIALLY APPROVED TRAINING CURRICULA – PHASE FOUR**

- 4.10.1 Phase four begins when the organisation starts training under the initially approved curriculum during the Demonstration and Inspection Phase. This phase should provide the AMO with adequate time to test the program and the flexibility to adjust the program during AAC evaluation. The inspector must require an AMO to provide ongoing schedules of all training and checking to be accomplished under an initially approved training curriculum. The inspector must closely monitor training conducted under initial approval. Whenever possible, the first session of training conducted under initial approval should be monitored by the inspector or a qualified maintenance/avionics inspector. The AAC inspector does not need to observe every training session. A sufficient sampling of the training sessions, however, should be observed as a basis for a realistic evaluation. Inspectors qualified in the type of operation, and other individuals knowledgeable of the curriculum subject matter, should assist in evaluating the training. Often adjustments can be made by changing courseware and instructional delivery without (or with only minor) revisions to the initially approved curriculum. Conversely, it may be necessary for the organisation to substantially change the curriculum that may require another initial approval action by the inspector before the changes can be put into effect.
- 4.10.2 As a check on the effectiveness of the applicant's training programme, the inspector should examine, on a random basis, the qualifications of the inspection and maintenance staff to determine recent training received and their ability to perform their authorised work processes in respect of inspections and overhaul, repair and alterations appropriate to their ratings.
- 4.10.3 Sometimes proposed revisions may be transmitted to the inspector just before the initial approval expiration date. If the change is significant, the inspector may need to establish a different expiration date for the curriculum segment, or for the revised portions, to allow adequate time for a proper evaluation.
- 4.10.4 An inspection of training facilities, training devices, and instructional aids must be performed if the inspector is not familiar with the operator's training program capabilities.
- 4.10.5 During phase four, the organisation must demonstrate the ability to effectively train maintenance/avionics inspectors. Each deficiency identified during the evaluation of training conducted under an initially approved curriculum must be discussed with the operator. If the deficiencies are significant, they must be documented and kept on file. In most cases, when the cause of a deficiency has been accurately identified, the organisation will make necessary changes to correct the deficiency to obtain final approval. Each significant deficiency identified

must be immediately corrected. If an organisation does not take corrective action, the inspector shall advise the AMO in writing that initial approval is withdrawn.

#### **4.11 ELEMENTS AVAILABLE FOR EVALUATING TRAINING – PHASE FOUR**

4.11.1 The inspector must develop a plan for a systematically evaluating training given under the initially approved curriculum. This plan should remain in effect throughout the initial approved training curriculum. There are four elements that can be evaluated when assessing the overall effectiveness of training programs. These four elements are:

- (1) Curriculum segment outlines
- (2) Courseware
- (3) Instructional delivery methods and training environment
- (4) Testing and checking

4.11.2 Before evaluating a training program, an inspector must become familiar with the contents of the curricula or curriculum segments to be evaluated. This preparation is essential if an inspector is to determine whether an AMO has developed an effective course of instruction from its initially approved training curriculum.

4.11.3 Direct examination of courseware includes reviewing materials such as training modules, lesson plans and workbooks. The inspector must determine whether the courseware is consistent with the curriculum or curriculum segment and that it has been organised to facilitate effective instructional delivery. Courseware is usually the training program element that is most adaptable to revision or refinement. Inspectors must review at least a sampling of the courseware.

4.11.4 Direct observation of instructional delivery includes surveillance of training methods, such as instructor lectures, computer based instruction presentations, and hands-on demonstration. Effective learning can only occur when an instructor is organised, prepared, and properly uses the courseware and various training aids. The inspector must determine that the instructional delivery is consistent with the courseware. For example, the inspector should note whether the instructor teaches the topics specified in the training module lesson plan. Training aids and devices should function as intended during the instructional delivery. In addition, during training, the inspector should be sensitive to the type of questions being asked by students and should identify the reasons for any excessive repetition. These conditions may indicate ineffective instructional delivery or courseware. The inspector must also determine if the instructional environment is conducive to learning. Distractions, which adversely affect instructional delivery, such as excessive temperatures, extraneous noised, poor lighting, cramped classrooms or workspaces, are deficiencies because they interfere with learning.

4.11.5 Direct observation of testing and checking is an effective method for determining whether learning has occurred. Examining the results of tests, such as oral or written tests provides a quantifiable method for measuring effectiveness. The inspector must examine and determine the causal factors of significant failure trends.

4.11.6 Direct observation of training and checking in progress is an effective method of evaluating training. Sometimes the opportunity for direct observation, however, will be limited. In such cases, if the AMO is using an already established training facility elsewhere, the inspector may rely more on his/her evaluation of other sources of information, such as reports of surveillance

and investigation. A result of inspection reports, enforcement actions, and other indications of training effectiveness and other relevant information about the organisation's performance. The inspector must establish methods to evaluate these sources of information for trends that may develop while training is being conducted under initial approval. For example, repeated reports of deficiencies may be traceable to a lack of specific training or ineffective training. Such information may provide indications that revisions or refinements are needed for a curriculum segment and/or training module.

- (1) **Curriculum Segment Outlines** - Curriculum segment outlines contain the specific training modules and the amount of time allocated for the curriculum segment. The modules must be consistent with regulatory requirements and safe operating practices. This element requires direct examination.
- (2) **Courseware** - Courseware converts curriculum outline information into usable instructional material. Courseware must be consistent with the curriculum outline and be organised to permit effective instructional delivery. It is readily adaptable to adjustments and refinement by the AMO. This element usually requires direct examination.
- (3) **Instructional Delivery Methods And Training Environment** - Instructional delivery methods are used to convey information to the student. Effective learning is maximised if the instructional delivery adheres to and properly uses the courseware. The training environment should be conducive to effective learning. This element requires direct observation.
- (4) **Testing And Checking** - Testing and checking is a method for determining whether learning has occurred. Testing and checking standards are used to determine that a desired level of knowledge and skill has been acquired. Testing and checking also measures the effectiveness of courseware and instructional delivery. This element requires direct observation.

#### **4.12 METHOD FOR GRANTING FINAL APPROVAL – PHASE FIVE**

4.12.1 This phase involves the granting of final approval of an operator's training curriculum. Based on the results of the evaluation, the inspector must determine whether to grant or deny final approval of a training curriculum. This determination must be made before the expiration date of the initial approval. If the inspector decides that final approval should be granted the following procedures apply:

- A. Programs that contain a List of Effective Pages. Final approval of the training curriculum can be granted and documented by the inspector on the List of Effective Pages. This means that the AAC has given final approval of every page of the operator's training curriculum, as listed on that page, but only one AAC approval block must be completed and signed.
  - (1) The stamped page that documents final approval of the training curriculum and/or curriculum segment shall be stamped for approval, dated, and signed by the inspector. The approval stamp that appears on the page should be a facsimile of the stamp that appears in this paragraph.
  - (2) The original curriculum and/or curriculum segment must contain the one page that documents the AAC approval on the List of Effective Pages. The curriculum and/or curriculum segment must be transmitted to the operator with an approval letter signed by the inspector in accordance with this directive.

4.12.2 Programs that do not contain a List of Effective Pages the original and a copy of each page of the training curriculum and/or curriculum segment shall be stamped for approval, dated, and

signed by the inspector. The approval stamp shall appear on each page and have a facsimile of the following stamp:

4.12.3 The original stamped curriculum or curriculum segment must be transmitted to the organisation with an approval letter signed by the inspector. This letter must specifically identify the curriculum or curriculum segment, containing a statement that final approval is granted, and provides the effective date of approval. This letter must also state that final approval shall remain in effect until otherwise notified by the AAC that a revision is necessary in the interest of safety. If the inspector is authorising a reduction in the programmed hours specified by the regulations, the letter must contain a statement the basis for reduction. A copy of the stamped curriculum or curriculum segment, and a copy of the letter must be kept on file in the AAC office.

