U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
National Policy

ORDER 8100.7D

Effective Date:
4/16/2010

SUBJ: Aircraft Certification Systems Evaluation Program

This order provides guidance and assigns responsibility for the implementation of the Aircraft Certification Systems Evaluation Program. This program uses Federal Aviation Administration (FAA) engineering, flight test, and manufacturing inspection personnel to evaluate FAA-approved type design after initial approval by the FAA at production approval holders (PAH) and associated facilities.

This order has been organized into two functional components. The first consists of chapters 1 through 5, which describe the Aircraft Certification Systems Evaluation Program (ACSEP) evaluation process, including the pre- and post-evaluation activities and the certification management information system. The second consists of appendixes A through L, which describe ACSEP documentation and reporting activities.

for Dorenda D. Baker
Director, Aircraft Certification Service

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Chapter 1. General

1-1. Purpose of This Order.

a. This order establishes and describes the Federal Aviation Administration (FAA) Aircraft Certification Systems Evaluation Program (ACSEP). This program, an element of certificate management, is a vital element within the FAA's mission of continued operational safety and is excluded from the Department of Transportation's plan to reduce internal regulations by 50 percent. FAA Order 8120.2, Production Approval and Certificate Management Procedures, defines the entire certificate management program. However, there are processes in this order that are automated in the Certificate Management Information System (CMIS) program. All of these processes must be performed within CMIS. Other evaluations, audits, or inspections may be required in accordance with directorate or headquarters directives. The ACSEP is a comprehensive evaluation program that accomplishes the following:

(1) Applies standardized systems evaluation to the continued integrity of the design data after initial approval by the FAA at production approval holders (PAH) and associate facilities. The ACSEP does not reevaluate the approval of previously approved data such as quality manuals and design data.

(2) Ascertains whether PAHs and associate facilities meet the applicable requirements of Title 14, Code of Federal Regulations (14 CFR) and comply with procedures established to meet those requirements.

(3) Surveys the application of standardized evaluation criteria not required by 14 CFR or FAA-approved data to identify national trends that may require development of new or revised regulations, policy, and guidance.

(4) Provides customer focus through the establishment of a database for analyzing evaluation results and for reporting trends in continued operational safety upon which FAA customers may act.

(5) Provides continuous improvement for the FAA by continually evaluating lessons learned and customer feedback reports, and considering proposed improvements by FAA internal and external customers.

(6) Provides for employee involvement by establishing and maintaining a professional staff of trained evaluators composed of aviation safety inspectors, aerospace engineers, flight test engineers, and flight test pilots.

b. As some evaluation processes in CMIS are automated, there may be differences in CMIS processes and the stated manual processes defined in this order. Where this is the case, the automated process in CMIS takes precedence over the manual process stated in this order.

1-2. Audience. All FAA employees who participate in ACSEP evaluations conducted at a PAH and its associate facilities as part of the certificate management process.

1-3. Where Can I Find This Order. You can find this order at http://www.faa.gov/regulations_policies/orders_notices/

1-4. Cancellation. FAA Order 8100.7C, Aircraft Certification Systems Evaluation Program, dated October 12, 2005, and all associated changes are canceled.

1-5. Explanation of Policy Changes. This revision—

a. Revises the narrative portion of the order to reflect the current references and terminology pertaining to the Risk-Based Resource Targeting practice.

b. Revises the narrative portion of the order to reflect the current scheduling and CMIS coordination activities, and reidentifies paragraphs/subparagraphs, as necessary.

c. Removes the paragraph entitled AIR Joint Scheduling Committee (previously identified as paragraph 35) in its entirety.

d. Revises the paragraph entitled Evaluation of System Elements (previously identified as paragraph 55d(2)) to update the method of recording the review of supplier audit reports.

e. Revises the system element description in appendix D, section 6, paragraph 1b, of the order to update the method of recording the review of supplier audit reports.

f. Revises and reidentifies the narrative portion of the order, as necessary, to reflect current formatting and plain language techniques.

Chapter 2. ACSEP Evaluator Appointment and Training

2-1. General. The appointing officials designated in paragraph 2-2 will select ACSEP evaluator candidates who have attained a specified level of experience, or a combination of experience and education, as engineers, flight test pilots, or aviation safety inspectors, and who have demonstrated technical knowledge and skills. A candidate will receive formal classroom ACSEP evaluation training and serve as an evaluator-in-training during ACSEP evaluations under the direct supervision of an appointed ACSEP team leader, before appointment as an ACSEP evaluation team member. Before appointment, a candidate for evaluation team leader will have participated in ACSEP evaluations as an appointed team member and will perform as a team leader-in-training under the direct supervision of an appointed ACSEP team leader.

2-2. Appointing Officials. The following directorate and headquarters managers are authorized to select ACSEP evaluator candidates and to appoint qualified candidates as ACSEP team members or team leaders within their respective organizations:

a. ACO managers and ACO branch managers.

b. Manufacturing inspection office (MIO), MIDO, and CMO managers.

c. Directorate Standards Staff managers.

d. AIR-100 Branch managers.

e. AIR-200 Branch managers.

2-3. Criteria for Candidate Selection. The appointing official will select engineering, flight test or aviation safety inspector candidates on the basis of the following criteria (see figure 2-1):

a. Candidates have attained at least one of the following specified levels of experience or a combination of experience and education in their specific disciplines:

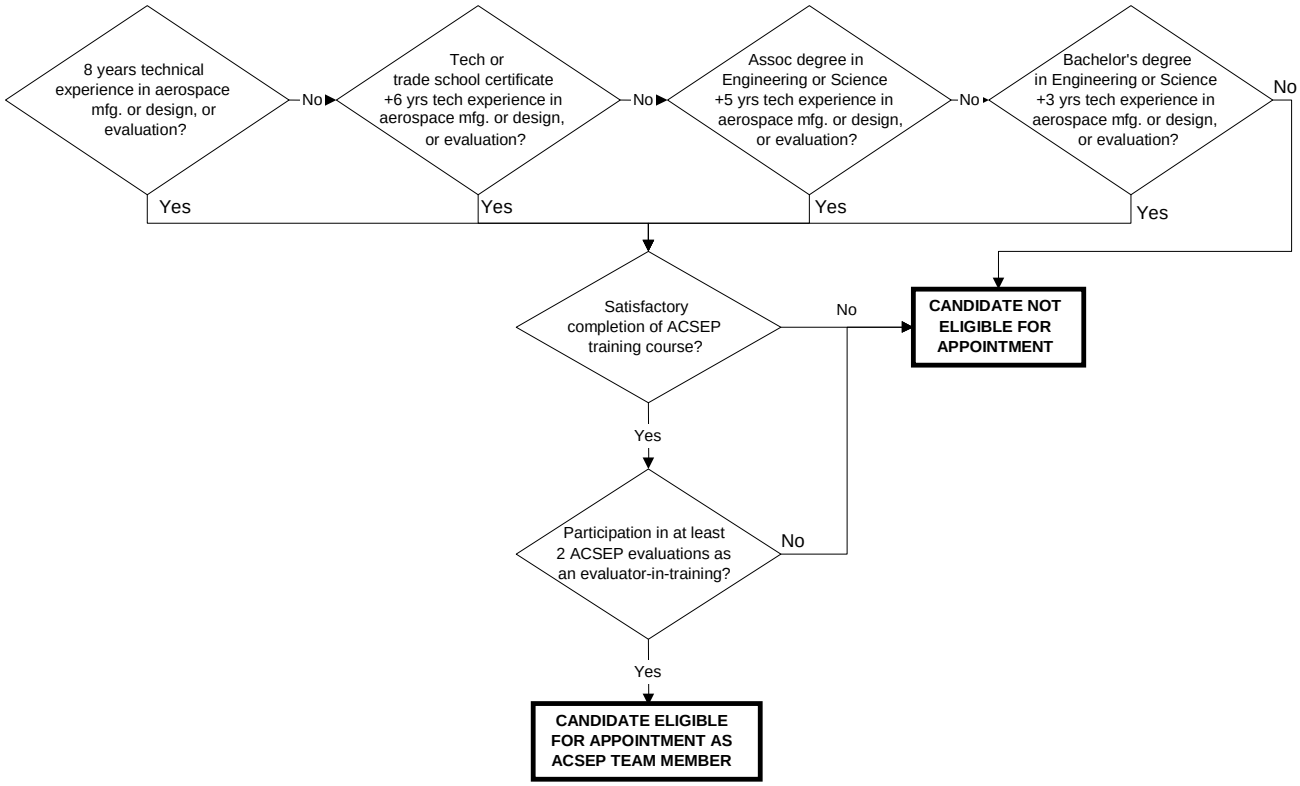
(1) At least 8 years of technical experience in aerospace manufacturing or design, or in the evaluation thereof.

(2) Technical or trade school certificate with 6 years of technical experience in aerospace manufacturing or design, or in the evaluation thereof.

(3) Associate’s degree in engineering or science disciplines, with 5 years of technical experience in aerospace manufacturing or design, or in the evaluation thereof.

(4) Bachelor’s degree or higher in engineering or science disciplines, with 3 years of technical experience in aerospace manufacturing or design, or in the evaluation thereof.

Figure 2-1. Criteria for Candidate Selection and Team Member Appointment



b. Candidates have demonstrated technical knowledge in aerospace manufacturing or design, conceptual understanding of FAA goals and objectives, effective communication and interpersonal skills, good human relations, and ability to write coherently.

2-4. Criteria for Appointment. Appointment is the formal process of certifying an ACSEP candidate as an ACSEP team member or team leader on the basis of successful completion of all requirements (see figures 2-1 and 2-2).

a. Team Member. Candidates must meet the following minimum requirements before appointment as a team member (see figure 2-1):

(1) Satisfactory completion of the ACSEP team training course and associated written examination. The course will provide training in the policy established in this order, including the techniques for applying the standardized evaluation criteria contained in appendix D, and in coordinating team member involvement.

> **Note:** The Planning and Program Management Division, AIR-500, will ensure classes are scheduled in accordance with Aircraft Certification Service (AIR) priorities as identified in the annual call for training.

(2) Participation of the candidate, and demonstration of the knowledge and skills acquired during ACSEP team training in at least two ACSEP evaluations as an evaluator-in-training.

> **Note:** The candidate's appointing official must schedule the candidate's participation as an evaluator-in-training to be completed in as short a timeframe as possible to maximize the candidate's use and retention of acquired knowledge and experience.

(3) The candidate's appointing official is responsible for performing the following activities in evaluating the team member candidate:

(a) Consider the candidate's previous experience and education.

(b) Consider the product complexity, facility size, and complexity of system elements evaluated in ACSEP evaluations in which the candidate participated.

(c) Discuss with team leader(s), evaluations in which the candidate participated to determine the candidate's ACSEP evaluation readiness.

(d) Review ACSEP evaluation reports for evaluations in which the candidate participated.

(e) Review, when necessary, FAA Form(s) 8100-7, ACSEP Evaluation Customer Feedback Report, for evaluations in which the candidate participated.

(f) Interview the candidate.

(g) Discuss with the candidate any weaknesses or deficiencies in their evaluation readiness identified during the participation phase. Both parties will work to reduce or eliminate these weaknesses or deficiencies through additional training, additional ACSEP evaluations, Air Transportation Oversight System/Air Carrier Evaluation Program audits, or other similar activities that will increase the candidate's evaluation readiness.

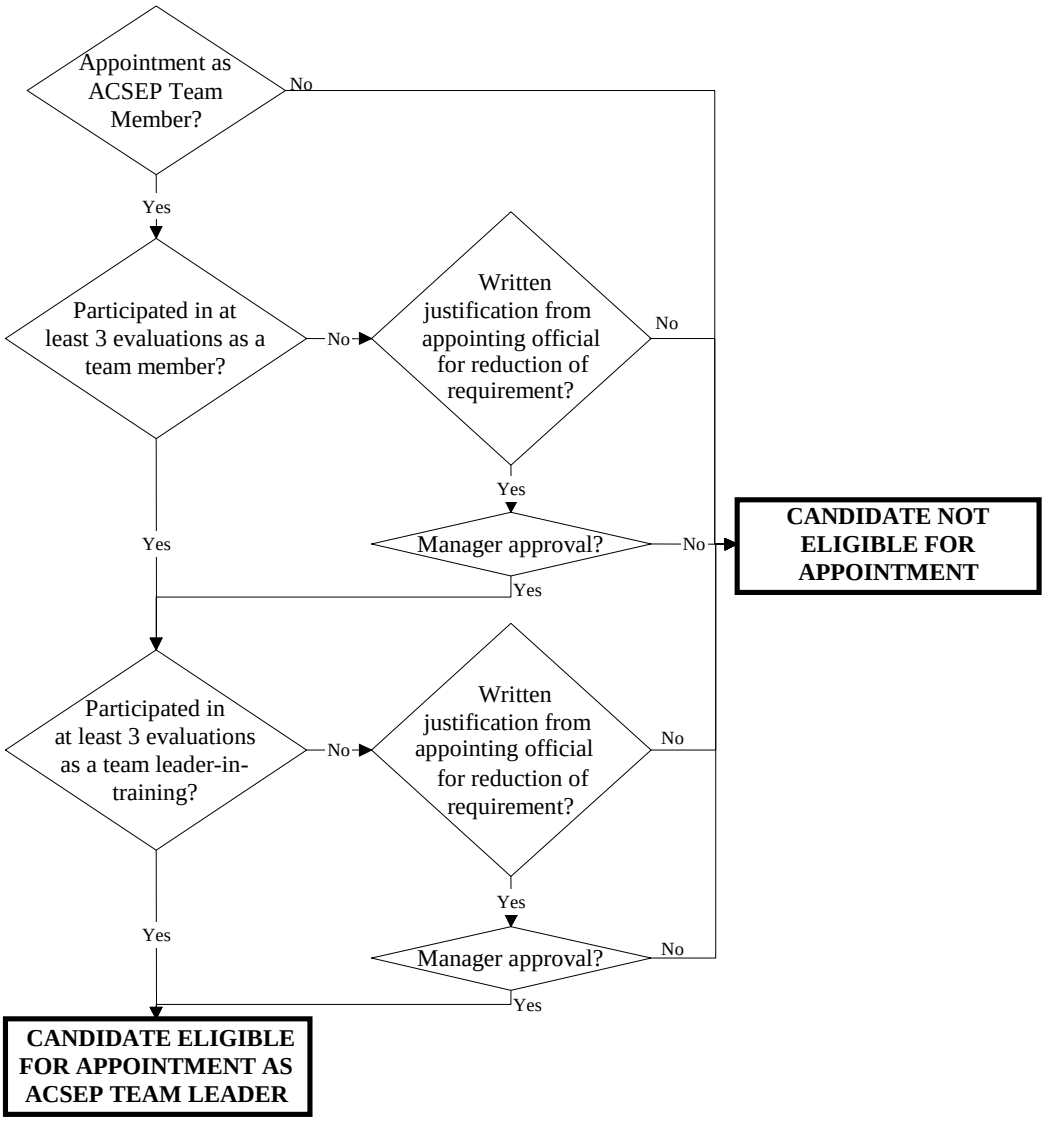
(4) On the basis of satisfactory results of the evaluation of the candidate as listed in paragraph 2-4a(3), the candidate's appointing official will appoint the candidate as a team member and add the individual to the evaluator's module of the CMIS program.

b. Team Leader. Candidates must meet the following minimum requirements before appointment as a team leader (see figure 2-2):

(1) Current appointment as an ACSEP evaluation team member.

(2) Participation in at least three evaluations as an appointed ACSEP evaluation team member. The candidate's appointing official may request reduction of the requirement by providing documented justification to the appointing official's manager. The responsibility for requesting any reduction of the requirement rests solely with the candidate's appointing official.

Figure 2-2. Criteria for Team Leader Appointment



(3) Participation as a team leader-in-training, and demonstration of knowledge and skills acquired during ACSEP team training in at least three ACSEP evaluations under the direct supervision of an appointed ACSEP evaluation team leader. The candidate's appointing official may request reduction of the requirement by providing documented justification to the appointing official's supervisor. The responsibility for requesting any reduction of the requirement rests solely with the candidate's appointing official.

> **Note:** The candidate's appointing official must schedule the candidate's participation as a team leader-in-training to be completed in as short a timeframe as possible to maximize the candidate's use and retention of acquired knowledge and experience.

(4) The candidate's appointing official is responsible for performing the following activities in evaluating the team leader candidate:

(a) Consider the candidate's previous experience and education.

(b) Consider the product complexity, facility size, and complexity of system elements evaluated in ACSEP evaluations in which the candidate participated.

(c) Discuss with team leader(s), evaluations in which the candidate participated to determine the candidate's team leadership abilities.

(d) Review ACSEP evaluation reports for evaluations in which the candidate participated.

(e) Review, when necessary, Form(s) 8100-7 for evaluations in which the candidate participated.

(f) Interview the candidate.

(g) Discuss with the candidate any weaknesses or deficiencies in their team leadership abilities identified during the participation phase. Both parties will work to reduce or eliminate these weaknesses or deficiencies through additional training, additional ACSEP evaluations, Air Transportation Oversight System/Air Carrier Evaluation Program audits, or other similar activities that will increase the candidate's leadership abilities.

(5) On the basis of satisfactory results of the evaluation of the candidate as listed in paragraph 2-4b(4), the candidate's appointing official will appoint the candidate as a team leader and update the evaluator's module of the CMIS program.

c. The candidate's appointing official will document and track the completion of the requirements in paragraphs 2-4a and 2-4b for all ACSEP candidates. Upon successful completion of the requirements, the appointing official will appoint the candidate as an ACSEP evaluation team leader or team member and will formally notify the candidate of his or her appointment in writing. Ensure the appointment document includes the individual's discipline and office identification.

> **Note:** Provide written notification of appointment before the evaluator's first scheduled ACSEP evaluation as a team member or team leader.

2-5. Review of Appointment. The cognizant appointing official (1) reviews the participation in ACSEP evaluations by each evaluator under their appointment authority, (2) notifies evaluators in writing, of decisions not to continue their appointment, and (3) determines the currency and continued validity of appointments as follows.

a. Evaluation Team Members. Review evaluation team members' participation annually. Ensure team members have accomplished the following requirements, as a minimum:

(1) Participated at an interval of once or more every 2 fiscal years as an ACSEP evaluation team member or once or more every 2 fiscal years as an ACSEP evaluation team leader, or conducted PI evaluations or MIDO audits in accordance with Order 8120.2.

> **Note:** A supplier control audit does not count toward the continued appointment of an ACSEP team member.

(2) Demonstrated knowledge and skill in ACSEP evaluations, as determined from sources such as the ACSEP evaluation report, team leaders, cognizant managers, and satisfactory corrective action for any shortcomings in knowledge or skills noted and discussed with the team member during the interim period.

b. Evaluation Team Leaders. Review evaluation team leaders' participation annually. Ensure team leaders have accomplished, at a minimum the following requirements:

(1) Participated at an interval of once or more every 2 fiscal years as an ACSEP evaluation team leader or as a team leader for a PI evaluation or MIDO audit with multiple team members in accordance with Order 8120.2.

> **Note:** A supplier control audit does not count toward the continued appointment of an ACSEP team leader.

(2) Demonstrated knowledge and skill in ACSEP evaluations, as determined from sources such as the ACSEP evaluation report, cognizant managers, and satisfactory corrective action for any shortcomings in knowledge or skills noted and discussed with the team leader during the interim period.

2-6. Reinstatement of Evaluators Failing to Meet Appointment Review Criteria. Cognizant appointing officials may reinstate evaluators under their appointment authority who have not met the appointment review criteria listed in paragraph 2-5. Use the following criteria to determine eligibility for reinstatement:

a. Team members and leaders who have not met participation requirements may be reinstated after acceptable participation as an evaluator-in-training, or as a team leader-in-training as applicable, in two ACSEP evaluations.

b. Team members who have not demonstrated ACSEP evaluation knowledge or skills may be considered for reinstatement by repeating the formal ACSEP team member appointment program listed in paragraph 2-4a.

c. Team leaders who have not demonstrated ACSEP evaluation knowledge or skills may be reinstated as a team member after acceptable participation as an evaluator-in-training in two ACSEP evaluations. Consideration for reinstatement as a team leader must then follow the formal ACSEP team leader appointment program listed in paragraph 2-4b.

Chapter 3. Selection and Scheduling of ACSEP Evaluations

3-1. ACSEP Evaluation Intervals. Evaluation intervals for PAHs and associate facilities are identified in Order 8120.2.

3-2. Selection of Facilities to be Evaluated. Procedures for selecting PAHs and associate facilities to be evaluated are identified in Order 8120.2.

3-3. Scheduling of ACSEP Evaluations. After all facilities have been selected for evaluation in accordance with paragraph 3-2, each directorate will be responsible for scheduling ACSEP evaluations at the selected facilities. Use the following procedures:

a. Estimate the onsite duration of each evaluation according to the evaluation interval listed in Order 8120.2. Consider the quality and/or engineering procedures and processes required to be in place, the number of applicable system elements, when known (see appendix D), the size and physical layout of the facility to be evaluated (single or multiple locations), and product complexity. Allow enough time to ensure that compliance to the applicable 14 CFR and FAA-approved data will be fully evaluated. Use the following list as a guide for estimating, in terms of facility size only, the onsite duration of the evaluation (excluding travel times):

(1) Small facility with fewer than 100 total full-time persons: 1 to 5 working days onsite.

(2) Medium facility with 100 to fewer than 400 total full-time persons: 3 to 5 working days onsite.

(3) Large facility with 400 to fewer than 2,000 total full-time persons: 5 to 10 working days onsite.

(4) Very large facility with 2,000 or more total full-time persons: 7 to 15 working days onsite.

> **Note:** When estimating the onsite duration, include only those persons who are used to support the PAH activity.

b. Assign all scheduled evaluations a distinct ACSEP number, consisting of the fiscal year, directorate code (NE—Engine and Propeller Directorate, CE—Small Airplane Directorate, SW—Rotorcraft Directorate, or NM—Transport Airplane Directorate), and the evaluation order sequence. For example, 09CE123 represents the 123rd evaluation planned for completion by the Small Airplane Directorate during fiscal year 2009.

> **Note:** Do not reassign ACSEP numbers from canceled evaluations. Each scheduled evaluation must be uniquely identified.

c. Identify the lead evaluation office for each evaluation. This office is usually the one that performs certificate management responsibility at the facility to be evaluated. For an associate facility subject to certificate management under the handoff procedure described in Order 8120.2, the lead evaluation office is the geographic office receiving the handoff. The lead evaluation office is responsible for—

(1) Coordinating the notification letter (see paragraph 3-5), and

(2) Notifying the selected team leader and team members (see paragraph 4-1).

d. Prepare an evaluation schedule for the current fiscal year based on the facility selection criteria in paragraph 3-2 and the duration of each evaluation. Annually prepare the schedule no later than July 31.

(1) Prepare the schedule in quarterly increments using the following guidelines:

(a) ACSEP number.

(b) Scheduled start date of each evaluation.

(c) Duration of each evaluation.

(d) Facilities and types of approvals to be evaluated.

(e) Risk-Based Resource Targeting (RBRT) risk level.

(f) Product lines or authorized functions at the facilities to be evaluated.

(g) Number and disciplines of evaluators assigned to each evaluation.

(h) Additional evaluators required beyond the directorate's resources.

(i) Number and disciplines of evaluators-in-training and team leaders-in-training.

(j) Total number of evaluations scheduled for the fiscal year.

(k) Applicable project number(s).

(2) All directorate schedules will be entered into the schedule module of the CMIS program.

(3) The ACO, MIO, MIDO, and CMO managers should schedule approval holders with multiple approvals, such as a PC and a PMA, so as to evaluate all approvals during one evaluation.

(4) When an approval holder has multiple facilities that require significant resources and time to evaluate, the ACO, MIO, MIDO, and CMO managers should consider scheduling the facilities individually.

e. Designate an assigned engineer (AE). On the basis of the data collected for paragraphs 3-1 through 3-3d, the ACO manager determines the need to assign an FAA engineer responsibility relating to a scheduled ACSEP evaluation at a particular design approval facility. The AE must answer questions from the evaluators regarding the FAA-approved design or the design approval system in place. The AE also must coordinate any corrective action required regarding the FAA-approved design or the design approval system.

3-4. Selection of ACSEP Evaluators. The ACO, MIO, MIDO, and CMO managers select appointed ACSEP evaluators to perform each scheduled evaluation. Determine the number and types of evaluators required for each evaluation according to the following criteria:

a. Number of Evaluators Required. Determine the total number of evaluators required to ensure that compliance to the applicable 14 CFR and FAA-approved data would be fully evaluated.

(1) Estimate the number of evaluators required according to the following minimum criteria:

(a) RBRT assigned risk level.

(b) Number and complexity of applicable quality, engineering, flight test, and facility procedures and processes in place.

(c) Number of applicable system elements, when known (see appendix D).

(d) Number of suppliers to which the evaluation will be extended, when known.

(e) Size and physical layout of the facility to be evaluated (single or multiple locations).

(f) Product or design approval system complexity.

(2) Use the following as a guide for estimating the number of ACSEP evaluators required. Increase or decrease the number of estimated evaluators shown below, depending on your review of the criteria contained in paragraph 3-4a(1) and your confidence that compliance to the applicable 14 CFR and FAA-approved data will be fully evaluated:

(a) Small facility with fewer than 100 full-time persons: 1 to 3 evaluators (including team leader).

(b) Medium facility with 100 to fewer than 400 total full-time persons: 1 to 5 evaluators (including team leader).

(c) Large facility with 400 to fewer than 2,000 total full-time persons: team leader plus 5 to 10 evaluators.

(d) Very large facility with 2,000 or more total full-time persons: team leader plus up to 10 evaluators.

Note: When estimating the number of evaluators required, include only those full-time persons who are used to support the PAH facility activity.

