

ADDUNDUM A

HISTORY AND BACKGROUND OF ACSEP

A1. Background

The ACSEP was developed as a result of numerous years of experience with Quality Assurance Systems Analysis Review (QASAR) audits and observations made during an interim audit program called “Operation SNAPSHOT.” Maintaining consistency with new FAA policies and regulations, with regard to the certificate management process, was also a consideration for the establishment of ACSEP. The intent was to establish a surveillance system that would meet the needs and requirements of the FAA and industry, while incorporating standardized evaluation practices and techniques consistent with the aircraft manufacturing environment and internationally recognized guidelines. The evaluation criteria were, in part, developed in conjunction with the Aerospace Industries Association and General Aviation Manufacturer's Association. By design, ACSEP will support continued operational safety in an ever changing aircraft manufacturing environment (e.g., new technologies, automation, and co-production) through recurring evaluations of facilities’ quality management systems and tracking and trending areas for improvement.

A2. Overview

ACSEP is an Aircraft Certification Service program. The Production and Airworthiness Certification Division, AIR-200, is the national focal point for the reporting of ACSEP evaluation results. Order 8100.7 provides guidance and assigns responsibility for the implementation of the ACSEP and are vital tools in assurance of the FAA's mission of continued operational safety. The program assesses the compliance of production approval holders and delegated facilities to the requirements of applicable CFR and FAA-approved data, including compliance to the procedures established to meet those requirements. It also surveys the application of standardized evaluation criteria not required by the CFR to identify national issues that may require development of new or revised regulations, policy, and guidance.

Evaluation criteria for the production approval holders are further divided into 7 system elements for detailed data collection and reporting. The 7 system elements are:

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|---|--|---|-------------------------------------|
| 1 | Organization and Responsibility | 5 | Manufacturing Controls |
| 2 | Design Data Control | | a. Statistical Quality Control |
| 3 | Software Quality Assurance | | b. Tool and Gauge |
| 4 | Manufacturing Processes | | c. Testing |
| | a. Manufacturing and Special Manufacturing Processes | | d. Non-Destructive Testing |
| | b. Material Handling, Receiving & Storage | 6 | Supplier Control |
| | c. Airworthiness Determination | 7 | Manufacturer’s Maintenance Facility |

These system elements contain criteria that assess compliance to the various requirements of the CFR, FAA-approved data, and implementation of accepted industry practices. In total there are 140 evaluation criteria in the manufacturing portion of ACSEP. However, the number of evaluation criteria contained in these system elements varies and is not equally proportioned to each facility type. The amount of variation is due to the CFR requirements and industry practices for the different facility types. The 7 system elements vary in proportion from a high side of 19 evaluation criteria or 14 percent of the total for Supplier Control to a low side of six evaluation criteria or 4 percent for Nonconforming Material, Tool and Gauge, and Statistical Quality Control. (reference figure A-1).