#### **4.13 WITHDRAWING APPROVAL OF TRAINING CURRICULA**

4.13.1 Before withdrawing approval of an operator's curriculum or curriculum segment, the inspector shall make reasonable efforts to convince the AMO to make the necessary revisions. It is important to understand that withdrawing approval could be detrimental to the AMO's business. The AMO's ability to continue to hold a certificate may be in question if a new curriculum is not submitted for initial approval within a reasonable period of time. A decision to withdraw approval must be based on sound judgement and justifiable safety reasons. When sufficient reasons are established, it is mandatory for the inspector to take immediate action to remove the AAC approval from an ineffective or non-compliant training curriculum. When approval is withdrawn, the inspector must ensure that the operator clearly understands that any further training conducted under an unapproved curriculum is contrary to CV-CAR requirements. Enforcement action must be taken if any company employee who received any further training is used in maintenance conducted as an AMO. The three methods for withdrawing approval of a training curriculum are as follows:

- (1) Allowing an initially approved training curriculum to expire without granting final approval.
- (2) Withdrawing approval of an initially approved curriculum before the expiration date.
- (3) Withdrawing approval of a training curriculum, which has already received final approval, in accordance with the CV-CARs and this circular.

#### **4.14 EXPIRED TRAINING CURRICULA**

4.14.1 A training curriculum granted initial approval has an expiration date. Usually, this date shall not be later than 24 months after the initial approval date. If the inspector does not grant final approval before the expiration date, training under that curriculum must terminate as of that date. Therefore the inspector shall not allow an initially approved curriculum to expire due to the AAC's inability to administratively grant final approval. Final approval may not be granted to an AMO's training curriculum for several reasons.

4.14.2 One reason, for example, may be the operator's inability to achieve an acceptable level of training effectiveness during phase four of the approval process. Another example of a reason for not granting final approval is the discontinued use of the initially approved curriculum.

4.14.3 When the inspector decides not to grant final approval before the expiration date, he/she must notify the operator of this decision in writing, at least 30 days before the expiration date of the initially approved curriculum. An operator not so notified may mistakenly assume that the initial approval will continue in effect until receipt of notification of either final approval or termination. The notification letter should contain the reasons for allowing the curriculum to expire and

should state that any further training under the expired curriculum will not be in compliance with regulatory requirements. An inspector who fails to provide this 30-day notification must establish a new expiration date so appropriate notification can be given to the operator.

## **5. CATEGORIES OF TRAINING AND COURSES OF STUDY**

### **5.1 GENERAL**

5.1.1 As previously mentioned, an approved maintenance organization may divide its initial and recurrent training into the following areas of study for each category of employee:

- (1) Initial, including:
  - (a) Indoctrination
  - (b) Technical training
  - (c) Specialized technical training
- (2) Recurrent.
- (3) Remedial, based on demonstrated need.

### **5.2 INDOCTRINATION (INITIAL AND RECURRENT) TRAINING**

5.2.1 This is core training for all approved maintenance organization personnel. The scope and depth of indoctrination training may vary based on the individual's assigned position. The approved maintenance organization should determine the level of indoctrination training required for each job assignment, through its training needs assessment process described in paragraph 6.2.

5.2.2 The following subjects should be addressed in the training program, regardless of the approved maintenance organization's size or ratings:

- (1) CV-CAR requirements, particularly those associated with the approved maintenance organization maintenance functions and authority as reflected on the certificate and operations specifications.
- (2) Company manuals, policies, procedures, and practices, including quality control processes, particularly those associated with ensuring compliance with maintenance (including inspection), preventive maintenance, and alteration procedures established to show compliance with CV-CAR 6.
- (3) Dangerous goods requirements of 6.D.115, including other national laws requiring training for different categories of employees.
- (4) Maintenance human factors.

*NOTE: Training in maintenance human factors is an essential part of an AAC-approved training program. The approved maintenance organization's submitted training program and any revision thereto must include human factors elements. The human factors training procedures defined in the training program should be related to aviation maintenance, safety-related issues, existing legislation, where relevant, and/or some of the suggested elements below.*

5.2.3 Human factors training related to maintenance practices would provide an additional margin of safety to the repair industry. A human factors training program should be related to maintenance practices where possible. The following are suggested human factors elements for inclusion into a approved maintenance organization training program:

(1) General/introduction to human factors

(2) Statistics

(3) Safety culture/organizational factors

(4) Human error

(5) Types of errors in maintenance task

(6) Human reliability

(7) Human performance and limitation

(8) Vision

(9) Hearing

(10) Stress

(11) Situational awareness

(12) Workload management

(a) Computer systems and software, as applicable to the approved maintenance organization's maintenance (including inspection), preventive maintenance and alteration systems and procedures.

(b) Facility security – must includes company security objectives, specific security procedures, employee responsibilities, actions to take in the event of a security breach, and the organisational security structure.

*NOTE: Some of the subjects listed above do not fall under the direct purview of the authority or the Flight Standards Service; however, the AAC recognizes that companies desire to have one training program for all employees. Approved maintenance organizations are encouraged to distinguish between training required to comply with CV-CAR 6 and other training that will be provided to employees in its training manual or program procedures.*

### **5.3 TECHNICAL TRAINING**

5.3.1 The approved maintenance organization's technical training areas of study may be separate and distinct from indoctrination training and may apply to different categories of employees within a given job position. Technical training requirements should focus on providing employees with the appropriate skill or task training required to properly perform job position assignments.

5.3.2 The approved maintenance organization should have procedures to determine the applicable scope and depth of initial and/or recurrent training based on each job assignment and each employee's experience and capability established by the needs assessment (see paragraph

6.2). The needs assessment is the basis for determining an individual's initial and recurrent training requirements.

5.3.3 When developing the initial or recurrent training courses, the approved maintenance organization may want to take into account that individuals will not have the same training, experience, and skill level. For example, when developing its initial course of study for technicians, a approved maintenance organization may want to have separate programs for:

- (1) Individuals that hold an AMT certificate.
- (2) Individuals with experience performing similar tasks at another approved maintenance organization.
- (3) Individuals with applicable military aviation maintenance experience.
- (4) Individuals with no skills, experience, or knowledge.

5.3.4 An approved maintenance organization may have more than one training course for its employees. For example, initial training for new approved maintenance organization technicians with limited approved maintenance organization experience may include the following in-depth courses:

- (1) Specific job or task training
- (2) Shop safety
- (3) Records and recordkeeping
- (4) Materials and parts
- (5) Test equipment, including ground support equipment
- (6) Tools
- (7) Specific Hazardous Material,
- (8) Maintenance human factors

5.3.5 In contrast, initial training for new technicians with prior approved maintenance organization experience may include a general review of the same subjects as necessary and detailed technical training only for specific job or task assignments. In all events, an individual's specific training requirements should be established based on a needs assessment.

5.3.6 Additionally, whenever new information is introduced on the topics, the initial training requirements for new employees should be updated and existing employees should be provided abbreviated initial training on the new information. Alternatively, the additional information may be imparted to existing employees through the recurrent training requirements.

5.3.7 The time devoted to initial or recurrent training can vary depending on the level of experience of the individual and skills and knowledge associated with the assigned job or tasks. However, the approved maintenance organization should establish a basic minimum standard for all employees in a specific job position, whether through training given by the approved maintenance organization or knowledge acquired through other sources. For example, the approved maintenance organization could establish minimum time requirements for training or alternatively could assess the need for training based upon skills and knowledge testing. In either event, the approved maintenance organization training program must ensure that the employee is capable of properly performing assigned tasks.