(3) If it is determined that one evaluator is required, select an appointed team leader to perform the evaluation; this evaluator is referred to as the principal evaluator. If two or more evaluators are selected for an evaluation, they will constitute an ACSEP evaluation team. Select an appointed team leader and the required number of appointed team members.

b. Types of Evaluators Required. Use the criteria identified in paragraphs 3-4a(1)(a) through (f) and the following criteria to determine the types of evaluators required. Select appointed ACSEP evaluators who have appropriate knowledge of the evaluation criteria identified in appendix D applicable to the facility to be evaluated and, as appropriate, to the product(s) authorized by the approval (for example, select a propulsion engineer when an engine manufacturer is to be evaluated and select a flight test pilot when a flight test program is to be evaluated). When making this determination, consider the following:

(1) It is not necessary to select both engineers and inspectors for a small facility that does not have both engineering and manufacturing capabilities.

(2) Select appointed ACSEP evaluators, as appropriate, to maintain continued appointment in accordance with paragraph 2-5.

(3) Do not include any appointed evaluators who were previously employed by the facility to be evaluated within 2 years of the scheduled evaluation.

(4) Determine whether evaluators will be made available throughout the duration of the evaluation. Each evaluator is expected to fully participate in each evaluation. Base any decision to limit participation on the established AIR priorities. Notify the team leader of any limited participation by evaluators.

c. Selection of PI and AE as Team Leaders or Evaluators. To the greatest extent practicable, the PI and the AE will not be selected as team leaders on ACSEP evaluations of facilities for which they have certificate management or surveillance responsibilities. Use the guidelines in table 3-1 to select the PI and/or AE as evaluators:

Table 3-1. Selecting a PI or AE as an Evaluator

Number of Persons Performing the Evaluation	PAH Facility Procedure
One- or two-person	Do not select the responsible certificate management PI. Do not select the AE if the AE is the engineer assigned design responsibility for the facility to be evaluated. **Note:** For evaluations with at least three team members, the ACO, MIO, MIDO, and CMO managers, to the greatest extent practicable, will select as evaluators the PI, or assistant PI as appropriate, and/or the AE. The ACO, MIO, MIDO, and CMO managers should assess the logistical and personal burden of selecting the PI and/or AE for all applicable evaluations, and should assign the PI and/or AE to evaluations through which the greatest benefit may be obtained.
Three- or four-person	Select as a team member either the responsible certificate management PI or the AE, if the AE is the engineer assigned design responsibility for the facility to be evaluated. If the AE is not assigned design responsibility, both the AE and the responsible certificate management PI may be selected as team members.
Five-person or greater	Select as a team member either the responsible certificate management PI or AE, or both.

d. Selection of Evaluators-in-Training and Team Leaders-in-Training.

(1) Determine the number of appointed evaluators required for the ACSEP evaluation before assigning evaluators-in-training. Assign evaluators-in-training only to evaluations for which a team is required. Do not assign evaluators-in-training to a principal evaluator. Evaluators-in-training will supplement appointed evaluators. Do not substitute evaluators-in-training for appointed ACSEP evaluators, or evaluation team leaders-in-training for appointed ACSEP evaluation team leaders.

(2) Do not assign more than two evaluators-in-training or more than one team leader-in-training to any one evaluation. Try to assign each evaluator-in-training or team leader-in-training to different team leaders during the participation phase of the training.

(3) In cases where evaluators-in-training or team leaders-in-training from other directorates or AIR-100/200 are proposed to be used in an evaluation, coordinate with the appointing managers to establish their eligibility.

e. Additional Resource Requirements. Additional evaluators beyond the directorate's available resources may be required depending on the size of the facility; type and complexity of product, service, or design approval system; and overall evaluation objectives. Each directorate should identify the need for these additional resources before the release of the ACSEP master schedule for the next fiscal year and coordinate the participation of the evaluators with the appropriate directorate office and CMIS coordinators. Additional support may also be available from the AIR-100 or AIR-200 divisions, if requested. If these sources of support are not available, the directorate may obtain outside support services to augment directorate resources. Support service personnel will be qualified and credible quality assurance experts and technology specialists and will meet the criteria for candidate selection specified in paragraph 2-3. Directorates will obtain any required support service personnel in accordance with budgetary directives. Appendix A contains sample contract clauses relating to obtaining support services.

> **Note:** The cognizant directorate will complete all necessary administrative measures required for facility access by support service personnel before the scheduled ACSEP evaluation. The measures may include obtaining any security clearances from the prospective facility, ensuring that personnel have signed a certificate of nondisclosure for confidentiality of information (see appendix A), and ensuring that personnel are aware of their limitations (as agreed to between the directorate and the facility to be evaluated) of access and entry to the facility's proprietary or sensitive processes or systems.

f. Scheduled Changes. Each directorate must update schedule changes electronically in the CMIS program at least quarterly. Evaluations added to the master schedule will be assigned a new ACSEP number in accordance with paragraph 3-3b.

3-5. Notification of Facilities to be Evaluated. The lead evaluation office identified in accordance with paragraph 3-3c will notify facilities using the sample formats in appendixes B and C. Coordinate with the responsible PI to ensure that the letter does not arrive during scheduled shutdown periods or during any other extended periods when the letter may not be acted upon. For notifications of first-time ACSEP evaluations, inform the facility that ACSEP reference material is available on the FAA's Web site. If the facility cannot access the Web site, provide the reference material to the facility. Appendix C provides a summary of notification letter requirements. Notify facilities as follows:

a. PAH/Associate Facility. The lead evaluation office will perform these tasks:

(1) Prepare the notification letter and send it to the facility to be evaluated no later than 50 calendar days before the evaluation.

(2) Provide a copy of the notification letter to the designated evaluation team leader or principal evaluator, the PI, and the AE.

b. Changes After Notification Letter Is Sent. As appropriate, notify the facility, responsible PAH or associate facility, requesting MIDO or CMO, AIR-200, and the team leader or principal evaluator of any changes to the evaluation schedule or team composition after the notification letter has been sent.

3-6. Modifications to Scheduled Evaluations. Every effort will be made to maintain established evaluation schedules. However, modifications to the evaluation schedule should be considered under special circumstances. The ACO, MIO, MIDO, and CMO managers will jointly reschedule any affected evaluation in coordination with the PI, AE, and the team leader or principal evaluator, and update the schedule in the CMIS program. Special circumstances that may warrant modifications to the evaluation schedule include—

a. Risk to evaluators' safety,

b. Change in a facility's production or delegation status from active to inactive,

c. Involvement of the FAA in a facility's labor-management dispute,

d. Reduction in the effectiveness of the evaluation, and

e. A nonscheduled ACSEP evaluation that requires scheduled resources (see paragraph 3-7).

3-7. Nonscheduled ACSEP Evaluations. The ACO, MIO, MIDO, and CMO managers may also conduct nonscheduled ACSEP evaluations when situations warrant, as determined by directorate offices or AIR-200 — Production and Airworthiness Division. Nonscheduled ACSEP evaluations will be planned, conducted, and reported in accordance with this order to the greatest extent practicable. Appropriate emphasis on planning the evaluation should be provided despite the reduced time that may be available between the decision to conduct the nonscheduled ACSEP evaluation and the actual conduct of the evaluation. Situations that may warrant a nonscheduled ACSEP evaluation include the following:

a. Accidents and incidents,

b. Deliberate violations,

c. Repetitive service difficulty reports,

d. Excessive owner/operator complaints,

e. PAH's or associate facility's refusal/failure to take appropriate corrective action,

f. PAH's or associate facility's inability to control suppliers,

g. Renewal of a PAH's or associate facility's production activity after a prolonged period of inactivity, and

h. Any other situation as deemed necessary in the interest of safety.

Chapter 4. ACSEP Evaluation Procedures

Section 1. ACSEP Evaluation Preparations

4-1. Lead Evaluation Office. Perform, at a minimum, the following evaluation preparations:

a. Notify, through CMIS, the selected evaluation team leader and team members, or the principal evaluator, at least 60 calendar days before each directorate evaluation. A record of the notification does not need to be retained.

b. Ensure logistical support for an evaluation within the geographical area.

4-2. ACO, MIO, MIDO, and CMO Managers. Notify, through CMIS, all evaluators within the directorate selected for AIR-200-led evaluations and evaluations in support of other directorates. Send notification at least 60 calendar days before each evaluation. Send a copy of the notification to the lead evaluation office and AIR-200. A record of the notification does not need to be retained.

4-3. Evaluation Team Leader or Principal Evaluator. Coordinate evaluation preparation. The team leader provides orientation to team members, and assigns system elements to team members. These actions, as appropriate, require coordination with the PI, AE, and the facility to be evaluated. The team leader or principal evaluator will perform the following, as appropriate:

a. Upon receipt of a copy of the notification letter, contact the lead evaluation office to identify the responsible PI and AE and obtain from the PI and AE such items as the following:

(1) Applicable FAA-approved procedures, including engineering and quality manuals, procedures manuals, and handbooks, when practical. Obtain documentation in electronic format, if available, to simplify copying and distribution to team members. If applicable data are available only electronically, work with the PI or AE to identify relevant documents and to obtain printed copies of only those pages necessary to support the ACSEP evaluation.

(2) Current facility data available in the CMIS.

(3) Known or suspected problem areas, including any areas the PI and AE would like special emphasis on during the evaluation, such as requests to conduct a product audit in accordance with Order 8120.2.

(4) Current self-disclosure items reported under FAA Order 2150.3, Compliance and Enforcement Program.

(5) Agreements made between the cognizant ACO, MIO, MIDO, or CMO and the facility to be evaluated.

(6) Facility access information, including badges and security clearances.

(7) Lodging information.

(8) Any other items necessary to prepare for the evaluation.

b. Prepare a written evaluation plan, using the form found in the CMIS program, for conducting the evaluation. The evaluation plan includes the following items:

(1) Name and address of the facility to be evaluated.

(2) Dates of the evaluation.

(3) Names of the team leader and members (when more than one evaluator is selected).

(4) Evaluation objectives. List the reason for the ACSEP evaluation and what information is expected to be obtained during the evaluation (for example, establish facility compliance with the procedures established to meet the applicable requirements of 14 CFR or establish cause of repetitive service difficulty reports).

(5) Type(s) of approval.

(6) Type certificate (TC) or supplemental type certificate (STC) number, as applicable.

(7) Current product line.

(8) Number of employees associated directly with the production approval activity.

(9) List of top-level FAA-approved procedures (for example, quality manual index of procedures, procedures manual, PMA approval letter, and TC data sheets).

(10) FAA/facility agreements in effect; for example, agreement on frequency of submittal of minor design changes.

(11) Plant layout.

(12) Organizational chart.

(13) Major processes.

(14) Unusual features of the product, manufacturing and inspection methods, or design approval system.

(15) Self-disclosure items under Order 2150.3, Compliance and Enforcement Program.

(16) Special emphasis items recommended by the PI and AE.

(17) System element, to include product audit, assignments (when more than one evaluator is selected).

(18) Access information, including facility point of contact.

(19) Lodging information.

(20) Equipment required (for example, notebook computer, safety shoes, and coveralls).

c. Coordinate assignments, requirements, and arrangements with team members as far in advance of the evaluation as possible, but no later than 30 calendar days before the evaluation. Notify team members immediately of changes in schedule, assignments, requirements, and arrangements. Provide copies of all relevant facility documents to team members, when feasible.

d. Forward an FAA certificate of nondisclosure (see appendix A) to any outside support service personnel assigned no later than 35 calendar days before the evaluation. Obtain signed statements no later than 25 calendar days before the evaluation and forward them to the facility via the PI.

e. Notify the lead evaluation office immediately of changes in team numbers or composition.

f. Coordinate with the certificate management PI or AE, or geographic PI, as appropriate, to resolve specific planning problems relating to the facility to be evaluated.

g. Arrange, as appropriate, for the availability of a notebook computer and portable printer for the duration of the evaluation, and for the accomplishment of postevaluation activities. Use of a notebook computer during the evaluation will allow for quick access and search of ACSEP documentation and for preparation of high-quality documents for presentation during the postevaluation conference.

4-4. Evaluation Team Member. Perform these tasks:

a. Upon notification by the team leader, confirm availability for the evaluation, system elements assigned, and travel arrangements.

> **Note:** Notify the team leader immediately if you become unavailable for the evaluation.

b. Before the evaluation, review all material provided by the team leader, the PI, or the AE appropriate to the assigned system elements. When possible, make a preliminary selection of the procedures you plan to evaluate.

4-5. through 4-10. Reserved.

Section 2. Conduct of the Evaluation

4-11. Team Leader or Principal Evaluator Coordination with Facility Representative. The team leader or principal evaluator will coordinate with the designated representative of the facility to be evaluated to ensure that administrative arrangements for items such as team access, escorts, meeting rooms, and safety and security requirements are complete.

4-12. Preevaluation Team Meeting. The team leader and all team members meet in advance of starting the evaluation, usually at the facility to be evaluated. They review the following evaluation elements, as appropriate, for proper coordination and understanding:

a. Current quality system or design approval system, and corrective action history of the facility to be evaluated in the selected areas.

b. Team functional assignments.

c. Evaluation plan.

d. Evaluation objectives.

e. Working relationship of the facility to be evaluated with the FAA.

f. Organizational structure of the facility to be evaluated.

g. Approved quality system documents, including quality manuals and/or quality data submitted by PAHs to describe their quality systems.

h. Approved design approval system documents, including any procedures manual or handbook.

i. Agreements made between the cognizant ACO, MIO, MIDO, or CMO and the facility to be evaluated.

4-13. Preevaluation Conference. Soon after arrival at the facility to be evaluated, the evaluation team leader or principal evaluator conducts a preevaluation conference with appropriate senior management, cognizant supervisory personnel, and other appropriate personnel of the facility who will be associated with the evaluation, including escorts. The team leader or principal evaluator must perform the following tasks, as appropriate:

a. Introduce team members and support service personnel.

b. Give a brief overview of ACSEP, highlighting the cooperative intention of the evaluation.

c. Provide the evaluation’s scope and objectives.

d. Review details of the evaluation agenda, including the standardized evaluation criteria and procedures to be used.

e. Review administrative arrangements for the postevaluation conference.

f. Discuss Form 8100-7 sent with the notification letter to the facility being evaluated. Explain that this form is designed to obtain senior management assessment of the conduct of the ACSEP evaluation and is used by the FAA for continuous quality improvement of the certificate management program. Encourage senior management to complete the form and send it to the address on the form within 30 calendar days of the postevaluation conference.

g. Allow time for a question-and-answer session.

4-14 Evaluation of System Elements. The ACSEP evaluation team evaluates up to six system elements and conducts at least one product audit at PAHs and associate facilities. Each system element addresses a specific activity or function that may affect the maintenance of FAA-approved design or quality data. Each system element is defined in appendix D. The ACSEP evaluation team will perform the following tasks, as appropriate:

a. Review FAA-approved quality systems manuals or procedures manuals/handbooks to determine if current data ensure that regulatory requirements are met, if conforming products and parts are manufactured, and if design approval systems are maintained and controlled.

b. Review design system, design approval system, and quality system data to determine if current data are FAA-approved.

c. Review other facility procedures (related to the production approval facility) that are not part of the facility's FAA-approved data to determine if the current procedures impact any of the system elements.

d. Review PAH supplier records by selecting a random sample of PAH supplier audit reports. (Refer to appendix D, section 6, paragraph 1a.)

(1) The reports may consist of onsite evaluations, mail-in surveys, third-party evaluations, or a combination of all three. The reports must be reviewed for compliance with the PAHs' quality system requirements. This may include, but is not limited to, the following conditions:

(a) Adherence to scheduled frequency of supplier control audits.

(b) Appropriate documentation of audits. This includes a signature by an appropriate authority, and attachment of required certifications and test documents.

(c) Determination of whether noncompliances provide evidence of root cause, corrective action, followup, and closure.

(d) If a history of similar noncompliances is evident, determination of whether the PAH is appropriately conducting root cause analysis and applying corrective action.

(2) FAA Form 8100-1, Conformity Inspection Record will be used to record the following information. The completed record will be entered in CMIS as part of the ACSEP report.

(a) Total number of audit reports reviewed.

(b) Identification of suppliers reviewed.

(c) Total number of noncompliances documented for all supplier reports reviewed.

(3) The component page of the ACSEP report entitled Special Emphasis Items may be used to record any additional or supplemental information pertaining to the supplier audit record review that the evaluator considers important. Include this information as a note under the heading, "Note to MIO Manager and Cognizant Principal Inspector".

> **Note:** The results will be used for two purposes: (1) to identify areas that may require more focused attention during evaluation of the supplier control system element and (2) as input into the following year's RBRT assessment of the PAH.

(4) Any noncompliance noted during the review of PAH supplier audit reports will be recorded under supplier control system element criteria number 602. Noncompliance will also be documented in accordance with paragraph 4-15 of the order.

> **Note:** Paragraph 4-14d, and appendix D, section 6, paragraph 1a, apply only to PAH facilities that use suppliers in the process of manufacturing FAA-approved products. Review of supplier records should be started early in the evaluation process to allow for additional time in case issues are noted.

e. Evaluate compliance to facility procedures and quality requirements. Prioritize evaluation according to any special concerns raised by the PI or AE. Use the standardized evaluation criteria in appendix D to determine the depth of the evaluation in the subject area. Evaluate, as necessary, a combination of document and product review to determine if the system element meets applicable requirements.

> **Note:** The standardized evaluation criteria are a list of questions and related statements of condition in appendix D used primarily to plan and document the results of the evaluation of each system element in a standardized manner. The criteria are designed to cross all the functional areas within a facility's organization that have the greatest potential to impact the integrity of the FAA-approved design and product quality. All responses to the questions are direct inputs to the database from which trend analysis is accomplished. Each evaluator should be knowledgeable of all the criteria applicable to the system element assigned to be evaluated and should strive to evaluate as many of the procedures, requirements, and products related to the criteria as time allows.

f. Select at least one team member to conduct at least one product audit at a PAH or associate facility of a manufactured product (for example, characteristic dimensioning, processing attributes, and physical examination) to determine compliance with current system procedures and quality requirements. Refer to Order 8120.2 for product audit areas, criteria, and procedures for recording audit results.

> **Note 1:** Aviation safety engineers (ASE) who are currently active team members/leaders will gain experience conducting product audits by assisting an aviation safety inspector (ASI) who is part of the team and is conducting the required product audit and/or during certificate management functions, which includes conducting a product audit.

Note 2: New ASEs will gain experience in performing product audits by assisting ASIs during scheduled ACSEP evaluations as part of their evaluator-in-training requirements and/or assisting during certificate management functions, which includes conducting a product audit.

g. On the basis of facility procedures or quality requirements, identify, and document additional standardized evaluation criteria questions and statement-of-condition practices and principles not contained in appendix D that were required to document what was evaluated. Write or type additional criteria and statement-of-condition practices and principles, and include the appropriate reference to the facility procedures or quality requirements and the evaluator's recommendation of the system element to which the criteria and statement of condition apply. Team members must present new criteria and statement-of-condition practices and principles to the team leader as soon as they are completed.

h. Detect and report noncompliances and areas that may require additional evaluation by the PI or AE.

4-15. Recording Noncompliances. Evaluators will record all noncompliances on FAA Form 8100-6, Noncompliance Record, or electronic equivalent, according to the guidelines in Order 8120.2.

Note: Record as a certification-related noncompliance any condition that questions the certification basis. Address the noncompliance on the Executive Summary (refer to paragraphs 4-16b(2)(c) and 4-21b, and appendix E) and as a special emphasis item in the evaluation report (refer to paragraphs 4-16b(2)(d) and 4-21c, and appendix F).

4-16. Evaluation Meetings.

a. Daily Meeting. The team leader or principal evaluator holds the following daily meetings, as appropriate:

(1) Meeting with Evaluation Team Members. The team leader will review and discuss the following with team members:

(a) Status of the evaluation.

(b) Problems encountered.

(c) Plan of the next day's evaluation.

(d) All Form(s) 8100-6, or electronic equivalent, prepared during the day to ensure correctness, adequacy, and completeness.

(2) Meeting/Communication with PI and AE. The team leader or principal evaluator ensures that the certificate management PI and AE, and the geographic PI, as applicable, are informed of all discussions concerning the status of the evaluation. This meeting should occur

daily when the PI and AE are part of the evaluation team. Otherwise, coordinate with the PI and AE to establish the method and frequency at which these discussions should occur.

(3) Meeting with the Evaluated Facility's Designated Representative. The team leader or principal evaluator holds a brief meeting daily with the evaluated facility's designated representative to discuss the progress of the evaluation, including problems encountered, the status of actions requested by the team, schedule changes, and the coordination of further evaluation activities.

b. Final Critique Meeting/Evaluation Wrap-Up. At the conclusion of the evaluation, the team leader holds a final critique meeting. The principal evaluator allows time to finalize the details of the evaluation. The team leader and members or the principal evaluator do the following, as appropriate:

(1) Team Members or Principal Evaluator.

(a) Complete all required Form(s) 8100-6, or electronic equivalent. When using an electronic equivalent, print to paper when all information has been entered. Team members discuss Form(s) 8100-6 with the team leader to determine if there are any possible violations of the applicable requirements of 14 CFR. The team leader must resolve any disagreement on noncompliance(s). The lead evaluation office, or requesting MIDO or CMO, as applicable, must determine the level of corrective action required (see paragraph 4-24).

(b) Ensure that all true copies of objective evidence are attached to the appropriate Form(s) 8100-6, or electronic equivalent, appropriately referenced, and clearly identified in accordance with Order 2150.3.

(c) Complete FAA Form 8100-4, ACSEP Survey Sheet for Production Approval Holders, or electronic equivalent, in accordance with appendix D (part B). When using an electronic equivalent, print to paper when all information has been entered. Prepare original forms as follows:

1 PAH or Associate Facility. Prepare one original Form 8100-4.

2 Facility with Multiple Production Approvals. Prepare one original Form 8100-4. Base the survey responses on the criteria for the highest-level quality requirement; for the purposes of ACSEP, the quality levels, from highest to lowest, are PC, TSO authorization and PMA. For example, if a facility has a PMA and a TSO authorization, prepare one Form 8100-4 based on the TSO authorization criteria.

(2) Team Leader or Principal Evaluator.

(a) Resolve team disagreements on specific noncompliances.

(b) Discuss all noncompliances with the certificate management PI or AE, delegated facility AE, and geographic PI, as applicable.

(c) Prepare the ACSEP Evaluation Executive Summary (see appendix E). Prepare original forms as follows:

1 PAH or Associate Facility. Prepare one original summary.

2 Facility with Multiple Production Approvals. Prepare one original summary. For example, if a facility has a PMA and a TSO authorization, prepare one original summary.

(d) Identify and record specific problems or concerns that the ACSEP evaluation team believes require further action and that should be brought to the attention of the ACO, MIO, MIDO, or CMO managers, the geographic PI, the AE, and the Flight Standards principal maintenance inspector (as appropriate). Use the instructions in appendix F to record these special emphasis items. Prepare original documents as follows:

1 PAH or Associate Facility. Prepare one original document.

2 Facility with Multiple Production Approvals. Prepare only one original document. For example, if a facility has a PMA and a TSO authorization, prepare one original document.

(e) Discuss with team members, as appropriate, and record any lessons learned during the ACSEP evaluation that may improve ACSEP policy or evaluation techniques. Use the instructions in appendix G. Prepare only one original document and include copies with each report.

(f) Verify that signed original Form(s) 8100-6 have been prepared for inclusion, as applicable, in each ACSEP evaluation report to be sent to the responsible certificate management MIDO, CMO, or ACO having delegation oversight. See paragraph 4-21f. Each report to be sent must include all applicable Form(s) 8100-6. When a signed original Form 8100-6 is applicable to two or more reports, do the following:

1 Reproduce the signed original Form(s) 8100-6 as required for inclusion in the applicable ACSEP evaluation report(s) to be sent to the responsible certificate management MIDO or CMO with oversight.

2 Identify all true copies of the signed form in accordance with Order 2150.3.

(g) Provide a copy of the completed final draft Form(s) 8100-6 to the certificate management PI or AE, and the geographic PI, as applicable, when they are present.

(h) Verify that the required number of true copies of objective evidence have been prepared for inclusion, as applicable, in each ACSEP evaluation report to be sent to the responsible certificate management MIDO or CMO having oversight.

(i) Provide all true copies of objective evidence to the certificate management PI or AE, when present. When the PI or AE is not present, forward the copies in accordance with the applicable instructions in paragraph 4-23a. If the objective evidence will be necessary as a reference during preparation of the evaluation report, make a separate copy and identify each page as "For Reference Only."

(3) Certificate Management PI or AE, or Geographic PI (When Present). As appropriate, consider providing a copy of the completed final draft Form(s) 8100-6 to the facility's management. Clearly mark each copy as "DRAFT" before release.

4-17. Postevaluation Conference. The team leader or principal evaluator must conduct a postevaluation conference with appropriate senior management and cognizant supervisory personnel of the evaluated facility. The team leader or principal evaluator must, as appropriate, do the following:

a. Introduce FAA personnel not previously introduced at the preevaluation conference.

b. Give a brief presentation of the overall results of the evaluation, using each completed ACSEP Evaluation Executive Summary as a reference:

(1) Provide a copy of each completed ACSEP Evaluation Executive Summary to the evaluated facility's designated representative.

(2) Summarize all noncompliances. Mention only noncompliances previously discussed with the certificate management PI and AE, the geographic PI, as applicable, and facility personnel.

c. Explain the purpose and use of the ACSEP database.

d. Explain corrective action and followup procedures.