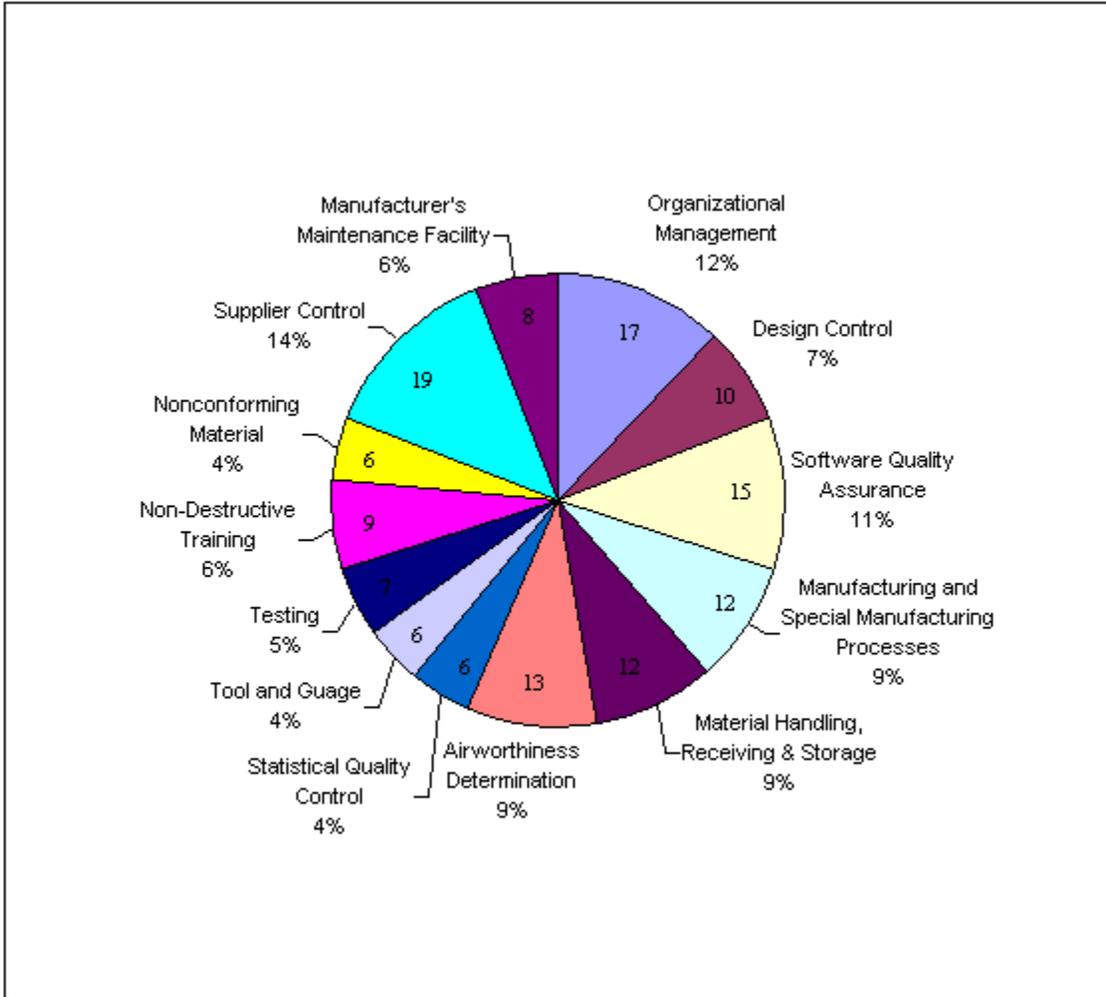


Figure A-1. —Evaluation criteria distribution within the 7 system elements of ACSEP for production approval holders.

Evaluation criteria for delegated facilities are divided into ten system elements. The ten system elements are:

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|-----------------------------------|--------------------------|
| 1 Organization and Responsibility | 6 Project Management |
| 2 Design Data Approval | 7 Design Change Approval |
| 3 Testing | 8 Conformity Inspection |
| 4 Airworthiness Certification | 9 FAA Notification |
| 5 Continued Airworthiness | 10 Audit |

Similar to the system elements for production approval holders, these system elements contain criteria that assess compliance to the various requirements of the CFR, FAA-approved data, and implementation of accepted industry practices. In total there are 114 evaluation criteria in the delegated facility portion of ACSEP. However, the number of evaluation criteria contained in these system elements varies. The amount of variation is due to the CFR requirements and industry practices. The 10 system elements vary in proportion from a high side of 27 evaluation criteria or 23 percent of the total for Project Management to a low side of 4 evaluation criteria or 4 percent for Audit and FAA Notification (reference *figure A-2*).

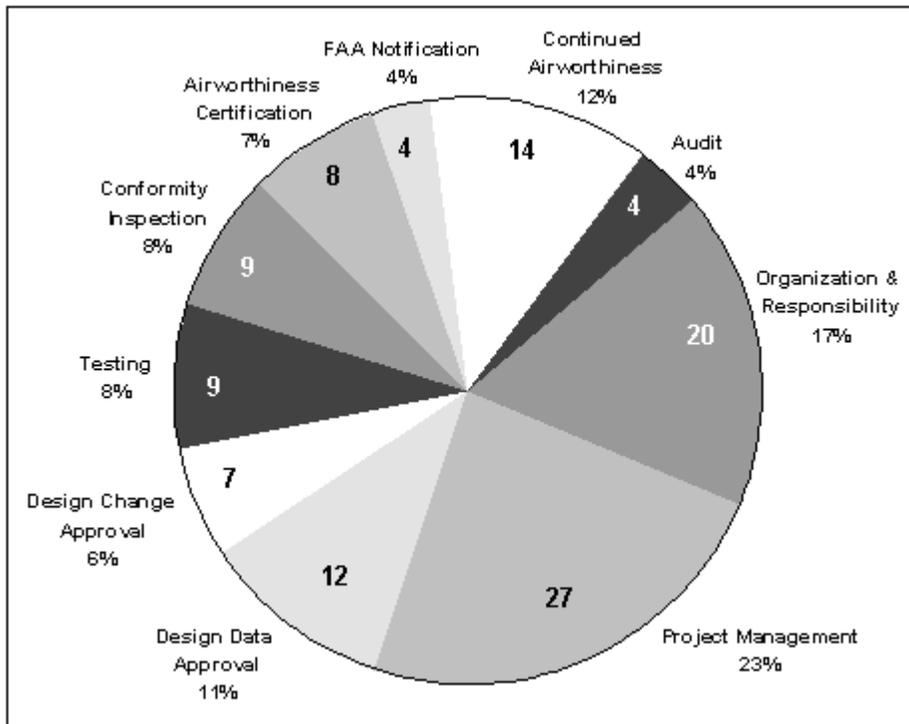


Figure A-2. —Evaluation criteria distribution within the 10 system elements of ACSEP for delegated facilities.