## **5.4 RECURRENT TRAINING**

5.4.1 Recurrent maintenance training commonly includes training known as refresher training, to ensure that an approved maintenance organization employee remains capable of properly performing the assigned job. The approved maintenance organization's program should define the terms initial and recurrent and identify the areas of study and/or courses/lessons that will be provided under the two definitions. The definitions should be associated with either the person receiving the training, the training course, or the information being offered. The approved maintenance organization should have procedures to determine the recurrent training requirements for each job assignment or employee. Not all job assignments will have the same recurrent training requirements. The approved maintenance organization may also wish to provide a procedure for determining when training is not required to ensure an employee is capable of performing assigned tasks.

5.4.2 The approved maintenance organization should have procedures to determine the type and frequency of recurrent training for each of its employees through the needs assessment. The approved maintenance organization may define recurrent training that will be provided on a regular basis to address any subject provided in initial training. Alternatively, the approved maintenance organization may provide new information on initial training requirements to existing employees under the recurrent training system. Its program procedures should set forth the two different types of recurrent training:

(1) That which updates the initial training requirements on a one-time basis.

(2) That conducted on a regular basis (refresher training).

5.4.3 Each approved maintenance organization's recurrent training program should differ since it should be based on the approved maintenance organization's needs assessment, which will take into account its size, employees, customers, and complexity of ratings and operations.

## **5.5 SPECIALIZED TRAINING**

5.5.1 The approved maintenance organization should have procedures to identify job assignments that will require special skills or have complexity that would require the development of specialized training to ensure capabilities. Some areas that may require specialized training include flame and/or plasma spray operations, special inspection or test techniques, special machining operations, complex welding operations, aircraft inspection techniques, or complex assembly operations. Individuals who attend specialized training and develop competency in a particular job assignment or task should be able to convey the information to other employees. The approved maintenance organization's training program should address the initial and recurrent training requirements for any task or assignment that it determines requires specialized training.

## **5.6 REMEDIAL TRAINING**

5.6.1 An approved maintenance organization should have procedures to determine an individual's training requirements, including when an employee will be provided remedial training. The approved maintenance organization should use remedial training procedures to rectify an employee's demonstrated lack of knowledge or skill by providing information as soon as possible. In some instances, remedial training may consist of an appropriately knowledgeable person reviewing procedures with an employee through on-the-job training (OJT). Remedial training should be designed to fix an immediate knowledge or skill deficiency and may focus on one individual.

5.6.2 Successful remedial training should show an individual what happened, why it happened, and in a positive manner, how to prevent it from happening again. Remedial training may be included in the approved maintenance organization's definitions of initial or recurrent training requirements.

## 6. TRAINING PROGRAM BASIC COMPONENTS

### 6.1 GENERAL

6.1.1 An effective training program should contain the following elements.

- (1) **Needs Assessments.** The approved maintenance organization should have defined processes for objectively identifying its training requirements and assessing each individual's capabilities.
- (2) **Area of Study and Course Definition.** The training program should include the procedures used to design each area of study, and/or individual classes or lessons. This includes defining the specific purpose and objectives of a given area, any prerequisites, any required lessons, any time requirements, and the desired outcome—gained technical skill or knowledge. The individual courses associated with a particular area of study should include a detailed description of the technical information or skill that will be taught, along with the referenced material, tools, equipment, or procedures that will be used, the methods and sources of training available, instructor qualifications, and method of recording employee accomplishment.
- (3) **Identification of Training Sources and Methods.** The approved maintenance organization should have a method to identify and select the sources and methods of training that will meet the regulations and its training objectives.
- (4) **Measurement of Effectiveness.** To avoid the potential of assigning an unqualified person to maintenance or alteration tasks, the training program may include a process to continually measure the effectiveness of the overall training program and individual training courses.
- (5) **Training Documentation.** The approved maintenance organization must have procedures to document each individual's training to ensure compliance with CV-CAR 6, section 6.D.110 (e). This includes defining the extent of training records and establishing a system for creating, accessing, and retaining training records for 2 years after the training is provided.
- (6) **Interfaces.** The approved maintenance organization should include a description of how its training program interacts with other approved maintenance organization functions, particularly how the capabilities of employees are assessed prior to being assigned maintenance (including inspection), preventive maintenance, and alteration tasks.

6.1.2 Each approved maintenance organization's procedures addressing the suggested elements will vary in terms of complexity and scope to fit the approved maintenance organization's requirements. Ultimately, the training program must ensure each employee performing maintenance (including inspection), preventive maintenance, or alteration duties is capable of performing assigned tasks.

### 6.2 NEEDS ASSESSMENTS

6.2.1 The approved maintenance organization's needs-assessment procedures enable the approved maintenance organization to identify its training requirements based on job positions, duties, and tasks. It also establishes an objective method for determining training standards, assessing the capability of its employees, and establishing training programs for its employees to fill the gap between position/duty/skill/task requirements and employee capabilities. Procedures associated with the approved maintenance organization's needs assessment will be based on its size, employee hiring, assignment and training practices, customer base, and the complexity of its ratings and scope of operations. The approved maintenance organization should establish the basic standard that identifies the individual employee's training needs by assessing the job function and duties against the employee's specific skills and knowledge. Training areas, programs, and lessons can then be assigned to fill any gaps between the skills and knowledge needed for the job tasks and the employee's capabilities.

**6.2.2 Approved maintenance organization Needs Assessment.**

- (1) The program description should include the processes the approved maintenance organization will use to identify its training requirements for ensuring each individual assigned to perform maintenance (including inspection), preventive maintenance, and alterations tasks is capable of performing the job properly. If you are a single employee approved maintenance organization, you must evaluate your capabilities and determine that your current training is adequate or if additional training is necessary to perform the task for which you are rated. The training needs assessment is a method of analyzing the job tasks associated with approved maintenance organization's maintenance and alteration positions. This entails identifying the knowledge and skills required to successfully fill positions that perform maintenance and alteration tasks. In addition, when determining its training requirements, an approved maintenance organization should analyze the nature of its business structure and its customers.
- (2) When identifying overall training needs, the approved maintenance organization should consider:
  - (a) The tasks associated with each position responsible for performing maintenance, preventive maintenance, or alteration.
  - (b) The skills, experience, and training of new and current employees.
  - (c) How assessments will be made of employees being assigned new tasks.
  - (d) The return of an employee to tasks after an extended period.
  - (e) The introduction of new regulations, procedures, equipment, or recordkeeping requirements.
  - (f) Preparing for a change in the nature of basic approved maintenance organization capability.
- (3) The needs assessment reviews the approved maintenance organization's training requirements in the context of its existing staff's capability and tasks associated with specific work assignments. Based on the outcome of its training needs assessment, the approved maintenance organization can develop and revise its areas of study and/or courses. The training needs assessment should identify the requirements for initial and recurrent training. Based on its needs assessment, the approved maintenance organization will determine the type and extent of training needs for the company and for individual employees.

6.2.3 **Employee Needs Assessment.** The approved maintenance organization's procedure should evaluate the current capability of its employees, technical and non-technical. Only those performing maintenance, preventive maintenance, or alteration tasks must be trained under CV-CAR 6; however, the approved maintenance organization may wish to include employees that support or manage technical personnel. The training program should differentiate between

those employees required to be trained under the program and those that will be trained in accordance with the procedures at the approved maintenance organization's discretion. Once a technical employee's capabilities have been assessed, employee specific training needs will be identified. If you are a single employee approved maintenance organization, you must evaluate your capabilities and determine that your current training is adequate or if additional training is necessary to perform the task for which you are rated. Your training accomplishments or certifications should be contained in a training record. The basis of your program would show how you intend to remain current and how you will receive initial and recurrent training in accordance with section 6.D.110(a). These procedures should be documented and form the basis of your specific training program. The AAC recognizes that training programs may vary depending on the size of the approved maintenance organization, its capabilities, and the experience of its employee(s). A portion or all of the training requirements of section 6.D.110 may be met by attending trade or technical society seminars and through on-the-job training. Some of the methods available to evaluate employee capability are listed in the following table.