Note: Emphasize that the PI or AE may conduct additional investigations into noncompliances reported in the ACSEP evaluation report. The results of these investigations may be included with the letter requesting corrective action for the ACSEP evaluation noncompliances.

e. Remind senior management about Form 8100-7 and encourage them to complete the form and send it to the address on the form within 30 calendar days of the postevaluation conference.

f. Request final comments. Clarify any misunderstandings or disagreements before departure.

g. Adjourn the ACSEP evaluation.

4-18. through 4-20. Reserved.

Section 3. Postevaluation Activities

4-21. Preparing the ACSEP Evaluation Report. The team leader or principal evaluator must prepare the ACSEP evaluation report. When a facility has one or more production approvals, prepare one original evaluation report. Format and compile each evaluation report in the CMIS program. The report will consist of the following:

> **Note:** Ensure that the evaluation report identifies only noncompliances presented at the postevaluation conference.

a. FAA Form 8100-3, ACSEP Evaluation Report, or printed copy of electronic equivalent (appendix H). Each form or printed copy must be an original and signed. Prepare an original form or printed copy for each PAH affected.

b. ACSEP Executive Summary or printed copy of electronic equivalent (appendix E). Each summary must be an original and signed. Prepare an original summary or printed copy for each PAH affected.

c. ACSEP Evaluation Special Emphasis Items or printed copy of electronic equivalent (appendix F). Prepare an original list of special emphasis items or printed copy for each PAH affected.

d. ACSEP Evaluation Lessons Learned or printed copy of electronic equivalent (appendix G). Prepare an original list of lessons learned or printed copy for each evaluation.

e. Form 8100-4 or printed copy of electronic equivalent (appendix D, part B). Prepare an original form or printed copy for each PAH facility affected.

f. Form 8100-6 or printed copy of electronic equivalent. Each report must include all applicable Form(s) 8100-6.

> **Note:** Do not include reproductions of true copies of objective evidence in an original evaluation report. Objective evidence must be a true copy signed and dated in accordance with Order 2150.3.

4-22. Quality Review of the ACSEP Evaluation Report. The ACSEP Evaluation Report contains the data that forms the basis of corrective action requests (see paragraph 4-24) and the ACSEP national database described in chapter 5 of this order. To this end, the evaluation report must be accurate and complete. Directorate managers (or delegated individuals) must establish a review process within their directorates that ensures accuracy and completion of the evaluation report before distribution.

4-23. Sending the ACSEP Evaluation Report. Using CMIS, the team leader or principal evaluator and the responsible ACO and MIO managers (or delegated individuals) will process the evaluation report as follows (see appendix I):

a. Team Leader or Principal Evaluator.

(1) Make the evaluation report available to the responsible MIDO/CMO manager or delegate within 15 working days of the postevaluation conference. The manager or delegate must return the report to the team leader or principal evaluator for correction and/or continued processing within 5 working days of receipt.

(2) Make the evaluation report available to the responsible certificate management MIO manager within 5 working days of receipt of the MIDO/CMO manager or delegate comments. Do not send copies of objective evidence to the MIO manager. Send or deliver all true copies of any objective evidence to the attention of the certificate management PI.

(3) Make the evaluation report available to the cognizant ACO manager and to AIR-200. The copy for the ACO manager may be tailored according to the needs of that manager. Include copies of any objective evidence that the ACO manager may require to investigate identified special emphasis items. These copies must be sent or delivered to the attention of the ACO manager. Do not send copies of objective evidence to AIR-200.

(4) Make the evaluation report available to the immediate supervisor of any evaluators-in-training assigned to the team.

b. Certificate Management MIO Manager.

(1) Make the evaluation report available to the certificate management PI within 3 working days of receipt of the report from the ACSEP team leader.

(2) Include any additional evaluation documents that the team leader provides.

c. Certificate Management ACO Manager.

(1) Make the evaluation report available to the AE within 3 working days of receipt of the report from the ACSEP team leader.

(2) Send or deliver all copies of any objective evidence to the attention of the AE, as applicable; send the true copies of the objective evidence under separate cover.

> **Note:** ACO investigations of special emphasis items identified during the conduct of an ACSEP evaluation should be coordinated with the responsible MIDO or CMO.

4-24 Requesting Corrective Action. The PI must request corrective action in accordance with Order 8120.2.

Chapter 5. ACSEP and CMIS

5-1. Purpose. Evaluation and audit data resulting from PAH certificate management activities is stored in CMIS. Upon extraction from CMIS, this data can be manipulated using Excel or other software with statistics capabilities. The software will be used to detect shifts in performance and statistically significant trends within the manufacturing industry, by Directorate, by production approval type, or by other categories as supported by the data available within CMIS. CMIS data may also be used to study various aspects of the performance of ACSEP evaluations on an as-required basis.

5-2. Files. CMIS contains all ACSEP evaluation-related forms, including FAA Form 8100-3, the ACSEP Evaluation Report; FAA Form 8100-4, the ACSEP Survey Sheet for Production Approval Holders; FAA Form 8100-6, the Noncompliance Record; FAA Form 8100-7, the ACSEP Evaluation Customer Feedback Report; and ACSEP Evaluation Lessons Learned.

5-3. Database Management. AIR-200 is responsible for monitoring CMIS and will, as appropriate, do the following:

a. Review the database as follows:

(1) Enter into CMIS any completed Form 8100-7 as returned by the facility.

(2) Highlight noncompliance trends with respect to the system elements.

(3) Analyze noncompliance trends with respect to the system elements.

(4) Highlight trends emerging in the performance of ACSEP evaluations.

b. Provide selected data and reports.

Note: All recipients of CMIS evaluation and audit data will use the information internally only and will not release results outside of AIR. Refer to appendix L, paragraph 9 of this order.

5-4. Use of the Database. Directorates may use CMIS to obtain reports on noncompliances, frequently used 14 CFR references, and PAH compliance. They may use the database to detect shifts in performance and statistically significant trends for different segments of the industry. Directorates also may use the database to assist in scheduling.

Appendix A. Preparation of Clauses for Contracts for Support Services

1. Purpose. This appendix provides sample contract clauses and a sample certificate of nondisclosure for use in contracts for obtaining services to support ACSEP evaluations, information systems, and system analyses.

2. Sample Clauses and Attachment. The following sample clauses provide the minimum requirements to be included in a contract for support services. Figure 1 shows a sample attachment to the Confidentiality of Information clause requiring support service personnel to agree to its terms and conditions.

a. The following clause is applicable to all contractors:

H.1 Confidentiality of Information.

a. To the extent that the work under this contract requires that the contractor be given access to confidential or proprietary business or technical information belonging to the Government or other companies, designees, contractors, or competitors, or to the extent that in performing the work under this contract, the contractor gains access to Government data through any means, then the contractor must, after receipt thereof, treat such information as confidential and agree not to appropriate such information to its own use or to disclose such information to third parties unless specifically authorized by the contracting officer in writing; however, the foregoing obligations must not apply to the following:

(1) Information that, at the time of receipt by the contractor, is in public domain.

(2) Information that is published after receipt thereof by the contractor or otherwise becomes part of the public domain through no fault of the contractor.

(3) Information that the contractor has in its possession at the time of receipt thereof and was not acquired directly or indirectly from the Government or other companies.

(4) Information that the contractor can demonstrate was received by it from a third party who did not require the contractor to hold it in confidence.

b. The contractor must execute the certificate set forth as attachment 1 for each employee who will participate as an evaluator under this contract. The certificate must be presented by the contractor's employees or forwarded by the FAA to various companies who may be evaluated under the contract.

Figure 1. Sample Certificate of Nondisclosure

Attachment 1. Certificate of Nondisclosure

The undersigned hereby agrees to the terms and conditions set forth in the clause below:

H.1 Confidentiality of Information.

a. To the extent that the work under this contract requires that the contractor be given access to confidential or proprietary business or technical information belonging to the Government or other companies, designees, contractors, or competitors, or to the extent that in performing the work under this contract, the contractor gains access to Government data through any means, then the contractor must, after receipt thereof, treat such information as confidential and agree not to appropriate such information to its own use or to disclose such information to third parties unless specifically authorized by the contracting officer in writing; however, the foregoing obligations must not apply to the following:

(1) Information that, at the time of receipt by the contractor, is in public domain.

(2) Information that is published after receipt thereof by the contractor or otherwise becomes part of the public domain through no fault of the contractor.

(3) Information that the contractor has in its possession at the time of receipt thereof and was not acquired directly or indirectly from the Government or other companies.

(4) Information that the contractor can demonstrate was received by it from a third party who did not require the contractor to hold it in confidence.

b. The contractor must execute the certificate set forth as attachment 1 for each employee who will participate as an evaluator under this contract. The certificate must be presented by the contractor's employees or forwarded by the FAA to various companies who may be evaluated under the contract.

_____ _____

Authorized Contractor Agent Date Contractor Employee Date

b. The following- clause is applicable to support service personnel who will support ACSEP evaluations and should be used in conjunction with clause H.1:

> H.2 Relationships. The contractor must provide support to the Government by completing work assigned under this contract. Support must be provided in the following areas: auditing of quality and engineering functions; collection, evaluation, and processing of data; and written documentation of incidents not in compliance with ACSEP evaluation criteria. The contractor must not provide technical direction under the contract. The contractor must abide by any limitations of access and entry to proprietary or sensitive processes or systems that the Government may stipulate. Although the effort under this contract may include the collection and processing of data, as well as the formulation of noncompliances and recommendations, the final disposition of all information must remain the sole province of the Government.

c. The following clause is applicable to support service personnel who will support database management or system analysis and should be used in conjunction with clause H.1:

> H.2 Relationships. The contractor must provide support to the Government by completing work assigned under this contract. Support must be provided in the following areas: input, analysis, and trending of data; and compilation of analytical reports. The final disposition of all information must remain the sole province of the Government.

Appendix B. Preparation of the Notification Letter to a PAH or Associate Facility

1. Purpose. This appendix provides instructions and sample paragraphs for preparing a notification letter to a PAH or associate facility for a scheduled evaluation.

2. Information to Include in the Notification Letter. Figure 1 provides sample paragraphs with the minimum information to include in a notification letter to a PAH or associate facility. Additional paragraphs may be added as necessary to provide specific directorate or AIR-100/200 information.

a. First Paragraph. The first paragraph is introductory and serves to establish the regulatory basis for the evaluation and to identify the facility and type of approval being evaluated. This paragraph applies to all approval types.

b. Second Paragraph. The second paragraph identifies the dates of the evaluation and provides a general outline of the functions to be evaluated.

c. Third Paragraph. The third paragraph identifies the approximate number of evaluators who will be participating in the evaluation and the team leader or principal evaluator, as applicable. In addition, when support service personnel are used to support an evaluation, this paragraph must state the general purpose of the support service personnel, advise use of the FAA certificate of nondisclosure, request special requirements, and identify the support service personnel.

d. Fourth Paragraph. The fourth paragraph requests appropriate senior management attendance at preevaluation and postevaluation conferences, as well as cognizant technical and supervisory personnel. It also requests assignment of knowledgeable escorts.

e. Fifth Paragraph. The fifth paragraph requests senior management feedback on the conduct of the ACSEP evaluation through Form 8100-7 to be sent to the cognizant ACO or MIO manager. This form should be prepared electronically and may be provided to the facility to be evaluated in either electronic or printed format. Prepare Form 8100-7 (figure 2) by typing in the following:

(1) Block 1. The ACSEP number.

(2) Block 2. The name of the evaluated facility.

(3) Block 3. The start and end dates of the evaluation.

(4) Block 4. The address of the cognizant ACO or MIO manager. Enclose a prepaid self-addressed envelope in which the facility may return the form.

f. Final Paragraph. The final paragraph is a closing paragraph indicating to whom specific questions concerning the evaluation should be addressed. It directs that questions relative to scheduling be addressed to the lead evaluation office or requesting MIDO or CMO and that questions relative to the conduct of the evaluation be addressed to the team leader or principal evaluator.

Figure 1. Sample Paragraphs for the Notification Letter

The Federal Aviation Administration (FAA), in accordance with its responsibilities under the recodified Federal Aviation Act of 1958 (, as amended,) and applicable requirements of Title 14, Code of Federal Regulations, has selected (name of PAH/associate facility), located in (city, state), for the conduct of an evaluation. Your certification as a (type of approval holder) has been approved by the FAA contingent upon the Administrator's right to evaluate and inspect your organization, facilities, product, and records. This includes your entire network of suppliers and approval extensions, as appropriate.

The evaluation of your facility is scheduled to be conducted from (start date) to (end date) under the FAA's Aircraft Certification Systems Evaluation Program (ACSEP). This evaluation will be broad-based in nature and will encompass elements such as design control, manufacturing processes and controls, and supplier control. Procedures and records will be examined in addition to a "hands-on" witnessing of relevant system processes.

(The FAA evaluation team will consist of approximately (total number) members.) The (FAA team leader designated/principal evaluator) for this evaluation is (Mr./Ms.) (name) who may be reached at (telephone number). (His/Her) address is (office address). The evaluation team will be supported by a support service person who will be performing specific duties on behalf of the FAA. This person is identified below. This person will sign an FAA certificate of nondisclosure that will be forwarded to the facility via the FAA (principal inspector/assigned engineer) before the start of the evaluation. Please inform the FAA of any special requirements necessary for this person to access your facilities and restricted areas.

Support Service Person's Name	Company Affiliation
(Name)	(Company)

Attendance by a representative of senior management responsible for the facility to be evaluated, as well as cognizant technical and supervisory personnel, is requested during the preevaluation and postevaluation conferences. We further suggest that escorts who are knowledgeable of the various areas to be visited be provided to ensure the evaluation is conducted smoothly and with minimal disruption to your staff.

One of the primary features of the ACSEP is continuous quality improvement. As part of this process, it is important for us to know what your senior management thought about the conduct of the ACSEP evaluation. We therefore encourage senior management to complete the attached FAA Form 8100-7, ACSEP Evaluation Feedback Report, and return it in the enclosed prepaid self-addressed envelope within 30 calendar days of the postevaluation conference.

If you have any questions concerning the scheduling of this evaluation, please feel free to contact me. If you have any questions concerning the conduct of the evaluation, please contact the (team leader/principal evaluator) (Mr./Ms.) (name of team leader/principal evaluator), at the above address and telephone number.

Figure 2. Sample FAA Form 8100-7, ACSEP Evaluation Customer Feedback Report

Form Approved
OMB No. 2120-0605

U.S. Department of Transportation
Federal Aviation Administration

ACSEP EVALUATION FEEDBACK REPORT

ACSEP No. **(1)** _____

Name of Evaluated Facility: **(2)** _____

Dates Evaluated: **(3)** _____

As part of the Federal Aviation Administration (FAA) and industry continuous improvement efforts for the Aircraft Certification Systems Evaluation Program (ACSEP), this form is provided for your use in furnishing the FAA with comments regarding the conduct of the evaluation recently conducted at your facility. We sincerely encourage you to tell us how we did, and thank you for the time you will take to support our quality improvement and customer service objectives.

Please check the appropriate rating in each of the tables below, and provide any comments that you deem appropriate.

1. Pre-evaluation arrangements	Unsatisfactory	Poor	Satisfactory	Good	Excellent
• Timeliness	☐	☐	☐	☐	☐
• Coordination/Planning	☐	☐	☐	☐	☐

Comments/recommendations for improvement:

2. Pre-evaluation conference	Unsatisfactory	Poor	Satisfactory	Good	Excellent
• Communication	☐	☐	☐	☐	☐
• Presentation	☐	☐	☐	☐	☐
• Purpose of evaluation explained	☐	☐	☐	☐	☐

Comments/recommendations for improvement:

FAA Form 8100-7 (10/02)

Figure 2. Sample FAA Form 8100-7, ACSEP Evaluation Customer Feedback Report (Continued)

ACSEP EVALUATION FEEDBACK REPORT, con't

3. Daily meetings	Unsatisfactory	Poor	Satisfactory	Good	Excellent
• Explanation of noncompliances	☐	☐	☐	☐	☐
• Resolution of issues	☐	☐	☐	☐	☐

Comments/recommendations for improvement:

4. Postevaluation conference	Unsatisfactory	Poor	Satisfactory	Good	Excellent
• Communication	☐	☐	☐	☐	☐
• Explanation of executive summary	☐	☐	☐	☐	☐
• Explanation of followup actions	☐	☐	☐	☐	☐

Comments/recommendations for improvement:

5. Conduct of the evaluation	Unsatisfactory	Poor	Satisfactory	Good	Excellent
• Team professionalism	☐	☐	☐	☐	☐
• Overall conduct of the ACSEP team	☐	☐	☐	☐	☐

Comments/recommendations for improvement:

Signature (optional) Date

Please return completed form to:

(4)

FAA Form 8100-7 (10/02)

Appendix C. Notification Letter Requirements

1. Purpose. This appendix provides a tabular summary of the primary notification letter requirements identified in chapter 3 of this order.

2. Description. Figure 1 provides a summary by facility type of notification letter requirements for which the lead evaluation office is responsible. It identifies the type of notification activity required and when the notification activity should be accomplished.

Figure 1. Notification Letter Requirements Summary

FACILITY TO BE EVALUATED	NOTIFICATION ACTIVITY	TIMETABLE (calendar days before evaluation)
♦ **PAH** ♦ **Associate Facility** ***(Within area of responsibility)*** Ref. para. 3-5a	❶ Letter to facility ❷ Copy to designated team leader or principal evaluator ❸ Copy to PI/AE	50 50 50

Appendix D. Format for Standardized Evaluation Criteria for PAHs and Associate Facilities

Part A. Standardized Evaluation Criteria for PAHs and Associate Facilities

1. Purpose. This appendix provides standardized evaluation criteria used to document the evaluation of the system elements listed in figure 1 for PAHs and associate facilities.

Figure 1. System Elements

Section No.	System Element	Appendix D Page No.
1	Organizational Management	D-2
2	Design Control	D-11
3	Software Quality Assurance	D-16
4	Manufacturing Processes	D-24
5	Manufacturing Controls	D-44
6	Supplier Control	D-67

2. Description of System Elements Section Format. Each section of this appendix addresses one of the six system elements listed in figure 1. Each section is formatted as follows:

a. System Element Description. This is a brief description of what the system element is intended to accomplish or control.

b. System Element Standardized Evaluation Criteria. The evaluation criteria are located in this order and can also be found as part of the order located on the FAA's Web site, and are formatted as follows:

(1) Standardized Evaluation Criteria. Each criterion is identified by a numbered question within a box. The format of each question number is based on the specific system element section number identified in figure 1.

(2) Applicability. This identifies whether the criterion applies to a specific type of production approval (APIS, PC, PMA, and TSO authorization). A table format is used that identifies the type of facility across the top and a code for the type of applicability in the first column. The codes for the types of applicability are defined as follows:

(a) A. This row within the applicability block is used to identify the 14 CFR source requirements applicable to a specific facility. The applicability to a specific facility is indicated by the specific 14 CFR part or section reference (for example, 14 CFR part 21, Certification Procedures for Products and Parts, § 21.143, Quality control data requirements; prime manufacturer).

(b) E. This row within the applicability block is used to identify the enforceable 14 CFR requirement applicable to a specific facility. The applicability to a specific facility is indicated by the enforceable 14 CFR part or section reference (for example, § 21.165, Responsibility of Holder).

> **Note:** The evaluator must determine the actual applicability of the 14 CFR reference on the basis of the encountered condition. For example, paragraph (a)(2) of § 21.125, Production inspection system; Materials Review Board, requires an APIS holder to maintain Materials Review Board records for 2 years. However, it does not require the APIS holder to have written procedures on how the records will be maintained.

(c) P. This applicability code is used within the "A" row to identify criteria that reflect industry best practices and accepted total quality management principles. These practices and principles are often contained in FAA-approved data or other facility procedures. The evaluator must determine the actual level of application at each facility.

(d) N. This applicability code is used within the "A" row or "E" row to indicate that the criterion is generally not applicable at a specific facility.

> **Note 1:** Applicability indicated for a specific type of production approval includes any associate facilities established under that approval.
>
> **Note 2:** When a "P" or "N" is used in the applicability table, a criterion is applicable and enforceable if it is addressed in the approval holder's FAA-approved data/quality manual. (Reference § 21.165 or § 21.607)

(3) Statement of Condition. The statement of condition provides guidelines, not requirements that may assist the evaluator in determining adherence to the criteria. These guidelines are not the only acceptable means of implementation. Evaluators may identify additional practices in FAA-approved data or other facility procedures that indicate adherence to the requirements of the criteria.

Section 1. Organizational Management

1. System Element Description. This system element addresses the evaluated facility's organizational management structure and responsibilities for design control and production functions. This includes procedures and methods used to notify the FAA of specific conditions as required by the applicable CFR (such as recording, reporting, investigation, determining cause, and effecting corrective actions of significant or reported failures, malfunctions, or defects). This function also addresses internal audits whereby the facility ascertains its own abilities and procedural compliance to established policy and guidance.

2. System Element Standardized Evaluation Criteria. The following criteria are used to document the evaluation of this system element.

101. Is the production approval/authorization displayed prominently in the main office of the evaluated facility in which the product is manufactured?

Applicability

	APIS	PC	PMA	TSO
A	P	§ 21.161	P	P
E	N	§ 21.161	N	N

Statement of Condition

a. There is objective evidence that the production certificate is prominently displayed as required. The display should include all attachments, that is, Production Limitation Record.

102. Is the evaluated facility operating within the production limitations of the production approval?

Applicability

	APIS	PC	PMA	TSO
A	§ 21.123	§ 21.151	§ 21.303	§ 21.601
E	§ 21.123	§ 21.165	§ 21.303	§ 21.607

Statement of Condition

a. There is objective evidence that the evaluated facility is manufacturing, for sale/installation, those products it is authorized to manufacture under a production approval.

103. Is there an overall policy/procedural document that describes the facility and each organization responsible for various functions, including a description of responsibilities and their levels of authority?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. The policy/procedural document(s) include, as a minimum—

(1) The current purpose and objectives of the evaluated facility and, as applicable, its function in relation to a PAH having multiple facilities.

(2) A current description of each organization responsible for performing engineering, flight test, manufacturing, and service/product support related functions.

(a) A policy statement establishing the responsibilities and authorities of each of the functional organizations.

(b) A current table or organizational chart that describes the chain of authority and responsibilities within each of the functional organizations and their relationship to management and to the other organizational components.

(c) A list that identifies individuals with the necessary authority to manage each of the functional programs and identifies those authorized to make changes to each program (that is, engineering, quality, manufacturing systems).

(3) A description of the use and functions of FAA designees within the facility.

(a) A policy statement establishing the role of FAA designees and their responsibilities as representatives of the Administrator, ensuring no conflicting restraints are placed on the performance of their duties.

(b) Identification of designees in an organizational position with sufficient authority and involvement with production and quality activities to enable them to administer pertinent CFRs effectively.

(4) A description of organizational responsibility for managing and coordinating activities requiring FAA notification.

(a) Identifies an individual with the necessary authority to manage the notification program.

(b) Procedures that define the method for establishing and maintaining personnel qualifications appropriate to the various functions performed, including the required training.

(c) The manufacturing organization reviews specifications, procedures, etc., before release to ensure the product can be effectively protected and retain conformity to FAA-approved design during production.

b. There is objective evidence of adherence to established policies and procedures.

104. Is the policy document reviewed periodically by the evaluated facility for adequacy and currency, and updated as warranted, and are the policy and procedures documents available to responsible personnel?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. The policy document provides for periodic review and update, when required.

b. The policy document provides for controlled distribution of policy and procedures.

c. There is objective evidence of observance to established policy.

105. Does the evaluated facility have and use a quality manual to describe the management of quality-related subjects, including a description of responsibilities and their levels of authority defined?

Applicability

	APIS	PC	PMA	TSO
A	P	§ 21.143	P	§ 21.143
E	N	§ 21.165	N	§ 21.607

Statement of Condition

a. There is objective evidence that the quality manual, including electronically stored versions, is available in the major quality and inspection areas, and is subject to periodic review and revision.

(1) Everyone associated with the quality system is performing within their described assigned responsibilities and delegated authority.

(2) A table or organizational chart describes the functional relationship of the quality organization to management and to the other organizational components.

(3) A description of assigned responsibilities and delegated authority to make changes to the quality system is provided.

(4) The individual identified for managing the quality program has the necessary authority and organizational freedom.

106. Is quality system data, and changes thereto, submitted to the FAA?

Applicability

	APIS	PC	PMA	TSO
A	P	§ 21.147	P	§ 21.143
E	N	§ 21.165	N	§ 21.607

Statement of Condition

a. There is objective evidence that quality system data changes at a PC holder that may affect inspection, conformity, or airworthiness of the product are promptly submitted in writing to the FAA. Implementation of the changes should be delayed until verbal or written FAA approval, as appropriate, is received.

107. Are tags, forms, and other documents described and controlled?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures include, as a minimum—

(1) A sample of each tag, form, and other document with instructions for use as applicable.

(2) A formal change control procedure.

b. There is objective evidence of observance to established procedures.

108. Has the evaluated facility established a record retention schedule for various types of process, test, and quality/inspection system data?

Applicability

	APIS	PC	PMA	TSO
A	§ 21.125	P	§ 21.303	§ 21.613
E	§ 21.123	N	§ 21.303	§ 21.613

Statement of Condition

a. There is objective evidence that a record retention schedule has been established that complies with applicable CFR and that compliance to retention requirements is periodically verified.

(1) For APIS, TSO authorization, and PMA inspection records, the period is at least 2 years.

(2) For TSO authorization technical data file, the period is until the article is no longer manufactured.

(3) Requirements established that tape files, microfilm, etc., used for record retention exhibit legible data, acceptance stamps and/or signatures, as required.

(4) Records are legibility, complete, and accurate.

109. Are relocations of the manufacturing facility at which products are manufactured, or expansions to include additional facilities at other locations, reported to the FAA in writing?