A3. Evaluations and Evaluators

The ACSEP utilizes teams of FAA engineering, flight test, and manufacturing inspection personnel to evaluate production approval holders and delegated facilities. Upon completion of each ACSEP evaluation, the team leader prepares a report and forwards it to the Certificate Management Office (Manufacturing Inspection Office or Aircraft Certification Office, as applicable) which provides it to the Aviation Safety Inspector (ASI) and/or the Assigned Engineer (AE) responsible for the evaluated facility. A copy of the report is also provided to AIR-200 for entry into the ACSEP database. The ACSEP database contains administrative information on facilities evaluated, status of qualified team members and team leaders, responses to rating criteria contained in the evaluation system elements, along with findings and observations noted. Additionally, the ACSEP Master Schedule, which is prepared annually, is maintained by AIR-200 together with the directorate coordinators. The scheduling database is updated and posted to a service wide electronic mail bulletin board on a monthly basis ensuring the Aircraft Certification Service offices are kept current of ACSEP evaluation cancellations, date changes, and recent additions.

The frequency at which production approval holders are scheduled for evaluation is determined by Resource Targeting (RT). The design of Resource Targeting began in 1994 with the following objective: use a systematic, analytic approach to focus the FAA's limited resources on evaluating those facilities with the greatest potential safety impact. The main way this objective was to be met was to adjust the frequency at which facilities would be evaluated. Resource Targeting uses a process of assessing the risks and scheduling those facilities with the greatest perceived risk more frequently than facilities with less perceived risk. Annually, each approval holder is assessed with 21 safety factors and the criticality of the parts they manufacture. The 21 safety factors and part criticality are split into two aggregate factors: system strength and inherent risk. System strength is a measure of how capable the quality system is of ensuring that parts will be manufactured according to FAA-approved data. Inherent risk measures the risk that a part failure would have on continued operational safety. The collective score of the two aggregate-factors determines which of the four RT groups is assigned to the facility. Its RT group determines the frequency at which a facility is evaluated:

RT group I:	evaluated every 16 to 24 months
RT group II:	evaluated every 24 to 36 months
RT group III:	evaluated every 32 to 48 months

Delegated facilities are scheduled for evaluation according to their delegation: DOA and DAS facilities are scheduled every 24 months and SFAR-36 facilities are scheduled for evaluation every 36 months.

At the conclusion of an ACSEP evaluation, a post-evaluation conference is held with the evaluated facility management and any issues, findings, and/or observations are reviewed. The ASI and/or AE responsible for facility surveillance pursue any findings that require formal corrective action. The ASI and/or AE inform the facility of the

findings and request corrective action through a Letter of Investigation, when deemed appropriate.

The ACSEP also includes a Quality Improvement Program. Data from the evaluation feedback reports and evaluation reports are used to prompt improvements in the program. Continuous improvement teams established in each directorate and in headquarters review suggestions, comments, and results of the evaluations. The directorate teams act upon improvements that can be implemented locally; improvements that affect the national program are referred to a dedicated National Continuous Improvement Team (NCIT) made up of FAA Aviation Safety Inspectors, Aerospace Engineers, and Flight Test Pilots representing the directorates and headquarters. Managers representing the Aircraft Certification Management Team (ACMT), Aircraft Certification Office Management Team (ACOMT), and Manufacturing Inspection Management Team (MIMT) are also members of the National Continuous Improvement Team (NCIT). After a comprehensive review of the data, the NCIT recommends changes or clarification to current policy. Recommended changes are forwarded to the Aircraft Engineering Division (AIR-100) or the Production and Airworthiness Division (AIR-200) for further review and possible implementation.

The AIR organization is responsible for conducting evaluator training. This is accomplished in association with the FAA Academy with AIR-200 providing instructors. These instructors are experienced national evaluation team leaders who bring real life experiences into the classroom. While one instructor presents the course materials, the other critiques the presentation/materials and notes comments from students. The critique and notes are reviewed and improvements incorporated facilitating a continuous improvement process. Additionally, issues found in the field are also integrated into the course making it even more comprehensive and continuously improving it.