**Table 1. Capabilities evaluation**

<b>Method for Evaluation Capability</b>	<b>Usefulness of Method</b>
Formal examination	This may include development of formal written test procedures with pass/fail criteria. While it is an effective method for assessing knowledge, it does not necessarily determine whether an individual can apply the knowledge to the assigned tasks.
Certificate	Possessing a certificate may be a prerequisite for some specialized positions, the certification of qualifications or education from a credible source can measure an individual's knowledge. However, it does not necessarily assess the individual's ability to apply that knowledge to assigned tasks.
Completion of a training course	A review of the documentation or instruction provided can be used to establish an individual's knowledge of a subject. Completion of training courses is most useful when there is some verification, through testing or demonstration, that the individual absorbed the course objectives. However, successful completion of a training course does not necessarily translate into the ability to accomplish a task.
Practical (skill) evaluation	A practical evaluation permits the employee to demonstrate skills in a controlled environment that is similar to a situation, or part of a situation, encountered in real life. Such an evaluation might, for example, allow the reviewer to focus on the critical steps in a time-consuming process without actually going through the entire process. This can be an effective way to determine an individual's capability; however, the assessment can depend on the skills of the individual designing the practical evaluation mechanism.
Group exercise	A properly designed group exercise can help demonstrate the understanding of a group that must work together on a project. Where an employee's understanding of his or her role in a larger scheme is important, a group exercise that tests that knowledge in an appropriate context can illuminate who within the group needs assistance and can illuminate human factors elements of the training issue that might be otherwise misunderstood by the students. It can also do so in a manner that lends itself well to immediate remedial training as well as reinforcement of the training given the other members of the group, where properly administered.
On-the-job assessment	These types of assessments should be objectively based and judged by successful accomplishment of specified tasks. This is an effective way to determine an individual's capability; however, the assessment can depend on the skills of the individual accomplishing the assessment unless objective criteria are established.
Oral examination in the working environment	These types of assessments should be objectively based and judged by the proper response to a consistent set of questions. This is an effective way to assess an individual's knowledge and ability to apply that knowledge. It is also a valid method of determining whether an inspector or supervisor is capable of reading, writing, and understanding the English language. However, it can depend on the skills of the individual conducting the examination unless objective criteria are established.

*NOTE: This is a sample list of tools for assessing training success and should not be considered exhaustive. Unique instructional and teaching methods, for example, often give rise to unique evaluation mechanisms. The AAC encourages the use of novel techniques for conducting effective evaluations.*

- (1) When carrying out any assessment of an individual's capabilities, the approved maintenance organization's process should be as objective as possible and structured to produce consistent results. The approved maintenance organization should establish the basic skill level and qualifications for assigned tasks under the job function or position, and then establish objective methods for comparing an individual's capability to those established skill standards. It may be necessary for the approved maintenance organization to use more than one method to adequately assess an individual's capability. The approved maintenance organization should also have procedures to accept prior experience, training, or education to establish an individual's capability. For example, an approved maintenance organization may accept graduation certificates from a Part 3 school or equivalent and/or an A&P certification as acceptable evidence of a basic knowledge and skill level in a particular area. An approved maintenance organization could also have procedures for accepting certificates from previous training by manufacturers or associations, or documented by military records. The approved maintenance organization should have procedures to:
  - (a) Ensure the assessments are objectively based and consistent
  - (b) Ensure the assessment is documented in the individual's training records
  - (c) Ensure the individual conducting the assessment is qualified to evaluate the results of the assessment
  - (d) Monitor the individual to ensure capability of performing the tasks consistently at an acceptable level and assigning recurrent or remedial training as necessary

### **6.3 AREA OF STUDY AND COURSE DEFINITION**

- 6.3.1 Once the approved maintenance organization identifies its training requirements, including the type of training each individual needs, it can define the areas of study it needs, what subjects should be included in each area or what individual course/lesson it is going to make available, and what level of treatment is appropriate, such as introductory or advanced, initial, or recurrent for each course. The development will take into account the needs assessment of the job tasks and the level of experience of the individuals to be trained.
- 6.3.2 The approved maintenance organization can develop its own areas of study or provide acceptable courses or lessons to its employees. If the approved maintenance organization chooses to develop areas of study, each area should include objectives, desired outcome and a list of available courses/lessons.
- 6.3.3 Each course or lesson under an area of study should include, as appropriate, the following:
  - (1) The prerequisites or minimum student qualifications prescribed by the regulations or required by the approved maintenance organization for enrollment in the course, for example, the type of airman certificate, aircraft, product and/or article qualifications, previous training, experience with other operators, and recency of experience requirements.
  - (2) Instructional aids and course materials such as manuals, tooling, and equipment.

- (3) The training methods, sources, and qualified instructors.
- (4) A course outline. The outline should identify any individual lesson or modules.
- (5) Anticipated time of instruction for completion, and/or the knowledge or skill requirements that must be demonstrated to obtain credit for the course/lesson.
- (6) Training forms and records to be used for recording student progress and/or completion.
- (7) Supporting information such as courseware, lesson plans, and instructor guides.

#### **6.4 IDENTIFYING THE TRAINING METHOD**

6.4.1 Once the approved maintenance organization defines its areas of study and individual courses/lessons, it can identify the methods available to deliver the training. There are many methods available to approved maintenance organizations for the development and delivery of training. Most approved maintenance organization training requirements may be accomplished through existing courses conducted in-house, offered by local schools and colleges, or provided by manufacturers or other organizations. To control costs, approved maintenance organizations could share the costs of in-house training with other similarly situated approved maintenance organizations. These approved maintenance organizations may also want to function as a training entity or work with an aviation maintenance technician school (AMTS) to develop courses. AMTS and approved maintenance organizations may enter into reciprocal agreements.

6.4.2 The following is a brief overview of the different training delivery methods currently available:

- (1) **Formal Classroom Instruction.** Training can be provided as a formal course delivered by an instructor in a classroom setting. To ensure the effectiveness of this method of training, the courses should include: an objective; a course outline defining the subjects, topics, and expected outcome; a list of reference and/or course material used; the qualifications of the instructor; and a summary of the knowledge or skill that is to be obtained and the method used to ensure it was absorbed by the employee. The interaction of employees with their instructor is important for the information to be successfully transferred.
- (2) **On the Job Training (OJT).** OJT is knowledge obtained while participating in accomplishing the task under the direction of a qualified person or watching another demonstrate a task or activity and then accomplishing the same action under supervision until satisfactory results are obtained. It is an effective method of training for subject matter and tasks that are difficult to understand if described or for which demonstration of capability is essential to correct completion. Practical skills may also be taught using OJT. To make this method of training most effective, the process for providing the information should be standardized by using, for a particular task, the approved data from the article's maintenance manual, and the referenced tools and/or equipment. The process should document that the employee demonstrated the ability to accomplish the skill or task properly on the requisite OJT record. The same process can then be used to train other employees to the same task, activity, or skill. Even with a very capable instructor, the approved maintenance organization should ensure any OJT is well structured by establishing that the same key elements are included each time.
- (3) **Computer-Based Training (CBT).** Interactive CBT courses can be used to impart knowledge and teach practical skills at the correct pace for each employee. CBT can be accomplished at any location at times that are convenient for each employee. To ensure the effectiveness

of this type of training, the approved maintenance organization should evaluate the information provided against its particular needs.