Applicability

	APIS	PC	PMA	TSO
A	P	§ 21.159 § 21.147	§ 21.303	§ 21.621
E	N	§ 21.165	§ 21.303	§ 21.607

Statement of Condition

a. There is objective evidence that—

(1) For a PC/TSO holder, any changes to location/expansion that affect inspection, conformity, or airworthiness are immediately submitted to the FAA in writing.

(2) Any changes in the location(s) where PMA parts are manufactured, or expansions to include additional facilities at other locations, have been reported to the FAA in writing within 10 days.

110. Are failures, malfunctions, and defects reported to the FAA?

Applicability

	APIS	PC	PMA	TSO
A	§ 21.3	§ 21.3	§ 21.3	§ 21.3
E	§ 21.3	§ 21.3	§ 21.3	§ 21.3

Statement of Condition

a. The organization has established procedures for reporting failures, malfunctions, and defects.

b. The organization's procedures for reporting failures, malfunctions, or defects—

(1) Establish definitions of conditions that must be reported to the FAA.

(2) Establish a method of documenting reportable conditions and a method for reporting them to the FAA.

(3) Require prompt evaluation of each condition to determine if it is reportable to the FAA.

(4) Require that the condition be reported to the FAA within 24 hours (with provisions for weekends and holidays) after it has determined that the failure, malfunction, or defect required to be reported has occurred.

(5) Require retention of each reported condition document, the FAA response, and the organization's disposition of the condition.

c. There is objective evidence that these procedures are being adhered to.

111. Are service bulletins and maintenance manuals approved by authorized personnel and coordinated with FAA engineering?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures define specific organizational and individual responsibilities for issuing service bulletins, maintenance manuals, service difficulty reports, and other related communication.

b. Changes are approved by authorized personnel and coordinated with FAA engineering.

c. There is objective evidence of observance to established procedures.

112. Are there provisions for receiving feedback on service problems/difficulties from users/installers of the product or a part of the product?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for—

(1) Identification of a specific function to receive reports of service difficulties.

(2) Determination of appropriate manufacturing or design responsibilities for the reported problem.

(3) A system of tracking for accountability.

(a) Records are generated and maintained.

(b) Contents of each record used include when the report was received, what was reported, and actions taken.

(c) Records are legible, complete, and accurate.

(d) Requirements established that tape files, microfilm, etc., used for record retention exhibit legible data, acceptance stamps and/or signatures, as required.

b. There is objective evidence of observance to established procedures.

113. Are service problems (both design and manufacturing), unairworthy conditions, unsafe features, or unsafe characteristics reported by the FAA or users, investigated and prompt corrective actions taken by the evaluated facility?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	§ 21.3(f)
E	N	N	N	§ 21.3(f)

Statement of Condition

a. Procedures provide for—

(1) A method of investigating, identifying, locating, and reporting suspected unsafe products.

(2) Prompt corrective action, which includes, as a minimum—

(a) Root cause determination and correction of deficient design or manufacturing.

(b) A means of purging, tracking, and accountability of known unsafe products.

(3) Investigating reports of unairworthy conditions or unsafe features or characteristics reported by the FAA.

(4) Reporting investigation results and actions taken or proposed to the FAA.

b. There is objective evidence of observance to established procedures.

114. Do procedures provide a method to notify users and recall products, when necessary, when nonconformances are suspected or known to exist in products in service?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. There is objective evidence of observance to established procedures.

115. Is there a means for keeping users of the product/part informed of service information, including field purges?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for informing product users of service difficulties, and of required field purges for suspected or known unsafe conditions.

b. There is objective evidence of observance to established procedures.

116. Does the evaluated facility have an internal audit program to verify compliance with established policies, procedures, and approved data?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for—

(1) Planned and documented internal audits of personnel, procedures, operations, equipment, material, processes performed, and records in all major functional areas.

(2) Criteria for conducting compliance, systems, and product audits.

(3) A formal audit schedule that is available, approved by management, and followed.

(4) Requirements for the qualification and training of personnel who are performing the audits.

(5) Auditors who are independent of the activity being audited.

(6) Special audits when significant customer problems are detected, or when there are significant changes to processes or systems.

(7) Methods for identifying and reporting nonconformance and obtaining required corrective action.

117. Are results of internal audits reported to facility management and are the audits used for improvement of the quality system/product?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for—

(1) Review of internal audit results and corrective actions by management.

(2) Review of internal audit results by personnel having responsibility for the areas audited.

(3) Root cause determination and development of appropriate and prompt corrective action.

(4) Followup audits (as necessary) to ensure effective implementation of corrective action.

(5) Actions taken to determine if changes are required to the quality system or other similar processes, which may not have been evaluated, in addition to correcting reported noncompliance.

Section 2. Design Control

1. System Element Description. The methods for approving, controlling, and documenting FAA-approved designs and design changes. Specific functions necessary include the planning and integration of the evaluated facility's procedures for continuously maintaining the integrity of design data, drawings, part lists, and specifications necessary to define the configuration and the design features of the product. This includes software used in type-certificated aircraft or related products (airborne software).

2. System Element Standardized Evaluation Criteria. The following criteria are used to document evaluation of this system element.

201. Are there procedures for the control of technical data/documents and do they include storage, maintenance, and protection?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N*	N	N	N

Statement of Condition

a. Procedures provide for—

(1) Storing, maintaining, and protecting design data/documents to preserve their integrity, including magnetic storage media used as part of design documentation, if applicable.

(2) Identification of technical data/documents.

(3) Indication of technical data/documents approval, including FAA approval.

(4) A list of technical data/documents necessary to define configuration of the FAA-approved design.

b. There is objective evidence of observance to established procedures.

202. Are the issuance, retrieval, distribution, and currency of design and technical data documents controlled?

Applicability

	APIS	PC	PMA	TSO
A	§ 21.125	§ 21.143	§ 21.303	§ 21.613
E	§ 21.123	§ 21.165	§ 21.303	§ 21.607

Statement of Condition

a. There is objective evidence of—

(1) Control of design and technical data document issuance, including persons authorized to obtain documents and for retrieval of obsolete documents.

(2) The method for making available to or notifying employees concerning changes in technical data.

(3) Verification that correct documents are in use for the product being produced.

(4) Current design and technical data document distribution lists.

(5) A complete and current file of technical data, including design drawings and specifications.

(6) Electronically stored and transmitted technical design and quality data are adequately controlled.

203. Do the manufacturing, quality, and service/support organizations participate in the review of design and technical data changes?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for the manufacturing organization, quality organization, and service/support organization to review design and technical data changes before release to ensure the product can be produced in conformity to an FAA-approved design.

(1) The product can be properly evaluated and verified to be in conformity to an FAA-approved design. Inspection equipment is available or can be procured that will adequately verify conformity to FAA-approved design, and that can be controlled for accuracy, when required.

(2) Service/product organization review design data changes before release to ensure appropriate airworthiness and service documents that are affected by the design change are revised as required.

b. There is objective evidence of observance to established procedures.

204. Are there procedures in place to approve, document, and control changes to product design?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures include, as a minimum—

(1) Methods for documenting design changes.

(2) A description of the change approval cycle, including personnel authorized to approve changes.

(3) A means of controlling the issuance and distribution of design changes.

b. There is objective evidence of observance to established procedures.

205. Are changes to technical data referenced on FAA-approved design data (specifications, installation instructions [when applicable], and airborne software documentation) appropriately documented and approved?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide that changes to technical data referenced on FAA-approved design data are documented and approved in the same way as changes to product design.

b. There is objective evidence of observance to established procedures.

206. Are minor design changes approved under a method acceptable to the FAA?

Applicability

	APIS	PC	PMA	TSO
A	§ 21.95	§ 21.95	P	§ 21.611
E	§ 21.123	§ 21.165	N	§ 21.607

Statement of Condition

a. There is objective evidence that—

(1) Minor changes in a type design are approved by the FAA or by a method acceptable to the FAA. For example, an FAA-approved procedure whereby the PAH approves minor design changes.

(2) For TSO articles, all necessary revised data are submitted to the FAA when minor changes are made and agree with any part number plan specified in the original application.

207. Are major design changes, including process specification changes, submitted to the FAA for approval?

Applicability

	APIS	PC	PMA	TSO
A	§ 21.97 § 21.99 § 21.125	§ 21.97 § 21.99	§ 21.303	§ 21.611
E	§ 21.123	§ 21.165	§ 21.303	§ 21.607

Statement of Condition

a. There is objective evidence that—

(1) Major design changes are submitted to the FAA for approval, including changes to manufacturing and special process specifications.

(2) Design changes resulting from applicable airworthiness directives (ADs), and design changes, which contribute to the safety of the product, are submitted to the FAA for approval.

(3) For TSO articles, a new type or model designation has been assigned to a changed article and that there has been prompt application for a new TSO authorization.

(4) Changes to the process specification include quality inspection acceptance criteria and monitoring to ensure consistency.

208. Have design changes necessary to correct unsafe conditions been incorporated into the FAA-approved design, when applicable?

Applicability

	APIS	PC	PMA	TSO
A	§ 21.123	§ 21.165	§ 21.303	§ 21.607
E	§ 21.123	§ 21.165	§ 21.303	§ 21.607

Statement of Condition

a. There is objective evidence that design changes necessary to correct unsafe conditions have been incorporated into the FAA-approved design. This evidence may include one or more of the following:

(1) Identification of applicable ADs.

(2) Tracking the status of AD incorporation.

(3) Furnishing the customer with the AD incorporation status at the time the product is delivered.

209. Are the instructions for continued airworthiness kept current with design changes, when appropriate, and made available to appropriate persons?

Applicability

	APIS	PC	PMA	TSO
A	§ 21.50	§ 21.50	N	In each TSO
E	§ 21.50	§ 21.50	N	In each TSO

Statement of Condition

a. There is objective evidence of observance to established procedures.

210. Is descriptive data and information on FAA-approved design changes resulting from incorporation of ADs or that contribute to the safety of the product made available to users of the product?

Applicability

	APIS	PC	PMA	TSO
A	§ 21.99	§ 21.99	P	P
E	§ 21.99	§ 21.99	N	N

Statement of Condition

a. There is objective evidence that all applicable descriptive data and information covering FAA-approved design changes or improvements that contribute to the safety of the product are made available to product users.

Section 3. Software Quality Assurance

1. System Element Description. This system element addresses the planning and integration of the evaluated facility's procedures for continuously maintaining the integrity of software used in type-certificated aircraft or related products (airborne software), and the integrity of software and related hardware used for product acceptance. Document DO-178, Software Considerations in Airborne Systems and Equipment Certification (current edition), of the Radio Technical Commission for Aeronautics (RTCA), or comparable means, should be used as guidance for control of airborne software.

2. System Element Standardized Evaluation Criteria. The criteria used to document the evaluation of this system element are divided into two parts: Part A, Airborne Software, and Part B, Product Acceptance Software.

Part A. Airborne Software

301. Is there a Software Configuration Management Plan or procedure to control airborne software configuration?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for—

(1) Installation of the correct version of the software in the delivered product in accordance with the FAA-approved design.

(2) A method by which controlled software containing the FAA-approved design data is transitioned into production. The media containing the software installed in the product is directly traceable to the Software Configuration Management library.

(3) Documentation of integration of software with hardware to specify a unique version for incorporation into the product.

(4) Cross-reference of software documents to their associated software.

(5) The technical data/documents control system that includes software identification methods at the media level and at the product level. The media level identification is incorporated into the software, and the product level identifications are marked on the outside of the product indicating software configuration.

b. There is objective evidence of observance to established procedures.

302. Is there a Configuration Index Document (CID) listing all software documents under configuration control and defining the hardware and software part numbers?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for trace ability of hardware and software part numbers to the drawing control system.

b. There is objective evidence of observance to established procedures.

303. Are there practices and procedures for reporting, tracking, and resolving software problems?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Corrective action procedures, for problems found subsequent to the FAA-approved design, include provisions for airborne software and hardware/software combinations. Procedures may parallel or be part of hardware corrective action procedures.

b. Problem reports addressing changes to software code are under change control.

c. The production test procedures have been modified to reflect the software change and successfully executed against the changed version.

d. There is objective evidence of observance to established procedures.

304. Is obsolete and noncurrent software media recalled and purged, when applicable?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Configuration control procedures for airborne software include methods of purging software for removal of obsolete and noncurrent media, when applicable. Procedures may parallel or be part of hardware purging procedures.

b. Procedures include methods to identify, store, or dispose of obsolete and noncurrent media, when applicable.

c. There is objective evidence of observance to established procedures.

305. Are there methods and facilities to protect computer programs from unauthorized access, inadvertent damage, or degradation?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide—

(1) Configuration control of the airborne software within the product design files.

(2) Limited access to software files and protection from unauthorized changes.

(3) Separate archives for masters and duplicates.

(4) That masters and duplicates are not revived by the same machine simultaneously.

(5) Minimized risk of deterioration and regeneration of errors on selected storage medium.

(6) Assurance that the reproduction of code occurs error free.

b. There is objective evidence of observance to established procedures.

306. Are there procedures to ensure documentation and archival for each version of the delivered airborne software version?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures (that is, version description document) provide for methods to identify, document, and archive the software environment for each version of delivered airborne software.

b. There is objective evidence of observance to established procedures.

307. Is software identified/marked externally/internally in accordance with the engineering drawing requirements?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Work instructions detail the identification/marking requirements.

b. There is objective evidence of observance to established instructions.

308. Is airborne software programmed media handled and stored properly (for example, environmental controls and magnetic interference precautions)?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for special handling of programmed media.

b. There is objective evidence of observance to established procedures.

309. Are build and load instructions established, maintained, and used?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide—

(1) Software build and load into hardware components.

(2) Successful testing of the hardware after the software load.

b. There is objective evidence of observance to established procedures.

Part B. Product Acceptance Software

310. Is there a Software Configuration Management Plan or procedure to control product acceptance software configuration?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for—

(1) Identification of software for an application.

(2) Control of approved versions for product acceptance.

(3) Control of obsolete and noncurrent software.

(4) Identification of software with a software configuration identification.

(5) Documentation of integration of software with hardware to specify a unique version for incorporation into the product.

(6) Cross-reference of software documents to their associated software.

(7) The technical data/documents control system that includes software identification methods at the media level and at the product level. The media level identification is incorporated into the software, and the product level identifications are marked on the outside of the product indicating software configuration.

b. There is objective evidence of observance to established procedures.

311. Are all changes to product acceptance software documented and approved?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for the method to change and approve product acceptance software. A procedure patterned after an engineering drawing change procedure is appropriate to provide a permanent record showing reason for change, revisions to the software, approvals, and effectivity.

b. There is objective evidence of observance to established procedures.

312. Are there practices and procedures for reporting, tracking, and resolving software-related product acceptance problems?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Corrective action procedures for product acceptance software may parallel or be part of manufacturing's general problem identification and corrective action procedures.

b. There is objective evidence of observance to established procedures.

313. Are there methods and facilities to protect computer programs from unauthorized access, inadvertent damage, or degradation?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide—

(1) Configuration control of product acceptance software to prevent unauthorized changes to the software.

(2) Limited access to software files and protection from unauthorized changes.

(3) Separate archives for masters and duplicates.

(4) That masters and duplicates are not available for corruption in the same machine at the same time.

(5) Minimized risk of deterioration and regeneration of errors on selected storage medium.

(6) Assurance that reproduction of code occurs error free.

b. There is objective evidence of observance to established procedures.

314. Is product acceptance software verified before use?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide—

(1) Independent means to verify product acceptance software, and subsequent revisions, to ensure that it accomplishes its intended function.

(2) Means to verify software/firmware/hardware is capable of discriminating between conforming and nonconforming parts or assemblies.

(3) Formal means of identifying approved product acceptance software.

(4) Configuration control of the product acceptance software as it relates to the product being accepted.

b. There is objective evidence of observance to established procedures.

315. Are build and load instructions established, maintained, and used?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide—

(1) Software build and load into hardware components.

(2) Successful testing of the hardware after the software load.

b. There is objective evidence of observance to established procedures.

Section 4. Manufacturing Processes

1. System Element Description. This system element addresses specialized actions whereby materials, parts, or assemblies are accepted, worked or fabricated, tested, inspected, stored, and prepared for shipment. For purposes of an evaluation these actions are broken down as follows:

a. Manufacturing and Special Manufacturing Processes. Specific functions and operations necessary for the fabrication and inspection of parts and assemblies (some examples are machining, riveting, and assembling). Also included are methods whereby materials, parts, or assemblies are worked or fabricated through a series of precisely controlled steps, and that undergo physical, chemical, or metallurgical transformation (some examples are heat-treating, brazing, welding, and processing of composite materials).

b. Material Receiving, Handling, and Storage. The methods used to accept and protect raw materials, parts, subassemblies, assemblies, and completed products during receipt, manufacture, inspection, test, storage, and preparation for shipment.

c. Airworthiness Determination. The function that provides for evaluation of completed products/parts thereof, and related documentation, to determine conformity to FAA-approved design data and their condition for safe operation.

2. System Element Standardized Evaluation Criteria. The following criteria are used to document evaluation of this system element. The criteria used to document the evaluation of this system element are divided into three parts: Part A, Manufacturing and Special Manufacturing Processes; Part B, Material Receiving, Handling, and Storage; and Part C, Airworthiness Determination.

Part A. Manufacturing and Special Manufacturing Processes

401. Are work instructions and revisions to work instructions reviewed, approved, controlled, and documented?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for—

(1) Preparation of work instructions and revisions to work instructions to ensure the work functions to be performed are satisfactorily accomplished. Work instructions include the following:

(a) Sequence of operations;

(b) Accept/reject criteria;

(c) Workmanship criteria;

(d) Inspection methods;

(e) Tolerance limits;

(f) Environmental conditions;

(g) Sampling plans;

(h) Special drawing notes;

(i) Skilled personnel (certified) required;

(j) Special precautions for critical product protection;

(k) Part marking and identification;

(l) Part stamp location requirements when defined by approved data;

(m) Inspection of assemblies to detect inclusion of foreign objects before closure;

(n) Reinspection of parts and assemblies that are reopened, disassembled, or tampered with; and

(o) Contamination control in hydraulic installations (for example, purging, filtration, charging, and disposal).

(2) Coordination of initial release and changes to work instructions with affected departments, such as Planning and Quality, to ensure manufacturing processes are adequately controlled.

(3) Authorized quality organization personnel review work instructions and changes before release to ensure—

(a) Inspection points are located in the manufacturing process at points that ensure conformity to FAA-approved design.

(b) Adequate inspection equipment will be available and will be controlled for accuracy, as necessary.

(c) Drawing number and revision level are referred to.

(4) Method by which temporary changes are approved by authorized personnel.

(5) Control of the number of temporary changes allowed before requiring complete incorporation of work instructions.

(6) Control and documentation of revisions to work instructions.

(7) Method by which revisions are identified on the work instructions.

(8) Record of work instruction changes.

(9) Control of obsolete work instructions.

(10) Reflection of design changes that correct unsafe conditions identified in ADs.

b. There is objective evidence of observance to established procedures.

402. Are all special processes in use identified and defined by FAA-approved design data and detailed in process specifications?

Applicability

	APIS	PC	PMA	TSO
A	§ 21.31	§ 21.31	§ 21.31	§ 21.31
E	§ 21.123	§ 21.165	§ 21.303	§ 21.607

Statement of Condition

a. There is objective evidence that special processes in use are identified and documented in FAA-approved design data and/or process specifications. Process specifications address requirements, as applicable, for personnel qualifications, material, equipment, process monitoring requirements, and accept/reject criteria.

b. There is objective evidence that all requirements listed in applicable special processes in use are completed in accordance with the approved process specifications.

403. Are new or changed processes substantiated and approved by appropriate personnel?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. There is objective evidence of—

(1) Verification/testing of new or changed manufacturing and special processes by responsible engineering personnel to ensure the process will produce what the design requires.

(2) Approval of process changes by appropriate personnel.

(3) Documentation of change history by responsible personnel.

404. Are special manufacturing process operators qualified and approved in accordance with the specification/manufacturer's procedures?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. There is objective evidence of periodic review of personnel certifications to ensure only qualified operators perform special processing.

405. Are records generated and maintained for all significant provisions of the quality/inspection program that have an effect on control of the conformity of the manufactured article to FAA-approved design data?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for—

(1) Generation and content of inspection and test records:

(a) Inspection and tests for product acceptance include, as a minimum, applicable drawing/specification number and revision levels.

(b) Results of inspection and tests for first production configuration articles.

(c) In-process inspections used to determine acceptability of an article to FAA-approved design data.

(d) Final inspection acceptability of completed end items.

(e) Periodic inspection and control of tools used as a media of inspection, including check fixtures, inspection gauges, and measurement instruments.

(f) Test data directly traceable to the material, parts, or products tested.

(g) Contents of each record should include, as a minimum, the nature and number of observations, the number and type of discrepancies found, lot identity and size, sample sizes, and resultant corrective action.

(2) Generation and content of special process records:

(a) Complete and continuous monitoring of special processes per specification requirements.

(b) Product identity and material trace ability throughout the processing cycle.

(c) Special process inspection approval, such as unique special process inspection approval stamps.

(3) Record legibility, completeness, and accuracy.

(4) Requirements that storage media used for record retention exhibit legible data, acceptance stamps and/or signatures, as required.

b. There is objective evidence of observance to established procedures.

406. Is equipment required for special processing, such as tools, gauges, instruments, timers, ammeters, or voltmeters, available and calibrated?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Equipment has evidence of current calibration and is available for controlling and monitoring special processes.

407. Is action taken to correct a manufacturing/special process that is found to be out of control?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. There is objective evidence of:

(1) Action when there is loss of control.

(2) Investigation to ensure acceptability of products produced while the process was out of control.

(3) Corrective action as a result of the analysis of trends in process to prevent nonconforming products.

408. Have lists or charts showing location and type of inspection stations been properly maintained?

Applicability

	APIS	PC	PMA	TSO
A	P	§ 21.143	P	§ 21.143
E	N	§ 21.165 § 21.147	N	§ 21.607

Statement of Condition

a. There is objective evidence that lists or charts have been maintained identifying the location and types of inspection stations established to determine conformity of the product to FAA-approved design data.

409. Are inspection methods for each product/part selected to ensure that parts will be inspected for conformity with FAA-approved design data?

Applicability

	APIS	PC	PMA	TSO
A	§ 21.125	§ 21.143	§ 21.303	§ 21.143
E	§ 21.123	§ 21.165	§ 21.303	§ 21.607

Statement of Condition

a. There is objective evidence that parts, components, and assemblies are inspected during production. The inspection system should include—

(1) Documentation and availability of criteria for determining appropriate inspection methods (attribute/characteristics).

(2) Controls of the manufacturing system when physical inspection of parts or processed material is impossible or disadvantageous.

(3) A combination of physical inspection and process control whenever either method alone is not sufficiently capable of determining the quality of parts.

(4) Inspection of assemblies to detect inclusion of foreign objects before closure.

(5) Reinspection of parts and assemblies that are reopened, disassembled, or tampered with.

(6) Contamination control in hydraulic installations (for example, purging, filtration, charging, and disposal).

(7) Procedures for the inspections and tests required to be completed for final acceptance of the completed products/parts.

410. Is the inspection status of products/parts identifiable throughout the manufacturing cycle?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide methods of marking/traceability that ensure identification of inspection status throughout the manufacturing process.

b. There is objective evidence of observance to established procedures.

411. Are inspection-marking devices/stamps issued only to authorized persons and are there procedures to ensure proper control?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for—

(1) Responsibility for control of stamps.

(2) A listing of stamps issued to personnel.

(3) Handling of lost or returned stamps.

(4) Periodic check of all stamps to ensure legibility of stamp impressions and possession of stamps by correct personnel.

(5) The type of stamps to use for the various materials that will require stamp impressions to ensure the material/part is not damaged.

b. There is objective evidence of observance to established procedures.

412. Are special environmental controls (temperature, cleanliness, etc.) used in material storage, handling, manufacturing, and assembly areas when warranted?

Applicability

	APIS	PC	PMA	TSO
A	§ 21. 125	P	§ 21.303	P
E	§ 21. 123	N	§ 21.303	N

Statement of Condition

a. Environmental controls may include—

(1) Storage of sensitive materials in the original or other appropriate container.

(2) Monitoring and recording of temperature and humidity .

(3) General housekeeping to ensure the product is not adversely affected by storage and handling (for example, dirt, dust, water damage, corrosion, compression, dropping, ultraviolet light, heat, or cold).

(4) Training of appropriate personnel in maintaining established environmental controls.

b. Corrective action procedures have been established, and corrective action is taken as required.

Part B. Material Receiving, Handling, and Storage

413. Is receiving inspection required to verify raw materials and supplier-furnished parts/service conform to the FAA-approved design data or purchase order requirements?

Applicability

	APIS	PC	PMA	TSO
A	§ 21.123	§ 21.143	§ 21.303	§ 21.143
E	§ 21.123	§ 21.165	§ 21.303	§ 21.607

Statement of Condition

a. Procedures provide for—

(1) Conformity of supplier furnished items, software, parts, and assemblies, including the inspection and identification of buyer-furnished material.

(2) Verification and identification of raw material, including process material (such as weld rod). Methods include—

(a) Review of certification test reports to ensure all requirements are met.

(b) Types and frequencies of analysis required to verify certifications, consisting, as a minimum, of initial and periodic verifications, dependent on supplier evaluations, past quality performance, and material importance.

(c) Nondestructive inspection techniques employed to verify the quality of castings and forgings.

(d) When specified, Material Laboratory Analysis Records identifiable to batch number, serial number, or heat number for a given part number.

(e) If Material Certificate/Laboratory Analysis is for a quantity of material, serial numbers, if appropriate, identifiable to the respective Material Certificate or Laboratory Analysis.