- (4) Distance Learning. Distance learning applies to situations where the instructor and the employees are not in the same location. It can take the form of mail-based correspondence courses using written, videotaped, or CBT materials; videoconferencing; teleconferencing or a combination of both—sometimes called “virtual” classrooms; or Internet- or intranet-based instruction that allows employees to interact with an instructor or with courseware similar to CBT. The advantage of this training method is that the courses can be tailored to a specific approved maintenance organization’s need and an instructor can respond to individual questions. The disadvantages are that the communications can be misinterpreted because of technical difficulties, and the interaction of an employee may be inhibited.
- (5) Embedded Training. Some equipment, particularly that which uses software for testing or to perform a maintenance function, has training embedded into the process. Incorporating a tutorial or “help” menu are simple examples of how a software program can provide instruction as the user performs a specific task. Embedded training is most useful when:
  - (a) The employee already knows the underlying technical information related to the basic task and needs only to learn the details of the procedure
  - (b) The procedure is straightforward and can be easily understood with a written explanation
  - (c) The media and method in which training is embedded are part of the task or equipment to be learned
  - (d) There is a method to assess the employee’s performance and to record that training has taken place
- (6) Other Methods Include Self-Study, Case Study, and Seminars. These methods of training or acquiring knowledge can be accepted by the approved maintenance organization provided the information gained applies to the job function and skills required to perform the work capably. The approved maintenance organization’s training program should ensure any processes used to impart information could be established by objective standards and requirements. Any class, course, or lesson should have a written objective, identified course material or tools/equipment, and an assessment of whether the knowledge was absorbed by the employee.

6.4.3 An approved maintenance organization should pick the delivery method based on its assessment of the training needs. The approved maintenance organization also should have a method to verify the training delivery technique it chooses is effective for the employee.

## 6.5 TRAINING SOURCES

6.5.1 There are a number of different sources for training, and the approved maintenance organization should have a process for selecting a source that will satisfy its training requirements.

6.5.2 Some common training sources are:

- (1) **Original Equipment Manufacturers (OEM).** OEMs may deliver technical information regarding maintenance or alteration on its articles by formal classroom instruction, OJT, distance learning, embedded technology, or CBT material. OEM instructors may come to

an approved maintenance organization to conduct training on-site or deliver the information during seminars, sessions, or extended study at other locations. OEM training on-site gives the approved maintenance organization the opportunity to share the costs of the training with other local approved maintenance organizations. If the approved maintenance organization selects an OEM course, the approved maintenance organization should ensure its employees have the prerequisite training and/or experience for the course to be most effective. Also, the approved maintenance organization should verify that the area of study, course objective, material, and any instructors assigned by the OEM meet the approved maintenance organization's standards.

- (2) **AMTS.** An AMTS approved under an approved training organisation can be an effective source of training for approved maintenance organizations, particularly for basic knowledge and skills. The training may need to be supplemented by information unique to the approved maintenance organization's tasks and equipment.
- (3) **Operators or Other Approved maintenance organizations.** Operators and other approved maintenance organizations may have training programs they are willing to provide to others by contract. Operators may provide specified approved maintenance organization employees required inspection items and operator's program training. The operator may also provide other general training, such as regulatory requirements.
- (4) **Government Agencies.** Government agencies provide training on occupational safety and health, and hazardous materials recognition and handling. They may also be a source of training related to maintenance human factors and general safety subjects.
- (5) **Trade Associations.** Entities that represent certain segments of the aviation or business community offer training classes on technical and regulatory subjects. Again, the approved maintenance organization must ensure the individual attending the training completed the course and acquired the requisite knowledge required by the particular approved maintenance organization's requirements.
- (6) **Other Sources.** There are a variety of other training sources, which include, but are not limited to, independent seminars, product demonstrations, computer-based instructions, videos, and equipment manufacturers. All sources of information should be viewed as potential training sources. The approved maintenance organization's training program should have a method of incorporating training opportunities to ensure each employee is capable of performing its assigned task.

6.5.3 Regardless of the source of the training, the approved maintenance organization remains responsible for the administration, adequacy, and currency of its training program and for the maintenance of training records.

## 6.6 QUALIFYING INSTRUCTORS

6.6.1 The approved maintenance organization may set basic standards for any instructor, whether an approved maintenance organization employee, someone hired temporarily, or an instructor providing an outside training course/lesson. The approved maintenance organization may have a procedure for evaluating and qualifying instructors. The following should be considered in verifying whether an instructor is appropriate:

- (1) Appropriate background for subject area (such as formal training and/or experience)
- (2) Teaching ability—the ability to impart information on the particular subject matter

## **6.7 MEASURING TRAINING EFFECTIVENESS**

- 6.7.1 To validate that an approved maintenance organization's employees are capable of performing assigned tasks, the training program should have a method to evaluate whether the training has been effective.
- 6.7.2 This measurement has two parts. The first is a measure taken immediately after completion of the training to see if the training objectives have been met and the essential knowledge and skills have been transferred. The second is a measure of effectiveness in the application to the actual tasks. The approved maintenance organization should measure this by evaluating the work and determining that the associated final products produced the learned capability in the actual work environment. The approved maintenance organization may accomplish these objectives through testing upon completion of an area of study or course, or it may require a demonstration of capability by employees during the performance of the task.
- 6.7.3 The approved maintenance organization's process to measure the effectiveness of training should be linked to the process for defining and updating training requirements.
- 6.7.4 The following sources may be used as a tool by the approved maintenance organization to measure training effectiveness:
- (1) Review investigations into problems with the approved maintenance organization's work, as evidenced by complaints of customers and findings of inspectors when a product is to be approved for return to service, or other incidents.
  - (2) Voluntary disclosures with root causes of improper training or a lack of training.
  - (3) Audits that point to weaknesses in an employee's capabilities that can be remedied by the training program.
  - (4) Complaints or suggestions from employees related to accomplishing work assignments or lack of training.
- 6.7.5 When it is determined that a training area, class, or lesson must be adjusted, the approved maintenance organization should have a method of instituting the update and providing the additional information to its employees.

## **6.8 TRAINING DOCUMENTATION**

- 6.8.1 The approved maintenance organization must document the required individual employee training in a format acceptable to the AAC. The capability of each employee depends on training, knowledge, and experience. Consequently, the determination by the approved maintenance organization that an employee is able to perform the maintenance, preventive maintenance, or alteration assignment requires an analysis of the factors that contribute to the employee's capability. The data to accomplish this analysis should be found in the employee's training records if the principles of this circular are followed when the training program is developed.
- 6.8.2 The approved maintenance organization may retain its training records electronically or in hard copy. In either case, the approved maintenance organization should standardize the format and content for the training records based on individual job assignments. Each employee's records should contain at least:
- (1) The employee's name and job position.

- (2) Training requirements as determined by the needs assessment, including requirements for indoctrination (initial and recurrent), and other training required by areas and course titles.
- (3) AAC certificates applicable to the qualifications (i.e., supervisors, RII personnel, and persons approving articles for return to service must be certificated under CV-CAR 6).
- (4) Other certifications, diplomas, and degrees.
- (5) Scope of Authorizations and qualifications (if not covered by CV-CAR 6 certificates).
- (6) Proof of training course completion, if determined applicable to capabilities.
- (7) List of accomplished training, to include enough information to determine whether it is applicable to the employee's capability to perform assigned tasks:
  - (a) Course title or description
  - (b) Course objective
  - (c) Date completed
  - (d) Test results
  - (e) Total hours of training
  - (f) Location of training
  - (g) Name of instructor and/or instructor qualifications
  - (h) Signature of employee
- (8) Other documentation relevant to determining capability to perform tasks associated with assigned duties, such as past employment, written, oral and practical tests results, etc.

6.8.3 All records that are required by the training program to determine whether an employee is capable of performing assigned tasks, as well as those that document training conducted by the approved maintenance organization, should be considered those required by CV-CAR 6. Therefore, these records should be detailed in the training program and retained for a minimum of 2 years. The approved maintenance organization is encouraged to have procedures to regularly review all training records to ensure they comply with the requirements set forth in the training program manual.

## **6.9 INTERFACES WITH THE TRAINING PROGRAM**

6.9.1 Section 6.D.110 (c) requires that the approved maintenance organization ensure that all of its employees performing maintenance (including inspection), preventive maintenance, or alteration tasks are capable of properly accomplishing that work. One of the measures for determining capability is the training an employee receives. When supervisors or managers assign tasks, they should have a procedure to verify the individual assigned has demonstrated the knowledge and skills necessary to properly accomplish the work. Consequently, the approved maintenance organization should clearly define the interfaces between the employee's individual capabilities, the training records, and the maintenance planning process in its description of the training program.



## **ANNEX A - SAMPLE TRAINING PROGRAM LARGE/MEDIUM APPROVED MAINTENANCE ORGANIZATION**

### **INTRODUCTION**

This annex provides a sample approved maintenance organization training program for a large/medium size approved maintenance organization performing work for air carriers or commercial operators under CV-CAR 9. This example is consistent with the guidance provided in this circular. This annex also provides a sample training plan. The authority must approve each training program. An approved maintenance organization is not required to follow this sample to have its training program approved. Individual approved maintenance organization training programs may require different or additional information. Each program should be tailored to fit the size and complexity of the approved maintenance organization. A large, complex approved maintenance organization may have considerably more detail in its program description. This sample program emphasizes the process, procedures, and standards that an approved maintenance organization should use to ensure compliance with the regulations. It does not set minimum limits or describe the details of the areas of study, courses, course outlines, or instructor qualifications.

In addition, the circular provides some information to help the approved maintenance organization develop its training program that may not be included in the approved maintenance organization's written training program manual. The following sample training program contains notes for areas in which approved maintenance organizations should provide further information.

### **SAMPLE TRAINING PROGRAM MANUAL**

*NOTE: The following example is for a large/medium size approved maintenance organization doing business as ABC. ABC has a training department and director of training who reports directly to the accountable manager.*

### **INTRODUCTION TO THE TRAINING PROGRAM**

This training program manual contains the policies and procedures ABC uses to determine its training requirements and to develop its training program. The training program ensures each approved maintenance organization employee has the knowledge and skills to capably perform assigned maintenance, preventive maintenance, and alteration tasks. The training program contents in this manual ensure ABC can respond to its employees' changing training needs.

This manual sets forth the procedures for ABC to identify its training needs in a systematic manner, develop training and/or identify appropriate existing training, select the training methods, provide training, record training accomplishment, and measure the effectiveness of its training program.

ABC controls this document in accordance with the procedures for document control described in its Approved maintenance organization Manual (RSM). A copy of this document and all revisions are provided to AAC.. The procedures for revising this document and submitting revisions to the AAC for approval are described in this document and in the ABC RSM.

ABC uses a closed loop system to ensure that the training requirements for the company and employees are identified, training standards are established, training is provided, and the training program is revised as necessary. ABC's training program consists of the following basic components:

- A training needs assessment to identify ABC's overall training needs and individual employee training needs
- The method for defining areas of study and/or courses/lessons made available to employees
- The method for identifying training sources and methods available to employees for the areas of study, courses, and/or lessons
- The method of documenting employee qualifications and training

- The methods used to measure the effectiveness of the training program and to make changes as necessary

The director of training is responsible for ensuring ABC complies with all of the components of its training program.

The accountable manager (general manager) has the overall authority for ABC's training program. Any changes to the training program will be coordinated with the accountable manager.

## **SECTION 1. BACKGROUND**

Persons performing maintenance (including inspections), preventive maintenance, and alteration must be assessed and trained in accordance with the Federal Aviation Administration (AAC)-approved procedures set forth in this manual. All other employees may be trained in accordance with the approved procedures of this manual at management discretion.

ABC has an established training program that includes indoctrination (initial, recurrent), specialized, and remedial training areas of study for all of its employees. ABC has separate areas of study for the following staffing categories:

- Technicians and other individuals performing maintenance, preventive maintenance, or alteration tasks such as:
  - inspectors
  - supervisors
  - managers
- Support staff

ABC further breaks down the training requirements for each staffing category based on job function requirements and experience levels. ABC has established minimum training standards for its job positions and methods to assess an individual's skill level for each job function to determine training requirements.

The procedures in this manual enable ABC to revise its existing training program to ensure it continues to meet ABC's needs and produce training consistent with all regulatory requirements.

## **SECTION 2. TRAINING NEEDS ASSESSMENT**

ABC's needs assessment is a two-part process that determines ABC's overall training requirements, as well as individual employee training requirements.

### **1. Overall Approved maintenance organization Needs.**

To determine its overall training requirements, the Director of Training and the managers of each technical area must review ABC's operations specifications; capability list; job position duties and responsibilities listed in the approved maintenance organization quality manual; technical job functions and tasks; customer requirements; past, current, and expected scope of work; employment procedures for hiring; and current employee experience levels.

This needs-assessment will result in a description of the knowledge and skill standards for each defined job position or function.

Employees will then be assessed against the standard established for the position and tasks assigned. If it is determined that an employee does not possess the capability to perform a maintenance (including inspection), preventive maintenance, or alteration task, appropriate training will be administered.

The areas of study, individual courses/lessons, and instructors are developed or qualified in accordance with section 3.

ABC continuously evaluates its overall approved maintenance organization training needs. However, ABC will specifically revise the training program when:

- It identifies additional training needs
- Changes to its ratings, facilities, equipment, or work scope require additional training areas, classes, or lessons

#### **a. Identification of Training Needs.**

ABC may identify additional training needs through:

- The needs assessment outlined in this manual
- AAC or other external agency oversight findings
- Investigations that lead to voluntary disclosures
- Routine or special quality assurance audits
- Findings from the ABC Internal Evaluation Program
- Feedback from employees
- The results from audits related to maintenance human factors

The Director of Training ensures the Training Department regularly reviews the results and reports for additional training needs.

*NOTE: The approved maintenance organization should set forth its method for accomplishing the review and for identifying potential training needs.*

#### **b. Changes to Approved maintenance organization Work Scope.**

Whenever ABC is planning to change its facilities, equipment, or scope of work as reflected in its ops specs or capability list, it will conduct a review of its current training program. The need for additional training will be based on an analysis of the new work to be performed, the capability of employees, and the availability of in-house training.

Appropriate changes will be made to initial, recurrent, and specialized training areas of study, including existing courses or the addition of new courses, positions, and individuals requiring the training, and when the new training needs to be implemented and completed.

#### **c. Annual Training Program Review.**

An annual review of the training program will verify if ABC has made any changes that might affect training and will analyze the measures of training effectiveness.

As a part of this annual review, ABC will analyze its job position duty and task assignments, its employee experience levels, and the method of delivery for various courses, new training techniques, or commercially available courses. It will make any changes that are required to ensure employees are capable of performing assigned tasks in accordance with the procedures set forth in their manual.

*NOTE: The approved maintenance organization should set forth its method of documenting the annual review and for ensuring any changes to the training program are accomplished.*

## **2. Individual Needs Assessment.**

ABC has established skill levels and qualifications for each job position based upon technical functions and tasks. In addition, ABC has developed methods to evaluate an individual to determine what knowledge, experience, or training establishes capability to properly perform the work.