(3) Extent of actual inspection upon receipt, depending on inspectability for conformity and quality, supplier evaluation results, past quality performance, inspections and reviews conducted at the supplier's facility, and relative importance of the part/material.

(4) First article inspection and test of products produced by new suppliers.

(5) Inspection and documentation requirements to meet current design data.

(6) Evaluation of incoming statistical data.

b. There is objective evidence of observance to established procedures.

414. Are records of receiving inspection generated and maintained?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for—

(1) Contents of each receiving inspection record to include name, part number, sample size, type and quantity of inspections made, conformance or nonconformance, quantity and description of nonconformances found, and action taken.

(2) Record legibility, completeness, and accuracy.

(3) Requirements that storage media used for record retention, exhibit legible data, acceptance stamps and/or signatures, as required.

b. There is objective evidence of observance to established procedures.

415. Are purchased shelf-life materials and products verified to ensure specification requirements are met?

Applicability

	APIS	PC	PMA	TSO
A	§ 21.125	§ 21.143	§ 21.303	§ 21.143
E	§ 21.123	§ 21.165	§ 21.303	§ 21.607

Statement of Condition

a. Procedures provide for—

(1) Verification upon receipt of purchased material or products that have shelf-life requirements to ensure they are within specified dates.

(2) Withholding from production, purchased material or products not within the specified shelf-life requirements unless special testing is accomplished to verify conformity.

b. There is objective evidence of observance to established procedures.

416 Are age-sensitive products/parts/material identified and controlled?

Applicability

	APIS	PC	PMA	TSO
A	§ 21.125	P	§ 21.303	P
E	§ 21.123	N	§ 21.303	N

Statement of Condition

a. There is objective evidence that—

(1) Age-sensitive materials and materials susceptible to deterioration/corrosion are identified and controlled. This includes, as a minimum—

(a) Determination of shelf-life limits by type of material.

(b) Detailed mixing instructions if different from manufacturer's.

(c) Instructions for retest and extension of shelf life.

(d) Permissible amount of time shelf life may be extended.

(e) Identification requirements for shelf-life extension dates.

(2) Bins containing limited shelf-life items are identified.

(3) Out-of-date items in bonded areas are identified and segregated until reinspected, retested, and dispositioned.

(4) Raw materials used in composites (for example, pre-preg rolls and epoxy/adhesive materials) are in compliance with manufacturer's specifications. There is a documented trail covering receipt of material, initial testing, usage, storage, retesting, etc.

417. Are material and parts awaiting acceptance segregated?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for control, identification, and segregation (where practical) of material and parts awaiting testing or inspection from those already accepted.

b. There is objective evidence of observance to established procedures.

418. Are traceable components identified in assembly records?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. There is objective evidence that traceable components are identified in assembly records (that is, fitted parts/components/assemblies, matched sets).

419. Are completed parts traceable to raw material, when applicable?

Applicability

	APIS	PC	PMA	TSO
A	§ 21.125	§ 21.143	§ 21.303	§ 21.143
E	§ 21.123	§ 21.165	§ 21.303	§ 21.607

Statement of Condition

a. There is objective evidence that—

(1) Completed parts can be traced to raw material through records.

(2) Traceable parts are marked and recorded.

(3) Procedures for handling rejected traceable parts are followed.

420. Is traceability for split lots maintained, including accountability for the completion of all manufacturing and inspection operations?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for—

(1) Control of split lots.

(2) Accountability of products through each stage of the manufacturing process.

(3) Accountability for shortages/overages as successive operations are performed.

b. There is objective evidence of observance to established procedures.

421. Are special identification and controls required if materials or parts are introduced into production before full acceptance?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for—

(1) Special identification and controls for material or parts introduced into production before full acceptance or release.

(2) Conditions in which the pre-release of material or parts will be allowed.

(3) Obtaining appropriate documented approvals before pre-release.

(4) Documentation of each pre-release to show approvals, reasons for pre-release, and where in the production line material or parts are allowed to progress until full release is obtained.

(5) Identification of material or parts in such a manner that they can be retrieved if full release is not obtained.

b. There is objective evidence of observance to established procedures.

422. Are appropriate methods used to prevent part damage or contamination?

Applicability

	APIS	PC	PMA	TSO
A	§ 21. 125	P	§ 21.303	P
E	§ 21. 123	N	§ 21.303	N

Statement of Condition

a. There is objective evidence of—

(1) Instructional guidance on the use of material handling equipment.

(2) Methods for stacking parts.

(3) Methods for tying, wrapping, or properly supporting parts to preclude shifting and falling.

(4) Methods to protect critical machined surfaces, highly polished surfaces, or plated parts. Methods include use of lift fixtures, covering on forklift contact surfaces, protective containers, wrapping, interlayering with protective material, and special racks.

(5) Methods to protect electronic parts from corrosion, pin damage, or contamination from dust or dirt. Sealed parts (for example, switches, circuit breakers, or relays) are protected from rough handling and contact damage from like parts or other products.

(6) Methods to protect product from contamination. Methods may include—

(a) Capping all openings in components (for example, tubing, valves, electrical connectors, and pumps) prone to entrapment of foreign objects.

(b) Bagging, plugging, or capping completed hose and hose assemblies.

(c) Individually packaging or properly protecting oxygen equipment, plumbing, and fittings. Methods also include cleaning instructions and subsequent protection for contaminated items.

(d) Bagging or capping of sensing devices (for example, instruments, pressure and vacuum transducers, cabin pressurization equipment, gyros, switches, or air data computers), and pressure venting when required.

(7) Special handling provisions (for example, white gloves or electrostatic discharge (ESD) control), where warranted. These provisions may include—

(a) Protective measures to prevent fingerprints (particularly the by-products of oil, moisture, and salt) from deteriorating the product or causing inadequate adhesion.

(b) Protecting grease-coated products (for example, control cables, bearings, gears, and rod ends) from dust, dirt, and corrosion.

(c) Training in special handling and storage techniques.

(d) Proper handling of ESD-sensitive supplies and parts, including the methods for clearly identifying supplies and parts that require special ESD handling.

(e) Controlled workstation conditions for removing ESD parts from special tote trays, boxes, and packaging.

(8) Methods to protect products during transit. Methods may include—

(a) Bagging, boxing, or tying parts and material to prevent intermixing.

(b) Retaining product in original containers as long as possible or practical.

(c) Foam, pads, or special packaging for delicate parts susceptible to vibration and shock damage.

(d) Covering, tying, or banding parts and material that may be blown out of carts, trucks, or dollies.

(e) Protecting parts and materials from adverse weather conditions that would affect the product.

(9) Design engineering review of recurrent product damage.

423. Are cleaners, solvents, degreasers, and other fluids adequately identified and controlled to prevent potential product damage from misapplication?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for—

(1) Decanting and identifying cleaners, solvents, and other fluids used in the work area, specifying types of containers to be used, requirements for re-use, and method of identification.

(2) Identifying the methods to be used when potentially damaging fluids are misapplied to a product.

b. There is objective evidence of observance to established procedures.

424. Is there proper separation and identification of products/parts in storage and manufacturing areas?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. There is objective evidence that parts and materials are identified/separated from like or similar parts and materials.

b. Contents of bins, shelves, storage areas, and manufacturing areas are identified.

Part C. Airworthiness Determination

425. Are required design changes incorporated into products/parts being stored before their release for installation/shipment?

Applicability

	APIS	PC	PMA	TSO
A	§ 21.125	§ 21.143	§ 21.303	§ 21.143
E	§ 21.123	§ 21.165	§ 21.303	§ 21.607

Statement of Condition

a. There is objective evidence that required design changes are incorporated into a product/part in storage before installation or shipment. This evidence may include one or more of the following:

(1) Establishment of effectivity of a design change.

(2) Use of shop order or traveler.

(3) Stock purge requirements.

(4) Rework to engineering instructions, including reidentification requirements.

(5) Inspection requirements.

426. Are only conforming and properly identified products/parts placed in storage and is removal/issuance of parts controlled?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for—

(1) Placement in stock of products/parts thereof that have met established acceptance criteria. This includes parts that have been previously installed and removed, but not nonconforming material.

(2) Control of parts that are not completed to prevent stocking under an identifying part number until complete as defined by print or specification.

(3) Authorized methods for removal or replacement of parts.

(4) Limited and controlled access to storage areas.

(5) Records to be generated and maintained for parts removed from the stock system.

(6) Issue of raw and process material accountable to a released production order.

(7) Control of parts that have been quarantined as a result of a suspected nonconformance.

b. There is objective evidence of observance to established procedures.

427. Do completed products/parts have proper identification markings?

Applicability

	APIS	PC	PMA	TSO
A	§ 45.13 § 45.14	§ 45.13 § 45.14	§ 45.15 § 45.14	§ 21.607 § 45.14
E	§ 45.11 § 45.14	§ 45.11 § 45.14	§ 45.15 § 45.14	§ 21.607 § 45.14

Statement of Condition

a. There is objective evidence that—

(1) Completed products/parts are properly identified and legible.

(2) Aircraft and aircraft engines are identified by means of a fireproof plate and have the required identification data.

(3) Propellers, propeller blades, and hubs are identified by means of a plate, stamping, engraving, etching, or other approved method of fireproof identification, and have the required identification data.

(4) Manned free balloons are identified by means of a fireproof plate on the balloon envelope, basket, and heater assembly, and have the required identification data.

(5) For TSO authorizations, articles are identified with the name and address of the manufacturer, the name, type, part number, or model designation of the article, the serial number or the date of manufacture or both, and the applicable TSO number.

(6) For PMA, parts are identified with the letters "FAA-PMA"; the name, trademark, or symbol of the approval holder; the [approved PMA] part number; and the name and model designation of each type-certificated product on which the part is eligible for installation. For parts that the FAA finds are too small or impractical to mark, a tag may be attached that must contain the information that cannot be included on the part, or may refer to specific part manuals or catalogs.

(7) For critical components, parts are permanently and legibly marked with a part number (or equivalent) and a serial number (or equivalent).

428. Are only conforming and properly identified products/parts shipped under the production approval?

Applicability

	APIS	PC	PMA	TSO
A	§ 21.125	§ 21.143	§ 21.303	§ 21.143
E	§ 21.123	§ 21.165	§ 21.303	§ 21.607

Statement of Condition

a. Procedures provide for—

(1) Packaging and shipping of products/parts manufactured under the production approval that have met established acceptance criteria.

(2) Compliance with shipping instructions.

(3) Methods for preservation, packaging, and shipping of completed products.

b. There is objective evidence of observance to established procedures.

429. Have statements of conformity for products been submitted to the FAA for airworthiness determination?

Applicability

	APIS	PC	PMA	TSO
A	§ 21.130	N	N	N
E	§ 21.130	N	N	N

Statement of Condition

a. There is objective evidence that a statement of conformity for the product manufactured by an APIS holder has been submitted to the FAA, and that this statement has been signed by an authorized person who holds a responsible position in the manufacturing organization.

430. If an export airworthiness approval has been issued, have the necessary documents and instructions been forwarded to the aviation authority of the importing country, or to other locations as specified in the special requirements of importing countries in AC 21-2?

Applicability

	APIS	PC	PMA	TSO
A	§ 21.327	§ 21.327	§ 21.327	§ 21.327
E	§ 21.335	§ 21.335	§ 21.335	§ 21.335

Statement of Condition

a. There is objective evidence that—

(1) All documents and information necessary for proper operation of the products being exported have been forwarded to the cognizant aviation authority.

(2) Manufacturing assembly instructions and an FAA-approved flight test checkoff form have been forwarded to the cognizant aviation authority for unassembled aircraft being exported.

431. Have authorized personnel issued airworthiness approvals (Form 8130-4 or 8130-3)?

Applicability

	APIS	PC	PMA	TSO
A	§ 21.323	§ 21.323	§ 21.323	§ 21.323
E	§ 21.323	§ 21.323	§ 21.323	§ 21.323

Statement of Condition

a. Procedures provide for identification of personnel authorized to issue airworthiness approvals.

b. There is objective evidence of observance to established procedures.

432. Have export airworthiness approvals been obtained for all products/parts that have left the PAH's quality system?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for—

(1) Methods for applying for export airworthiness approvals (Form 8130-4 or 8130-3), and the responsibilities of personnel authorized to submit applications.

(2) All exported products to meet special requirements of the importing country listed in appendix 2 to AC 21-2 (current revision). Procedures provide for properly annotating any deviation on the exporting documentation and including a letter of acceptance from the importing country for such deviations.

(3) Methods for applying for domestic airworthiness approvals (Form 8130-3) and the responsibilities of personnel authorized to submit applications.

(4) Retention of copies of Form 8130-4 and/or Form 8130-3, as applicable.

b. There is objective evidence of observance to established procedures.

For Aircraft Manufacturers ONLY

433. Are completed aircraft registered before airworthiness certification?

Applicability

	APIS	PC	PMA	TSO
A	§ 47.3 § 21.173	§ 47.3 § 21.173	N	N
E	§ 21.173	§ 21.173	N	N

Statement of Condition

a. There is objective evidence that completed aircraft are registered before issuance of airworthiness certificate.

434. Have aircraft been properly identified with nationality and registration marks before airworthiness certification?

Applicability

	APIS	PC	PMA	TSO
A	§ 45.21	§ 45.21	N	N
E	§ 45.21	§ 45.21	N	N

Statement of Condition

a. There is objective evidence that nationality and registration marks are displayed on aircraft, and are properly located and sized before airworthiness certification.

435. Have applicable airworthiness certificates or special flight permits been obtained for the purposes for which the aircraft is flown?

Applicability

	APIS	PC	PMA	TSO
A	Part 21 Subparts H, I	Part 21 Subparts H, I	N	N
E	§ 91.203	§ 91.203	N	N

Statement of Condition

a. There is objective evidence that proper airworthiness certificates or special flight permits have been obtained before using aircraft for their intended purposes.

436. Are flight manuals, supplements, and current weight and balance data furnished with each aircraft at the time of delivery, as applicable?

Applicability

	APIS	PC	PMA	TSO
A	§ 23.1581 § 25.1581 § 27.1581 § 29.1581 § 31.81	§ 23.1581 § 25.1581 § 27.1581 § 29.1581 § 31.81	N	N
E	§ 21.5 § 31.81	§ 21.5 § 31.81	N	N

Statement of Condition

a. There is objective evidence that aircraft flight manuals, supplements, and current weight and balance data are furnished with each aircraft, as applicable.

437. Have registration and airworthiness certificates been cancelled for aircraft whose title has passed to an importing country purchaser?

Applicability

	APIS	PC	PMA	TSO
A	§ 21.335	§ 21.335	N	N
E	§ 21.335	§ 21.335	N	N

Statement of Condition

a. There is objective evidence that U.S. registration and airworthiness certificates have been cancelled by the FAA (contact FAA aircraft registry office in Oklahoma City at 405-954-3116) when title passes or has passed to an importing country purchaser. This evidence includes the return of Registration and Airworthiness Certificates, AC Form 8050-3 and FAA Form 8100-2, to the FAA.

Section 5. Manufacturing Controls

1. System Element Description. This system element addresses specialized actions whereby a PAH ensures materials, parts, and assemblies are worked or fabricated, tested, and inspected to ensure conformity to FAA-approved design. Manufacturing controls also include methods for review and approval of materials and parts that are withheld because of departures from design data or specifications and are to be considered for installation in the finished product. For purposes of an evaluation, these actions are broken down as follows:

a. Statistical Quality Control (SQC). A method that may be used by the PAH to control product quality by statistical methods, and that may be used for continuous improvement and/or product acceptance. SQC includes techniques such as statistical sampling, PRE-control, and statistical process control.

b. Tool and Gauge. The function that establishes control of precision measuring devices (for example, tools, scales, gauges, fixtures, instruments, and automated measuring machines) used in fabrication, special processing, inspection, test of detail parts, assemblies, and completed products to determine conformity to FAA-approved design.

c. Testing. The function that provides for static, destructive, and functional tests of production products/parts thereof to ensure conformity to FAA-approved design.

d. Nondestructive Inspection. The application of technical methods to examine materials or components in ways that do not impair future usefulness and serviceability. These methods are used to detect, locate, measure, and evaluate discontinuities, defects, and other imperfections; to assess integrity, properties, and composition; and to measure geometrical characters.

e. Nonconforming Materials. A method of controlling, evaluating, and dispositioning of any product/part thereof that does not conform to FAA-approved design.

2. System Element Standardized Evaluation Criteria. The criteria used to document the evaluation of this system element are divided into four parts: Part A, Statistical Quality Control (SQC), Part B, Tool and Gauge, Part C, Testing and Part D, Nondestructive Inspection.

Part A. Statistical Quality Control (SQC)

501. Has a statistical sampling inspection plan been established for acceptance of specified product characteristics at the receiving inspection and during manufacture?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. There is objective evidence that—

(1) All characteristics essential to ensure compliance to FAA-approved design have been identified. Characteristics that, if not maintained, would or may cause an unsafe condition in the end product are identified separately.

(2) Product characteristics identified as having an impact on the safety of the end product have been 100-percent inspected.

(3) Samples have been selected that adequately represent the lot or process.

(4) Adjustments to the sampling plan are based on acceptance and quality history, and that the sampling plan is tightened to 100 percent inspection when nonconformances affecting safety are discovered.

(5) Statistical inspection conforms to sampling specifications or approved sampling plan requirements.

(6) Sampling plans do not allow the acceptance of "known defectives" in a lot, or acceptable quality levels with known defectives that would affect safety.

502. Do the engineering and manufacturing organizations participate in the review, implementation, and maintenance of statistical quality control and statistical process control techniques used for product acceptance?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for the engineering organization to review SQC/SPC planning before release to ensure the maintenance of FAA-approved design.

b. Procedures provide for the manufacturing organization to review SQC/SPC planning before release to ensure the product can be produced in conformity to FAA-approved design.

c. There is objective evidence of observance to established procedures.

503. Has a satisfactory SPC method been established for acceptance of specific product characteristics?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for—

(1) Authority and responsibility for implementation and control of SPC.

(2) Scheduled independent evaluations of the SPC process to verify its continuing acceptability. This includes a conformity check of the product on a periodic basis.

(3) Identification of principal process characteristics of the product to be controlled and a determination as to the impact that a nonconformance would have on the safety of the end product.

(4) Identification of the types of control charts to be used to ensure maintenance of in-control processes. Variable control charts include charting for both range and variation around the mean.

(5) Capability studies to determine that the process can yield a product that conforms to FAA-approved design data.

(6) Test and measurement equipment study (for example, a gauge study) to identify, eliminate, or adjust for measurement errors that may contribute to process variability.

b. There is objective evidence of observance to established procedures.

504. Are appropriate SPC control limits and subgroup selections used and maintained?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for—

(1) Subgroups representative of the product lot.

(2) Avoidance of subgroup selection biases (for example, patterns, ease of sampling, or pre-selection).

(3) Determination and adjustment of appropriate control limits for each process.

(4) Criteria for determining when an SPC process is considered to be out of control.

(5) Rules for out-of-control conditions and are available to operators or process checkers.

(6) Regular review of the SPC charts to determine changes (for example, shifts) in the process.

(a) Review and retention of charts.

(b) Identification of personnel with the authority to stop the process when necessary.

(c) Notification of functional areas when an out-of-control condition is found, their responsibilities, and response time.

(7) Corrective action for an out-of-control condition.

(a) Additional inspection conducted to ensure product is acceptable.

(b) Evaluation of the need for purge action to remove suspected nonconforming products when a control chart used for acceptance shows an out-of-control condition.

b. There is objective evidence of observance to established procedures.

505. Has a satisfactory PRE-control method been established for acceptance of specific product characteristics?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for—

(1) Authority and responsibility for implementation and control of PRE-control.

(2) Scheduled independent evaluations of the PRE-control process to verify its continuing acceptability. This includes a conformity check of the product on a periodic basis.

(3) Identification of principal process characteristics, of the product to be controlled, and a determination as to the impact that a nonconformance would have on the safety of the end product.

(4) Capability studies using statistical techniques, ensuring process capability is less than the tolerance of the specific product characteristic to be measured.

(5) Test and measurement equipment study (for example, a gauge study) to identify, eliminate, or adjust for measurement errors that may contribute to process variability.

(6) Establishment of PRE-control limits based on the tolerance of the specific product characteristic to be measured to ensure maintenance of in-control processes.

(7) Qualification of the setup during production, ensuring a minimum of five consecutive parts measured fall within the target area established by the PRE-control limits.

(8) Periodic measurement during production after the setup is qualified.

(9) Corrective action to adjust the process, requalify the setup, and recall and reinspect suspected products when PRE-control limits are exceeded.

b. There is objective evidence of observance to established procedures.

506. Are pertinent personnel trained in statistical techniques?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for—

(1) Responsibility for training (for example, statistical sampling, PRE-control, and SPC).

(2) Training new or newly transferred employees in statistical techniques.

b. There is objective evidence of observance to established procedures.

Part B. Tool and Gauge

507. Does the specified equipment used for inspection and test have the degree of accuracy necessary to determine conformity of the characteristic being inspected?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for—

(1) Engineering involvement in the selection of precision measuring devices used in fabrication, inspection, and test to ensure the precision and accuracy required to determine conformity to the design feature/characteristic being inspected.

(2) Determinations and adjustments for the effects of tool wear.

(3) The degree of accuracy of all measurement devices and test equipment.

(4) Measurement devices and test equipment capable of the accuracy necessary and adequate for the intended purpose, including measurement devices and test equipment substituted for those specified.

b. There is objective evidence of observance to established procedures.

508. Are tools, gauges and equipment initially approved, periodically inspected and calibrated when applicable?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for—

(1) Initial inspection, calibration, and approval of all test and measurement equipment.

(a) Establishment of the accuracy of all measurement devices before initial use.

(b) Assignment of calibration methods and initial calibration interval to ensure continued accuracy.

(c) Test and measurement equipment study (for example, a gauge study) to identify, eliminate, or adjust for measurement errors that may contribute to variability.

(d) Unique identification of individual measurement devices and standards to provide trace ability to the calibration records.

(e) Inclusion in the identification and calibration system of personally owned gauges used for product acceptance.

(f) Indication of the calibration status of measurement devices and standards. Typically, labels are used but other suitable controls can be provided.

(2) Periodic inspection and calibration of all measurement devices at prescribed intervals, or just prior to use, that will ensure their continued accuracy.

(a) Adjustment of calibration intervals based on analysis of previous calibration results, wear, stability, purpose, and degree of usage.

(b) Calibration by qualified personnel.

(c) Appropriate environmental conditions for calibration to ensure accuracy.

(d) Control of measurement devices and standards that are overdue for calibration.

(3) Tool control procedures for production tooling to ensure accuracy and repeatability for product acceptance before use.

(a) Inclusion in the calibration system.

(b) Assignment of unique identifiers.

(c) Availability of current applicable tool drawings.

(4) A documented mandatory recall system to ensure all measurement devices, calibration standards, and production tooling used for product acceptance are recalibrated at prescribed intervals.

(5) Generation and maintenance of tool and gauge records:

(a) Contain nomenclature, unique identifier, location, details of all adjustment, repair or rework accomplished, calibration history, source and date next inspection is due, and standard used.

(b) Record legibility, completeness, and accuracy.

(c) Requirements that tape files, microfilm, etc., used for record retention exhibit legible data, acceptance stamps and/or signatures, as required.

b. There is objective evidence of observance to established procedures.

509. Do standards used for calibration have adequate accuracy and are they traceable to a recognized international standards organization?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for—

(1) Accuracy, stability, range, and resolution of the standard used for calibration appropriate for the measurement device characteristic being calibrated. The accuracy ratio of the standard is dependent on the evaluated facility's measurement requirements (a minimum of four times more accurate than the gauge being calibrated, if possible).

(a) Methodology to determine adequacy of the calibration standards.

(b) Certificates, reports, or data sheets attesting to the accuracy of all calibration standards.

(2) Calibrations are traceable to the National Institute of Standards and Technology or other recognized international standards organization. If no national standard exists, the basis for calibration is documented.

510. Are tools and gauges protected, maintained, and used in an acceptable environment, when specified, to ensure product conformity to FAA-approved design data?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for—

(1) Methods for handling, transporting, and storing measurement devices and standards to ensure required accuracy and reliability are maintained. Methods usually are in accordance with equipment manufacturer's recommendations and established industry practices.

(2) Actions taken when improper handling or storage occurs. As a minimum, an investigation is made to determine the adverse effects and action to be taken.

(3) Storage of measurement devices and standards appropriate to maintain required accuracy and fitness for use. Vibration, shock, temperature variations, humidity, and contamination are some of the detrimental factors the procedure considers.

(4) Replacement of measurement devices and standards, as required, to ensure product conformity to FAA-approved design data.

(5) Identification of environmental conditions necessary for use and calibration of measurement devices and standards.

(6) Appropriate use of measurement devices and standards in environmental conditions that might affect accuracy, stability, or calibration, such as temperature, relative humidity, vibration, electrical interference, cleanliness, or other controllable factors.

(7) Compensating corrections to calibration or measurement results obtained in an environment that departs from acceptable conditions.

(8) Preclusion from use of standards, inspection tools, gauges, instruments, and jigs that are inaccurate or beyond the scheduled calibration cycle identified. Use is precluded until rework or recalibration is accomplished.

(9) Identification and control of measurement devices and standards that require rework or recalibration.

(10) Appropriate methods for rework of measurement devices and standards, and sufficient reinspection to ensure accuracy.

b. There is objective evidence of observance to established procedures.

511. When a product has been accepted by a significantly out-of-tolerance gauge, is an evaluation conducted to determine the need for corrective action?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for—

(1) Documenting a significant out-of-tolerance condition and investigating the validity of previous measurements.

(2) Notification of the significant out-of-tolerance condition to the user of the measurement device or standard.