Whenever ABC hires a new employee or transfers an employee to a new job position, the employee's new supervisor will assess the individual's skill level and qualifications against the requirements for the assigned functions or tasks. The supervisor and the Training Department determine what training is necessary and ensure the individual's training record is updated to reflect the assessment and training requirements. The supervisor will also work with the Training Department to ensure the individual receives the necessary training in the appropriate timeframe.

### **SECTION 3. COURSE DEFINITION**

The Training Department will develop and revise areas of study, courses, and/or lessons based on the results of a training needs assessment.

1. An Area of Study will be developed to identify the entire scope of training available for a broad area of knowledge and skill requirements. It will include the appropriate number and level of courses or lessons to accomplish the defined objective. The areas of study will define the initial and recurrent requirements for the associated courses and lessons.

Initial training will be provided to an employee for the first time.

Recurrent training will be information that supports, expands, or refreshes initial training areas of study, courses/lessons, or other requirements.

Remedial training will be assigned to ensure an employee who lacks demonstrated knowledge and has been provided the information necessary to accomplish assigned maintenance or alteration tasks properly.

- a. Total required course of study hours or performance outcome.
- b. Staffing category.
- c. Job function.

2. All Courses/Lessons shall be recorded by developing the following information as necessary to capture the required knowledge or skill.

- Course/Lesson Title
- Objectives
- Prerequisites
- Course outline
- Required hours or performance outcome for each topic or lesson
- Training material including handouts, regulations, manuals, tools, or equipment used
- Training source(s)
- Training method(s)
- Instructor(s)
- Instructor qualifications
- Method(s) of evaluation
- Other supporting information, as available such as instructor guides and courseware

The information required by this Section shall be developed for all areas of study and/or courses/lessons made available to employees. This includes training provided by the on-the-job methodology.

The information on courses and lessons from outside sources will be evaluated to ensure the availability of enough information to determine its capability to impart the information required by the approved maintenance organization's needs assessment for the company or for the particular employee.

### **SECTION 4. SELECTION OF TRAINING METHODS AND SOURCES**

Using the information developed during the course definition phase, ABC will evaluate training method(s), source(s), and instructor(s) to determine whether the appropriate and necessary knowledge or skill will be transferred to employees.

### **1. Training Methods.**

The material to be presented, the level of personnel receiving the training, and alternatives available will be used to establish training methods for areas of study and/or courses/lessons. ABC uses various methods to train its employees including:

- Formal classroom training
- On-the-job training (OJT)
- Self study
- Case study
- Computer-based training (CBT)
- Distance learning
- Embedded training
- External classes and courses

The company will use all available resources to provide the appropriate training. Many areas of study, courses, and lessons will be provided by more than one method. All methods will have a documented method of determining the amount of information that must be exchanged. Generally, this will be accomplished by completing the information required by Section 3 of this training manual. However, the validity of any particular method can be established by an evaluation of the employee's capabilities.

### **2. Training Sources.**

Sources available for training will be continually monitored to ensure ABC is aware of its alternatives. When a new or revised training need is identified, the available options will be reviewed. This process may include consultation with the AAC PI, other approved maintenance organizations, manufacturers, and local colleges for available training.

If the training will be conducted by an outside vendor, an audit will be conducted to ensure it provides appropriate information. The audit may include an observation of training, a review of course outlines and materials, contact with previous training customers, and a review of instructor qualifications and experience. The extent of the audit will be based on an informal risk assessment related to the criticality of the training and the ability of the approved maintenance organization to assess the information imparted.

*NOTE: The approved maintenance organization should set forth its method of tracking audits.*

### **3. Training Instructors.**

Instructors shall be qualified based upon subject matter knowledge and teaching ability. Subject matter expertise may be established by experience, demonstrated knowledge, and/or certification. The ability to impart information can be determined by observation, demonstration, or experience. The evaluation of in-house instructors shall be documented in the course description.

## **SECTION 5. TRAINING DOCUMENTATION**

The director of training is responsible for establishing the standards for the creation and retention of training records for all ABC employees that perform maintenance (including inspection), preventive maintenance, and alteration tasks. The company maintains an electronic summary of all training provided. Each electronic report includes the employee's name and job function, the needs assessment findings, a list of AAC certifications, other applicable certifications and degrees, ABC qualifications and authorizations (such as required inspection items (RII) for a given customer), and for

each course completed, the total time credited, the date provided, the instructor, the location, and the results of any associated examination. ABC will make the training records of employees performing maintenance (including inspection), preventive maintenance, and alteration tasks available to the AAC for review upon request.

The company maintains the individual training records for as long as an employee is employed at ABC and for two years thereafter.

## **SECTION 6. MEASUREMENT OF TRAINING EFFECTIVENESS**

The training department will regularly evaluate each course for its content, time, quality of the training materials (courseware), training facilities, and instructor. This is accomplished through observation, examination results, and feedback.

The director of training will coordinate with the quality department to ensure ABC audits outside training vendors and in-house training courses. The quality manager will ensure the director of training is provided the results of these evaluations. The director of training will work with the quality manager to resolve any discrepancies.

The director of training will ensure the training program is reviewed on an annual basis as described in section 2, paragraph 1c.

During the course design, ABC developed a method to evaluate each employee's performance. This could include written or oral examinations or manipulative skill tests. The training department will analyze the results of all course examinations to determine if any changes are required to establish a basis for determining whether the course met its objectives and provided the information necessary to ensure the employee was capable of performing assigned tasks.

## **SECTION 7. REVISION PROCESS**

The process for submitting changes is described in ABC's RSM.

*NOTE: Alternatively if the approved maintenance organization wishes this training program to stand on its own, it may describe the method for changing this approved program in this section.*

## **SECTION 8. WORK PERFORMED FOR CV CAR PART 9 OPERATORS**

ABC performs work for CVAR Part 9 operators. Individual operator training requirements (initial, recurrent, or specialized) are identified for each job function. The director of training will work with each operator to schedule ABC employees for operator training, as determined during the individual's needs assessment.

## **SECTION 9. WORK PERFORMED BY INTERIM MAINTENANCE EMPLOYEES**

During periods of heavy workload, ABC may supplement its workforce with interim maintenance employees. Before these individuals begin work for ABC, they must undergo a needs assessment. The training department must coordinate with the manager of the area where the individuals will work to conduct the needs assessment and ensure all individuals are provided training appropriate to the particular assignment before they are required to begin work.

The training department must make and retain training records for all individuals performing maintenance (including inspection), preventive maintenance, and alteration tasks.

## **ANNEX B - SAMPLE TRAINING PROGRAM SMALL APPROVED MAINTENANCE ORGANIZATION (UNDER 10 EMPLOYEES) THAT PERFORMS WORK SOLELY FOR CV-CAR 9 OWNER/OPERATORS**

### **INTRODUCTION**

This annex provides an example of an approved maintenance organization training program for a small approved maintenance organization (under 10 employees performing maintenance (including inspection), preventive maintenance, or alteration tasks) that performs maintenance for general aviation or business operations under CV-CAR 9. It anticipates that the approved maintenance organization will have low employee turnover and that the work being performed is consistent with the experience of the current employees. Each training program, such as the example shown in this annex, must be approved by the authority in accordance with CV-CAR 6.

An approved maintenance organization is not required to follow this sample for AAC approval. Individual training programs may require additional information. Each program should be tailored to fit the size and complexity of the approved maintenance organization. This sample program emphasizes the process, procedures, and standards that any approved maintenance organization could use, and illustrates how all of these processes can be compatible with even a very small approved maintenance organization. The following sample training program contains notes for areas in which approved maintenance organizations should provide further information.