(3) Investigations of out-of-tolerance conditions to ensure conditions that adversely affect product quality or safety are reported to the FAA and the user, as required. This includes involvement of appropriate organizations, that is, service/product support.

b. There is objective evidence of observance to established procedures.

512. Are tool control procedures applied to NDI equipment?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for—

(1) Periodic calibration of NDI equipment, and generation and maintenance of records.

(2) Measurement of black light intensity on a periodic basis (preferably daily) using a calibrated black light meter.

(3) Measurement of white lights on a periodic basis using a calibrated white light meter.

b. There is objective evidence of observance to established procedure.

Part C. Testing

513. Are test procedures/applicable instructions and subsequent changes, established, maintained, and adequately controlled?

Applicability

	APIS	PC	PMA	TSO
A	P	§ 21.143	P	§ 21.143
E	N	§ 21.165	N	§ 21.607

Statement of Condition

a. Procedures provide for—

(1) Preparation and maintenance of test procedures and instructions applicable to the products/parts produced to ensure each article conforms to FAA-approved design data. Test documents include the following, as applicable:

(a) Original and recurring correlation and calibration to an established standard or baseline, determined by the facility and approved by the FAA, of aircraft engine test cells for the verification, validation, and repeatability of acceptance testing.

(b) A specified schedule of post-test teardown inspection to verify product quality, followed by rebuild and retest. A higher frequency of post-test teardown inspection for new products until the adequacy of assembly tooling, instruction, and techniques has been demonstrated.

(2) Actions to be taken when tests fail.

(3) Approval and control of all test procedure and instruction changes by authorized personnel.

(4) Requirements for changing test procedures and instructions.

(5) Review and verification of test procedure/instruction changes to ensure product quality is not negatively impacted.

(6) Documentation of test procedure/instruction change history by responsible personnel.

b. There is objective evidence of observance to established procedures.

514. Do procedures ensure the appropriate organizations participate in the review of test instructions or procedures?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for—

(1) The appropriate organization (for example, manufacturing, engineering, and/or quality) review test instructions or procedures before release to ensure the product can be tested in conformity to FAA-approved design, including that—

(a) The product can be properly evaluated and verified to be in conformity to the FAA-approved design. This includes the identification of inspection points that ensure conformity to FAA-approved design.

(b) Inspection equipment is available or can be procured that will adequately verify conformity to FAA-approved design and that can be controlled for accuracy, when required.

(2) The appropriate organization (for example, manufacturing, engineering, and/or quality) personnel to authorize additions, deletions, or changes to inspection points in the test instructions or procedures, based on inspection results.

b. There is objective evidence of observance to established procedures.

515. Are products/parts that have been adjusted or reworked after test acceptance retested to approved procedures?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures outline the requirements for retest of products/parts adjusted or reworked after inspection acceptance when that adjustment or rework could have an impact on the performance of those products/parts.

b. There is objective evidence of observance to established procedures.

516. Are there procedures to ensure records are generated and maintained for completed tests of aircraft, engines, or propellers?

Applicability

	APIS	PC	PMA	TSO
A	P	P	N	N
E	N	N	N	N

Statement of Condition

a. Procedures provide for—

(1) Contents of each record used, including, as a minimum:

(a) Test results,

(b) Test nonconformances, and

(c) Corrective action.

(2) Record legibility, completeness, and accuracy.

(3) Requirements that tape files, microfilm, etc., used for record retention exhibit legible data, acceptance stamps and/or signatures, as required.

b. There is objective evidence of observance to established procedures.

For Aircraft Manufacturers ONLY

517. Have flight test procedures and subsequent changes been submitted to and approved by the FAA?

Applicability

	APIS	PC	PMA	TSO
A	§ 21.127	§ 21.143 § 21.147	N	N
E	§ 21.123	§ 21.165	N	N

Statement of Condition

a. There is objective evidence that flight test procedures have been approved by the FAA before flight test.

b. There is objective evidence that changes to approved production flight test procedures and flight checkoff form(s) are submitted to and approved by the FAA.

c. There is objective evidence of observance to established procedures and an FAA approval letter for the PAH flight test pilots authorized to conduct production flight test.

518. In the case of aircraft, is the evaluated facility using flight test pilots that have been fully qualified?

Applicability

	APIS	PC	PMA	TSO
A	P	P	N	N
E	N	N	N	N

Statement of Condition

a. Procedures provide for use of flight test pilots with current FAA medical certificates who have maintained aircraft currency requirements for the model(s) being flown and who have necessary qualifications for any special procedures required.

b. There is objective evidence of observance to established procedures.

519. In the case of aircraft, is the flight checkoff form properly completed?

Applicability

	APIS	PC	PMA	TSO
A	§ 21.127	§ 21.143	N	N
E	§ 21.123	§ 21.165	N	N

Statement of Condition

a. There is objective evidence that—

(1) Flight checkoff form(s)have been prepared.

(2) Forms are legible, complete, and accurate.

(3) Flight test discrepancies and their correction have been documented.

(4) Satisfactory completion of all flight test requirements has been verified.

Part D. Nondestructive Inspection

520. Are NDI processes, including changes, properly documented, controlled, and reviewed for conformance with FAA-approved design data?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for—

(1) Engineering review of NDI processes to ensure FAA-approved design is maintained.

(2) Method of identifying and controlling revision levels of released NDI instructions.

b. There is objective evidence of observance to established procedures.

521. Are NDI operators certified, recertified, and decertified by the evaluated facility and performing within their limits of authorization?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for—

(1) Initial qualification testing of inspectors before issuance of acceptance stamps.

(2) Requalification of inspectors on a prescribed periodic basis.

(3) Vision requirements and retest on a periodic basis.

(4) Inspectors to provide identification of various levels of qualifications and various fields of expertise.

(5) Qualification of inspectors by authorized personnel.

(6) Identification and notification when requalification and vision tests are required.

(7) Documentation of employee's qualification. Qualification records for NDI operators that include—

(a) Level of certification.

(b) Educational background and experience.

(c) Statement of satisfactory completion of training.

(d) Results of most recent visual acuity examination.

(e) Actual grades obtained in each examination.

(f) Percentile weight assigned to each examination.

(g) Composite grade of all examinations.

(h) Date of certification or recertification, or both.

(i) Signature of NDI examiner.

(8) Appropriate decertification methods for operators failing to maintain qualifications.

(9) The limits of authority for conducting and interpreting test results or writing test reports.

b. There is objective evidence of observance to established procedures.

522. Are applicable NDI procedures/process specifications readily available and used by inspection personnel?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for controlled and detailed methods of inspection in each area of application.

b. There is objective evidence of observance to established procedures.

523. Are the critical NDI parameters identified and controlled?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for radiographic process:

(1) Radiographic film processing per written procedures or manufacturer's instructions.

(2) Mixing of solutions in accordance with manufacturer's instructions.

(3) Control of solution temperatures, replenishing rates, and film travel as required to produce film of the required density, free of spots, streaks, fog, or scum.

(4) Periodic development of process control check strips and recording of densities.

(5) Periodic evaluation of uniformity of exposure.

(6) Film identification so as to have sufficient information to provide traceability and date of inspection.

(7) Inclusion of image quality indicator on each film.

(8) Film storage in accordance with recommendations from the manufacturer and monitoring of date limitations.

b. Procedures provide for ultrasonic inspection:

(1) The use of immersion/squirter/bubbler tanks.

(2) Tanks are free of foreign materials that may inhibit adequate inspection.

(3) Wetting agent and/or corrosion inhibitor are used where needed.

(4) Couplant materials that are not detrimental to part being inspected or subsequent manufacturing operations.

c. Procedures provide for magnetic particle process:

(1) Evaluation of the viscosity of the system oil on a systematic and periodic basis.

(2) Evaluation of the suspension of magnetic particles on a systematic and periodic basis.

(3) Evaluation of system sensitivity using a serialized test item on a systematic and periodic basis.

d. Procedures provide for fluorescent penetrant process:

(1) Checking developers periodically in accordance with applicable specifications.

(2) Checking and recording rinse water temperature and pressure daily (where applicable).

(3) Checking emulsifiers periodically in accordance with manufacturer's recommendations or applicable specifications.

(4) Contamination testing, with results within the prescribed maximum allowable limits. This test is checked on a systematic and periodic basis.

e. Procedures provide for eddy current process:

(1) Appropriate test pieces, eddy current probes, and handling equipment.

(2) Test pieces used to adjust the sensitivity of the electronic apparatus that are free of interfering discontinuities and that contain discontinuities similar in size and composition to those expected in the products to be examined.

(3) Test pieces that provide good signal resolution and have one or more natural or artificial discontinuities, such as notches or holes.

(4) Test areas visually free of grease, oil, rust, scale, or other substances that could interfere with the inspection.

f. There is objective evidence of observance to established procedures.

524. Do procedures address NDI acceptance and rejection criteria?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for—

(1) Coordination of acceptance/rejection criteria with the FAA.

(2) Additional review of marginal inspection results by authorized personnel before acceptance.

(3) Use of acceptance/rejection criteria during inspection.

(4) Identification of personnel authorized to review and update acceptance/rejection criteria.

b. There is objective evidence of observance to established procedures.

525. Is corrective action taken when an NDI process is found to be out of control?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for an investigation to ensure continued acceptability of products accepted while the NDI process was out of control.

b. There is objective evidence of observance to established procedures.

526. Are adequate test pieces and NDI known-defect samples available and identified to preclude introduction into the production system?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for—

(1) Test pieces and samples that adequately reflect the part configuration.

(2) Test pieces and samples containing minimum size anomalies that would cause rejection of the part.

(3) Availability of American Society for Testing and Materials (ASTM) Standards or other reference material for radiographic film interpretation.

(4) Method to identify test pieces and samples with known defects used to establish NDI so as to distinguish them from production items and prevent their introduction into the production system.

b. There is objective evidence of observance to established procedures.

527. Are NDI tanks and solutions checked for compliance with specifications?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for—

(1) Periodic samples of tank solutions to ensure compliance with operating specifications.

(2) Processing of lab reports according to procedures to ensure that out-of-control conditions are responded to immediately.

b. There is objective evidence of observance to established procedures.

528. Are NDI inspection records generated and maintained?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for—

(1) Contents of each record used.

(2) Record legibility, completeness, and accuracy.

(3) Requirements that tape files, microfilm, etc. used for record retention exhibit legible data, acceptance stamps, and/or signatures, as required.

(4) Generation of inspection records that include—

(a) Acceptance of material.

(b) Inspector responsible for each area of test.

(c) Date of acceptance.

(d) Lot or serial number.

b. There is objective evidence of observance to established procedures.

Part E. Nonconforming Material

529. Is a Materials Review Board (MRB) established, documented, and operational?

Applicability

	APIS	PC	PMA	TSO
A	§ 21.125	§ 21.143	N	§ 21.143
E	§ 21.123	§ 21.165	P	§ 21.607

Statement of Condition

a. There is objective evidence that—

(1) MRB members have been identified. This includes, as a minimum—

(a) Identification of the required members of the MRB, which should include, as a minimum, representatives of both the quality and the engineering departments.

(b) Required qualifications of the quality and engineering members of the MRB and the means by which personnel are added to the MRB.

(c) A list or electronic equivalent of approved quality and engineering representative members of the MRB, the frequency MRB lists are updated, the areas where these lists are available, and a facsimile of MRB member signatures or identification stamps.

(d) Approval of MRB representatives of both the quality and the engineering departments of MRB documents that disposition nonconforming parts “accept-as-is” and “repair.”

(2) The MRB has not exceeded its scope and limits of authority. This includes, as a minimum—

(a) Disposition of minor nonconformances as “accept-as-is,” “rework,” “repair,” “scrap,” or “return-to-supplier.”

(b) Disposition of major nonconformances as “rework” (to eliminate the nonconformance), “repair” (to reduce nonconformance to minor), “scrap,” or “return-to-supplier.”

(c) The MRB has dispositioned major nonconformances as “accept-as-is” only after the major change has been approved by the FAA as a change to the FAA-approved type design.

(3) Nonconforming material is controlled from presentation to the MRB through final MRB disposition. MRB control may be accomplished through segregation (physical or electronic), marking, or tagging, etc., in a manner to preclude inadvertent release, or release by non-MRB personnel. This includes, as a minimum—

(a) Completion of all necessary MRB documents, including all required signatures of MRB personnel, before physical release of products/parts from MRB control.

(b) Identification of MRB material sent to manufacturing areas for rework or repair to preclude subsequent release without MRB approval.

(c) Identification of MRB material sent to manufacturing areas for continued processing and reinspection of the nonconformance after subsequent operations to ensure reinspection of the specified characteristic.

(4) There is objective evidence that material review records are generated and retained.

(a) Material review records include, as a minimum, part number, quantity, date, adequate description of nonconformances (including identification as major or minor change), disposition, and authorized approval.

(b) Application of "electronic" signatures are controlled, as well as authorized access to electronic data for making changes (for example, password protection).

(c) Records are legible, complete, and accurate.

(5) Nonconforming material disposition authority delegated to preliminary review personnel is limited to "scrap," "return-to-supplier," "rework," or "repair to approved standard repair procedures."

530. Are nonconforming products/parts identified, controlled, and dispositioned?

Applicability

	APIS	PC	PMA	TSO
A	§ 21.125	§ 21.143	§ 21.303	§ 21.143
E	§ 21.123	§ 21.165	§ 21.303	§ 21.607

Statement of Condition

a. There is objective evidence that nonconforming products/parts have been identified, controlled and dispositioned. Control includes segregation of nonconforming material, usually through storage in enclosed and secure holding areas, with access limited to authorized personnel. Standard repair procedures also should be controlled.

(1) Nonconforming materials and parts/products that have been dispositioned as "scrap" are properly identified, mutilated, or disposed of to preclude inadvertent use.

(2) Parts/products dispositioned as "scrap" that are retained in lieu of mutilation and disposal are properly identified and/or physically segregated to preclude inadvertent use. For example, parts placed in a "scrap retention" crib awaiting a possible repair to be developed, or used in mock-ups or experimental testing.

(3) Parts from assemblies dispositioned as "scrap" are recovered and used only if the material review disposition shows that those parts did not contain the nonconformances that led to the "scrap" disposition.

531. Are MRB dispositions identified as major changes approved by the FAA through the design approval process?

Applicability

	APIS	PC	PMA	TSO
A	§ 21.97	§ 21.97	P	§ 21.611
E	§ 21.123	§ 21.165	N	§ 21.607

Statement of Condition

a. There is objective evidence that all nonconformance dispositions that are considered major changes to the design are submitted to the FAA for approval.

532. Does upper management review and analyze nonconforming material data to detect adverse trends and determine appropriate levels of corrective and preventive actions?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for a summary of nonconforming material data reviewed and analyzed by upper management. This includes frequency of reporting and appropriate investigations by all relevant facility organizations to reduce, prevent, and correct adverse trends.

b. There is objective evidence of observance to established procedures.

533. Do procedures provide for engineering review of nonconforming material to determine if the documented nonconformance constitutes a major or minor change to the FAA-approved type design?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. There is objective evidence of observance to established procedures.

534. Is corrective action (in-plant, at suppliers, and in-service) required where processes or procedures result in a nonconforming product/part thereof and are the actions monitored for response, implementation, and effectiveness?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for—

(1) Periodic reviews of material review records to identify repetitive nonconformances. There are guidelines for initiating investigation and corrective action for repeated nonconformances that have exceeded an established limit of occurrences.

(2) Corrective action on repetitive nonconformances dispositioned "accept-as-is" to preclude de facto changes to the type design being made through MRB acceptance of those nonconformances, rather than through the FAA-approved change system.

(3) Evaluation of the design if a product/part thereof continually fails to meet the requirements of the engineering drawing.

(4) Control of any deviation system established to allow the production of products/parts thereof to increased tolerances and/or relaxed standards until the completion of corrective action. Some deviations are FAA-approved minor drawing changes to the type design.

(5) Review of material review records (including corrective action statements) for repetitive nonconformances to monitor response, implementation, and effectiveness of corrective action.

(6) Responsibilities of any Corrective Action Board (CAB) or equivalent function established, including tracking of significant corrective action.

b. There is objective evidence of observance to established procedures.

Section 6. Supplier Control

1. System Element Description. The system by which the evaluated facility ensures supplier materials, parts, and services conform to FAA-approved design. For the purpose of this section, the term "supplier" includes distributors.

Note: With the onset of profit- and risk-sharing ventures by many FAA approval holders, global marketing and procurement strategies, multinational and multicorporate activities, etc., there has been a significant increase in the global expansion of the world's aircraft manufacturing community. Global production includes the use of associate facilities, the issuance and acceptance of import/export

airworthiness approvals, and adherence to bilateral airworthiness agreements (BAA) or bilateral aviation safety agreements (BASA).

a. Reviewing PAH supplier audit records. The evaluator will review a randomly selected sample of documented audit reports from the supplier listing. Use the following guidelines when selecting the sample reports:

(1) For PAHs having a supplier listing of less than or equal to 50, the evaluator will select and review at least 3 audit reports.

(2) For PAHs having a supplier listing of greater than 50, but less than or equal to 100, the evaluator will review at least 6 audit reports.

(3) For PAHs having a supplier listing of greater than 100, the evaluator will review at least 9 audit reports.

b. Recording reviews. The evaluator will record the total number of audit reports reviewed, the identification of suppliers reviewed, and the total number of noncompliances documented. This information will be recorded on the Conformity Inspection Record (Form 8100-1) and entered into CMIS as part of the ACSEP report.

c. Recording noncompliances. Any noncompliance noted during the review of PAH supplier audit reports will be recorded under supplier control system element criteria number 602. Any noncompliances also will be documented in accordance with paragraph 4-15 of this order.

2. System Element Standardized Evaluation Criteria. The following criteria are used to document evaluation of this system element.

601. Is the use of approved suppliers required?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for—

(1) Criteria for supplier acceptability based as a minimum on evaluation results and quality performance history for the commodities or services provided.

(2) Collection, evaluation, and reporting of quality performance data.

(3) A list of suppliers that have been reviewed, evaluated, and found to be acceptable.

(4) Removal of suppliers from the approved list that do not meet stated requirements.

(5) Notification of the FAA of new priority parts suppliers.

(6) Methods for procurement from suppliers that require special control.

(7) Furnishing a current list to suppliers containing sources evaluated by the PAH.

b. There is objective evidence of observance to established procedures.

602. Are initial and periodic evaluations of suppliers made as necessary and corrective actions taken to correct deficiencies found in the suppliers system?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for—

(1) Initial, and periodical as necessary, evaluation of suppliers, to determine their capability to meet requirements.

(2) The methods for determining the extent of the evaluations dependent, as a minimum, on the type, complexity, method of control, and importance of products or services procured, and the extent of the on-site evaluation, process reviews, document reviews, or independent product evaluations.

(3) Implementing and documenting effective corrective action when deficiencies are found.

b. There is objective evidence of observance to established procedures.

603. Is the supplier's quality manual (or top-level document) approved by the PAH?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide the method for reviewing and approving a supplier's quality system data.

b. There is objective evidence of observance to established procedures.

604. Are procedures for the use of other parties to perform supplier surveillance or assessments on behalf of the PAH contained in the quality manual or other documents?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for a control process that has been fully documented and includes initial and continuing approval of other parties to conduct supplier surveillance and assessments to include—

(1) Extent of authority given by the PAH.

(2) Verification that checklists used by the other party are equivalent or better than the PAH's quality procedures and surveillance criteria currently in place under the PAH's supplier control program.

(3) Verification that the other party's surveillance frequency of the supplier is commensurate with the complexity of the product and with the surveillance frequency currently established by the PAH's supplier control program.

(4) Verification that the supplier surveillance was conducted onsite by the other party.

(5) Verification that the other party has access to applicable proprietary data to the extent necessary to conduct supplier surveillance functions.

(6) Verification that the surveillance report will be made available to the FAA upon request.

b. There is objective evidence of observance to established procedures.

605. Are procedures for the use of other-party registered suppliers detailed in the quality manual or other documents?

Applicability

	APIS	PC	PMA	TSO
A	N	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for—

(1) Initial and continuing approval of other-party registered suppliers.

(2) The method used by the PAH to evaluate the registration process of any other-party registration body used. (Note: This applies not only to new suppliers, but to any decision by the PAH to rely on other-party registration of current suppliers.) The method should include the following items as a minimum:

(a) Verification that registration standards and checklists used by the other party are equivalent or better than the PAH's quality procedures and surveillance criteria currently in place under the PAH's supplier control program.

(b) Verification that the other party's surveillance frequency of the supplier is commensurate with the complexity of the product and with the surveillance frequency currently established by the PAH's supplier control program.

(c) Verification that the supplier surveillance was conducted onsite by the other party.

(d) Verification that the other party has access to applicable proprietary data to the extent necessary to conduct supplier surveillance functions.

(e) Verification that the surveillance report will be made available to the FAA upon request.

(f) Verification that the other party continues to be recognized or accredited.

b. There is objective evidence of observance to established procedures.

606. Do procedures require that suppliers notify the evaluated facility in writing when there are significant facility or organizational changes such as company name, location, or senior quality management?

Applicability

	APIS	PC	PMA	TSO
A	N	P	P	P
E	N	N	N	N

Statement of Condition

a. There is objective evidence of observance to established procedures.

607. Does the evaluated facility make information available to the FAA regarding all delegation of authority to suppliers to make a major inspection/material review of any products/parts?

Applicability

	APIS	PC	PMA	TSO
A	§ 21.123	§ 21.143	P	§ 21.143
E	§ 21.125	§ 21.165	N	§ 21.607

Statement of Condition

a. Procedures provide for—

(1) Delegation of authority for major inspections or material review.

(2) Material review requirements that include, as a minimum—

(a) Identification of relevant MRB procedures that define the scope and authority of the supplier MRB.

(b) Maintenance of an MRB system that meets all FAA requirements placed on the evaluated facility's MRB system (for example, documentation of nonconformances, maintenance of records, members of the MRB, and mutilation of "scrap" material).

(c) Process for submittal to the evaluated facility of supplier nonconformances considered major changes to the FAA-approved type design.

(3) All delegations of authority to suppliers for major inspection of any products/parts are available for review by the FAA.

b. There is objective evidence of observance to established procedures.

608. Does the PAH notify the FAA of suppliers authorized to direct ship?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for notification to the cognizant FAA office of each supplier authorized to direct ship.

b. There is objective evidence of observance to established procedures.

609. Are suppliers with direct ship authorization controlled to ensure only conforming parts are released?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for—

(1) Flow down of applicable technical and quality requirements.

(2) Authorization and requirements for direct shipment.

(3) Supplier shipping document requirements for direct shipment.

(4) Appropriate part marking/identification and packaging.

b. There is objective evidence of observance to established procedures.

610. Do procedures require that approved suppliers have a supplier control program in place for their suppliers?

Applicability

	APIS	PC	PMA	TSO
A	N	P	P	P
E	N	N	N	N

Statement of Condition

a. There is objective evidence that suppliers have a supplier control program in place for their suppliers. The program should include as a minimum—

(1) Evaluation, approval, and surveillance of suppliers, including a method to ensure corrective action when a problem is identified.

(2) Flow down of all pertinent quality requirements.

(3) Documentation of parts/materials and special processes obtained from suppliers and submitted to the evaluated facility.

611. Does the evaluated facility flow down applicable technical and quality requirements to both U.S. and international suppliers?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for inclusion of applicable technical data and quality requirements in the purchase documents. Technical data and requirements include the following, as applicable:

(1) Special processing specifications/engineering requirements for suppliers performing special processing.

(2) Calibration traceable to a national standard and submittal of certificates for suppliers performing calibration services.

(3) Software specification requirements for suppliers providing software.

(4) Submittal of certification test reports for all shipments of raw material.

(5) Identification of raw and process material in accordance with industry and/or customer specifications.

(6) Appropriate identification and marking of products/parts thereof.

(7) Identification of the actual manufacturers of the supplies provided by warehouses and distributors.

(8) Declaration that parts were produced under the terms of the production approval.

(9) Identification of the product on which the part is eligible for installation.

(10) Special packaging and preservation requirements, when warranted for material protection.

(11) Identification of appropriate technical requirement revision levels.

(12) Notice of FAA review of supplier's facilities and products as necessary.

(13) Incorporation of design changes as specified.

(14) Notification to the evaluated facility of any latent defects, or defects listed in § 21.3, in products or parts previously supplied.

(15) Formalized SQC policy, when required.

(16) Requests for copies of control charts and other pertinent statistical data applicable to the time period during which the supplied products/parts thereof were produced.

(17) Submittal of supplier designs and changes to the evaluated facility for approval before incorporation, when required.

(18) Submittal of changes to a supplier's quality system that may affect inspection, conformity, or the airworthiness of the product.

(19) Record retention requirements.

(20) Use of the English language for quality data (for example, supplier quality procedures, certificates, reports, or other similar data required by the evaluated facility).

(21) A method to control the issuance and distribution of technical data and quality requirements to suppliers. Control methods include, as a minimum—

(a) Control and documentation of revisions to technical data and quality requirements (including subtier and referenced documents).

(b) Control of obsolete technical data and quality requirements.

(c) Determination of receipt status by the supplier.

b. There is objective evidence of observance to established procedures.

612. Does the evaluated facility control supplier design, including changes?

Applicability

	APIS	PC	PMA	TSO
A	§ 21.95 § 21.97 § 21.99 § 21.125	§ 21.95 § 21.97 § 21.99	§ 21.303(h)(7)	§ 21.611
E	§ 21.123	§ 21.165	§ 21.303(h)	§ 21.607

Statement of Condition

a. Procedures provide for control over supplier design and changes thereto.

b. There is objective evidence of observance to established procedures.

613. Are electronically stored and transmitted technical design and quality data adequately controlled and distributed to suppliers?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for—

(1) Documentation of release status of electronic documents.

(2) Only properly released data being available online.

(3) Other documents, such as purchase orders and engineering data to reflect changes to the source document.

(4) Capability determination of in-house and supplier facility to receive and maintain electronic data.

b. There is objective evidence of observance to established procedures.

614. Does the quality organization review purchase documents before issuance?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition:

a. Procedures provide for review of purchase documents by the PAH's quality organization before issuance to ensure all pertinent requirements have been incorporated.

b. There is objective evidence of observance to established procedures.

615. Does the PAH act on supplier notifications of suspected problems with previously delivered products?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for methods used to act on notifications of nonconforming products, ensuring proper investigation and corrective action is taken.

b. There is objective evidence of observance to established procedures.

616. Do procedures require that approved suppliers have a program in place to ensure the proper operation of manufacturing software and equipment used for product/part inspection/test?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. There is objective evidence of observance to established procedures.

617. Does the PAH notify the FAA of all new suppliers located in other countries and of the receipt of first articles produced by those suppliers?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for notification to the FAA of all new suppliers located in other countries and of the receipt of first articles produced by those suppliers.

b. There is objective evidence of observance to established procedures.

618. Are product/parts from associate facilities controlled?

Applicability

	APIS	PC	PMA	TSO
A	§ 21.125	§ 21.143	§ 21.303	§ 21.143
E	§ 21.123	§ 21.165	§ 21.303	§ 21.607

Statement of Condition

a. Procedures provide for—

(1) Control of product/parts from associate facilities.

(2) Collection of quality performance data.

b. There is objective evidence of observance to established procedures.

619. Has an interface quality document been prepared for consortium (international/domestic) manufacturing activities?

Applicability

	APIS	PC	PMA	TSO
A	P	P	P	P
E	N	N	N	N

Statement of Condition

a. Procedures provide for a quality document that establishes an interface between the quality requirements of the international/domestic manufacturing activity and the evaluated facility's quality manual or procedures.

b. There is objective evidence of observance to established procedures.

Part B. Preparation Instructions for FAA Form 8100-4, ACSEP Survey Sheet for Production Approval Holders

1. Purpose. This appendix provides instructions for completing FAA Form 8100-4.

2. Specific Guidance. Figure 2 shows FAA Form 8100-4. Prepare the form by completing the following:

a. ACSEP No./Report No. Block. Insert the ACSEP number and the report number.

b. Project No. Block. Insert the project number(s).

c. Blocks 1 through 6. Check the appropriate box for each system element evaluation criterion. Determine the appropriate box to check for each criterion as follows:

(1) Unable to evaluate. Check this box if you were unable to fully evaluate the criterion because of lack of time, inadequate resources, lack of expertise, or other reasons. You may also check either the "No procedures" box or the "Procedures in-place" box if that information is known; see paragraphs 2c(3) and 2c(4) of part B of this appendix. If you were unable to evaluate an entire system element, record the appropriate reasons as part of the lessons learned (see appendix G).

(2) Not applicable. Check this box if the criterion was not applicable at the facility being evaluated. Do not check any other box for this criterion.

(3) No procedures. Check the box if the criterion was applicable at the facility being evaluated and no procedures were in place relative to the criterion. You may check this box in addition to the "Unable to evaluate" box if no procedures were in place relative to the criterion.

(4) Procedures in-place. Check this box if the criterion was applicable at the facility being evaluated and procedures were in place relative to the criterion. You may check this box in addition to the "Unable to evaluate" box if procedures were in place relative to the criterion.

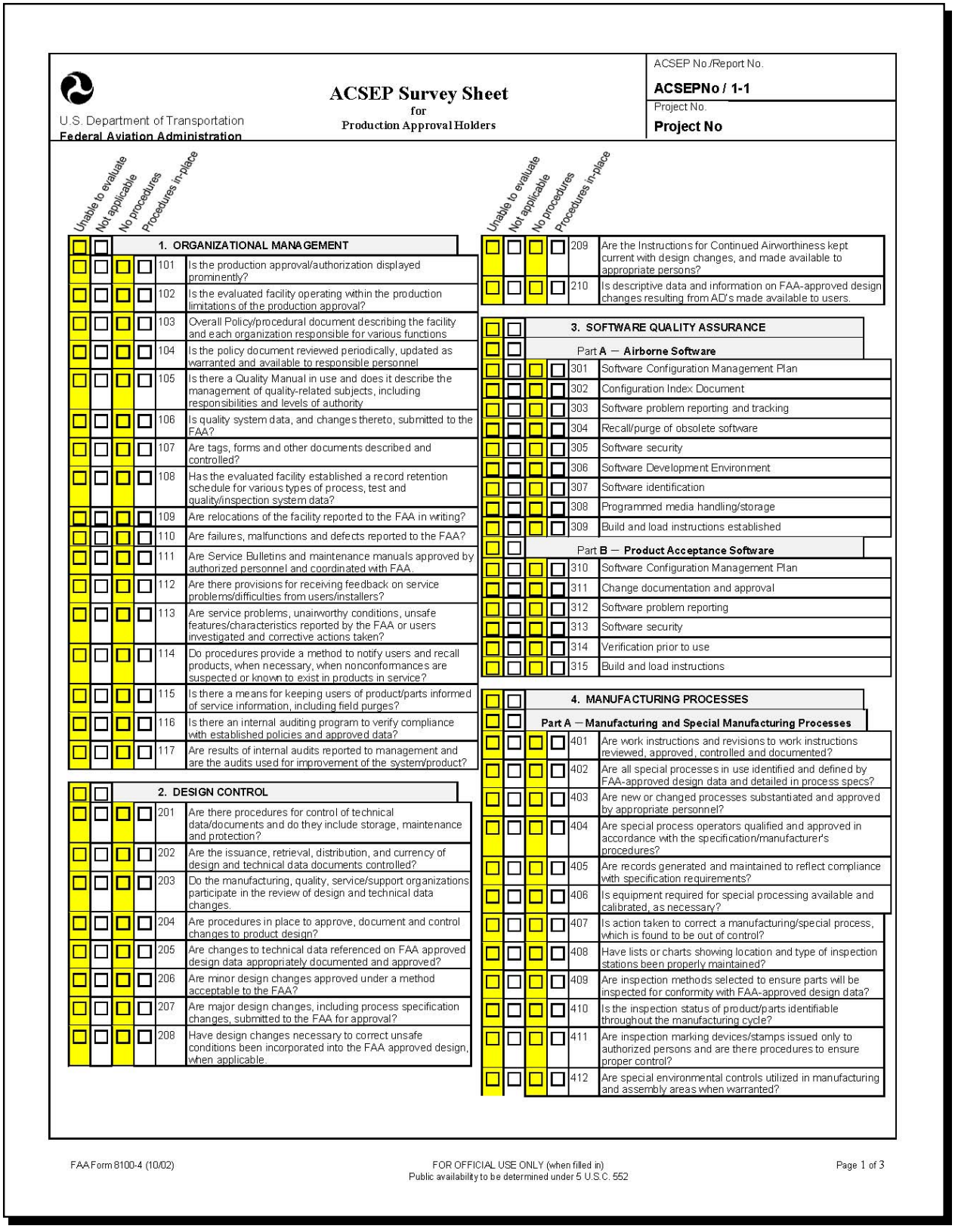
d. New Criteria Block. Insert the system element number and a brief description of the new criteria.

(1) List all new criteria developed.

> **Note:** Include the complete text of new criteria in the ACSEP Evaluation Lessons Learned section of the ACSEP evaluation report (see appendix G).

(2) Assign a system element number to each new criterion. For example, a new criterion developed for evaluation of the tool and gauge system element would be assigned to system element number 5, part B.

Figure 2. Sample FAA Form 8100-4



U.S. Department of Transportation
Federal Aviation Administration

ACSEP Survey Sheet
for
Production Approval Holders

ACSEP No./Report No.
ACSEPNo / 1-1
Project No.
Project No

Unable to evaluate | Not applicable | No procedures | Procedures in-place

					1. ORGANIZATIONAL MANAGEMENT
				101	Is the production approval/authorization displayed prominently?
				102	Is the evaluated facility operating within the production limitations of the production approval?
				103	Overall Policy/procedural document describing the facility and each organization responsible for various functions
				104	Is the policy document reviewed periodically, updated as warranted and available to responsible personnel
				105	Is there a Quality Manual in use and does it describe the management of quality-related subjects, including responsibilities and levels of authority
				106	Is quality system data, and changes thereto, submitted to the FAA?
				107	Are tags, forms and other documents described and controlled?
				108	Has the evaluated facility established a record retention schedule for various types of process, test and quality/inspection system data?
				109	Are relocations of the facility reported to the FAA in writing?
				110	Are failures, malfunctions and defects reported to the FAA?
				111	Are Service Bulletins and maintenance manuals approved by authorized personnel and coordinated with FAA.
				112	Are there provisions for receiving feedback on service problems/difficulties from users/installers?
				113	Are service problems, unairworthy conditions, unsafe features/characteristics reported by the FAA or users investigated and corrective actions taken?
				114	Do procedures provide a method to notify users and recall products, when necessary, when nonconformances are suspected or known to exist in products in service?
				115	Is there a means for keeping users of product/parts informed of service information, including field purges?
				116	Is there an internal auditing program to verify compliance with established policies and approved data?
				117	Are results of internal audits reported to management and are the audits used for improvement of the system/product?
					2. DESIGN CONTROL
				201	Are there procedures for control of technical data/documents and do they include storage, maintenance and protection?
				202	Are the issuance, retrieval, distribution, and currency of design and technical data documents controlled?
				203	Do the manufacturing, quality, service/support organizations participate in the review of design and technical data changes.
				204	Are procedures in place to approve, document and control changes to product design?
				205	Are changes to technical data referenced on FAA approved design data appropriately documented and approved?
				206	Are minor design changes approved under a method acceptable to the FAA?
				207	Are major design changes, including process specification changes, submitted to the FAA for approval?
				208	Have design changes necessary to correct unsafe conditions been incorporated into the FAA approved design, when applicable.
				209	Are the Instructions for Continued Airworthiness kept current with design changes, and made available to appropriate persons?
				210	Is descriptive data and information on FAA-approved design changes resulting from AD's made available to users.
					3. SOFTWARE QUALITY ASSURANCE
					Part **A** – **Airborne Software**
				301	Software Configuration Management Plan
				302	Configuration Index Document
				303	Software problem reporting and tracking
				304	Recall/purge of obsolete software
				305	Software security
				306	Software Development Environment
				307	Software identification
				308	Programmed media handling/storage
				309	Build and load instructions established
					Part **B** – **Product Acceptance Software**
				310	Software Configuration Management Plan
				311	Change documentation and approval
				312	Software problem reporting
				313	Software security
				314	Verification prior to use
				315	Build and load instructions
					4. MANUFACTURING PROCESSES
					Part A – Manufacturing and Special Manufacturing Processes
				401	Are work instructions and revisions to work instructions reviewed, approved, controlled and documented?
				402	Are all special processes in use identified and defined by FAA-approved design data and detailed in process specs?
				403	Are new or changed processes substantiated and approved by appropriate personnel?
				404	Are special process operators qualified and approved in accordance with the specification/manufacturer's procedures?
				405	Are records generated and maintained to reflect compliance with specification requirements?
				406	Is equipment required for special processing available and calibrated, as necessary?
				407	Is action taken to correct a manufacturing/special process, which is found to be out of control?
				408	Have lists or charts showing location and type of inspection stations been properly maintained?
				409	Are inspection methods selected to ensure parts will be inspected for conformity with FAA-approved design data?
				410	Is the inspection status of product/parts identifiable throughout the manufacturing cycle?
				411	Are inspection marking devices/stamps issued only to authorized persons and are there procedures to ensure proper control?
				412	Are special environmental controls utilized in manufacturing and assembly areas when warranted?

FAA Form 8100-4 (10/02)

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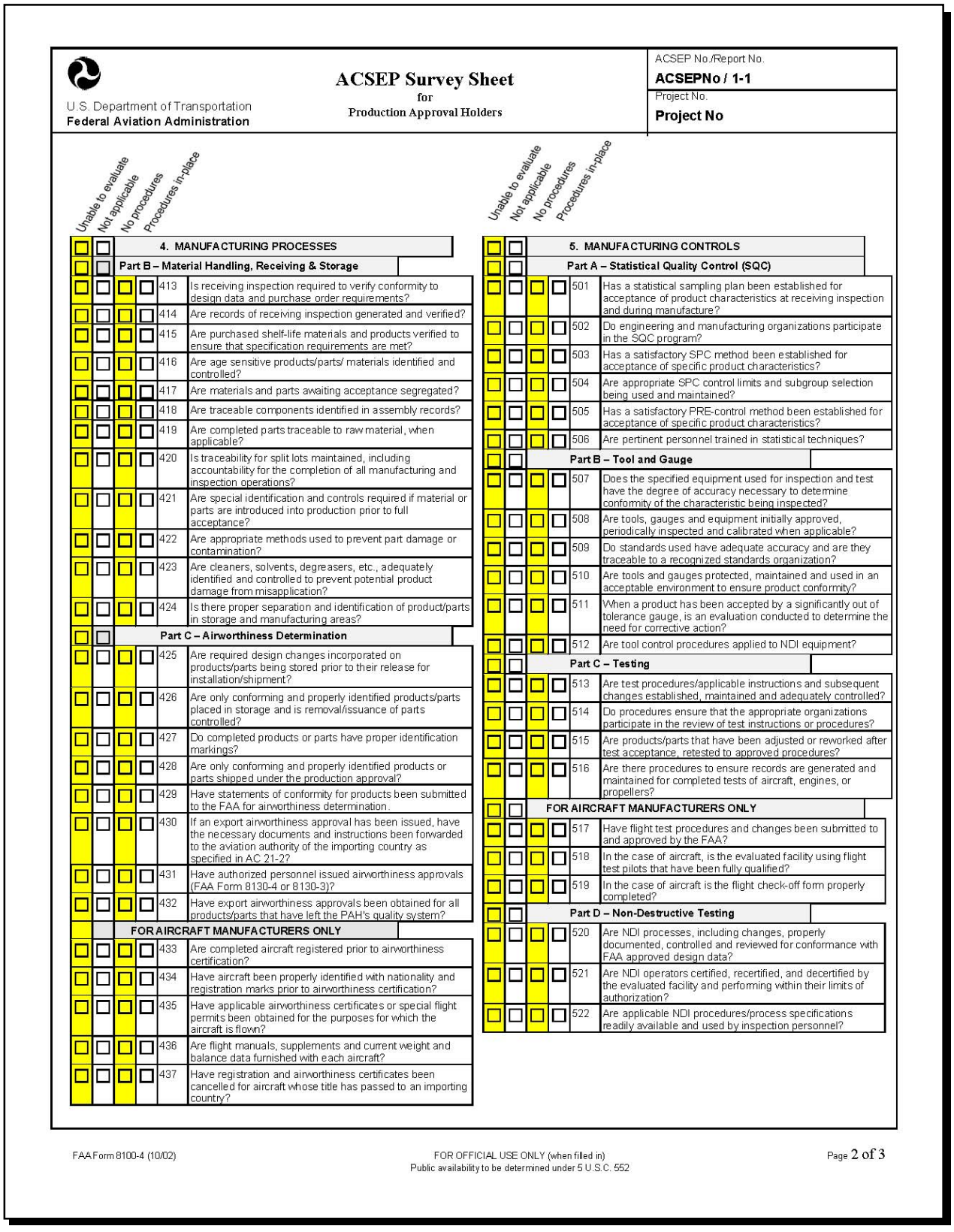
Page 1 of 3

Figure 2. Sample FAA Form 8100-4 (Continued)



U.S. Department of Transportation
Federal Aviation Administration

ACSEP Survey Sheet
for
Production Approval Holders

ACSEP No./Report No.
ACSEPNo / 1-1
Project No.
Project No

Unable to evaluate	Not applicable	No procedures	Procedures in-place		
4. MANUFACTURING PROCESSES					
Part B – Material Handling, Receiving & Storage					
☐	☐	☐	☐	413	Is receiving inspection required to verify conformity to design data and purchase order requirements?
☐	☐	☐	☐	414	Are records of receiving inspection generated and verified?
☐	☐	☐	☐	415	Are purchased shelf-life materials and products verified to ensure that specification requirements are met?
☐	☐	☐	☐	416	Are age sensitive products/parts/ materials identified and controlled?
☐	☐	☐	☐	417	Are materials and parts awaiting acceptance segregated?
☐	☐	☐	☐	418	Are traceable components identified in assembly records?
☐	☐	☐	☐	419	Are completed parts traceable to raw material, when applicable?
☐	☐	☐	☐	420	Is traceability for split lots maintained, including accountability for the completion of all manufacturing and inspection operations?
☐	☐	☐	☐	421	Are special identification and controls required if material or parts are introduced into production prior to full acceptance?
☐	☐	☐	☐	422	Are appropriate methods used to prevent part damage or contamination?
☐	☐	☐	☐	423	Are cleaners, solvents, degreasers, etc., adequately identified and controlled to prevent potential product damage from misapplication?
☐	☐	☐	☐	424	Is there proper separation and identification of product/parts in storage and manufacturing areas?
Part C – Airworthiness Determination					
☐	☐	☐	☐	425	Are required design changes incorporated on products/parts being stored prior to their release for installation/shipment?
☐	☐	☐	☐	426	Are only conforming and properly identified products/parts placed in storage and is removal/issuance of parts controlled?
☐	☐	☐	☐	427	Do completed products or parts have proper identification markings?
☐	☐	☐	☐	428	Are only conforming and properly identified products or parts shipped under the production approval?
☐	☐	☐	☐	429	Have statements of conformity for products been submitted to the FAA for airworthiness determination.
☐	☐	☐	☐	430	If an export airworthiness approval has been issued, have the necessary documents and instructions been forwarded to the aviation authority of the importing country as specified in AC 21-2?
☐	☐	☐	☐	431	Have authorized personnel issued airworthiness approvals (FAA Form 8130-4 or 8130-3)?
☐	☐	☐	☐	432	Have export airworthiness approvals been obtained for all products/parts that have left the PAH's quality system?
FOR AIRCRAFT MANUFACTURERS ONLY					
☐	☐	☐	☐	433	Are completed aircraft registered prior to airworthiness certification?
☐	☐	☐	☐	434	Have aircraft been properly identified with nationality and registration marks prior to airworthiness certification?
☐	☐	☐	☐	435	Have applicable airworthiness certificates or special flight permits been obtained for the purposes for which the aircraft is flown?
☐	☐	☐	☐	436	Are flight manuals, supplements and current weight and balance data furnished with each aircraft?
☐	☐	☐	☐	437	Have registration and airworthiness certificates been cancelled for aircraft whose title has passed to an importing country?

Unable to evaluate	Not applicable	No procedures	Procedures in-place		
5. MANUFACTURING CONTROLS					
Part A – Statistical Quality Control (SQC)					
☐	☐	☐	☐	501	Has a statistical sampling plan been established for acceptance of product characteristics at receiving inspection and during manufacture?
☐	☐	☐	☐	502	Do engineering and manufacturing organizations participate in the SQC program?
☐	☐	☐	☐	503	Has a satisfactory SPC method been established for acceptance of specific product characteristics?
☐	☐	☐	☐	504	Are appropriate SPC control limits and subgroup selection being used and maintained?
☐	☐	☐	☐	505	Has a satisfactory PRE-control method been established for acceptance of specific product characteristics?
☐	☐	☐	☐	506	Are pertinent personnel trained in statistical techniques?
Part B – Tool and Gauge					
☐	☐	☐	☐	507	Does the specified equipment used for inspection and test have the degree of accuracy necessary to determine conformity of the characteristic being inspected?
☐	☐	☐	☐	508	Are tools, gauges and equipment initially approved, periodically inspected and calibrated when applicable?
☐	☐	☐	☐	509	Do standards used have adequate accuracy and are they traceable to a recognized standards organization?
☐	☐	☐	☐	510	Are tools and gauges protected, maintained and used in an acceptable environment to ensure product conformity?
☐	☐	☐	☐	511	When a product has been accepted by a significantly out of tolerance gauge, is an evaluation conducted to determine the need for corrective action?
☐	☐	☐	☐	512	Are tool control procedures applied to NDI equipment?
Part C – Testing					
☐	☐	☐	☐	513	Are test procedures/applicable instructions and subsequent changes established, maintained and adequately controlled?
☐	☐	☐	☐	514	Do procedures ensure that the appropriate organizations participate in the review of test instructions or procedures?
☐	☐	☐	☐	515	Are products/parts that have been adjusted or reworked after test acceptance, retested to approved procedures?
☐	☐	☐	☐	516	Are there procedures to ensure records are generated and maintained for completed tests of aircraft, engines, or propellers?
FOR AIRCRAFT MANUFACTURERS ONLY					
☐	☐	☐	☐	517	Have flight test procedures and changes been submitted to and approved by the FAA?
☐	☐	☐	☐	518	In the case of aircraft, is the evaluated facility using flight test pilots that have been fully qualified?
☐	☐	☐	☐	519	In the case of aircraft is the flight check-off form properly completed?
Part D – Non-Destructive Testing					
☐	☐	☐	☐	520	Are NDI processes, including changes, properly documented, controlled and reviewed for conformance with FAA approved design data?
☐	☐	☐	☐	521	Are NDI operators certified, recertified, and decertified by the evaluated facility and performing within their limits of authorization?
☐	☐	☐	☐	522	Are applicable NDI procedures/process specifications readily available and used by inspection personnel?

FAA Form 8100-4 (10/02)

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Page 2 of 3

Figure 2. Sample FAA Form 8100-4 (Continued)

U.S. Department of Transportation
Federal Aviation Administration

ACSEP Survey Sheet
for
Production Approval Holders

ACSEP No./Report No.
ACSEPNo / 1-1
Project No.
Project No

Unable to evaluate	Not applicable	No procedures	Procedures in-place		
					Part D – Non-Destructive Testing
				523	Are the critical NDI parameters identified and controlled?
				524	Do procedures address NDI acceptance and rejection criteria?
				525	Is corrective action taken when an NDI process is found to be out of control?
				526	Are adequate test pieces and NDI known defect samples available and identified to preclude introduction into the production system?
				527	Are NDI tanks and solutions checked for compliance with specifications?
				528	Are NDI inspection records generated and maintained?
					Part E – Nonconforming Material
				529	Is a Materials Review Board (MRB) established, documented and operational?
				530	Are nonconforming products/parts identified, controlled and dispositioned?
				531	Are MRB dispositions that are identified as major changes approved by the FAA through design approval process?
				532	Does upper management review and analyze nonconforming material data to detect adverse trends?
				533	Does engineering review nonconforming material to determine if nonconformance constitutes a major or minor change to FAA-approved type design.
				534	Is corrective action required where processes or procedures result in nonconforming product/part and are actions monitored?
					6. SUPPLIER CONTROL
				601	Is the use of approved suppliers required?
				602	Are initial and periodic evaluations of suppliers made as necessary and are corrective actions taken to correct deficiencies?
				603	Is the supplier's quality manual approved by the PAH?
				604	Are procedures for the use of other-parties to perform supplier surveillance or assessments on behalf of the PAH contained in the quality manual or other documents?
				605	Are procedures for the use of other-party registered suppliers detailed in the quality manual or other documents?
				606	Do procedures require that suppliers notify the evaluated facility in writing when there are significant facility or organizational changes such as company name, location or senior quality management?
				607	Does the evaluated facility make information available to the FAA regarding all delegation of authority to suppliers to make a major inspection/material review of any products/parts?
				608	Does the PAH notify the FAA of suppliers authorized to direct ship?
				609	Suppliers with direct ship authority are controlled to ensure that only conforming parts are released?
				610	Do procedures require that approved suppliers have a supplier control program in place for their suppliers?
				611	Does the evaluated facility flow down applicable technical and quality requirements to both U.S. and international suppliers?
				612	Does the evaluated facility control supplier design, including changes?
				613	Are electronically stored and transmitted technical design and quality data adequately controlled and distributed to suppliers?
				614	Does the quality organization review purchase documents prior to issuance?
				615	Does the PAH act on supplier notifications of suspected problems with previously delivered products?
				616	Do procedures require suppliers to have a program to ensure the proper operation of manufacturing software and equipment used for product/part inspection/ test?
				617	Does the PAH notify the FAA of all new suppliers located in other countries and receipt of first articles produced by those suppliers?
				618	Are products and parts from associate facilities controlled?
				619	Has an interface quality document been prepared for consortium manufacturing activities?

NEW CRITERIA

		Criteria	Description

Appendix E. Preparation Instructions for FAA ACSEP Executive Summary

1. Purpose. This appendix provides instructions for preparing the FAA ACSEP Executive Summary. This summary provides the status of each system element evaluated and a narrative of noncompliances. The completed summary will be the only record of noncompliances that the team leader provides at the postevaluation conference to the evaluated facility.

2. Specific Guidance. Figures 1 and 2 show sample executive summaries with numbered blocks. Prepare the summary as follows:

a. Block 1. Insert the ACSEP number/report number.

b. Block 2. Insert the project number(s) assigned to the production approval activity being evaluated.

c. Block 3. Insert the name of the facility evaluated.

d. Block 4. Insert the date(s) of the evaluation.

e. Block 5. Insert brief statements outlining the noncompliances for each of the applicable system elements. Format the summary as follows:

(1) State the total number of noncompliances identified for the entire evaluation, even if there were none.

(2) Discuss only those system elements that have noncompliances recorded. Do not list system elements that have no noncompliances recorded.

(a) State the number of noncompliances identified for each system element discussed.

(b) Summarize the noncompliances for each system element discussed.

f. Block 6. Have the team leader sign in this block. This block may be signed by a team leader-in-training but must also be countersigned by the team leader. When an electronic version of the executive summary is used, ensure all required names are listed.

g. Block 7. Insert the date of the postevaluation conference.