### **SAMPLE TRAINING PROGRAM MANUAL**

*NOTE: The following example is for a very small approved maintenance organization doing business as "ABC." ABC has a manager who also serves as the chief inspector and the accountable manager. He also accomplishes basic maintenance work as necessary. In addition, there are two technicians and one support person.*

### **INTRODUCTION TO THE TRAINING PROGRAM**

This training program document contains the policies and procedures ABC uses to determine its training requirements and develop its AAC approved training program. ABC is responsible for ensuring each approved maintenance organization employee performing maintenance (including inspection), preventive maintenance, and alteration is capable of performing assigned tasks. This plan identifies the procedures for ABC to identify an employee's training needs in a systematic manner, develop training and/or identify appropriate existing training, select the training methods, provide training, and record the training accomplished.

ABC controls this document in accordance with the procedures for document and revision control described in its RSM. A copy of this document and all revisions are provided to AAC..

ABC's training program consists of the following basic components:

- Assessment of training needs, to identify overall training needs and individual employee training needs
  - Course definition to define specific courses of study and individual courses
  - Identification of training sources and methods to identify options and select how ABC will provide the training
  - Documentation of training to ensure all employees' training is documented, and records are retained

### **SECTION 1. BACKGROUND**

ABC has an established training program that includes indoctrination (initial and recurrent), specialized, and remedial training for employees performing maintenance (including inspection), preventive maintenance, and alteration tasks. The procedures in this manual enable ABC to revise its existing training program to ensure it meets ABC's needs and produces training consistent with all regulatory requirements.

All of the information pertaining to the current training records is available for review by the principal maintenance inspector (PI) at ABC's facilities.

## **SECTION 2. TRAINING NEEDS ASSESSMENT**

ABC's needs assessment is a two-part process that includes determining the overall training requirements as well as individual employee training requirements.

### **1. Overall Approved maintenance organization Needs Assessment.**

To determine its overall training requirements, ABC will review the types of work being performed and planned, and identify and update the types of knowledge and skills that the approved maintenance organization needs. This will include reviewing such items as the ABC operations specifications; capability list; customer requirements; expected scope of work; and the relevant experience of each technician that will be assigned to perform maintenance, preventive maintenance, or alteration tasks.

This general needs assessment will result in a description of the knowledge and skill an employee must have to properly perform the tasks associated with the work assignment.

The results are recorded in a brief summary report establishing the type and level of training required for an indoctrination to company procedures if there is a new employee, initial training for a new type of equipment ABC will maintain or alter, and an appropriate level of recurrent training for the different responsibilities of the technical and support personnel. These basic training goals are documented in the training program files, but do not require AAC approval.

ABC reviews overall training requirements and the requirements of specific individuals in relation to specific tasks to be performed. ABC will provide training to employees:

- When individual employee knowledge or skill deficiencies are identified; or
- When significant changes are made to its work scope, or such changes are planned such that the knowledge, skills, or experience render the employee unable to perform work properly such as:
  - New regulatory requirements are introduced
  - New tools, equipment, or skills are required to perform the work properly
  - Work is going to be performed for an air carrier or commercial operator under CVCAR 8 or 9

#### **a. Identification of Capability Deficiencies.**

ABC may identify individual capability deficiencies through:

- AAC or other external agency oversight findings
- Investigations that lead to voluntary disclosures

The accountable manager ensures the above programs are regularly reviewed to determine if any training deficiencies exist. The accountable manager will decide on the appropriate training after consulting with all of the technical staff. The accountable manager will also be responsible for ensuring that the work performed by the individual requiring additional training will not affect the quality of ABC's work until the required training is successfully completed. This can be accomplished through additional supervision or by changing work assignment.

#### **b. Changes to Approved maintenance organization Work Scope**

Whenever ABC is planning to change its facilities, equipment, or scope of work as reflected in its OpsSpecs or capability list, the accountable manager must ensure the employees are capable of performing the maintenance (including inspection), preventive maintenance, or alteration tasks or that training needs have been identified and met. For changes to ABC's capability list, the accountable manager will review the results of the self-evaluation (required by CV-CAR 6, sections 6.E.115(c) and 6.E105 (d)(19) and identify if changes in training needs are required.

### **2. Individual Needs Assessment**

Whenever ABC hires a new employee or transfers an employee to a new task assignment, an assessment of the individual's skill level and qualifications will be documented. ABC may accept previous employer training records or certifications, use a formal written examination, an on-the-job assessment, or other appropriate means to determine if any training is required to perform the assigned tasks.

### **SECTION 3. COURSE DEFINITION**

The accountable manager (or technical staff delegated by the accountable manager) will outline training requirements for the company and/or for the individual, based on the results of a training needs assessment.

While defining the course or lesson, the following information should be documented, as appropriate:

- Objectives and/or required performance outcome—define the knowledge or skill obtained or to be obtained from the course or lesson
- Prerequisites—define any knowledge, skill, course, or lesson that needs to be known before the course or lesson can be given
- Training sources—define any and all training sources available to the approved maintenance organization for the course or lesson
- Training methods—define any and all training methods that can be, will be, or were used to impart the information
- Instructor qualifications—define the knowledge or skill level of the in-house instructor or the qualifications of the instructor that provided the information (if known)
- Other supporting information, such as instructor guides, course material, tools, equipment, or any other aid or information provided during the instruction

Documentation associated with any training accepted or given by the approved maintenance organization shall be retained in the training program files or in the file of the individual employee assigned to perform maintenance (including inspection), preventive maintenance, or alterations under the approved maintenance organization's CV-CAR 6 approved maintenance organization certificate. Training will be provided on an initial and recurrent basis as required to ensure all employees

performing maintenance (including inspection), preventive maintenance, and alteration tasks are capable of performing assignments.

#### **SECTION 4. TRAINING METHODS AND SOURCES**

ABC Company will use all training sources and methods available to provide employees with the information necessary for them to perform assigned maintenance (including inspection), preventive maintenance, and alterations tasks correctly.

The majority of the training provided by this approved maintenance organization will use on-the-job (OJT) methodology. The information required by section 3 will be developed for each lesson to ensure consistency among training providers.

#### **SECTION 5. TRAINING DOCUMENTATION**

The accountable manager will ensure training records are generated and maintained for all ABC employees that establish each individual is capable of performing the maintenance (including inspection), preventive maintenance, and alteration tasks assigned. The records include AAC certifications, other applicable certifications and degrees, ABC or customer qualifications and authorizations, and for each course completed, the total time credited, the date, the instructor, the location, and the results of any associated examination.

All documents showing proof of any of the aforementioned training are maintained for as long as an individual is an ABC employee and for two years thereafter.

Any employee may review their training records to verify that they are complete and current. If an employee notes a discrepancy in the training record documentation, that employee will inform the accountable manager of the discrepancy. Any change necessary to update an employee's training record must be approved by the accountable manager.

#### **SECTION 6. REVISION PROCESS**

The process for submitting changes to the training program for AAC approval is described in ABC's RSM.

*NOTE: Alternatively if the approved maintenance organization wishes this training program to stand on its own, it may describe the method for changing this approved program in this section.*

#### **SECTION 7. WORK PERFORMED FOR CV-CAR 9 OPERATORS**

ABC performs work for CVAR Part 9 operators. Before ABC would perform maintenance (including inspection), preventive maintenance, or alteration under its CV-CAR 6 certificate for an air carrier or commercial operator it would conduct a training needs assessment in accordance with section 2, paragraph 1, to determine if additional capabilities were needed for its employees.

#### **SECTION 8. WORK PERFORMED BY INTERIM MAINTENANCE EMPLOYEES**

During periods of heavy workload, ABC may supplement its workforce with interim maintenance employees. Before these individuals begin work for ABC, they must undergo a needs assessment. The accountable manager must determine where the individuals will work to conduct the needs assessment and ensure all individuals are provided training appropriate to the particular assignment before they are required to begin work.