Figure 1. Sample Executive Summary for PAHs and Associate Facilities

FEDERAL AVIATION ADMINISTRATION
AIRCRAFT CERTIFICATION SYSTEMS EVALUATION PROGRAM (ACSEP)
EXECUTIVE SUMMARY

(1) **(2)**
ACSEP NO./REPORT NO.: 98NE278/1-1 **PROJECT NO.:** PE9999NE
(3) FACILITY: Cape Cod Aircraft Engine Co.
(4) DATE OF EVALUATION: August 6–15, 1998

(5) SYSTEM ELEMENT NONCOMPLIANCES

During this evaluation, the team documented 10 noncompliances.

Design Control System Element: Four noncompliances were recorded for this system element. One noncompliance was recorded for a breakdown in the approved procedure for determining major or minor design changes. A second noncompliance was recorded for a breakdown in the approved procedure for processing minor design changes. Two additional noncompliances were recorded for a breakdown in the approved procedures for submitting major design changes and process specification changes to the FAA.

Software Quality Assurance System Element: One noncompliance was recorded for this system element. It was recorded for an isolated incident of obsolete software media not being properly controlled.

Manufacturing Processes System Element: Four noncompliances were recorded for this system element. A noncompliance was recorded for a breakdown in the job order manufacturing sequence for the main housing, part Nos. 123–666 and 123–667. Another noncompliance was recorded for an isolated incident of changes to work instructions not being properly controlled. One noncompliance was recorded for an isolated incident of a change to a special process not being properly controlled. One noncompliance was recorded for a breakdown in the approved procedures for handling parts sensitive to electrostatic discharge.

Supplier Control System Element: One noncompliance was recorded for this system element. It was recorded for a breakdown in the approved procedure to make information available to the FAA regarding all delegation of authority to suppliers to make major inspection of any products/parts thereof.

(6) **(7)**
J.J. Gem August 15, 1998

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Figure 2. Sample Executive Summary for Facilities With No Noncompliances

FEDERAL AVIATION ADMINISTRATION
AIRCRAFT CERTIFICATION SYSTEMS EVALUATION PROGRAM (ACSEP)
EXECUTIVE SUMMARY

(1) **(2)**
ACSEP NO./REPORT NO.: 01SW334/1-1 **PROJECT NO.:** PP0000SW
(3) **FACILITY:** Excellent Metal Components Inc.
(4) **DATE OF EVALUATION:** April 1, 2001

(5) **SYSTEM ELEMENT NONCOMPLIANCES**

During this evaluation, the team documented no noncompliances.

(6) **(7)**
J.M. Tired April 1, 2001

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Appendix F. Preparation Instructions for ACSEP Evaluation Special Emphasis Items

1. Purpose. This appendix provides instructions for preparing ACSEP Evaluation special emphasis items. These items are intended to bring to the attention of the ACO and MIO managers, the PI, the AE, and the FSDO principal maintenance inspector (as appropriate) specific problems or concerns the ACSEP evaluation team believes require further action.

2. Specific Guidance. Figure 1 shows a sample special emphasis items with numbered blocks. Prepare the special emphasis items by inserting in the following:

a. Block 1. The ACSEP number/report number.

b. Block 2. The project number(s) assigned to the production approval activity being evaluated.

c. Block 3. A brief statement summarizing the problem or concern, identifying the relevant system element, and referencing the relevant noncompliances. Provide a recommendation for further action required, as appropriate.

Figure 1. Sample ACSEP Evaluation Special Emphasis Items for PAHs and Associate Facilities

ACSEP EVALUATION
SPECIAL EMPHASIS ITEMS

(1) **(2)**
ACSEP NO. /REPORT NO.: 98SW314/1-2 **PROJECT NO.:** PT9999SW

(3)

NOTE TO MIO MANAGER AND COGNIZANT PRINCIPAL INSPECTOR

At the request of the principal inspector, the team put special emphasis on the supplier control system element. Although only two noncompliances were recorded, a large number of isolated incidents were recorded among the other system element criteria. See the attached FAA Forms 8100-6, isolated noncompliances Nos. 6 to 19. The team cannot say with confidence that a systemic problem exists with supplier control; however, when all of the discrepancies are taken as a whole, we believe there is a strong probability that a systemic problem may exist. We recommend that a special evaluation be conducted on the supplier control system element to fully determine whether a systemic problem exists.

NOTE TO ACO MANAGER AND AE

A noncompliance was recorded in the design data control system element for a suspected problem with the FAA-approved data. See the attached FAA Form 8100-6, noncompliance No. 20. There is a systemic problem with FAA-approved drawings that call out incorrect or nonexistent process specifications. We recommend that this problem be investigated further.

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Appendix G. Preparation Instructions for ACSEP Evaluation Lessons Learned

1. Purpose. This appendix provides instructions for recording lessons learned from ACSEP evaluations. These lessons form an important part of the ACSEP quality improvement program.

2. Specific Guidance. Figure 1 shows sample lessons learned statements. Prepare the lessons learned by inserting in the following:

a. Block 1. The ACSEP number/report number.

b. Block 2. The project number(s) assigned to the production approval activity being evaluated.

c. Block 3. All events noted during the evaluation that may lead to improvement of ACSEP policy or evaluation techniques. Events should include the following:

(1) An assessment of the performance of the evaluation, detailing the successes, failures, unique problems, solutions, and recommendations for future evaluations, policy, and related training.

(2) Difficulties in using this order, including the standardized evaluation criteria, and recommendations for improving this document and the related training.

(3) The rationale for checking the "Unable to evaluate" block on Form 8100-4 for an ENTIRE SYSTEM ELEMENT (for example, lack of time, inadequate resources, or lack of expertise).

(4) All new evaluation criteria and/or statement-of-condition practices and principles.

(a) State the complete text of any new criteria added to Form 8100-4. Include a statement of condition, as appropriate.

(b) State the complete text of any new practices or principles proposed for an existing statement of condition. Indicate the criterion number to which the statement of condition applies.

(5) A product audit was completed on part name, part number, drawing number, revision level and date.

Figure 1. Sample ACSEP Evaluation Lessons Learned

ACSEP EVALUATION
LESSONS LEARNED

(1) **(2)**
ACSEP NO. /REPORT NO.: 98NM355/1-1 **PROJECT NO.:** PQ9999NM

(3)

EVALUATION ASSESSMENT

The evaluation process went well. The facility response to the ACSEP process was favorable. Two-person teams were used for all system element evaluations; all team members agreed that this approach helped them get started quicker and contributed to a more complete evaluation of each system element.

DIFFICULTIES IN USING THE ORDER

Standardized Evaluation Criteria 103 and 415 are so similar that it is difficult to determine which of the criteria to write a noncompliance against. As written, the danger exists of writing two noncompliances when only one exists. We recommend combining these two criteria to eliminate duplication.

SYSTEM ELEMENTS NOT EVALUATED

The Organizational Management system element was not evaluated due to lack of time.

PROPOSED NEW EVALUATION CRITERIA

System Element 5 (Manufacturing Controls). Are the critical parameters of the holography process identified and controlled?

PRODUCT AUDIT COMPLETED

A product audit was completed on Blade, Assembly – Main Rotor, 269A1160, drawing number 269A1159, Rev F, dated 4/20/90.

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Appendix H. Preparation Instructions for FAA Form 8100-3, ACSEP Evaluation Report, Cover Pages

1. Purpose. This appendix provides instructions for preparing Form 8100-3.

2. Preparing the Front of the Form. Figure 1 shows the front of Form 8100-3 with numbered blocks. Prepare the form by typing in the following:

a. Block 1. The ACSEP number.

b. Block 2. The report number. This number will consist of the report order sequence and the total number of separate original reports issued under the ACSEP number in block 1. For example, ACSEP Evaluation Report No. 1-2 would indicate that this is the first report in a series of two separate original reports issued for a specific evaluation. This example could indicate, in one instance that an evaluation was conducted at a PAH that has multiple quality systems being evaluated at the same time, thereby requiring issuance of two separate original reports. When only one report is required, identify it as No. 1-1.

c. Block 3. The name, address, city, state (or country), and ZIP/postal code of the facility evaluated.

d. Block 4. A checkmark in the applicable box(es) to indicate the type(s) of design or production approval the facility has; ensure the box labeled (Extension(s)) is also checked if applicable.

e. Block 5. The date of the preevaluation conference.

f. Block 6. The date of the postevaluation conference.

g. Block 7. The name of the office responsible for certificate management oversight of the evaluated facility.

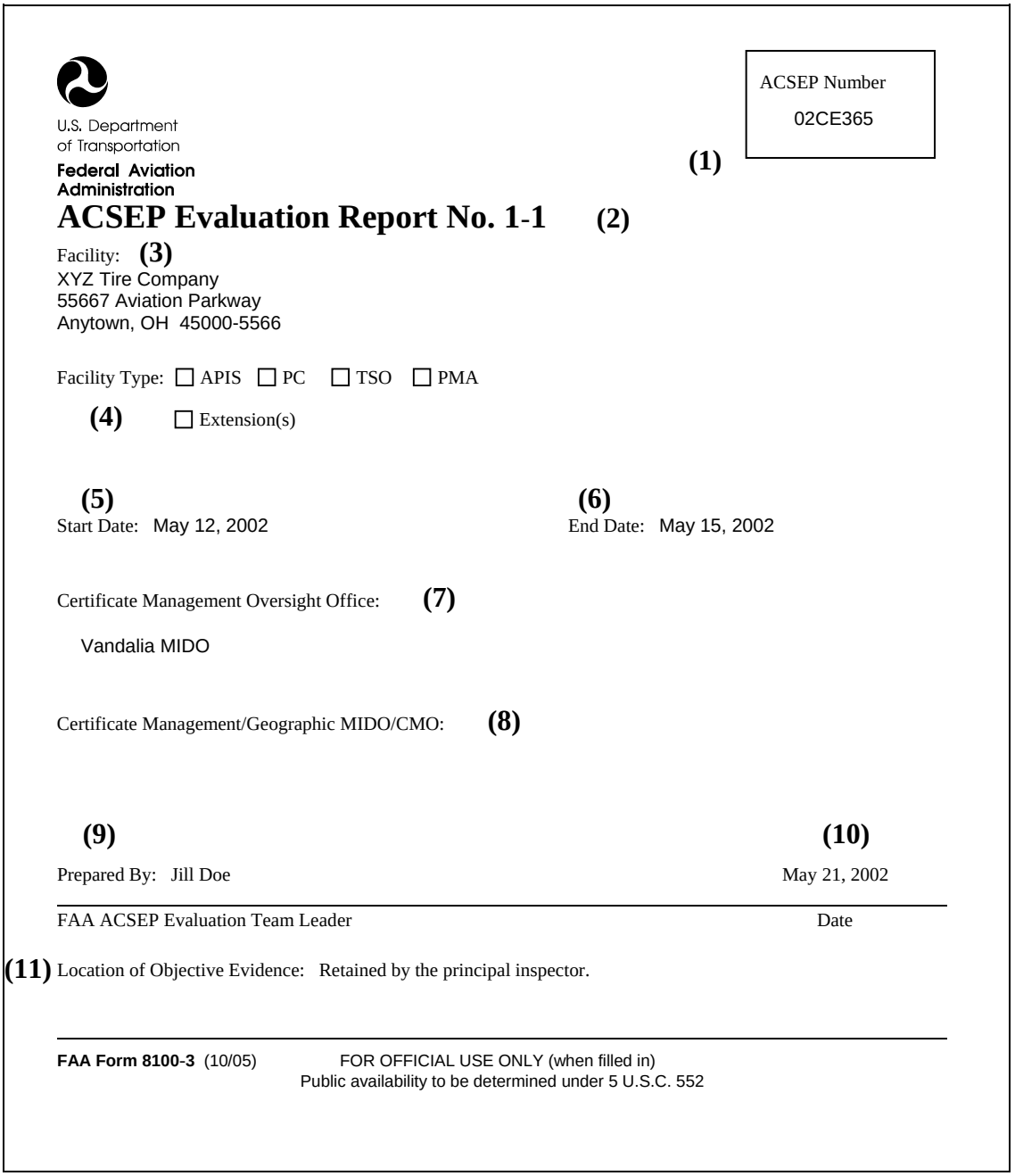
h. Block 8. The name of the MIDO or CMO responsible for surveillance of the evaluated facility. No entry is required if the certificate management MIDO or CMO performs the surveillance.

i. Block 9. The team leader's or principal evaluator's signature. This block may be signed by a team leader-in-training but also must be countersigned by the team leader. When an electronic version of the form is used, ensure all required names are typed in.

j. Block 10. The date of signature.

k. Block 11. The location of the objective evidence. Indicate if the objective evidence is attached to the report or if the objective evidence has been retained by the PI or AE.

Figure 1. Sample FAA Form 8100-3 (Front)



U.S. Department of Transportation
Federal Aviation Administration

ACSEP Number
02CE365

(1)

ACSEP Evaluation Report No. 1-1 (2)

Facility: **(3)**
XYZ Tire Company
55667 Aviation Parkway
Anytown, OH 45000-5566

Facility Type: ☐ APIS ☐ PC ☐ TSO ☐ PMA

(4) ☐ Extension(s)

(5) Start Date: May 12, 2002

(6) End Date: May 15, 2002

Certificate Management Oversight Office: **(7)**

Vandalia MIDO

Certificate Management/Geographic MIDO/CMO: **(8)**

(9) Prepared By: Jill Doe

(10) May 21, 2002

FAA ACSEP Evaluation Team Leader — Date

(11) Location of Objective Evidence: Retained by the principal inspector.

FAA Form 8100-3 (10/05) FOR OFFICIAL USE ONLY (when filled in)
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3. Preparing the Back of the Form. Figure 2 shows the back of Form 8100-3 with numbered blocks. Prepare the form by typing in the following:

a. Block 12. The name of each team member, including any national resource specialist, manager, or outside support service personnel used, and any evaluators/team leaders-in-training who participated. List the team members first. Do not enter the team leader's name.

b. Block 13. The office to which each individual listed in block 12 is officially assigned.

c. Block 14. The discipline of each individual listed in block 12. Identify whether the individual is an aviation safety inspector, engineer, or flight test pilot.

d. Block 15. The specialty of each individual listed in block 12, as applicable. Identify engineers by systems and equipment, propulsion, airframe, or flight test specialty.

e. Block 16. An "E" to identify evaluators-in-training or a "T" to identify team leaders-in-training. Leave this block blank for team members.

Figure 2. Sample FAA Form 8100-3 (Back)

TEAM MEMBERS

Name	Office	Discipline	Specialty	Training Status (E or T)*
(12)	**(13)**	**(14)**	**(15)**	**(16)**
John Smith	Atlanta MIDO	ASI		
Fred Exe	ACE-118W	Eng	Airframe	
Mary Lamb	ACE-117A	Eng	Airframe	E

*E = Evaluator-in-training
T = Team Leader-in-training

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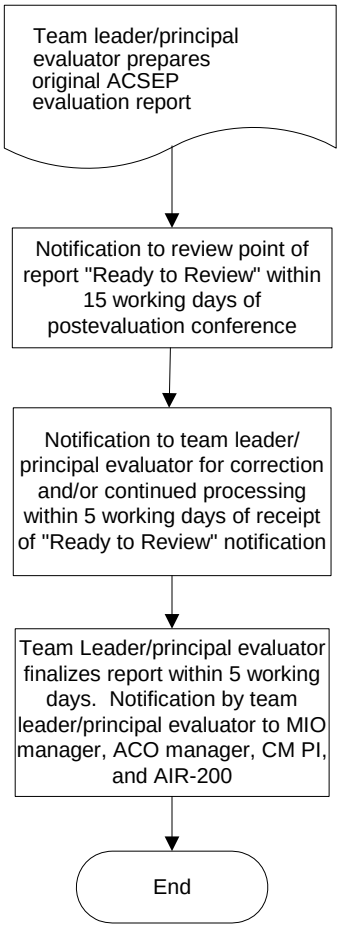
Appendix I. Process for Sending ACSEP Evaluation Reports

1. Purpose. This appendix provides a flowchart to assist the team leader, principal evaluator, MIO manager, and ACO manager in identifying where a completed ACSEP evaluation report, using the CMIS program, is ready to be sent. It supplements the description provided in chapter 4, section 3 of this order.

2. Description. Figure 1 provides the flowchart to identify who is notified during the completion of an ACSEP evaluation report using the CMIS program.

Figure 1. Process For PAHs and Associate Facilities



Legend CM = Certificate management

Appendix J. Acronyms

1. Applicability. The acronyms listed apply to this entire order.

14 CFR	Title 14, Code of Federal Regulations
AC	Advisory Circular
AC Form	Aeronautical Center Form
ACO	Aircraft Certification Office
ACSEP	Aircraft Certification Systems Evaluation Program
AD	Airworthiness Directive
AE	Assigned Engineer
AFM	Aircraft Flight Manual
AFMS	Aircraft Flight Manual Supplement
AIR	Aircraft Certification Service
AIR-100	Aircraft Engineering Division
AIR-200	Production and Airworthiness Division
AIR-220	Production Certification Branch
AIR-500	Planning and Program Management Division
AIR-510	Administrative Services Branch
AIR-530	Planning and Financial Resources Management Branch
APIS	Approved Production Inspection System
ASI	Aviation Safety Inspector
CMIS	Certificate Management Information System
CMO	Certificate Management Office
FAA	Federal Aviation Administration
FSDO	Flight Standards District Office
MIDO	Manufacturing Inspection District Office
MIO	Manufacturing Inspection Office
MRB	Materials Review Board
NDI	Nondestructive Inspection
PAH	Production Approval Holder
PC	Production Certificate
PI	Principal Inspector
PMA	Parts Manufacturer Approval
STC	Supplemental Type Certificate
TC	Type Certificate
TSO	Technical Standard Order

Appendix K. Definitions

The following definitions apply to the conduct and administration of an ACSEP:

a. Assigned Engineer (AE). An FAA engineer to whom the Aircraft Certification Office (ACO) manager has assigned responsibility for an ACSEP evaluation at a particular design approval facility.

b. Associate Facility. A facility that has been approved as an extension to an original PAH. The facility is owned and operated by the same corporate management as the original PAH that controls the design and quality of the product or article(s), except for companies participating in joint production and/or coproduction business agreements. The associate facility must be listed as a manufacturing facility on the production certificate (PC) or the letter of authorization for other production approvals, for example, a parts manufacturer approval (PMA) or technical standard order (TSO) authorization.

c. Certificate Management Information System (CMIS). Electronic data system that incorporates several **aspects** of Certificate Management functions. Functions available within CMIS are certification management tasks, and the planning, scheduling and conducting of evaluations.

d. Established Industry Practice. A widely followed method of operating that achieves consistent performance of specific functions. Examples of established industry practices include a calibration recall system and an internal audit system.

e. Evaluator. An individual the FAA appoints to perform ACSEP evaluations.

f. FAA-Approved Data. Data specifically approved by the FAA or FAA-delegated representatives, including any document referenced therein. These data may include design drawings, manuals, procedures, and specifications.

g. Facility. A physical location where a PAH or associate facility performs all or part of the system element functions relevant to the approval authority granted by the FAA.

h. Geographic Manufacturing Inspection District Office (MIDO) or Certificate Management Office (CMO). The FAA office having responsibility for conducting certificate management activities of a facility located in its directorate region.

i. Lead Evaluation Office. A directorate office or branch assigned to coordinate an ACSEP evaluation.

j. Noncompliance. A PAH's or associate facility's operating practice that is found to be inconsistent with 14 CFR, FAA-approved data, or internal procedures. A supplier's operating practice found to be inconsistent with a PAH's or associate facility's purchase order requirements is considered to be a noncompliance by the PAH or associate facility.

k. Objective Evidence. All the means by which any alleged fact tends to be established or disproved. These means must be factual, convincing, relevant, valid, reliable, and complete. Examples of objective evidence include interview statements, photographs, charts, maps, diagrams, documents, and records. Documents and records include items such as work travelers, inspection documents, FAA-approved drawings, PMA and TSO approval letters, airworthiness approval tags (FAA Form 8130-3, Airworthiness Approval Tag), and calibration logs.

l. Principal Evaluator. An FAA-appointed team leader who acts as the sole evaluator for the performance of an ACSEP evaluation at a specific facility.

m. Principal Inspector (PI). A manufacturing inspector who has been assigned certificate management responsibility of a particular PAH or associate facility.

n. Procedure. A specific way to perform an activity or function that is documented and usually contains the purposes and scope of the activity or function: what is to be done and by whom; when, where, and how the activity or function is to be done; the materials, equipment, and documents to be used; and how the activity or function is to be controlled and recorded.

o. Production Approval Holder (PAH). The holder of a PC, APIS, PMA, or TSO authorization, who controls the design and quality of a product or part(s). A person who has been issued a production approval by the FAA.

p. Requesting MIDO or CMO. An office that requests associate facility certificate management from another office having geographic responsibility of the area in which the facility is located.

q. Risk-Based Resource Targeting (RBRT). A structured process designed to support AIR management in determining risk, assigning resources based on that risk, and prioritizing multiple projects.

r. Standardized Evaluation Criteria. Questions developed for each system element that the FAA ACSEP evaluation teams use to plan and document the evaluation. The applicable 14 CFR requirements, appropriate FAA advisory circulars (AC) and directives, international standards and specifications, and established industry practices are the basis for these questions. Refer to appendix D.

s. System. An activity or function that may affect the maintenance of an FAA-approved design, quality data, or the design approval system.

t. System Element. A specific activity or function that may affect the maintenance of FAA-approved design or quality data, such as design data control, manufacturing controls, and supplier control. Such activities are subject to evaluation of the adequacy and implementation of approved procedures.

Appendix L. Administrative Information

1. Distribution. This order is distributed to Washington Headquarters division levels of the Flight Standards Service, to the branch levels of the Aircraft Certification Service, to the branch levels in the regional Flight Standards Divisions and Aircraft Certification Directorates, to all Flight Standards District Offices, to all Aircraft Certification Offices, to all Aircraft Certification field offices, to all Manufacturing Inspection District and Satellite Offices, to the Aircraft Certification and Airworthiness Branches at the Federal Aviation Administration Academy, and to the Flight Standards Service Regulatory Support Division.

2. Background. The ACSEP will evaluate all PC, APIS, PMA, and TSO authorization holders and their associate facilities in accordance with the ongoing certificate management responsibilities described in Order 8120.2, Figure 3-2. However, the ACSEP team leader may extend an ACSEP evaluation at a PAH to key suppliers, and subtier suppliers or processors to verify the PAH is satisfactorily controlling its suppliers. The AIR directorates will implement the ACSEP. AIR-100 and AIR-200 resources may be available to support the ACSEP as needed.

3. Authority to Change This Order. The issuance, revision, or cancellation of the material in this order is the responsibility of the AIR Aircraft Engineering Division (AIR-100) and the Production and Airworthiness Certification Division (AIR-200). These divisions will accomplish all changes, as required, to carry out the FAA's responsibility to provide for evaluations of PAHs.

4. Forms. All forms used in the performance and administration of ACSEP evaluations are provided by the Production Airworthiness Division (AIR-200) in electronic format and are found in the CMIS program.

5. Deviations. Adherence to the procedures in this order is necessary for uniform administration of this directive material. Any deviations from this guidance material must be coordinated and approved by AIR-200. If a deviation becomes necessary, the FAA employee involved must ensure that the deviations are substantiated, documented, and concurred with by the appropriate supervisor. The deviation must be submitted to AIR-200 for review and approval. The limits of federal protection for FAA employees are defined by Title 28 of the United States Code § 2679.

6. Suggestions for Improvement. Please forward all comments on deficiencies, clarifications, or improvements regarding this order to:

Aircraft Certification Service
Administrative Services Branch, AIR-510
ATTN: Directives Management Officer
800 Independence Avenue SW.
Washington, DC 20591

FAA Form 1320-19, Directive Feedback Information, is located as appendix M to this order for your convenience. If you require an immediate interpretation, please contact AIR-200 at (202) 385-6346; however, you should also complete Form 1320-19 as a followup to the conversation.

7. Records Management. Refer to FAA Orders 0000.1, FAA Standard Subject Classification System, 1350.14, Records Management, and 1350.15, Records Organization, Transfer, and Destruction Standards; FAA-IR-04-01, Aircraft Certification Service Records Management Requirements Manual; or your office Records Management Officer (RMO)/Directives Management Officer (DMO) for guidance regarding retention or disposition of records. Refer to AIR Quality Management System Procedure AIR-002-085-WI for guidance regarding the content, filing, and storage locations of records related to the applicant/PAH.

8. Relation to Other Directives. Orders referenced in this directive list only the basic order number. The user must establish that the latest revision/amendments are being used.

9. Requests for Information. All public requests for information regarding completed ACSEP and non-ACSEP evaluations and related database information will be processed in accordance with the Freedom of Information Act (refer to FAA Order 1270.1, Freedom of Information Act Program).

Appendix M. FAA Form 1320-19, Directive Feedback Information

U.S. Department of Transportation
Federal Aviation Administration

Directive Feedback Information

Please submit any written comments or recommendations for improving this directive, or suggest new items or subjects to be added to it. Also, if you find an error, please tell us about it.

Subject: FAA Order 8100.7D

To: Administrative Services Branch, AIR-510

(Please check all appropriate line items)

☐ An error (procedural or typographical) has been noted in paragraph _____ on page _____.

☐ Recommend paragraph _____ on page _____ be changed as follows:
(attach separate sheet if necessary)

☐ In a future change to this directive, please include coverage on the following subject *(briefly describe what you want added):*

☐ Other comments:

☐ I would like to discuss the above. Please contact me.

Submitted by: _____ Date: _____

FTS Telephone Number: _____ Routing Symbol: _____

FAA Form 1320-19 (10-98)